ATTACHMENT A

REVISED TECHNICAL SPECIFICATION PAGES

CONSOLIDATED EDISON COMPANY OF NEW YORK, INC.
INDIAN POINT UNIT NO. 2
DOCKET NO. 50-247
MARCH 1999

L. The licensee shall implement a program to reduce leakage from systems outside containment that would or could contain highly radioactive fluids during a serious transient or accident to as low as practical levels. The program shall include the following:

1. Provisions establishing preventive maintenance and periodic visual inspection requirements.

2. Integrated leak test requirements for each system at a frequency not to exceed a Refueling Interval (R##).

M. The licensee shall implement a program which will ensure the capability to accurately determine the airborne iodine concentration in vital areas under accident conditions. This program shall include the following:

1. Training of personnel,

2. procedures for monitoring, and

3. provisions for maintenance of sampling and analysis equipment.

3. This license is effective as of the date of issuance, and shall expire at midnight on September 28, 2013.

TABLE 1-1

Frequency Notation

Notation	Test Frequency/Requirements	Surveillance Interval
Shift (S)	At least twice per calendar day	N.A.
Daily (D)	At least once per calendar day	N.A.
Weekly (W)	At least once per week	7 days
Monthly (M)	At least once per month	31 days
Quarterly (Q)	At least once per three months	92 days
Semi-Annually(SA)	At least once per six months	6 months
Annually (A)	At least once per 12 months	12 months
Refueling Interval (R#)	At least once every 24 months	24 months
Refueling Interval (R)	At least once every 18 months	18 months
S/U	Prior to each reactor startup	--
P	Completed prior to each release	--
N.A.	Not Applicable	
Refueling Interval (R##)	At least once every 24 months except a one time extension of the test interval to allow the test to be performed during the refueling outage starting no later than June 3, 2000	--

Minimum Frequencies for Checks, Calibrations and Tests of Instrument Channels

	Channel Description	Check	Calibrate	Test	Remarks
13.	Residual Heat Removal Pump Flow	N.A.	R##	N.A.	
14.	Boric Acid Tank Level	W	R#	N.A.	Bubbler tube rodded during calibration
15.	Refueling Water Storage Tank Level	W	Q	N.A.	
16.	DELETED				
17.	Volume Control Tank Level	N.A.	R#	N.A.	
18a.	Containment Pressure	D	R#	Q	Wide Range
18b.	Containment Pressure	S	R#	Q	Narrow Range
18c.	Containment Pressure (PT-3300,PT-3301)	M	R#	N.A.	High Range
19.	Process Radiation Monitoring System	D	R#	M	
19a.	Area Radiation Monitoring System	D	R#	M	
19b.	Area Radiation Monitoring System (VC)	D	R#	M	
20.	Boric Acid Make-up Flow Channel	N.A.	R#	N.A.	

Minimum Frequencies for Checks, Calibrations and Tests of Instrument Channels

	Channel Description	Check	Calibrate	Test	Remarks
21a.	Containment Sump and Recirculation Sump Level (Discrete)	S	R#	R# Systems.	Discrete Level Indication
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*3	
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*9	
26.	Engineered Safety Features (SI) Logic Channel Testing	N.A.	N.A.	M*9	
27.	Turbine Trip a. Low Auto Stop Oil Pressure	N.A.	R##	N.A.	

Minimum Frequencies for Checks, Calibrations and Tests of Instrument Channels

	Channel Description	Check	Calibrate	Test	Remarks
33.	PORV Block Valve Position Indicator (Limit Switch)	M*5	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#	*6	
38.	Wide Range Plant Vent Noble Gas Effluent Monitor (R-27)	S	R#	N.A.	
39.	Main Steam Line Radiation Monitor (R-28, R-29, R-30, R-31)	S	R#	N.A.	
40.	High Range Containment Radiation Monitor (R-25, R-26)	S	R#*7	N.A.	
41.	Containment Hydrogen Monitor	Q	Q*8	N.A.	

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 (R##)	*
4.	Main Steam Safety Valves	Setpoint	Refueling Interval (R##)	*
5.	Containment Isolation System	Automatic Actuation	Refueling Interval (R##)	*
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	**	**
9.	Cable Tunnel Ventilation Fans	Functioning	Monthly	45 days

* See Specification 1.9.

** The turbine steam stop and control valves shall be tested at a frequency determined by the methodology presented in WCAP-11525 "Probabilistic Evaluation of Reduction in Turbine Valve Test Frequency", and in accordance with established NRC acceptance criteria for the probability of a missile ejection incident at IP-2. In no case shall the test interval for these valves exceed one year.

e. Closure of the containment isolation valves for the purpose of the test shall be accomplished by the means provided for normal operation of the valves.

2. Acceptance Criteria

The As Found measured leakage rate shall be less than 1.0 L_a where L_a is equal to 0.1 w/o per day of containment steam air atmosphere at 47 psig and 271°F, which are the peak accident pressure and temperature conditions. Prior to entering a mode where containment integrity is required, the As Left leakage rate shall not exceed 0.75 L_a.

3. Frequency

The integrated leakage rate test frequency shall be performed in accordance with 10 CFR 50 Appendix J, Option B as modified by approved exemptions and in accordance with guidelines contained in Regulatory Guide 1.163, dated September 1995.

B. SENSITIVE LEAKAGE RATE

1. Test

A sensitive leakage rate test shall be conducted with the containment penetrations, weld channels, and certain double-gasketed seals and isolation valve interspaces at a minimum pressure of 52 psig and with the containment building at atmospheric pressure.

2. Acceptance Criteria

The test shall be considered satisfactory if the leak rate for the containment penetrations, weld channel and other pressurized zones is equal to or less than 0.2% of the containment free volume per day.

3. Frequency

A sensitive leakage rate test shall be performed at every Refueling Interval (R##).

C. AIR LOCK TESTS

1. The containment air locks shall be tested at a minimum pressure of 47 psig. The test shall be performed in accordance with 10 CFR 50 Appendix J, Option B, as modified by approved exemptions and in accordance with guidelines contained in Regulatory Guide 1.163, dated September 1995. The acceptance criteria is included in Specification 4.4.D.2.a.

2. Whenever containment integrity is required, verification shall be made of proper repressurization to at least 47 psig of the double-gasket air lock door seal upon closing an air lock door.

D. CONTAINMENT ISOLATION VALVES

1. Tests and Frequency

a. All isolation valves in Table 4.4-1 shall be tested for operability in accordance with 10 CFR 50 Appendix J, Option B, as modified by approved exemptions and in accordance with guidelines contained in Regulatory Guide 1.163, dated September 1995.

b. Isolation valves in Table 4.4-1 which are pressurized by the Weld Channel and Containment Penetration Pressurization System are leakage tested as part of the Sensitive Leakage Rate Test included in Specification 4.4.B.

c. Isolation valves in Table 4.4-1 which are pressurized by the Isolation Valve Seal Water System shall be tested at every refueling but in no case at intervals greater than a Refueling Interval (R##), as part of an overall Isolation Valve Seal Water System Test.

d. Isolation valves in Table 4.4-1 shall be tested with the medium and at the pressure specified therein.

2. Acceptance Criteria

a. The combined leakage rate for the following shall be less than 0.6 L_a: isolation valves listed in Table 4.4-1 subject to gas or nitrogen pressurization testing, air lock testing as specified in Specification 4.4.C.1, portions of the sensitive leakage rate test described in

Specification 4.4.B.1 which pertain to containment penetrations and double-gasketed seals.

b. The leakage rate into containment for the isolation valves sealed with the service water system shall not exceed 0.36 gpm per fan cooler.

c. The leakage rate for the Isolation Valve Seal Water System shall not exceed 14,700 cc/hr.

3. Containment isolation valves may be added to plant systems without prior license amendment to Table 4.4-1 provided that a revision to this table is included in a subsequent license amendment application.

E. CONTAINMENT MODIFICATIONS

Any major modification or replacement of components of the containment performed after the initial pre-operational leakage rate test shall be followed by either an integrated leakage rate test or a local leak detection test and shall meet the appropriate acceptance criteria of Specifications 4.4.A.2, 4.4.B.2, or 4.4.D.2. Modifications or replacements performed directly prior to the conduct of an integrated leakage rate test shall not require a separate test.

F. REPORT OF TEST RESULTS

A post-outage report shall be prepared presenting results of the previous cycle's Type B and Type C tests, and Type A, Type B, and Type C tests, if performed during that outage. The technical contents of the report are generally described in ANSI/ANS 56.8-1994, and will be available on-site for NRC review. The report shall also show that the applicable performance criteria are met and serves as a record that continuing performance is acceptable.

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 (R##) 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 accordance 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.

(2) The piping between the residual heat removal pumps suctions and the containment isolation valves in the residual heat removal pump suction line from the containment sump shall be hydrostatically tested at no less than 100 psig at the interval specified below.

b. Visual inspection shall be made for excessive leakage during these tests from components of the system. Any significant leakage shall be measured by collection and weighing or by another equivalent method.

2. Acceptance Criterion

The maximum allowable leakage from the Residual Heat Removal System components located outside of the containment shall not exceed two gallons per hour.

3. Corrective Action

Repairs or isolation shall be made as required to maintain leakage within the acceptance criterion.

4. Test Frequency

Tests of the Residual Heat Removal System shall be conducted at least once every Refueling Interval (R##).

Basis

The containment is designed for a calculated peak accident pressure of 47 psig[1]. While the

4.5 ENGINEERED SAFETY FEATURES

Applicability

Applies to testing of the Safety Injection System, the Containment Spray System, the Hydrogen Recombiner System, and the Air Filtration System.

Objective

To verify that the subject systems will respond promptly and perform their design functions, if required.

Specifications

A. SYSTEM TESTS

1. Safety Injection System

a. System tests shall be performed at each reactor Refueling Interval (R##). With the Reactor Coolant System pressure less than or equal to 350 psig and temperature less than or equal to 350°F, a test safety injection signal will be applied to initiate operation of the system. The safety injection pumps are made inoperable for this test.

b. The test will be considered satisfactory if control board indication and visual observations indicate that all components have received the safety injection signal in the proper sequence and timing; that is, the appropriate pump breakers shall have opened and closed, and the appropriate valves shall have completed their travel.

c. Conduct a flow test of the high head safety injection system after any modification is made to either its piping and/or valve arrangement.

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 (R##). The tests shall be performed with the isolation valves in the spray supply lines at the containment 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 (R##) 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:

The fuel storage building air filtration system is designed to filter the discharge of the fuel storage building atmosphere to the plant vent. This air filtration system is designed to start automatically upon a high radiation signal. Upon initiation, isolation dampers in the ventilation system are designed to close to redirect air flow through the air treatment system. HEPA filters and charcoal adsorbers are installed to reduce potential releases of radioactive material to the atmosphere. Nevertheless, as required by Specification 3.8.B.6, the fuel storage building air filtration system must be operating whenever spent fuel is being moved unless the spent fuel has had a continuous 35-day decay period. The required in-place testing and the laboratory charcoal sample testing of the HEPA filters and charcoal adsorbers will provide added assurance that the criteria of 10 CFR 100 continue to be met.

The post-accident containment venting system may be used in lieu of hydrogen recombiners for removal of combustible hydrogen from the containment building atmosphere following a design basis accident. As was the case for hydrogen recombiner use, this system is not expected to be needed until approximately 13 days have elapsed following the accident. Use of the system will be based upon containment atmosphere sample analysis and availability of the hydrogen recombiners. When in use, HEPA filters and charcoal adsorbers will filter the containment atmosphere discharge prior to release to the plant vent. The required in-place testing and laboratory charcoal sample testing will verify operability of this venting system and provide further assurance that releases to the environment will be minimized.

As indicated for the previously mentioned engineered safety feature (ESF) air filtration systems, high-efficiency particulate absolute (HEPA) filters are installed upstream of the charcoal adsorbers to prevent clogging of these adsorbers. The charcoal adsorbers are installed to reduce the potential release of radioiodine to the environment. The laboratory charcoal sample testing periodically verifies that the charcoal meets the iodine removal efficiency requirements of Regulatory Guide 1.52, Revision 2. Should the charcoal of any of these filtration systems fail to satisfy the specified test acceptance criteria, the charcoal will be replaced with new charcoal which satisfies the requirements for new charcoal outlined in Regulatory Guide 1.52, Revision 2.

References

(1) UFSAR Section 6.2
(2) UFSAR Section 6.4

1. In this instance Refueling Interval is defined by R##.

4.6 EMERGENCY POWER SYSTEM PERIODIC TESTS

Applicability

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

Objective

To verify that emergency power systems will respond promptly and properly when required.

Specifications

The following tests and surveillances shall be performed as stated:

A. DIESEL GENERATORS

1. Each month, each diesel generator shall be manually started and synchronized to its bus or buses and shall be allowed to assume the normal bus load.

2. At each Refueling Interval (R##), each diesel generator shall be manually started, synchronized and loaded up to its continuous (nameplate) and short term ratings.

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

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

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

B. DIESEL FUEL TANKS

A minimum oil storage of 48,000 gallons will be maintained for the station at all times.

C. STATION BATTERIES (NOS. 21, 22, 23, & 24)

1. Every month, the voltage of each cell, the specific gravity and temperature of a pilot cell in each battery and each battery voltage shall be measured and recorded.

2. Every 3 months, each battery shall be subjected to a 24-hour equalizing charge, and the specific gravity of each cell, the temperature reading of every fifth cell, the height of electrolyte, and the amount of water added shall be measured and recorded.

3. Each time data is recorded, new data shall be compared with old to detect signs of abuse or deterioration.

4. At least once every Refueling Interval (R##) each battery shall be subjected to a load test and a visual inspection of the plates.

D. GAS TURBINE GENERATORS

1. At monthly intervals, at least one gas turbine generator shall be started and synchronized to the power distribution system for a minimum of thirty (30) minutes with a minimum electrical output of 750 kw.

Note 3: If the number of unacceptable snubbers is equal to or less than the number in Column A, the next inspection interval may be twice the previous interval but not greater than 48 months except for the Refueling Interval (R##) defined in Technical Specification Table 1-1.

Note 4: If the number of unacceptable snubbers is equal to or less than the number of Column B, but greater than the number in Column A, the next inspection interval shall be the same as the previous interval.

Note 5: If the number of unacceptable snubbers is equal to or greater than the number in Column C, the next inspection interval shall be two-thirds of the previous interval. However, if the number of unacceptable snubbers is less than the number in Column C, but greater than the number in Column B, the next interval shall be reduced proportionally by interpolation, that is, the previous interval shall be reduced by a factor that is one-third of the ratio of the difference between the number of unacceptable snubbers found during the previous interval and the number in Column B to the difference in the numbers in Column B and C.

Note 6: The provisions of Specification 4.0.1 are applicable for all inspection intervals.

Snubbers are categorized as accessible or inaccessible during reactor operation. These two groups may be inspected independently according to the above schedule except as noted below.

If snubber inoperability is identified due to excessive fluid leakage from the external tubing associated with the twenty-four snubbers installed at the steam generators, this group of snubbers may be inspected independently according to the above schedule.

Visual inspection shall verify that (1) there is no visual indication of damage or impaired operability, (2) attachments to the foundation or supporting structure are secure, and (3) in those locations where snubber movement can be manually induced without disconnecting the snubber, the snubber has freedom of movement and is not frozen. Snubbers which appear

inoperable as a result of visual inspection shall be classified as unacceptable and may be reclassified acceptable for the purpose of establishing the next visual inspection interval, provided that (1) the cause of the rejection is clearly established and remedied for that particular snubber and for other snubbers that may be generically susceptible, and (2) the affected snubber is functionally tested in the as-found condition and determined operable per Specification 4.12.C, as applicable. However, when a fluid port of a hydraulic snubber is found to be uncovered, the snubber shall be declared inoperable, and cannot be determined operable via functional testing for the purpose of establishing the next visual inspection period unless the test is started with the piston in the as-found setting, extending the piston rod in the tension mode direction. All snubbers connected to an inoperable common hydraulic fluid reservoir shall be counted as unacceptable for determining the next inspection interval. A review and evaluation shall be performed and documented to justify continued operation with an unacceptable snubber. If continued operation cannot be justified, the snubber shall be declared inoperable and the appropriate LCO action requirement shall be met.

B. FUNCTIONAL TESTING

1. At least once every Refueling Interval (R##), a representative sample of 10% of all the safety-related hydraulic snubbers shall be functionally tested for operability, including verification of proper piston movement, lock-up rate and bleed. For each hydraulic snubber found inoperable, an additional 10% of the total installed of that type of hydraulic snubber shall be functionally tested. This additional testing will continue until no failures are found or until all snubbers of the same type have been functionally tested.

   At least 25% of the snubbers in the representative sample shall include snubbers from the following three categories:

   1. the first snubber away from each reactor vessel nozzle,

   2. snubbers within 5 feet of heavy equipment (valve, pump, turbine, motor, etc.), and

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 (R##), the installation and maintenance records for each snubber shall be reviewed to verify that the indicated service life has not been exceeded or will not be exceeded prior to the next scheduled snubber service life review. If the indicated service life will be exceeded prior to the next scheduled snubber service life review, the snubber service life shall be re-evaluated or the snubber shall be replaced or reconditioned so as to extend its service life beyond the date of the next scheduled service life review. This re-evaluation, replacement, or reconditioning shall be indicated in the records.

ATTACHMENT B

LEAK TEST OF SYSTEMS OUTSIDE CONTAINMENT

SAFETY ASSESSMENT

CONSOLIDATED EDISON COMPANY OF NEW YORK, INC.
INDIAN POINT UNIT NO. 2
DOCKET NO. 50-247
MARCH 1999

SURVEILLANCE NUMBERS: PT-R95-Leak Test Of Reuse Header
PT-R96-Leak Test Of PACASS
PT-R97-Leak Test Of The Gas Analyzer

The applicable Technical Specification section is: Facility Operating License DPR-26, Section 2.L

The present RRD (final date) for this item is: PT-R95 - November 18, 1999
PT-R96 - November 18,1999
PT-R97 - November 20,1999

The number of months needed to extend to reach JUNE 3, 2000: Seven

SECTION I - DESCRIPTION OF CHANGE

This application for amendment to the Indian Point 2 (IP2) Technical Specifications proposes to revise Facility Operating License DPR-26, Section 2.L to allow a one-time extension of the surveillance interval for the functional test of specified systems outside containment due in November, 1999. If approved this surveillance will be completed during the next refueling outage, which will commence no later than June 3, 2000. Based on the above dates, the maximum length of the extension would be seven months. Without this one-time extension, an outage will be necessary to perform the required surveillance.

Facility Operating License DPR-26, Section 2L specifies that a program be implemented to track and limit external leakage from systems outside the vapor containment that would or could contain highly radioactive fluids during a serious transient or accident to as low as practicable levels. Several of the Engineered Safety features and auxiliary systems, located outside containment, will or may be required to function during a serious transient or accident. The overall program established consists of six separate but complimentary elements that collectively assure compliance with the license requirement. Surveillance testing represent one of the elements used to monitor and maintain the leakage outside containment to as low as practicable levels. The surveillance test portion performs testing of all potential highly radioactive flow paths for systems outside containment and maintains continuous monitoring of the total leakage against established criteria. PT-R95, PT-R96 and PT-R97 are three of the surveillance tests that are performed to monitor leakage outside containment. Currently, these surveillances are performed at a frequency of 24 months (+25%). The proposed change is a one-time extension of seven months.

SECTION II – EVALUATION OF CHANGE

PT-R95 was issued in 1995 (formally PT-V20D)
PT-R96 was issued in 1995 (formally PT-V20E)
PT-R97 was issued in 1995 (formally PT-V20G)

The following test data was reviewed:

PT-R95 (includes PT-V20D)-1989, 1991, 1993, 1995, 1997
PT-R96 (includes PT-V20E)-1988, 1989, 1991, 1993,1995, 1997
PT-R97 (includes PT-V20G)-1991, 1993, 1995, 1997

The acceptance criterion for all tests is "less than or equal to 150 cc/min".

Test Results

		Leakage
PT-V20D –	1989-	0
	1991-	79.04
	1993-	0
	1995-	1.94
PT-R95 -	1997-	44.8

All test results were "SAT".

		Leakage
PT-V20E –	1988-	48.2
	1989-	221.24 "unsat"
	1991-	0
	1993-	306 "unsat"
PT-R96 -	1995-	14.8
	1997-	10.91

In both "unsat" cases there was no visible external leakage identified. For the 1989 test it was determined that the leakage was internal and was repaired via a maintenance work order. The engineering analysis for the 1993 test results concluded that although the test criteria was not meet, the lack of external leakage demonstrated an acceptable implementation if the license condition. Neither of these conditions has been repeated over the last several tests.

		Leakage
PT-V20G -	1991-	275.46 "unsat"
	1993-	0
PT-R97 -	1995-	30.8
	1997-	28.33

For the "unsat" case there was no external leakage visible. It was determined that one of the valves was leaking back and a new valve was installed. Subsequent tests did not have a recurrence of this condition.

Although there were three tests that did not meet the acceptance criteria, none of these resulted in external leakage. All anomalous conditions were corrected with no further unsatisfactory results in subsequent tests. There were no identified trends in the test results that indicate that the experienced anomalies were related to the time interval between tests or could worsen with time.

SECTION III - NO SIGNIFICANT HAZARDS EVALUATION

Consistent with the criteria of 10CFR50.92, the enclosed application is judged to involve no significant hazards based on the following information for surveillance tests PT-R95, PT-R96 and PT-R97.

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

The proposed license amendment does not involve a significant increase in the probability or consequences of an accident previously evaluated. The surveillance tests monitors the external leakage of selected systems outside containment that could contain highly radioactive fluids following an accident or serious transient. The results of 15 tests indicated that there was no external leakage. Since the past test data supports the integrity of the systems, there is reasonable expectation that the piping systems will continue to perform its intended safety function without external leakage.

It is concluded that a one-time extension of seven months for the leak test surveillance interval will have minimal impact.

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

The proposed license amendment does not create the possibility of a new or different kind of accident from any previously evaluated. The proposed change does not involve the addition of any new or different type of equipment, nor does it involve operating equipment required for safe operation of the facility in a manner that is different from that addressed in the Updated Final Safety Analysis Report. The integrity of the specific systems associated with the tests should not be affected by an extended surveillance period for the reasons described in (1) above. The test results showed that there were no external leakage paths outside containment that would allow radioactive fluids to escape the systems.

The three identified test failures were not related to external leakage and external leak probability would not be affected by an extended test interval. Therefore, it is anticipated that the portion of the piping system evaluated by the subject tests will continue to perform its intended function.

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

The proposed license amendment does not involve a significant reduction in a margin of safety. Review of historical test data provides assurance that the systems would continue to perform their intended safety function. The proposed change for a one-time extension of the test interval does not adversely affect the performance of any safety related system, component or structure and does not result in increased severity of any of the accidents considered in the Updated Final Safety Analysis Report. There is minimal risk that a surveillance extension of seven months will increase external leakage from the piping system under review beyond the license requirements or that the system performance will be influenced. It is concluded that a surveillance extension of seven months should not impact the margin of safety.

SECTION IV – IMPACT OF CHANGES

These changes will not adversely impact the following:

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

The proposed amendment provides for extending the surveillance interval of the leakage tests for selected systems outside containment. The tests evaluated in this analysis are not a specific test listed or implied in the UFSAR. Facility Operating License DPR-26, Section 2L specifies that an integrated leak test be implemented to identify external leakage from systems outside the vapor containment that would or could contain highly radioactive fluids during a serious transient or accident. The specific tests evaluated in this hazards analysis concern leakage paths which are not discussed in the UFSAR. Therefore, there is no UFSAR impact. There are no new failure modes introduced by this change. There are no functional or physical changes to any equipment.

SECTION V – CONCLUSION

The incorporation of this change: a) will not significantly increase the probability or consequences of an accident or malfunction of equipment important to safety as previously evaluated in the Updated Final Safety Analysis Report; b) will not create the possibility of an accident or malfunction of a different type than any evaluated previously in the Updated Final Safety Analysis Report; c) will not reduce the margin of safety as defined in the bases for any technical specification.

Therefore, this change does not involve a significant hazards consideration as defined in 10CFR50.92.

ATTACHMENT C

RHR SYSTEM FLOW-
CCR ANNUNCIATOR LOGIC CHECK

SAFETY ASSESSMENT

CONSOLIDATED EDISON COMPANY OF NEW YORK, INC.
INDIAN POINT UNIT NO. 2
DOCKET NO. 50-247
MARCH 1999

SURVEILLANCE NUMBER: PC-R9-2 – RHR System Flow - CCR Annunciator Logic Check

The applicable Technical Specification section is: Table 4.1-1, Item 13

The present RRD (final date) for this item is: November 26, 1999

The number of months needed to extend to reach JUNE 3, 2000: Seven

SECTION I- DESCRIPTION OF CHANGE

This application for amendment to the Indian Point 2 (IP2) Technical Specifications proposes to revise Table 4.1-1, Item 13 to allow a one-time extension of the surveillance interval for the functional test of the RHR System Flow – CCR Annunciator Logic Check due in November, 1999. If approved this surveillance will be completed during the next refueling outage, which will commence no later than June 3, 2000. Based on the above dates, the maximum length of the extension would be seven months. Without this one-time extension, an outage will be necessary to perform the required surveillance.

SECTION II- EVALUATION OF CHANGE

All seven completed surveillance tests from March 1986 to present were reviewed. The logic check is a "go no-go" logic check of the circuitry for the "Low Head Injection Line-Low Flow" annunciator on CCR panel SB-1. This annunciator logic requires the Recirculation Pump breaker to be closed and a low flow condition to be present at the required instruments before the annunciator logic is completed. This alarm is not discussed in the Emergency Operating Procedures. This annunciator logic checked satisfactory for every test in the review period.

The check consists of placing the Recirculation Pump breakers in "test" and cycling each breaker closed then open. The time for the annunciator to activate is checked to be less than 30 seconds and the annunciator is verified to bring up and clear the "Low Head Injection Line-Low Flow". Additionally, individual bistables are verified to activate and clear the annunciator for "Low Head Injection Line-Low Flow".

Since there is no allowable outage time for the Recirculation Pumps, this test may only be performed when the unit is at cold shut down conditions.

SECTION III- NO SIGNIFICANT HAZARDS EVALUATION

Consistent with the criteria of 10CFR50.92, the enclosed application is judged to involve no significant hazards based on the following information for RHR System Flow – CCR Annunciator Logic Check.

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

The proposed license amendment does not involve a significant increase in the probability or consequences of an accident previously evaluated. The high reliability of the circuit logic, and the fact that this reliability appeared not to be time dependent, leads to the conclusion that an extension of the surveillance interval of seven months should not impact the ability of the circuit to perform its safety function.

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

The proposed license amendment does not create the possibility of a new or different kind of accident from any previously evaluated. The proposed change does not involve the addition of any new or different type of equipment, nor does it involve operating equipment required for safe operation of the facility in a manner that is different from that addressed in the Updated Final Safety Analysis Report. Based on the analysis of the surveillance data, it is concluded that the logic for this circuit would continue to perform its intended safety function over long operating cycles and therefore, the possibility of a new or different accident has not been created.

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

The proposed license amendment does not involve a significant reduction in a margin of safety. There were no deficiencies noted for the surveillance tests reviewed. The proposed one-time extension of the surveillance test interval will not adversely affect the performance of any safety related system, component or structure and does not result in increased severity of any of the accidents considered in the Updated Final Safety Analysis Report. Based on past results, the one-time extension of seven months does not involve a significant reduction in a margin of safety.

SECTION IV - Impact of Changes

These changes will not adversely impact the following:

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

The proposed amendment provides for extending the surveillance interval of the functional test of the RHR System Flow- CCR Annunciator Logic Check. The test evaluated in this analysis is not a specific test listed or implied in the UFSAR. The logic check is a functional logic check of the circuitry for the "Low Head Injection Line-Low Flow" annunciator on CCR panel SB-1. The specific test evaluated in this hazards analysis is below the level of detail in the UFSAR. Therefore, there is no UFSAR impact. There are no new failure modes introduced by this change. There are no functional or physical changes to any equipment.

SECTION V – CONCLUSION

The incorporation of this change: a) will not significantly increase the probability or consequences of an accident or malfunction of equipment important to safety as previously evaluated in the Updated Final Safety Analysis Report; b) will not create the possibility of an accident or malfunction of a different type than any evaluated previously in the Updated Final Safety Analysis Report; c) will not reduce the margin of safety as defined in the bases for any technical specification.

Therefore, this change does not involve a significant hazards consideration as defined in 10CFR50.92.

ATTACHMENT D

LOW TURBINE AUTO STOP OIL PRESSURE

SAFETY ASSESSMENT

CONSOLIDATED EDISON COMPANY OF NEW YORK, INC.
INDIAN POINT UNIT NO. 2
DOCKET NO. 50-247
MARCH 1999

SURVEILLANCE NUMBER: PC-R41- Low Turbine Auto Stop Oil Pressure

The applicable Technical Specification section is: Table 4.1-1, Item 27a

The present RRD (final date) for this item is: November 11, 1999

The number of months needed to extend to reach June 3, 2000: Seven

SECTION I – DESCRIPTION OF CHANGE

This application for amendment to the Indian Point 2 (IP2) Technical Specifications proposes to revise Table 4.1-1, Item 27a to allow a one-time extension of the surveillance interval for the functional test of the Low Turbine Auto Stop Oil Pressure due in November, 1999. If approved this surveillance will be completed during the next refueling outage, which will commence no later than June 3, 2000. Based on the above dates, the maximum length of the extension would be seven months. Without this one-time extension, an outage will be necessary to perform the required surveillance.

SECTION II – EVALUATION OF CHANGE

The Low Turbine Auto Stop Oil Press System provides a reactor trip on turbine trip above 35% power and provides protection from a load rejection in excess of the capability of the Steam Dump System. A turbine trip from a power level above the capability of the Steam Dump System will actuate a trip to minimize the pressure/ temperature transient on the reactor. The safety analysis does not assume the operation of this function. A turbine trip signal energizes and opens the main turbine trip solenoids, 20 AST and 20 ASB. When these valves open, the turbine hydraulic oil system is dumped. Pressure switches 63/AST2, 63/AST3, and 63/AST4 sense the sudden loss of hydraulic oil pressure and trip the turbine, which in turn trips the reactor. These switches are calibrated every refueling outage.

Completed test results were reviewed from the last six refueling cycles. These tests spanned a period of in excess of eight (8) years. There were several instances where the "as found" pressure switch trip point did not meet the test criteria. In all but one of the cases the trip point was more conservative than specified in the test procedure. That is, the "as-found" pressure trip point was higher than the specified level, which would have generated a trip signal sooner than the design requirements.

Engineering analysis of the trip points indicated that the trip would have occurred approximately 0.01 seconds sooner than the design point. There was one case in 1993 where the trip point was in the less conservative direction. Engineering review and analysis of this condition indicated that the turbine trip would have been delayed by approximately 0.01 seconds. It was concluded that this time delay would not result in any significant deviation of safety related equipment.

The cause of the slight drift in the set point was attributed to the vibration of the turbine, was not unexpected and was deemed to be minor in nature. There were no identified trends that would indicate that the experienced minor set point drift would worsen with time.

The test was performed in 1995 and 1997 and the results indicated that several test points were slightly above (conservative direction) the test procedure range. The engineering response to the 1995 and 1997 test results indicated that the results were acceptable.

The pressure switches associated with the Low Turbine Auto Stop Oil Pressure System are very reliable devices. Since these devices are a "go/no go" type of device rather than an analog sensor and they are not used in the safety analysis as a primary trip for accident mitigation, a one time extension of seven months for the surveillance interval would not degrade the reliability of the system.

SECTION III – NO SIGNIFICANT HAZARDS EVALUATION

Consistent with the criteria of 10CFR50.92, the enclosed application is judged to involve no significant hazards based on the following information for Low Turbine Auto Stop Oil Pressure.

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

The proposed license amendment does not involve a significant increase in the probability or consequences of an accident previously evaluated. No credit is taken for a reactor trip from a low turbine auto stop oil pressure signal resulting from a turbine trip. In addition, no credit is taken for this system for turbine missile protection. Therefore, increasing the surveillance interval for this parameter has no impact upon the probability or consequences of an accident.

It is concluded that a one-time extension of 7 months for the channel calibration surveillance interval for the Low Turbine Auto Stop Oil Pressure system will have minimal risk impact.

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

The proposed license amendment does not create the possibility of a new or different kind of accident from any previously evaluated. The proposed change does not involve the addition of any new or different type of equipment, nor does it involve operating equipment required for safe operation of the facility in a manner that is different from that addressed in the Updated Final Safety Analysis Report. Also, The increased surveillance interval will not add any new failure modes.

Since no credit is taken in the safety analysis for this trip, the possibility of a new or different kind of accident has not been created by extending the surveillance interval.

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

The proposed license amendment does not involve a significant reduction in a margin of safety. The proposed change for a one-time extension of the test interval does not adversely affect the performance of any safety related system, component or structure and does not result in increased severity of any of the accidents considered in the Updated Final Safety Analysis Report. Based on past test results, the one-time extension of seven months does not involve a significant reduction in a margin of safety.

SECTION IV - Impact of Changes

These changes will not adversely impact the following:

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

The proposed amendment provides for extending the surveillance interval of the Low Turbine Auto Stop Oil Pressure functional test. The test evaluated in this analysis is not a specific test listed or implied in the UFSAR. The Low Turbine Auto Stop Oil Pressure System provides a reactor trip on turbine trip based on power level and provides protection from a load rejection in excess of the capability of the Steam Dump System. A turbine trip from a power level above the capability of the Steam Dump System will actuate a trip to minimize the pressure /temperature transient on the reactor. The safety analysis does not assume the operation of this function. Therefore, there is no UFSAR impact. There are no new failure modes introduced by this change. There are no functional or physical changes to any equipment.

SECTION V – CONCLUSION

The incorporation of this change: a) will not significantly increase the probability or consequences of an accident or malfunction of equipment important to safety as previously evaluated in the Updated Final Safety Analysis Report; b) will not create the possibility of an accident or malfunction of a different type than any evaluated previously in the Updated Final Safety Analysis Report; c) will not reduce the margin of safety as defined in the bases for any technical specification.

Therefore, this change does not involve a significant hazards consideration as defined in 10CFR50.92.

ATTACHMENT E

ACOUSTIC MONITORS

SAFETY ASSESSMENT

CONSOLIDATED EDISON COMPANY OF NEW YORK, INC.
INDIAN POINT UNIT NO. 2
DOCKET NO. 50-247
MARCH 1999

SURVEILLANCE NUMBER: PT-R63 Acoustic Monitors

The applicable Technical Specification section is: Table 4.1-1, Item 34

The present RRD (final date) for this item is: December 27, 1999

The number of months needed to extend to reach June 3, 2000: Six

SECTION I – DESCRIPTION OF CHANGE

This application for amendment to the Indian Point 2 (IP2) Technical Specifications proposes to revise Table 4.1-1, Item 34 to allow a one-time extension of the surveillance interval for the functional test of the Acoustic Monitors due in December, 1999. If approved this surveillance will be completed during the next refueling outage, which will commence no later than June 3, 2000. Based on the above dates, the maximum length of the extension would be six months. Without this one-time extension, an outage will be necessary to perform the required surveillance.

SECTION II – EVALUATION OF CHANGE

The acoustic monitors are located inside containment (above the pressurizer) and performance of the test during operation would not be prudent due to radiological and personnel safety considerations.

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 detectors are static devices with proven reliability. The test data reviewed over six test cycles supports this conclusion. Also, if a detector were to fail, it would not affect the proper operation of the code safety valves. Therefore, the extension of six months for the test interval would have a minimal impact on safety.

SECTION III – NO SIGNIFICANT HAZARDS EVALUATION

Consistent with the criteria of 10CFR50.92, the enclosed application is judged to involve no significant hazards based on the following information for the Acoustic Monitors.

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

The proposed license amendment does not involve a significant increase in the probability or consequences of an accident previously evaluated. The acoustic monitors are not required to operate in response to an accident but only provide indication in the CCR that there is flow in the safety valve discharge lines. A failure of a detector would not affect the ability of the safety valves to perform their required safety function.

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

The proposed license amendment does not create the possibility of a new or different kind of accident from any previously evaluated. The proposed change does not involve the addition of any new or different type of equipment, nor does it involve operating equipment required for safe operation of the facility in a manner that is different from that addressed in the Updated Final Safety Analysis Report. The devices are static and are in a standby condition during normal operation. 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 six months.

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

The proposed license amendment does not involve a significant reduction in a margin of safety. The monitors have demonstrated reliability and during normal operation do not function. Under these circumstances there is expected to be minimal impact upon safety by extending the operating cycle by six months. The proposed change for a one time extension of the test interval does not adversely affect the performance of any safety related system, component or structure and does not result in increased severity of any of the accidents considered in the Updated Final Safety Analysis Report. Based on past test results, the one-time extension of six months does not involve a significant reduction in a margin of safety.

SECTION IV - Impact of Changes

These changes will not adversely impact the following:

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

The proposed amendment provides for extending the surveillance interval of the Acoustic Monitors. The test evaluated in this analysis is not a specific test listed or implied in the UFSAR. 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. The specific test evaluated in this hazards analysis is below the level of detail in the UFSAR. Therefore, there is no UFSAR impact. There are no new failure modes introduced by this change. There are no functional or physical changes to any equipment.

SECTION V – CONCLUSION

The incorporation of this change: a) will not significantly increase the probability or consequences of an accident or malfunction of equipment important to safety as previously evaluated in the Updated Final Safety Analysis Report; b) will not create the possibility of an accident or malfunction of a different type than any evaluated previously in the Updated Final Safety Analysis Report; c) will not reduce the margin of safety as defined in the bases for any technical specification.

Therefore, this change does not involve a significant hazards consideration as defined in 10CFR50.92.

ATTACHMENT F

SETTING OF PRESSURIZER SAFETY VALVES
BY WYLE LABS

SAFETY ASSESSMENT

CONSOLIDATED EDISON COMPANY OF NEW YORK, INC.
INDIAN POINT UNIT NO. 2
DOCKET NO. 50-247
MARCH 1999

SURVEILLANCE NUMBER: PT-R5A Setting Of Pressurizer Safety Valves By Wyle Labs

The applicable Technical Specification section is: Table 4.1-3, Item 3

The present RRD (final date) for this item is: February 7, 2000

The number of months needed to extend to reach JUNE 3, 2000: Four

SECTION I - DESCRIPTION OF CHANGE

This application for amendment to the Indian Point 2 (IP2) Technical Specifications proposes to revise Table 4.1-3, Item 3 to allow a one-time extension of the surveillance interval for the functional test of two of the three Pressurizer Safety Valves due in February, 2000 (PCV-466 and PCV-468). If approved this surveillance will be completed during the next refueling outage, which will commence no later than June 3, 2000. Based on the above dates, the maximum length of the extension would be four months. Without this one-time extension, an outage will be necessary to perform the required surveillance.

SECTION II – EVALUAION OF CHANGE

Completed surveillance tests were reviewed from the last eight refuelings. These tests spanned a period in excess of thirteen years. The table below provides the initial "As-Found" setpoint for each of the three safety valves in each refueling outage. Lift values indicate L (low) or H (high) with respect to the acceptance range of 2460.15 to 2509.95 psig. If the AS FOUND value was determined to be within 1% of 2485 psig, the "TS" (Technical Specification) column is marked 'Yes', otherwise it is marked 'NO'. Similarly, a column is provided for values falling within the ASME Section XI (OM Part 1) 3% range.

Year	464 Lift psig	TS 1%	ASME 3%	466 Lift psig	TS 1%	ASME 3%	468 Lift psig	TS 1%	ASME 3%
1984	2492	Yes	Yes	2484	Yes	Yes	2461	Yes	Yes
1986	2430 (L)	No	Yes	2444 (L)	No	Yes	2569 (H)	No	No
1987	2498	Yes	Yes	2512 (H)	No	Yes	2516 (H)	No	Yes
1989	2474	Yes	Yes	2465	Yes	Yes	2489	Yes	Yes
1991	2497	Yes	Yes	2483	Yes	Yes	2509	Yes	Yes
1993	2547 (H)	No	Yes	2482	Yes	Yes	2510 (H)	No	Yes
1995	2503	Yes	Yes	2504	Yes	Yes	2509	Yes	Yes
1997	2560 (H)	No	Yes	2581 (H)	No	No	2533 (H)	No	Yes

Based on the review, the following observations were made:

1. The ASME Code requires testing at least once each five-year period for each Code Class 1 pressure relief device. Technical Specifications require a test for each device at each refueling interval.

2. There are 10 values outside the Technical Specification 1% range (out of 24). There are two values outside the ASME Section XI 3% range.

3. Refueling intervals were 18 months prior to 1993 and 24 months thereafter. No relationship between interval length and test results can be demonstrated from the data.

4. The 1997 values were produced as a result of an incorrect setpoint process discussed in Licensee Event Report 97-13-00. Based on the event analysis, the listed values for 1997 can be discounted for use as trending indicators. The 1997 event was evaluated as part of a Justification for Past Operation. It was determined that setpoint values between 2335 and 2585 psig do not represent operation beyond the plant design basis.

5. Two of the 1% out-of-range values are within three pounds of the acceptance range and statistically insignificant with respect to major setpoint errors. In addition, two of the 1% out-of-range values are below the range (but above the setpoint of the Power Operated Relief Valve – PORV) and have no impact on any accident in the UFSAR.

6. By discounting the special case represented by the 1997 test results, and eliminating the small and negative variations, there are three results of concern prior to 1997. None of the listed values indicate operation of the plant beyond the design basis.

7. Post-Maintenance testing for PCV-466 on 4/26/98 resulted in an "As Found" value of 2470 psig. This demonstrates confidence that the setpoint methodology errors were corrected. Since this valve was successfully tested recently, no extension is required for this valve.

8. All "As Left" setpoints are within the +/- 1% Technical Specification requirement.

SECTION III - NO SIGNIFICANT HAZARDS EVALUATION

Consistent with the criteria of 10CFR50.92, the enclosed application is judged to involve no significant hazards based on the following information for the Pressurizer Safety Valves.

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

There is no significant increase in the probability or consequences of an accident which can be attributed to a four month extension in testing two of the three safety valves.

As stated above, in no case was the bounding analysis exceeded for the "As Found" criteria and for all cases the maximum margin available is provided by requiring the valve setpoint meet the most conservative +/- 1% criteria for the "As-Left" setpoint.

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

The proposed license amendment does not create the possibility of a new or different kind of accident from any previously evaluated. The proposed change does not involve the addition of any new or different type of equipment, nor does it involve operating equipment required for safe operation of the facility in a manner that is different from that addressed in the Updated Final Safety Analysis Report. Also, there is no evidence from the data that indicate that a one-time increase of the surveillance interval for two of the three safety valves will adversely affect the setpoint.

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

A significant reduction in the margin of safety is not anticipated based on evaluation of the data. Historical data and the 1997 Justification of Past Operation provide assurance that the safety valves would perform their intended safety function. These facts, together with alternate means of over pressure protection (such as power operated relief valves), minimize any significant reduction in the margin of safety. The aggressive Technical Specification test frequency provides an added level of assurance with respect to setpoint maintenance. Based on analysis of the surveillance data, the one-time extension of four months for two of the three safety valves does not involve a significant reduction in a margin of safety.

SECTION IV - Impact of Changes

These changes will not adversely impact the following:

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

The proposed amendment provides for extending the surveillance interval of the hot setting for the PSV's. The test evaluated in this analysis is not a specific test listed or implied in the UFSAR. Evaluations performed for the safety valves demonstrate that the design basis requirements continue to be met. Therefore, there is no UFSAR impact. The surveillance extension has no impact on the operation of the pressurizer safety valves as described in the Updated Final Safety Analysis Report.

There are no new failure modes introduced by this change. There are no functional or physical changes to any equipment.

SECTION V – CONCLUSION

The incorporation of this change: a) will not significantly increase the probability or consequences of an accident or malfunction of equipment important to safety as previously evaluated in the Updated Final Safety Analysis Report; b) will not create the possibility of an accident or malfunction of a different type than any evaluated previously in the Updated Final Safety Analysis Report; c) will not reduce the margin of safety as defined in the bases for any technical specification.

Therefore, this change does not involve a significant hazards consideration as defined in 10CFR50.92.

ATTACHMENT G

MAIN STEAM SAFETY VALVES SETPOINT DETERMINATION

SAFETY ASSESSMENT

CONSOLIDATED EDISON COMPANY OF NEW YORK, INC.
INDIAN POINT UNIT NO. 2
DOCKET NO. 50-247
MARCH 1999

SURVEILLANCE NUMBER: PT-R6 Main Steam Safety Valves Setpoint Determination

The applicable Technical Specification section is: Table 4.1-3, Item 4

The present RRD (final date) for this item is: January 3, 2000

The number of months needed to extend to reach June 3, 2000: Five

SECTION I – DESCRIPTION OF CHANGE

This application for amendment to the Indian Point 2 (IP2) Technical Specifications proposes to revise Table 4.1-3, Item 4 to allow a one-time extension of the surveillance test interval for the functional test of nine of the twenty Main Steam Safety Valves due in January, 2000. If approved this test will be completed during the next refueling outage, which will commence no later than June 3, 2000. Based on the above dates, the maximum length of the extension would be five months. Without this one-time extension, an outage will be necessary to perform the required surveillance.

SECTION II – EVALUATION OF CHANGE

The proposed change is a one-time extension for 9 of 20 safety valves for a period of five months. The remaining safety valves were tested during the recent corrective action outage (October, 1997 to September, 1998). The request for the test interval extension is based on the following technical justification.

Reactor shutdown from power requires removal of core decay heat. Immediate decay heat removal requirements are normally satisfied by steam bypass to the condensers. Therefore, core decay heat can be continuously dissipated via the steam bypass to the condenser as feedwater in the steam generator is converted to steam by heat absorption. Normally, the capability to feed the steam generators is provided by operation of the turbine cycle feedwater system.

If the condenser heat sink is not available during a turbine trip, excess steam, generated as a result of reactor coolant system sensible heat and core decay heat, is discharged to the atmosphere. One means of discharging the excess steam is through the main steam line code safety valves. There are five code safety valves located on each of the four main steam lines outside the reactor containment upstream of the isolation and nonreturn valves. Discharge from each of the twenty safety valves is carried to the atmosphere through individual vent stacks. The five safety valves in each steam line are set to relieve at 1065, 1080, 1095, 1110, and 1120 psig.

The total relieving capacity of the twenty main steam relief valves is 15,108,000 lbs./hr. which is 114 percent of the total secondary steam flow of 13,310,000 lbs./hr. at 100 percent NSSS Power (3083.4 Mwt). Startup and/or power operation is allowable with main steam safety valves inoperable within the limitations of Technical Specifications.

The maximum relieving capacity is associated with a turbine trip from 100% Rated Thermal Power coincident with an assumed loss of condenser heat sink (i.e., no steam bypass to the condenser). Operability of the safety valves is verified each refueling shutdown.

Completed test procedures PT-R6 were reviewed for the last three refueling interval tests performed. This testing spanned in excess of five years. The "As-Found" setpoints that were out of tolerance are listed below.

Main Steam Safety Valves
Setpoint Failure Summary

Valve	Span (psig)	4/18/93	5/19/95	7/5/97
MS-45A	1034 – 1096	1108		1030 (low)
MS-46A	1048 – 1112	1150		
MS-46B	1048 – 1112			1115
MS-48A	1077 – 1139	1154	1065 (low)	1020 (low)
MS-48C	1077 – 1139	1177		

As can be seen from this summary, three of the failures were in the conservative direction and can be considered not significant. This left only five setpoints out of sixty tests that were not conservative. Of these, two lifted at a pressure lower than the upper limit of the two highest sets of values (1139 psig) and all five were more than 200 psig below the normal hydrostatic test pressure for the steam generators (1400 psig). All valves, therefore, would have provided protection and allowed for removal of excess heat.

The summary was compared to a previous summary that examined setpoints over a similar period (1/14/86 through 7/10/91). In the previous period there were seven 'out of tolerance' conditions of which two were low. In the present period there were eight 'out of tolerance' conditions of which three were low. There is no significant difference between the number of failures in the two periods. Therefore, there is no adverse trend in setpoint maintenance.

In addition, the previous period covered testing at 18-month intervals and the second period covered testing at 24-month intervals. Based on the number of 'out of tolerance' conditions in the two periods being essentially equal, there is no apparent link between the interval length and the test results.

The normal code requirement for these safeties would require that 100% of the population be tested in each ten year Code interval. Con Edison's Technical Specification test program is currently far more aggressive than the Code requirement since all the valves are tested each refueling outage. Eleven of the installed twenty safety valves (which include at least two valves for each Steam Generator) were tested during a recent outage and no extension is required for these safety valves.

The accident analysis conservatively assumes that neither the condenser nor the atmospheric steam dumps are operable during the accident condition. The Main Steam Relief valves are relied upon in this assumption to remove heat associated with a turbine trip from 100% Rated Thermal Power. The evaluation demonstrates that no valve setpoint has been found to be above the 110% design pressure limit discussed in the Technical Specification basis (Technical Specification 3.4).

Based on the inherent reliability of the steam generator safeties, that other means of steam dumping exists, and the large numbers of safeties installed, a one-time extension of the surveillance interval for 9 of the 20 installed valves for five months would have minimal impact on safety.

SECTION III – NO SIGNIFICANT HAZARDS EVALUATION

Consistent with the criteria of 10CFR50.92, the enclosed application is judged to involve no significant hazards based on the following information for the Main Steam Safety Valves.

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

There is no significant increase in the probability or consequences of an accident. As stated above, the accident analysis conservatively assumes that neither the condenser nor the atmospheric steam dumps are operable. As noted previously, other means of steam dumping in addition to the steam generator safeties will most likely be available. In addition, of the sixty tests reviewed, only five "As Found" settings were high. A high setting does not mean loss of function as they would have provided protection, but at a higher setpoint.

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

The proposed license amendment does not create the possibility of a new or different kind of accident from any previously evaluated. The proposed change does not involve the addition of any new or different type of equipment, nor does it involve operating equipment required for safe operation of the facility in a manner that is different from that addressed in the Updated Final Safety Analysis Report.

Also, the increased surveillance interval (one-time only) will not adversely affect the Main Steam Safety Valve setpoint as evidenced by the comparison of data from the two five year periods.

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

A reduction in the margin of safety is not anticipated based on evaluation of the data. Historical data provides confidence that all of the safeties would continue to perform their intended function. Only nine of the twenty safety valves will be subject to the five-month extension. These facts, together with alternate means of heat rejection that will most likely remain available, minimize any potential reduction in the margin of safety.

SECTION IV - Impact of Changes

These changes will not adversely impact the following:

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

The proposed amendment provides for extending the surveillance interval for nine of the twenty Main Steam Safety Valves. The test evaluated in this analysis is not a specific test listed or implied in the UFSAR. The operability of the valves is required to meet particular assumptions in UFSAR accident analyses. The evaluation demonstrates that the valves can be expected to remain operable during the short, five month, extension period. Therefore, there is no UFSAR impact. There are no new failure modes introduced by this change. There are no functional or physical changes to any equipment.

SECTION V – CONCLUSION

The incorporation of this change: a) will not significantly increase the probability or consequences of an accident or malfunction of equipment important to safety as previously evaluated in the Updated Final Safety Analysis Report; b) will not create the possibility of an accident or malfunction of a different type than any evaluated previously in the Updated Final Safety Analysis Report; c) will not reduce the margin of safety as defined in the bases for any technical specification.

Therefore, this change does not involve a significant hazards consideration as defined in 10CFR50.92.

ATTACHMENT H

SAFETY INJECTION SYSTEM

SAFETY ASSESSMENT

CONSOLIDATED EDISON COMPANY OF NEW YORK, INC.
INDIAN POINT UNIT NO. 2
DOCKET NO. 50-247
MARCH 1999

SURVEILLANCE NUMBER: PT-R13 Safety Injection System

The applicable Technical Specification section is: Table 4.1-3, Item 5
4.5.A.1, 4.5.B.1, 4.5.E.4.b

The present RRD (final date) for this item is: November 7, 1999

The number of months needed to extend to reach June 3, 2000: Seven

SECTION I – DESCRIPTION OF CHANGE

This application for amendment to the Indian Point 2 (IP2) Technical Specifications proposes to revise the sections discussed below to allow a one-time extension of the surveillance test interval for the functional tests specified in these sections due in November, 1999. If approved this test will be completed during the next refueling outage, which will commence no later than June 3, 2000. Based on the above dates, the maximum length of the extension would be seven months. Without this one-time extension, an outage will be necessary to perform the required surveillance.

Technical Specification 4.1, Table 4.1-3, Item 5 requires the performance of an automatic actuation of the Containment Isolation System each refueling interval. Technical Specification 4.5.A.1 requires that a Safety Injection System test be performed at each reactor refueling interval. Technical Specification 4.5.B.1 requires that the Containment Spray System be tested at each reactor refueling interval. Technical Specification 4.5.E.4.b requires verification that the Control Room Air Filtration System automatically switches into the recirculation mode of operation upon a safety injection test signal or a high radiation signal at least once every refueling interval. All of the requirements in the above sections are currently demonstrated by the performance of a PT-R13 for the Safety Injection System.

SECTION II – EVALUATION OF CHANGE

The safety objective in reactor design and operation is the control of reactor fission products from the fuel. Four methods are used to ensure this objective. Two of these methods are: 1) retention of fission products in the reactor coolant for whatever leakage occurs; and 2) retention of fission products by the containment for operational and accidental releases beyond the reactor coolant boundary. The engineered safety features are the provisions in the plant that embody these two methods to prevent the occurrence or to ameliorate the effects of serious accidents.

A comprehensive program of plant testing is formulated for all equipment, systems and system control vital to the functioning of engineered safety features. The program consists, in part, of integrated system tests and periodic tests of the actuation circuitry and mechanical components.

Test Evaluation

The Safety Injection System test involves several plant systems. The results of the tests are documented in surveillance records. All anomalies are documented whether they relate directly to the test or other plant activities.

The anomalies were placed in three categories. The first category concerns indication. The items falling into the indication category have no effect on actual equipment performance. These items did not affect the ability of the Safety Injection System to perform its intended safety function in an accident situation. In those cases where indicating devices did not function as intended, alternate methods to verify equipment functional operation existed. Functioning of the indicating devices is not part of the test operability criteria however, they are addressed in the test and require that corrective action be taken for any abnormalities or deficiencies identified.

The second category equipment being unavailable for testing because it was out of service for maintenance. Non-essential equipment out of service because of scheduled and non-scheduled maintenance requirements are listed in the test. This equipment is subject to testing prior to returning it to service. This testing verifies proper Safety Injection System operation for the returning equipment.

All other anomalies were placed in a third category for evaluation of impact on the Safety Injection System. These normally resulted in root cause evaluations as a result of the requirements of the formal corrective action system. Significant issues arising from these evaluations are discussed below.

Test Results

The results of the completed tests from the last three refueling outages have been reviewed. A number of problem areas were documented in each test. However, on an overall basis it is evident that the results do not impact the ability of the safety injection system to perform its intended safety functions. None of the anomalies have proven to be time dependent. These are the same conclusions drawn from the hazards evaluation submitted previously in support of the 24 month surveillance interval extension.

Evaluation of the 1993 test results revealed that there were no major equipment malfunctions. One containment isolation valve failed to perform as required. The component was repaired and retested satisfactorily. In 1995, during the test of "daisy chain" interlocks, the " Close-Remote " switch circuitry for the 'inboard' and 'outboard' steam generator blowdown valves and #22 Hydrogen Recombiner valves allowed the Containment Isolation Phase "A" signal for Train "B" to be reset with the switches in the incorrect position. Two malfunctioning relays were found and replaced. Subsequent testing of this circuitry was acceptable. The performance of the remaining major equipment was satisfactory.

In 1997, during the testing of Train "A", #23 Component Cooling Water Pump failed to restart after having received its stripping signal. Troubleshooting of the circuit breaker was conducted. A "light arcing" was noticed on the main stationary contacts for Phase 'C'. All contacts were burnished; however, nothing was found that would have precluded the breaker from operating. The retest proved satisfactory. Also, #22 & #25 Service Water Pump circuit breakers would not close on testing of either Train "A" or Train "B". Troubleshooting resulted in identifying that the polarity markings for the recently installed solid state timing relays was not properly observed. This resulted in inappropriate relay performance that directly affected the circuit breaker operation. PT-R13 was being used, in part, as the Post Maintenance Test for these relay installations. Manual operation of the circuit breakers however, was not precluded. Corrective action was taken. The circuits retested satisfactorily.

During Train "B" testing, # 22 Containment Spray Pump circuit breaker failed to close when required. Troubleshooting identified a wiring discrepancy on a timing relay that was recently installed as part of a modification. PT-R13 was being used, in part, as the Post Maintenance Test for this relay installation. Manual circuit breaker operation was not precluded. The wiring discrepancy was corrected and the retest satisfactorily performed. The performance of the remainder of the major Safety Injection System components was satisfactory.

The master relays in the Engineered Safety Features circuits, including those in the Safety Injection System, were replaced with Electroswitch Lock-Out relays during the 1997 Refueling Outage. The former master relays were a Westinghouse Type MG-6 relay, which on occasion would not properly latch. The replacement relays are of a more positive latching design thus improving the reliability and performance of the overall system. The new master relays are testable with the unit online and are tested on a two month frequency. This provides a greater overall system confidence than was achievable in the past.

Finally, during the corrective action outage of 1998, the testing of Engineered Safety Features circuits, including those within the Safety Injection System, were completed as per Generic Letter 96-01.

SECTION III – NO SIGNIFICANT HAZARDS EVALUATION

Consistent with the criteria of 10CFR50.92, the enclosed application is judged to involve no significant hazards based on the following information for the Safety Injection System.

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

The proposed license amendment does not involve a significant increase in the probability or consequences of an accident previously evaluated.

An assessment has been performed of the test results from the last three refueling outages, covering a period in excess of six years. Significant anomalies were evaluated as discussed in the preceding test result section. After corrective action, these events were not repeated in subsequent system tests. In all instances, the problems were not identified to be time dependent. Thus, it is concluded that extending the surveillance interval by seven months will not involve a significant increase in the probability or consequences of an accident previously evaluated.

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

The proposed license amendment does not create the possibility of a new or different kind of accident from any previously evaluated. The proposed change does not involve the addition of any new or different type of equipment, nor does it involve operating equipment required for safe operation of the facility in a manner that is different from that addressed in the Updated Final Safety Analysis Report. Also, the increased surveillance interval (one-time only) extension will not adversely affect the Safety Injection System as evidenced by the comparison of results from the past three surveillance tests.

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

The proposed amendment does not involve a significant reduction in a margin of safety. The results of the previous three cycles of test data have been evaluated. None of the anomalies observed were sufficiently serious to impact the performance of the Safety Injection System or to weigh against a one-time extension of seven months to the current surveillance interval. The replacement of the Master Relays with those of a type that can be tested online has enhanced the confidence in system reliability. Therefore, it is concluded that this one-time extension request will not involve a significant reduction in the margin of safety.

SECTION IV - Impact of Changes

These changes will not adversely impact the following:

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

The proposed amendment provides for extending the surveillance interval of the Safety Injection System test, PT-R13.

The Updated Final Safety Analysis Report addresses the performance of Safety Injection System testing on a "refueling interval". The UFSAR states: "The safety injection system is tested: 1. To verify that the various valves and pumps associated with the engineered safeguards system will respond and perform their required safety functions, if needed. 2. To ensure that each diesel generator will start automatically and assume the required load, within 60 sec after the initial start signal by simulating loss of all normal alternating current station service power supplies and simultaneously simulating a safety injection signal. This test is performed at each refueling interval. 3. To verify that the required bus load shedding takes place. 4. To verify the restoration of particular vital equipment to operation. "

There are no changes required to the UFSAR based on the requested interval extension. There are no new failure modes introduced by this change. There are no functional or physical changes to any equipment.

SECTION V – CONCLUSION

The incorporation of this change: a) will not significantly increase the probability or consequences of an accident or malfunction of equipment important to safety as previously evaluated in the Updated Final Safety Analysis Report; b) will not create the possibility of an accident or malfunction of a different type than any evaluated previously in the Updated Final Safety Analysis Report; c) will not reduce the margin of safety as defined in the bases for any technical specification.

Therefore, this change does not involve a significant hazards consideration as defined in 10CFR50.92.

ATTACHMENT I

SENSITIVE LEAK RATE TEST-TYPE "B"

SAFETY ASSESSMENT

CONSOLIDATED EDISON COMPANY OF NEW YORK, INC.
INDIAN POINT UNIT NO. 2
DOCKET NO. 50-247
MARCH 1999

The test results for each header are added together to ensure that leakage remains within that stated in Technical Specification 4.4.B.2 (0.2% of the containment free volume per day, or 15.2 SCFM). A portion of this leakage is also added to the cumulative total for containment leakage as designated in Technical Specification 4.4.D.2.a. This portion, together with the results from airlock and additional valve testing, must be less than 0.6 L_a (4.57 SCFM).

Completed test procedures PT-R11 were reviewed for the last five refueling interval tests performed. All the tests met the leakage requirements. However, the 1993 test demonstrated unacceptable large leakage paths in particular zones where this leakage could not be adequately measured. The test was performed with these leak paths isolated and was completed successfully. The leak paths were then analyzed, modified and re-tested successfully. The 1995 and 1997 test results demonstrate the adequacy of the analysis and repair of these leakage problems. The test results, as well as that portion (*) which is used as part of the total Appendix J, Type B criteria, are listed below (SCFM):

DATE	TOTAL	TYPE B*
6/8/89	2.783	2.258
6/30/91	4.57	3.2
4/10/93	4.38	2.47
4/18/95	4.45	2.887
6/23/97	2.71	2.015

The test was performed on an 18-month refueling outage frequency prior to 1993 and was subsequently changed to a 24-month frequency. In evaluating the five tests, there is no apparent leakage trend which would indicate a worsening condition over time. In addition, the total available margin has remained essentially constant over the last decade.

Basic system parameters such as system pressure and air consumption are monitored when above cold shutdown to ensure system functionality.

Based on system reliability and the preceding test evaluation, a one-time extension of the surveillance interval for six months would have minimal impact on safety.

SECTION III - NO SIGNIFICANT HAZARDS EVALUATION

Consistent with the criteria of 10CFR50.92, the enclosed application is judged to involve no significant hazards based on the following information for the Sensitive Leak Rate Test.

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

The proposed license amendment does not involve a significant increase in the probability or consequences of an accident previously evaluated. As stated above, the accident analysis does not credit the operation of the WCP system. The system has demonstrated reliability and performance such that there is confidence that the consequences of an accident will be limited.

The one (out of five) test problems can be attributed to individual components within the population and the problems with these components were resolved and found not to be recurring. No link between the period of time between tests and test failures was established.

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

The proposed license amendment does not create the possibility of a new or different kind of accident from any previously evaluated. The proposed change does not involve the addition of any new or different type of equipment, nor does it involve operating equipment required for safe operation of the facility in a manner that is different from that addressed in the Updated Final Safety Analysis Report. Also, the increased surveillance interval (one-time only) will not adversely affect the results of the Sensitive Leak Rate test as evaluated in the preceding description of change.

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

A reduction in the margin of safety is not anticipated based on evaluation of the data. The accident analysis does not credit the operation of the WCP system. Historical data provides confidence that the system will perform as required and that root problems can be eliminated such that they do not cause repeat failures of the same components. The system will continue to be adequately monitored and tested; therefore, an extension of six months will have minimal impact on the margin of safety.

SECTION IV - Impact of Changes

These changes will not adversely impact the following:

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

The proposed amendment provides for extending the surveillance interval for the Sensitive Leak Rate test. This test is specifically discussed in the UFSAR. The surveillance extension has no impact on the Sensitive Leak Rate test as described in the Updated Final Safety Analysis Report. There are no new failure modes introduced by this change. There are no functional or physical changes to any equipment.

SECTION V – CONCLUSION

The incorporation of this change: a) will not significantly increase the probability or consequences of an accident or malfunction of equipment important to safety as previously evaluated in the Updated Final Safety Analysis Report; b) will not create the possibility of an accident or malfunction of a different type than any evaluated previously in the Updated Final Safety Analysis Report; c) will not reduce the margin of safety as defined in the bases for any technical specification.

Therefore, this change does not involve a significant hazards consideration as defined in 10CFR50.92.

ATTACHMENT J

ISOLATION VALVE SEAL WATER SYSTEM FUNCTIONAL TEST

SAFETY ASSESSMENT

CONSOLIDATED EDISON COMPANY OF NEW YORK, INC.
INDIAN POINT UNIT NO. 2
DOCKET NO. 50-247
MARCH 1999

SURVEILLANCE NUMBER: PT-R26 Isolation Valve Seal Water System Functional Test

The applicable Technical Specification section is: 4.4.D.1.c

The present RRD (final date) for this item is: December 21, 1999

The number of months needed to extend to reach JUNE 3, 2000: Six

SECTION I- DESCRIPTION OF CHANGE

This application for amendment to the Indian Point 2 (IP2) Technical Specifications proposes to revise Section 4.4.D.1.c to allow a one-time extension of the surveillance interval for the functional test of the Isolation Valve Seal Water System (IVSW) due in December, 1999. If approved, this surveillance will be completed during the next refueling outage, which will commence no later than June 3, 2000. Based on the above dates, the maximum length of the extension would be six months. Without this one-time extension, an outage will be necessary to perform the required surveillance.

The IVSW system helps to ensure the sealing effectiveness of Containment Isolation Valves that are located in lines connected to the Reactor Coolant System or that could be exposed to the containment atmosphere during any condition that requires containment isolation. This is accomplished by injecting a water or gas seal between valves or between the discs of double-disc gate valves.

No credit is taken for the operation of the IVSW System in the calculation of offsite accident dose. However, the IVSW System functions to limit the fission product release from containment. This provides assurance that the containment leak rate is lower than that assumed in the accident analysis. The IVSW is actuated via a 'phase A' isolation signal and automatically provides sealing to those lines penetrating containment which are not necessary in limiting the effects of a LOCA. The remaining penetrations may have IVSW manually initiated after those penetrations are no longer necessary for service in LOCA mitigation.

The overall Isolation Valve Seal Water System Test is performed in addition to the Appendix J requirement for individual valve seat leakage testing for Containment Isolation Valves. The overall test is performed by pressurizing system headers that provide service to multiple sets of isolation valves. The test results for each header are added together to ensure that leakage remains within that stated in Technical Specification 4.4.D.2.c (14,700 cc/hr or 245 cc/min). This leakage amount applies to the total seat leakage for 62 Containment Isolation valves.

SECTION II- EVALUATION OF CHANGE

Completed test procedures PT-R26 were reviewed for the last five refueling interval tests performed. Of these tests, the tests in 1989, 1991, and 1997 successfully met the 245 cc/min leakage requirement. The tests in 1993 and 1995 failed to meet the requirement. The test performed in 1993 was not successful due to leakage from two of the 62 Containment Isolation valves. These valves were also found to exceed requirements for Appendix J Type C testing for individual valve seat leakage. The valves were repaired and did not contribute to any subsequent failure of PT-R26.

Similarly, the test in 1995 was not successful because leakage from five Containment Isolation valves was excessive. These valves were also found to exceed requirements for Appendix J Type C testing for individual valve seat leakage. The valves were repaired and did not contribute to any subsequent failure of PT-R26. In 1997, the test demonstrated a leakage of 207.45 cc/min which met the acceptance standard.

The test was performed on an 18-month refueling outage frequency prior to 1993 and was subsequently changed to a 24-month frequency. In evaluating the five tests, there was no trend established between test failure and a particular valve. There is no indication that the length of time between tests has any impact on the success or failure of PT-R26. It was also noted that the acceptance criteria of 245 cc/min is a fraction of the total allowed for the sum of the individual leakages for the Containment Isolation Valves when individually tested per Appendix J Type C requirements.

Basic system parameters such as IVSW tank pressure and level are monitored during unit operation to ensure system readiness for actuation.

Based on system reliability and the preceding test evaluation, a one-time extension of the surveillance interval for six months would have minimal impact on safety.

SECTION III- NO SIGNIFICANT HAZARDS EVALUATION

Consistent with the criteria of 10CFR50.92, the enclosed application is judged to involve no significant hazards based on the following information for the Isolation Valve Seal Water system.

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

The proposed license amendment does not involve a significant increase in the probability or consequences of an accident previously evaluated. As stated above, the accident analysis does not take credit for the operation of the IVSW system. The system has demonstrated reliability and performance such that there is confidence that the consequences of an accident will be limited.

The two (out of five) test failures can be traced to individual components within the population and the problems with these components were found not to be recurring. No link between the period of time between tests and test failures was established.

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

The proposed license amendment does not create the possibility of a new or different kind of accident from any previously evaluated. The proposed change does not involve the addition of any new or different type of equipment, nor does it involve operating equipment required for safe operation of the facility in a manner that is different from that addressed in the Updated Final Safety Analysis Report. Also, the increased surveillance interval (one-time only) will not adversely affect the results of the overall Isolation Valve Seal Water System test as evaluated in the preceding description of change.

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

The proposed license amendment does not involve a significant reduction in a margin of safety. Historical data provides confidence that the system will perform as required and that root problems can be eliminated such that they do not cause repeat failures of the same components. The system will continue to be adequately monitored and tested; therefore, an extension of six months will have minimal impact on the margin of safety.

SECTION IV - Impact of Changes

These changes will not adversely impact the following:

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

The proposed amendment provides for extending the surveillance interval of Isolation Valve Seal Water System Test. This test is specifically implied in the UFSAR. The surveillance extension has no impact on the operation of the Isolation Valve Seal Water System as described in the Updated Final Safety Analysis Report. Therefore, there is no UFSAR impact as a result of the change. There are no new failure modes introduced by this change. There are no functional or physical changes to any equipment.

SECTION V – CONCLUSION

The incorporation of this change: a) will not significantly increase the probability or consequences of an accident or malfunction of equipment important to safety as previously evaluated in the Updated Final Safety Analysis Report; b) will not create the possibility of an accident or malfunction of a different type than any evaluated previously in the Updated Final Safety Analysis Report; c) will not reduce the margin of safety as defined in the bases for any technical specification.

Therefore, this change does not involve a significant hazards consideration as defined in 10CFR50.92.

ATTACHMENT K

INTERNAL CONTAINMENT STRUCTURAL VISUAL INSPECTION

SAFETY ASSESSMENT

CONSOLIDATED EDISON COMPANY OF NEW YORK, INC.
INDIAN POINT UNIT NO. 2
DOCKET NO. 50-247
MARCH 1999

SURVEILLANCE NUMBER: PI-R2- Internal Containment Structural Visual Inspection

The applicable Technical Specification section is: 4.4.G

The present RRD (final date) for this item is: December 4, 1999

The number of months needed to extend to reach JUNE 3, 2000: Six

SECTION I - DESCRIPTION OF CHANGE

This application for amendment to the Indian Point 2 (IP2) Technical Specifications proposes to revise Section 4.4.G to allow a one-time extension of the surveillance interval for the Internal Containment Structural Visual Inspection due in December, 1999. If approved this surveillance will be completed during the next refueling outage, which will commence no later than June 3, 2000. Based on the above dates, the maximum length of the extension would be six months. Without this one-time extension, an outage will be necessary to perform the required surveillance.

The reactor containment structure is a reinforced concrete vertical right cylinder with a flat base and a 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 is to contain all the radioactive material, which might be released from the core following a loss-of –coolant accident. The structure serves as a biological shield and a pressure container.

The structure consists of sidewalls measuring 148 ft. from the liner on the base to the springline of the dome and has an inside diameter of 135 ft. The sidewalls 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 thickness is on the outer surface. The flat concrete base mat is 9 ft. thick with the bottom plate located on top that forms the floor of the containment.

Insulation is provided on the first 45 feet of the containment liner to limit the temperature rise under accident conditions to 80 deg. 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 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 capability to accept, without exceeding the specified stress limits, a combination of normal operating loads due to a loss of coolant accident, and the loads 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 direction simultaneously.

Visual inspection of the accessible interior surfaces of the containment and its components is 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 the containment structural integrity or leak tightness. The acceptance criteria in the surveillance procedure are much more stringent than that in the Technical Specifications. Problems found are evaluated and documented in the Corrective Action Program and repaired under the work order system.

SECTION II – EVALUATION OF CHANGE

Inspection results from the last six surveillance tests were reviewed. The concrete containment structure and the welded steel liner are designed and constructed to ensure to meet the design basis over the entire plant life. Visual inspection is expected to reveal only cosmetic flaws and minor deterioration. The 1989 and 1992 inspections found no deficiencies. The 1991 inspection identified three locations where the containment liner insulation had either separated, buckled, or was missing. In 1993 it was identified that a 12"x4"x2" deep concrete patch was cracking off and required repair. For both of the inspections the deficiencies were repaired via the normal work order system without requiring an engineering analysis.

The 1995 inspection resulted in the identification of a number of deficiencies primarily associated with the liner insulation pulling away form the wall, flashing material either damaged or pulling away from the liner, and sealant missing from seams. Operations determined that the work was "cosmetic" and would not affect plant operations. A work order was issued and all items were corrected.

During the performance of PI-R2 in 1997 it was noted that at several location the insulation flashing was either damaged or pulled away from the insulation. There were also several places where there were small holes in the flashing material. As previously noted, insulation is provided to limit the temperature rise in the liner under accident conditions. The flashing protects the exposed face of the insulation and is sealed at the joints. The deficiencies were reviewed by engineering and it was concluded that the damaged flashing was due to human performance/work practices during the performance of maintenance activities or installation of modification packages. The minor hole in the flashing could have caused by equipment puncturing the flashing and the flashing pulled away from the liner could also have been caused by equipment/tools catching the flashing seams. The implemented corrective action was to reinforce the awareness of the surrounding area while performing work activities and safe work practices pertaining to specific work activities are emphasized to all personnel during the prejob briefings.

A review of all the inspection results indicate that the observed deficiencies were not significant, and did not affect any components that could impact the long-term containment structural integrity. There was no apparent trend in the observed conditions that would indicate a worsening condition over time.

Based on the design and construction of the containment structure and liner and the observed conditions, a one time extension of the surveillance interval of six months will have a minimum impact on safety.

SECTION III - NO SIGNIFICANT HAZARDS EVALUATION

Consistent with the criteria of 10CFR50.92, the enclosed application is judged to involve no significant hazards based on the following information for Internal Containment Structural Visual Inspection.

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

The proposed license amendment does not involve a significant increase in the probability or consequences of an accident previously evaluated. Minor observations were identified on some of the inspections reviewed and mostly concerned surface imperfections and minor cosmetic items. The engineering and operation review of the findings indicated that the deficiencies were not expected to impact any plant function. In many cases the deficiencies to the liner insulation and the flashing appeared to be a result of human performance or work practices. In no case was there any direct damage to the containment structure that could cause any structural degradation or affect the leak tightness. In no instances were the observations of a nature that, if left unattended, had the potential to compromise structural or leakage integrity. None of the observed deficiencies appeared to be time dependent and therefore an extension of the surveillance interval of six months should not impact the ability of the containment structure to perform its safety function.

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

The proposed license amendment does not create the possibility of a new or different kind of accident from any previously evaluated. The proposed change does not involve the addition of any new or different type of equipment, nor does it involve operating equipment required for safe operation of the facility in a manner that is different from that addressed in the Updated Final Safety Analysis Report. It is concluded that the containment building would continue to perform its intended safety function over long operating cycles and therefore, the possibility of a new or different accident has not been created.

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

The proposed license amendment does not involve a significant reduction in a margin of safety. The nature of the deficiencies observed during the surveillances has not been significant with respect to the structural integrity and containment leakage. The proposed one-time extension of the surveillance test interval will not adversely affect the performance of any safety related system, component or structure and does not result in increased severity of any of the accidents considered in the Updated Final Safety Analysis Report. Based on past test results, the one-time extension of six months does not involve a significant reduction in a margin of safety.

SECTION IV - Impact of Changes

These changes will not adversely impact the following:

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

The proposed amendment provides for extending the surveillance interval of the Internal Containment Structural Visual Inspection. This surveillance is not specifically listed or implied in the UFSAR. Therefore, there is no UFSAR impact. There are no new failure modes introduced by this change. There are no functional or physical changes to any equipment.

SECTION V – CONCLUSION

The incorporation of this change: a) will not significantly increase the probability or consequences of an accident or malfunction of equipment important to safety as previously evaluated in the Updated Final Safety Analysis Report; b) will not create the possibility of an accident or malfunction of a different type than any evaluated previously in the Updated Final Safety Analysis Report; c) will not reduce the margin of safety as defined in the bases for any technical specification.

Therefore, this change does not involve a significant hazards consideration as defined in 10CFR50.92.

ATTACHMENT M

HYDROGEN RECOMBINERS

SAFETY ASSESSMENT

CONSOLIDATED EDISON COMPANY OF NEW YORK, INC.
INDIAN POINT UNIT NO. 2
DOCKET NO. 50-247
MARCH 1999

SURVEILLANCE NUMBER: PT-R15 Hydrogen Recombiners

The applicable Technical Specification section is: 4.5.C.1

The present RRD (final date) for this test is: December 24, 1999

The number of months needed to extend to reach JUNE 3, 2000: Six

SECTION I- DESCRIPTION OF CHANGE

This application for amendment to the Indian Point 2 (IP2) Technical Specifications proposes to revise Section 4.5.C.1 to allow a one-time extension of the surveillance interval for the functional test for the Hydrogen Recombiners due in December, 1999. If approved this surveillance will be completed during the next refueling outage, which will commence no later than June 3, 2000. Based on the above dates, the maximum length of the extension would be six months. Without this one-time extension, an outage will be necessary to perform the required surveillance.

The 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 dilutent chamber, and associated monitoring and control instrumentation.

The flame recombiner systems are located on the operating floor in the southeast and southwest quadrant 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 set point were established, combustor temperature confirmed, igniter operation confirmed, and control panel and gas valve stand operation confirmed. An operational test is performed every refueling.

SECTION II- EVALUATION OF CHANGE

Data from three surveillance tests conducted in 1993, 1995, and 1997 were reviewed. In all instances the operability criteria were met.

ATTACHMENT L

LEAK RATE DETERMINATION

SAFETY ASSESSMENT

CONSOLIDATED EDISON COMPANY OF NEW YORK, INC.
INDIAN POINT UNIT NO. 2
DOCKET NO. 50-247
MARCH 1999

SURVEILLANCE NUMBER: PT-R27A 885A,885B& 741A Leak Rate Determination

The applicable Technical Specification section is: 4.4.H.1.a (2)

The present RRD (final date) for this item is: October 31,1999

The number of months needed to extend to reach JUNE 3, 2000: Eight

SECTION I - DESCRIPTION OF CHANGE

This application for amendment to the Indian Point 2 (IP2) Technical Specifications proposes to revise Section 4.4.H.1.a (2) to allow a one-time extension of the surveillance interval for the functional test for the leak rate determination for the specified piping and components due in October, 1999. If approved this surveillance will be completed during the next refueling outage, which will commence no later than June 3, 2000. Based on the above dates, the maximum length of the extension would be eight months. Without this one-time extension, an outage will be necessary to perform the required surveillance.

Technical Specification 4.4.H.1.a.(2) specifies the requirements for performance of a hydrostatic test of a selected portion of the Residual Heat Removal (RHR) piping system. The RHR piping from the pump suctions to the containment isolation valves on the line from the containment sump is hydrostatically tested at no less than 100 psig. PT-R27A performs the hydrostatic test between valves 885 A and 885 B, checks for external leakage from the piping and valves 885A and 885B and tests seat leakage on valves 885A, 885B and 741A. The seat leakage testing requirements, from Technical Specification 4.4, will continue to meet test frequency requirements and does not require a surveillance interval extension analysis. A portion of 4.4.H.1.a (2) is met by performance of test PT-R12 which has been completed and does not require extension. The maximum allowable leakage from the RHR system components outside containment is established in the technical specification at 2 gallons per hour (gph).

SECTION II – EVALUATION OF CHANGE

The test data for PT-R27A from 1986 through 1997 (7 tests) were reviewed. For each of the seven refueling interval tests reviewed the leakage from the piping system was 0 gph.

Unless the plant is in a residual heat removal mode of operation with fuel in the core, the RHR system is in standby and the likelihood of a leak is minimal. Extending the surveillance for eight months will only extend the period when the system is in standby condition. The system is designed, constructed and maintained to standards that minimize the possibility of developing leaks. The integrity of the section of piping discussed herein has been adequately demonstrated over the last 7 test cycles.

SECTION III - NO SIGNIFICANT HAZARDS EVALUATION

Consistent with the criteria of 10CFR50.92, the enclosed application is judged to involve no significant hazards based on the following information for RHR piping between valves 885A and 885B.

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

The proposed license amendment does not involve a significant increase in the probability or consequences of an accident previously evaluated. Extending the surveillance interval for eight months will, in all likelihood, only extend the period that the RHR system is not in service. Mechanisms that may induce leakage are more likely to develop when the system is in operation rather that during an extended standby period. Since the past test data supports the integrity of the system and an extended standby period is not expected to affect any potential leak path, there is a reasonable expectation that the RHR system will continue to perform its intended safety function without excessive leakage.

It is concluded that a one-time extension of eight months for the hydrostatic test surveillance interval will have minimal impact.

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

The proposed license amendment does not create the possibility of a new or different kind of accident from any previously evaluated. The proposed change does not involve the addition of any new or different type of equipment, nor does it involve operating equipment required for safe operation of the facility in a manner that is different from that addressed in the Updated Final Safety Analysis Report. The integrity and performance of the RHR system is not expected to be influenced by an extended surveillance period for the reason addressed in item (1) above. Therefore, it is anticipated that the portion of the RHR system reviewed herein will continue to perform its intended function and that leakage will not exceed levels previously analyzed for radiological releases.

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

The proposed license amendment does not involve a significant reduction in the margin of safety. There is minimal risk that a surveillance interval extension of eight months will increase leakage in the piping system under review beyond the Technical Specification limits or that the system performance will be influenced. Past test data indicates that there was no impact on the margin imposed by the Technical Specification.

SECTION IV - Impact of Changes

These changes will not adversely impact the following:

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

The proposed amendment provides for extending the surveillance interval of the leak rate test as defined above. This surveillance is implied in the UFSAR. The surveillance extension has no impact on the Updated Final Safety Analysis Report. There are no new failure modes introduced by this change. There are no functional or physical changes to any equipment.

SECTION V – CONCLUSION

The incorporation of this change: a) will not significantly increase the probability or consequences of an accident or malfunction of equipment important to safety as previously evaluated in the Updated Final Safety Analysis Report; b) will not create the possibility of an accident or malfunction of a different type than any evaluated previously in the Updated Final Safety Analysis Report; c) will not reduce the margin of safety as defined in the bases for any technical specification.

Therefore, this change does not involve a significant hazards consideration as defined in 10CFR50.92.

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, providing 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 (PT-2M 1) and a control system test is performed quarterly (PT-Q40A and PT-Q40B) to provide additional assurance of system operability. A review of these surveillance tests for the last year show no instance where the operability criteria failed.

Based on the redundancy of the system, the high reliability of hydrogen recombiners, the existence of a diverse system, and the testing performed between refueling intervals, an extension of the surveillance interval one-time for a period of six months would have little affect on the ability to dispose of hydrogen after an accident.

SECTION III- NO SIGNIFICANT HAZARDS EVALUATION

Consistent with the criteria of 10CFR50.92, the enclosed application is judged to involve no significant hazards based on the following information for the Hydrogen Recombiners.

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

The proposed license amendment does not involve a significant increase in the probability or consequences of an accident previously evaluated. Past test data indicate that the recombiners are highly reliable. Absent an emergency, the recombiners are in a standby condition, except for routine testing, with no operational stresses. Extension of the surveillance interval would only lengthen the time spent at standby. Based on reliability, minimal operating time and successful test results, an extension of six months should not impact of the system to perform its intended safety function.

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

The proposed license amendment does not create the possibility of a new or different kind of accident from any previously evaluated. The proposed change does not involve the addition of any new or different type of equipment, nor does it involve operating equipment required for safe operation of the facility in a manner that is different from that addressed in the Updated Final Safety Analysis Report.

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

The proposed license amendment does not involve a significant reduction in a margin of safety.

The proposed change for a one-time extension of the test interval does not adversely affect the performance of any safety related system, component or structure and does not result in increased severity of any of the accidents considered in the Updated Final Safety Analysis Report. Based on past rest results, the one-time extension of six months does not involve a significant reduction in a margin of safety. Online testing is performed periodically on the fans and controls providing additional assurance that the Hydrogen Recombiner System will perform its intended safety function.

SECTION IV - Impact of Changes

These changes will not adversely impact the following:

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

The proposed amendment provides for extending the surveillance interval of the hydrogen recombiners. The surveillance extension has no impact on the operation of the hydrogen recombiners as described in the Updated Final Safety Analysis Report. There are no new failure modes introduced by this change. There are no functional or physical changes to any equipment.

SECTION V – CONCLUSION

The incorporation of this change: a) will not significantly increase the probability or consequences of an accident or malfunction of equipment important to safety as previously evaluated in the Updated Final Safety Analysis Report; b) will not create the possibility of an accident or malfunction of a different type than any evaluated previously in the Updated Final Safety Analysis Report; c) will not reduce the margin of safety as defined in the bases for any technical specification.

Therefore, this change does not involve a significant hazards consideration as defined in 10CFR50.92.

ATTACHMENT N

EDG LOAD TEST

SAFETY ASSESSMENT

CONSOLIDATED EDISON COMPANY OF NEW YORK, INC.
INDIAN POINT UNIT NO. 2
DOCKET NO. 50-247
MARCH 1999

SURVEILLANCE NUMBERS: PT-R84A- 21 EDG 24 Hour Load Test
PT-R84A-1- 21 EDG Alternate 24 Hour Load Test
PT-R84B- 22 EDG 24 Hour Load Test
PT-R84B-1- 22 EDG Alternate 24 Hour Load Test
PT-R84C- 23 EDG 24 Hour Load Test
PT-R84C-1- 23 EDG Alternate 24 Hour Load Test

The applicable Technical Specification section is: 4.6.A.2.

The present RRD (final date) for this items test are: PT-R84A- December 24, 1999
PT-R84A-1- December 24, 1999
PT-R84B- December 26, 1999
PT-R84B-1- December 26, 1999
PT-R84C- December 26, 1999
PT-R84C-1- December 27, 1999

The number of months needed to extend to reach June 3, 2000: Six

SECTION I – DESCRIPTION OF CHANGE

This application for amendment to the Indian Point 2 (IP2) Technical Specifications proposes to revise Section 4.6.A.2 to allow a one-time extension of the surveillance interval for the functional test of the Emergency Diesel Generators due in December, 1999. If approved this surveillance will be completed during the next refueling outage, which will commence no later than June 3, 2000. Based on the above dates, the maximum length of the extension would be six months. Without this one-time extension, an outage will be necessary to perform the required surveillance.

SECTION II – EVALUATION OF CHANGE

One of the sources of emergency power are three emergency diesel generator (EDG) sets. Each generator is capable of 1750 kw (continuous), 2100 kw for 2 hours in any 24 hour period, and 2300 kw for ½ hour. The generators are capable of starting and obtaining normal speed in less than 10.5 seconds.

An evaluation of the results of the most recent EDG load tests was performed. The data from completed tests was reviewed to determine if the EDG was capable of meeting the continuous (nameplate) and short-term ratings. In every instance except two, which will be discussed in detail below, the tests proved satisfactory.

On 6/24/97 EDG 23 failed to meet the load requirements for the specified period of time. EDG 23 was being supplied from the non-essential service water header and a concurrent plant valve line up was being conducted on the service water system. The EDG had been running satisfactorily for 22.5 hours.

A valve in the line supplying EDG cooling water was inadvertently closed which necessitated premature load reduction to prevent damage to the EDG. The inadvertent error was corrected and the EDG was scheduled for retest.

On 6/26/97 EDG 23 tripped prior to meeting the load requirements for the specified period of time. The EDG had been running satisfactorily for 16 hours. The operator was swapping lube oil filters. Air entrained in the oncoming filter caused lube oil pressure to momentarily dip below the low lube oil pressure trip set point and the EDG tripped off line. A procedure change to SOP 27.3.1 was initiated to prevent recurrence. This change requires venting the oncoming strainer until free of air prior to swapping it to active service. Again, this problem was not a problem related to EDG performance.

Full load testing of EDG 23 was completed successfully on 6/28/97.

These diesel tests are done at cold shutdown and can not be done online because the tests require an abnormal electrical system lineup (e.g. racking in 480 VAC-tie breakers). This would place the plant in a condition outside of Technical Specifications.

Numerous alarms in the central control room immediately notify the operator of off-normal conditions related to the EDG. The monthly diesel test, PT-M21, which is normally done with the plant at power, tests the engine's ability to reach required speed and voltage in a specified time and loads the engine to its continuous (nameplate) rating of 1750 kw.

SECTION III – NO SIGNIFICANT HAZARDS EVALUATION

Consistent with the criteria of 10CFR50.92, the enclosed application is judged to involve no significant hazards based on the following information for the Emergency Diesel Generators.

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

The proposed license amendment does not involve a significant increase in the probability or consequences of an accident previously evaluated. The historical data demonstrates that the engines have consistently met the required performance criteria. The identified anomalies with valve and filter operation were evaluated and corrected and are not indicative of any inability of the machine to meet performance requirements.

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

The proposed license amendment does not create the possibility of a new or different kind of accident from any previously evaluated.

The proposed change does not involve the addition of any new or different type of equipment, nor does it involve operating equipment required for safe operation of the facility in a manner that is different from that addressed in the Updated Final Safety Analysis Report. Also, the increased surveillance interval (one-time only) will not adversely affect the emergency diesel generators.

The functional test history indicates the two functional test failures were the result of actions independent of actual EDG load performance. Apart from these anomalous actions, the record does not indicate a potential for failure to meet performance criteria. In both cases, the functional test failures were thoroughly analyzed. Appropriate actions were taken to prevent recurrence. Subsequent testing resulted in the emergency diesel generator meeting its design requirements.

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

The proposed license amendment does not involve a significant reduction in a margin of safety. There is no reduction of margin indicated by the surveillance testing. The proposed change for a one-time extension of the test interval does not adversely affect the performance of any safety related system, component or structure and does not result in increased severity of any of the accidents considered in the Updated Final Safety Analysis Report. Surveillance test results indicate no trend toward margin reduction.

Based on past rest results, the one-time extension of six months does not involve a significant reduction in a margin of safety.

SECTION IV - Impact of Changes

These changes will not adversely impact the following:

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

The proposed amendment provides for extending the surveillance interval of Emergency Diesel Generator full load tests. The Updated Final Safety Analysis Report addresses the performance of the load test surveillance on a 'refueling interval'. The evaluation justifying the one-time surveillance extension is consistent with the Updated Final Safety Analysis Report statement that justified the 'refueling interval' test frequency, "At each refueling interval the 480-V emergency power system is tested to verify that it and vital equipment control systems will respond as designed.

The test is initiated by actual loss of all normal ac station service supplies." The one-time surveillance extension is also consistent with the Updated Final Safety Analysis Report statement, "The testing frequency specified is often enough to identify and correct deficiencies in systems under test before they can result in a system failure." Therefore, there is no UFSAR impact. There are no new failure modes introduced by this change. There are no functional or physical changes to any equipment.

SECTION V – CONCLUSION

The incorporation of this change: a) will not significantly increase the probability or consequences of an accident or malfunction of equipment important to safety as previously evaluated in the Updated Final Safety Analysis Report; b) will not create the possibility of an accident or malfunction of a different type than any evaluated previously in the Updated Final Safety Analysis Report; c) will not reduce the margin of safety as defined in the bases for any technical specification.

Therefore, this change does not involve a significant hazards consideration as defined in 10CFR50.92.

ATTACHMENT O

SAFETY INJECTION SYSTEM
ELECTRICAL LOAD TEST

SAFETY ASSESSMENT

CONSOLIDATED EDISON COMPANY OF NEW YORK, INC.
INDIAN POINT UNIT NO. 2
DOCKET NO. 50-247
MARCH 1999

SURVEILLANCE NUMBER:PT-R14 Safety Injection System Electrical Load Test

The applicable Technical Specification sections are: 4.6.A.2, 4.6.A.3

The present RRD (final date) for this item is: November 7, 1999

The number of months needed to extend to reach JUNE 3, 2000: Seven

SECTION I - DESCRIPTION OF CHANGE

This application for amendment to the Indian Point 2 (IP2) Technical Specifications proposes to revise Sections 4.6.A.2 and 4.6.A.3 to allow a one-time extension of the surveillance interval for the functional test of the Safety Injection System Electrical Load due in November, 1999. If approved this surveillance will be completed during the next refueling outage, which will commence no later than June 3, 2000. Based on the above dates, the maximum length of the extension would be seven months. Without this one-time extension, an outage will be necessary to perform the required surveillance.

Technical Specifications 4.6.A.2 and 4.6.A.3 specify the periodic tests, which are required to be performed on the Emergency Diesel Generators (EDG) each refueling outage. Technical Specification 4.6.A.2 requires, in part, "....., each diesel generator shall be manually started, synchronized and loaded up to its continuous (nameplate) and short term ratings." Technical Specification 4.6.A.3 requires, in part, "....., to assure that each diesel generator will automatically start and assume the required load within 60 seconds after the initial start signal, the following shall be accomplished: by simulating a loss of normal AC station service power supplies and simultaneously simulating a Safety Injection signal, observations shall verify automatic start of each diesel generator, required bus load shedding and restoration to operation of particular vital equipment .".

SECTION II – EVALUATION OF CHANGE

The Emergency Diesel Generators provide an on-site source of emergency power. Each of the three diesel generator sets have a capability of 1750 kW (continuous), 2100 kW for two hours in any twenty four hour period and 2300 kW for one-half hour. Any two of these units are capable of sequentially starting and supplying the power requirements of the complete set of safeguards equipment. They are capable of starting and initiating load sequencing within 10.5 seconds after an initial start signal. Although they have the capability of being fully loaded thirty seconds after the initial start signal, actual safeguards sequencing is set such that the total loading of the diesel generators occurs in less than or equal to sixty seconds.

Each emergency diesel generator (EDG) is started on the occurrence of either a safety injection signal or an undervoltage on any 480Vswitchgear bus. One emergency diesel generator is connected to Bus 5A, one to Bus 6A and the other to Buses 2A and 3A.

On safety injection (SI) or undervoltage on any bus, the engines run at idle and can be connected to de-energized buses by the Operator from the Control Room. Upon blackout (loss of power to Bus 5A or 6A) plus unit trip with no SI, the EDG's will be automatically connected to de-energized buses and sequentially loaded but will continue to idle for live buses.

Upon the activation of an SI signal and blackout plus unit trip, automatic load sequencing is initiated as follows: (1) All 480V switchgear feeder breakers, except those supplying MCC's 26A/26AA, 26B/26BB, 26C and 211 are tripped on undervoltage and all automatically operated non-safeguard feeder breakers are locked out. (2) The EDG's are connected to their respective buses. (3) Required engineered safeguards are sequentially started. (4) The Operators may energize MCC's 24A, 27A and 29A (which feed equipment required for safe shutdown and accident mitigation) and their loads as required.

Test Evaluation

The Safety Injection System Electrical Load Test involves several plant systems. The results of the tests are documented in surveillance records. All anomalies are documented whether they relate directly to the test or other plant activities.

The anomalies were placed in three categories. The first category concerns indication. The items falling into the indication category have no effect on actual equipment performance. These items did not affect the ability of the Safety Injection System to perform its intended safety function in an accident situation. In those cases where indicating devices did not function as intended, alternate methods to verify equipment functional operation existed. Functioning of the indicating devices is not part of the test operability criteria however, they are addressed in the test and require that corrective action be taken for any abnormalities or deficiencies identified.

The second category equipment being unavailable for testing because it was out of service for maintenance and routine hardware anomalies (such as timer adjustments, etc.). Non-essential equipment out of service because of scheduled and non-scheduled maintenance requirements are listed in the test. This equipment is subject to testing prior to returning it to service. This testing verifies proper Safety Injection System operation for the returning equipment.

All other anomalies were placed in a third category for evaluation of impact on the Safety Injection System Electrical Load Test. These normally resulted in root cause evaluations as a result of the requirements of the formal corrective action system. Significant issues arising from these evaluations are discussed below.

In evaluating the test results, a thorough review of all documented test anomalies was completed, regardless of the nature of the item. The first step in this process was to classify the individual anomalies into the three categories described above.

Test Results

The results of the completed tests of PT-R14 from the last three refueling outages were reviewed. The tests for the 1993 and 1997 refueling outages went well, with all test acceptance criteria being achieved. The test for the 1995 refueling outage contained several anomalies, which are discussed below.

Test on February 15, 1995 – Refueling Outage

On February 15, 1995 the Safety Injection System Electrical Load Test, PT-R14 was conducted during the scheduled refueling outage. Containment Spray Pumps Nos. 21 & 22, Auxiliary Component Cooling Pump No. 22, Train "B" Manual Safety Injection and Train "B" Containment Isolation Phase 'A' did not perform as called for by the test. It was determined that a Train "B" manual safety injection relay (SIM-2) had malfunctioned. In addition, the manner in which the test was conducted caused a close and trip signal to be applied almost simultaneously to the containment spray pump breakers. Therefore, the breakers remained open because of the breaker anti-pumping design. Subsequent testing was conducted to verify the cause of the failure. These causes were corrected and the test was completed successfully on February 16,1995.

The reason why the two containment spray pumps did not start was traced to an interlock which interfaces with both trains for each pump. This precluded the pumps from starting when the SIM-2 relay malfunctioned. The SIM-2 relay was adjusted and the interlock was modified so that each pump only interfaced with its own train. The test was then repeated on the following day. At 08:10 hours on February 16th during the performance of PT-R14, Containment Spray Pump No.22 failed to start again. The amber disagreement light associated with Containment Spray Pump No.22 breaker came on. This light indicates Amptector operation or mechanical operation of the trip bar. The breaker was then given a close signal from the Control Room switch and it operated properly. This scenario was repeated three times. The breaker would not close under PT-R14 but it would close via the Control Room switch. The breaker was then replaced with a spare. The test was repeated, with the application of the containment spray signal delayed in order to avoid having nearly simultaneous close and trip signals applied to the breaker. This time the test was successful.

A malfunction in the Train "B" manual safety injection relay, SIM-2, caused the described test results. There was no indication of a problem with the SIM-2 relay during the performance of PT-R13, Safety Injection System Test, which was conducted on February 8, 1995. The SIM-2 relay is a latching relay and during the performance of the test it failed to latch. When the SIM-2 relay latches, contacts of this relay close to energize a set of Train "B" safety injection auxiliary relays which, in turn, are designed to provide for Train "B" Manual Safety Injection and Containment Isolation Phase 'A' as well as starting of Auxiliary Component Cooling Pump No. 22 and Containment Spray Pumps Nos. 21 & 22.

The closing circuit for both containment spray pumps contain relay contacts in parallel from both trains, which would remain closed if the latching relay failed to latch. This relay interlock was designed to start both pumps upon high containment pressure (which would initiate a containment spray signal) without or prior to a sequenced safety injection signal. This provided an additional assurance that containment spray would be actuated upon high containment pressure. The test provided for containment spray to be initiated three seconds after the safety injection initiation. The safety injection initiation stripped the buses and sent a trip signal to the pumps. This resulted in a close and trip signal to the two containment spray pump breakers being applied almost simultaneously with the close signal being maintained due to the failed relay.

These breakers are designed to remain open if a close signal is maintained during and after a trip signal. This design precludes breaker pumping. In order to close, the close signal must be interrupted prior to applying a subsequent close signal, which will close the breaker. With the failed relay maintaining the close signals, the breakers could not be closed. The latching relay, which was a Westinghouse Type MG-6, failed to latch because it was out of adjustment. The failure for Containment Spray Pump No.22 to close during the repeat performance of PT-R14 on February 16th was most likely due to the very close application of close and trip signals as a result of initiating containment spray three seconds after initiating safety injection.

The breaker did operate properly when manual close and trip signals were separately applied. Investigation of this breaker did indicate conditions, which would have precluded proper operation as there was some stiffness in the operating mechanism and the breaker could not be closed after several attempts under test conditions. Application of close and trip signals in a very short interval could have interfered with the mechanical operation of the breaker. Any stiffness in the mechanism could only have contributed to this interference.

The SIM-2 relay was adjusted and the interlock in the containment spray pump breakers closing circuits was modified so that each breaker only interfaces with its respective train. The breaker for Containment Spray Pump No.22 was replaced with a spare and the test was revised to initiate the containment spray after initiation of safety injection and after the emergency diesels have closed onto the 480 VAC buses. The initiation of containment spray three seconds after the initiation of safety injection was not a good simulation of expected LOCA conditions. In an actual LOCA scenario, the containment spray signal (as derived from high containment pressure) is not expected until after the emergency diesels have closed onto the 480 VAC buses (which is about ten seconds after initiation of safety injection). The breaker, which was removed, was investigated and its periodic maintenance was performed. The stiffness was eliminated and no other problems or concerns were found. Post maintenance testing of the breaker has been satisfactory.

Test Results Evaluation

The previous discussion has addressed all observations noted in the completed test procedures. In all cases, those observations falling into Category 1 or 2 were unrelated to the test acceptance criteria. These items were recorded as part of the test so that corrective maintenance could be implemented. Items of a more significant nature fell into Category 3 and therefore were fully evaluated as discussed above. Since the deficiencies noted during the 1995 refueling outage for Surveillance Test PT-R14 did not repeat during the 1997 refueling outage, test history tends to support the conclusion that failures are not time related.

Since the discrepancies revealed by the test histories appear to be random and show no indication of being time dependent, it is believed that past test data justifies extending the current operating cycle by seven months with no significant safety impact.

All of the master logic Westinghouse Type MG-6 relays were replaced during the 1997 Refueling Outage with a more positive operating relay made by Electroswitch Corp. The relays manufactured by Electroswitch Corp. are a lockout type of relay. These relays can be tested during unit online operation. This provides added assurance of system availability.

Finally, IP2 made significant evaluations of the 480 Volt breakers (Type DB-50) and their associated operating problems in a recent corrective action outage (October, 1997 to September,1998). The maintenance and testing of the breakers was significantly upgraded. The proof test for this effort was the successful completion of a significant portion of PT-R14 at the end of that outage. Nearly all of these breakers are operated quarterly in conjunction with normal surveillance test requirements.

SECTION III - NO SIGNIFICANT HAZARDS EVALUATION

Consistent with the criteria of 10CFR50.92, the enclosed application is judged to involve no significant hazards based on the following information for the Safety Injection System Electrical Load Test.

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

The proposed license amendment does not involve a significant increase in the probability or consequence of an accident previously evaluated. The test procedure under consideration is one of the more complicated surveillance procedures accomplished at refueling intervals. Considering the vast number of components that are tested, it is highly improbable that some deficiencies will not occur. When such problems are encountered it is important to note whether the corrective maintenance implemented prevents recurrences in the future.

In consideration of the evaluation of past test observations, it is important to note that the problems which occurred were not time dependent and that maintenance and testing practices have been effective in precluding future failures of the same type. Equally important is whether the emergency power system would have performed its intended safety function if the situation was not a test but represented an actual demand upon the system. Test acceptance criteria are always more stringent than required by accident scenarios to provide margin. As discussed previously, a condition existed where the manual start of the Train "A" and Train "B" containment spray pumps was precluded by a single malfunctioning relay. Capability of manually starting the pumps was still available but this manual capability required removing the containment spray signal from the breakers prior to operating the manual control switches. An automatic safety injection would have provided for a sequenced start of the pumps with a containment spray signal. However, a postulated single failure of an automatic safety injection relay could have precluded the starting of both pumps in a similar manner. Except for the Train "A" containment spray pump, the malfunctioning Train "B" relay only affected Train "B" components.

In summary, it is concluded that extending the surveillance interval will not involve a significant increase in the probability or consequences of an accident previously evaluated. The problems encountered in the test conducted during the 1995 refueling outage were not time dependent and did not recur during the test done in the 1997 refueling outage.

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

The proposed license amendment does not create the possibility of a new or different kind of accident from any previously evaluated. The proposed change does not involve the addition of any new or different type of equipment, nor does it involve operating equipment required for safe operation of the facility in a manner that is different from that addressed in the Updated Final Safety Analysis Report. Also, the increased surveillance interval (one-time only) will not adversely affect the Safety Injection System and its emergency power supply to perform its intended safety function.

The effectiveness of maintenance practices, both preventive and corrective and change in test technique has been proven in that deficiencies noted in one test were not repeated in the subsequent test. The last refueling surveillance test was successful and no new test failures were noted. Because past test deficiencies do not appear to be time dependent, extending the surveillance interval by seven months is not expected to create the possibility of a new or different kind of accident from any accident previously evaluated.

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

The proposed license amendment does not involve a significant reduction in a margin of safety. Because previous tests indicate that the engineered safety features emergency power supply would have performed its intended safety function if called upon, it is concluded that the proposed change for a one-time extension of the test interval does not adversely affect the performance of any safety related system and does not result in increased severity of any of the accidents considered in the Updated Final Safety Analysis Report. Based on past rest results, the one-time extension of seven months does not involve a significant reduction in a margin of safety.

SECTION IV - Impact of Changes

These changes will not adversely impact the following:

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

The proposed amendment provides for extending the surveillance interval of the Safety Injection System Electrical Load Test. The Updated Final Safety Analysis Report addresses the performance of safety injection system testing on a "refueling interval". The evaluation justifying the one-time surveillance extension is consistent with the Updated Final Safety Analysis Report statement that justified the refueling interval test frequency, "The safety injection system is tested: 1. To verify that the various valves and pumps associated with the engineered safeguards system will respond and perform their required safety functions, if needed. 2. To ensure that each diesel generator will start automatically and assume the required load, within 60 sec after the initial start signal by simulating loss of all normal alternating current station service power supplies and simultaneously simulating a safety injection signal. This test is performed at each refueling interval. 3. To verify that the required bus load shedding takes place. 4. To verify the restoration of particular vital equipment to operation." Therefore, there is no UFSAR impact as a result of the change. There are no new failure modes introduced by this change. There are no functional or physical changes to any equipment.

SECTION V – CONCLUSION

The incorporation of this change: a) will not significantly increase the probability or consequences of an accident or malfunction of equipment important to safety as previously evaluated in the Updated Final Safety Analysis Report; b) will not create the possibility of an accident or malfunction of a different type than any evaluated previously in the Updated Final Safety Analysis Report; c) will not reduce the margin of safety as defined in the bases for any technical specification.

Therefore, this change does not involve a significant hazards consideration as defined in 10CFR50.92.

ATTACHMENT P

STATION BATTERIES

SAFETY ASSESSMENT

CONSOLIDATED EDISON COMPANY OF NEW YORK, INC.
INDIAN POINT UNIT NO. 2
DOCKET NO. 50-247
MARCH 1999

SURVEILLANCE NUMBER: PT-R76A Station Battery 21 Load
PT-R76B Station Battery 22 Load
PT-R76C Station Battery 32 Load
PT-R76D Station Battery 24 Load

The applicable Technical Specification section is: 4.6.C.4

The present RRD (final date) for this item is: PT-R76A – December 2,1999
PT-R76B – December 11,1999
PT-R76C - December 3,1999
PT-R76D - December 4,1999

The number of months needed to extend to reach June 3, 2000: Seven

SECTION I – DESCRIPTION OF CHANGE

This application for amendment to the Indian Point 2 (IP2) Technical Specifications proposes to revise Section 4.6.C.4 to allow a one-time extension of the surveillance interval for the functional test of the Station Battery Load due in December, 1999. If approved this surveillance will be completed during the next refueling outage, which will commence no later than June 3, 2000. Based on the above dates, the maximum length of the extension would be seven months. Without this one-time extension, an outage will be necessary to perform the required surveillance.

SECTION II – EVALUATION OF CHANGE

There are four batteries, Station Batteries No. 21 through No. 24, and four associated battery chargers that compose the 125-Volt Direct Current System. The function of the125 Volt Direct Current System is to supply power to the instrument buses through inverters.

Each of the four batteries is composed of 58 individual lead-calcium storage cells connected to provide a nominal terminal voltage of 125 VDC. Each battery is sized to carry its expected shutdown load for a period of two hours following a plant trip and a loss of all ac power without battery terminal voltage falling below 105 V. Credit is taken in the safety analysis (USFAR, Rev. 14, 8.2.3.5 and 14.1.12.1) for the function of these components

An evaluation of the results of the battery tests for 1993, 1995, and 1997 was performed. The data from completed tests was reviewed to determine if the batteries would retain their capacity over an extended operating cycle of 36 months. There were no failures observed in the tests reviewed. In addition, there does not appear to be a failure mode, which is time dependent and that would preclude extending the operating cycle to 36 months.

In addition to the refueling interval surveillance, quarterly and monthly interval surveillance tests are performed in accordance with the technical specifications. These surveillance tests, designed to monitor critical parameters for operability such as terminal voltage and specific gravity, would provide early detection of degradation that could impact battery capacity.

SECTION III – NO SIGNIFICANT HAZARDS EVALUATION

Consistent with the criteria of 10CFR50.92, the enclosed application is judged to involve no significant hazards based on the following information for Station Batteries No. 21 through No. 24.

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

The proposed license amendment does not involve a significant increase in the probability or consequences of an accident previously evaluated. Review of data indicates no failures in discharge capacity. In addition, the Technical Specifications require on a monthly basis, measurement of the voltage of each battery. Similarly on a quarterly basis, additional testing on each battery is performed. Data comparisons are made to determine possible degradation.

Successful past data indicates that the batteries have additional life. This factor, together with the existing monthly and quarterly testing, will provide assurance that there will be no increase in the probability or consequences of an accident previously evaluated by extending the surveillance interval.

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

The proposed license amendment does not create the possibility of a new or different kind of accident from any accident previously evaluated. The proposed change does not involve the addition of any new or different type of equipment, nor does it involve operating equipment required for safe operation of the facility in a manner that is different from that addressed in the Updated Final Safety Analysis Report. Also, the increased surveillance interval (one-time only) will not adversely affect the safety function of the batteries.

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

The proposed amendment does not involve a significant reduction in a margin of safety. Extension of the surveillance cycle will have minimal impact upon the margin of safety.

Periodic surveillance tests will indicate deficiencies at a state where they are unlikely to influence battery capacity permitting corrective action prior to degradation to an unacceptable state.

SECTION IV - Impact of Changes

These changes will not adversely impact the following:

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

The proposed amendment provides for extending the load test surveillance interval of Station Batteries No. 21 through No. 24. The Updated Final Safety Analysis Report addresses the performance of the load test surveillance on a 'refueling interval'. The evaluation justifying the one-time surveillance extension is consistent with the Updated Final Safety Analysis Report statement that justified the 'refueling interval' test frequency, "The 'refueling interval' load test for each battery, together with the visual inspection of the plates, will assure the continued integrity of the batteries. The batteries are of the type that can be visually inspected, and this method of assuring the continued integrity of the battery is proven standard power plant practice". Therefore, there is no UFSAR impact. There are no new failure modes introduced by this change. There are no functional or physical changes to any equipment.

SECTION V – CONCLUSION

The incorporation of this change: a) will not significantly increase the probability or consequences of an accident or malfunction of equipment important to safety as previously evaluated in the Updated Final Safety Analysis Report; b) will not create the possibility of an accident or malfunction of a different type than any evaluated previously in the Updated Final Safety Analysis Report; c) will not reduce the margin of safety as defined in the bases for any technical specification.

Therefore, this change does not involve a significant hazards consideration as defined in 10CFR50.92.

ATTACHMENT Q

SNUBBERS

SAFETY ASSESSMENT

CONSOLIDATED EDISON COMPANY OF NEW YORK, INC.
INDIAN POINT UNIT NO. 2
DOCKET NO. 50-247
MARCH 1999

SURVEILLANCE NUMBERS PI-V1A Inaccessible Hydraulic Shock Suppressor (Snubbers)
PI-V1B - Accessible Hydraulic Shock Suppressor (Snubbers)
PT-R3 4 - Shock Suppressor Initial Functional Test
PT-R34A - Steam Generator Shock Suppressor Initial Functional Test

The applicable Technical Specification section is: 4.12

The present RRD (final date) for this item is: PI-V1A - February 10, 2000
PI-V1B - February 15, 2000
PT-R34 - November 15, 1999
PT-R34A - November 15, 1999

The number of months needed to extend to reach June 3, 2000: PI-V1A - Four
PI-V1B - Four
PT-R34 - Seven
PT-R34A - Seven

SECTION I – DESCRIPTION OF CHANGE

This application for amendment to the Indian Point 2 (IP2) Technical Specifications proposes to revise Section 4.12 to allow a one-time extension of the surveillance interval for the functional test of the Shock Suppressors (Snubbers) due initially in November, 1999. If approved this surveillance will be completed during the next refueling outage, which will commence no later than June 3, 2000. Based on the above dates, the maximum length of the extension would be seven months. Without this one-time extension, an outage will be necessary to perform the required surveillance.

Technical Specification 4.12, SHOCK SUPPRESSORS (SNUBBERS), specifies the inspection and testing requirements for the hydraulic snubbers identified in Technical Specification 3.12, SHOCK SUPRESSORS (SNUBBERS).

A visual inspection of 100% of the snubbers is performed on a schedule based on the previous inspection interval and the number or "unacceptable" snubbers found during that interval. The maximum allowable inspection interval, assuming no "unacceptable" snubbers from the previous inspection, is 48 months. The last inspection performed in 1995 resulted in no unacceptable snubbers and therefore the current inspection interval is 48 months. A table in Technical Specification 4.12 contains the allowable number of "unacceptable" snubbers and provides for the adjustment of the inspection interval based on the results of the current inspection.

SECTION II – EVALUATION OF CHANGE

Snubbers are required to prevent unrestrained pipe motion under dynamic loads as might occur during an earthquake or severe transient, while allowing normal thermal motion during startup, normal operating conditions and shutdown. The accident analysis does not specifically take credit for the operation of the snubbers in the event an accident or transient. Systems responding to various events have their piping or components protected by snubbers and therefore the snubbers are required to operate to prevent damage to the equipment. The protection afforded by snubbers to the piping and components is required during low probability events. As a result, Technical Specification 3.12 allows for of one or more snubbers to be inoperable for a period of 72 hours.

Testing Requirements

The snubber visual inspections and functional test are currently performed during cold shutdown conditions. Accessibility, personal safety, potential interaction with safety related equipment, lack of hot settings and the potential for significant personnel dose precludes the possibility of performing the required snubber inspection and tests online.

Visual Inspection

The current procedure for visual examination of the snubbers requires an inspection in four general areas (orientation, snubber connections, snubber, and piston measurement/inspection) and includes 24 separate and distinct attributes. If any one of the attributes is not satisfied the snubber condition is analyzed by engineering to determine the ability of the snubber to meet its design function.

Within the vapor containment there are only 15 snubbers that can be accessed without ladders or scaffolds outside the crane wall. Health physics ALARA considerations dictate that personnel should not occupy any areas inside the crane wall or near the pressurizer during plant operation.

All snubbers in the auxiliary feedwater and primary auxiliary building, with the exception of 4 snubbers, could be inspected during operation. Therefore, out a total population of 240 snubbers only 69 or 29% of the snubbers are available for inspection during operation.

It is concluded that online inspection in accordance with the Technical Specification requirements cannot be performed.

Functional Testing

Functional testing is performed on a representative sample (10%) of the snubbers. If any one of the snubbers removed for testing fails the acceptance criteria, the procedure specifies that an additional 10% sample must be removed and tested.

The functional testing requires a representative sample of 10% of all of safety related snubbers. In accordance with Technical Specification 3.12, removal of a snubber on an operating system is permissible. Snubbers scheduled for testing during the next functional test cycle include 19 snubbers from the vapor containment, 5 from the auxiliary feedwater building and 1 from the primary auxiliary building. Removal of 19 snubbers (including 3 from the steam generators) from systems located in the vapor containment represents risk to personnel and equipment and in several cases requires the erection of scaffolding over safety related equipment. Similarly, removal of snubbers from the auxiliary feedwater and primary auxiliary building requires the use of ladders or the construction of scaffolding over safety related equipment.

It is considered that removal of snubbers during operation to perform functional testing represents an unacceptable level of risk to personnel and the plant.

Test History

Visual Inspection

A review of the results of visual inspections over an eight-year period (1989 through 1997) was performed. Visual inspection data for 1989, 1991, and 1995 was analyzed. A 100% visual inspection was not conducted in 1993 or 1997.

Prior to 1991 visual inspections were performed on a refueling outage basis. The results of the 1991 visual inspection (no unacceptable snubbers) allowed an extended inspection interval (up to a maximum of 48 months) in accordance with the technical specifications. The next visual inspection was conducted in 1995.

The 1991 and 1995 inspections resulted in instances were the "As Found" snubber conditions did not meet the criteria contained in the inspection procedure. The "As Found" conditions were entered into the corrective action program for disposition by engineering. All snubbers showing an indication of degraded conditions were repaired, replaced or were dispositioned as acceptable "As Is".

There were no cases where the engineering analysis concluded that the "As Found" condition was time dependent and would require a shortened inspection interval. The visual inspections performed during the periods analyzed resulted in all snubbers being declared acceptable in accordance with the criteria in the technical specification.

In addition to the technical specification required visual inspection, an inspection was conducted during the recent corrective action outage (October 15,1997 through September 5,1998), of approximately 170 snubbers. The inspections were specifically conducted to perform a VT-3 inspection of the snubber end attachments. During the inspection, all anomalous snubber conditions were recorded. The inspection resulted in the identification of discrepant conditions on a number of snubbers. Each condition was evaluated and dispositioned by engineering. All snubbers were determined to be operable however two snubbers were replaced and several snubbers had discrepant parts replaced. All inspected snubbers were returned to their condition via maintenance activities and engineering documents were updated to reflect as found field conditions.

Functional Testing

Over the same period there were three snubbers that failed their functional test. One snubber in 1989 and two in 1993 did not meet the acceptance criteria established in the test procedure.

The 1989 failure was due to a failure of the snubber to perform in the "lock up" mode. Engineering review of the results of the test concluded that "no adverse stress condition was imposed on the system during the operating cycles." An analysis was performed to determine the consequences of a seismic event with the snubber failing to lock up and it was determined that the potential "failure did not adversely affect the supported piping system". As a result of the test failure, in accordance with the technical specification requirements, and additional sample of 10% was selected for functional testing. There were no functional test failures in the second sample.

The two failures occurring in 1993 had different analyzed causes.
One snubber indicated a high locking velocity in the tension direction, the snubber bleed rate was too high and the fluid level indicator moved erratically. No cause was determined for the leakage of the fitting. The fluid reservoir was filled with oil and the snubber met the functional test criteria.

The second snubber failed the testing due to an inconsistent but measurable locking velocity, drag force that exceeded the allowable and a compression bleed rate that exceeded the capability of the test machine.

There was no apparent reason for the snubber to have the degraded condition as observed during the evaluation. The installed location for the snubber was inspected to determine if any installation problem had affected the snubber performance. It was observed that when the snubber was removed for testing, the original rod eye was unthreaded from the piston and left in place. In addition, the weld at the base of the rod eye was extremely close to the pipe clamp. It was concluded that the physical interference would result in a moment at the rod end which would have increased the bearing force of the piston against the cylinder wall, thereby increasing the potential for galling and wear.

An engineering analysis of both functional test failures was performed. The analysis concluded that there was no impact on the supported system and the system had no loss of operability due to the inoperable snubbers.

The technical specification require that snubber(s) that failed the previous test be retested during the next test period. Both snubbers were retested during the 1995 refueling outage and successfully passed the functional test.

During the 1997 refueling outage, while inspecting a Steam Generator snubber that was selected to be removed for functional testing, an observation of an adjacent Steam Generator snubber indicated an anomalous condition that warranted investigation. As a result of the observation and subsequent inspections of other Steam Generator snubbers, a comprehensive engineering review and analysis, including testing of snubber parts, was conducted on three of the Steam Generator snubbers that exhibited anomalous conditions. The analysis concluded that although it was not possible to determine the root cause of the damage to the three snubbers, it was possible to draw an overall conclusion and a conclusion regarding specific as found snubber issues. The results of the engineering analysis concluded the bending of the pins " was most likely caused by thermal growth loading applied to a locked up snubber during RCS heatup. The reason for the snubber lock up was not known." It was concluded that the steam generators and the structural members of the support frame were not impacted and the snubbers were capable of meeting their safety function in the "As Found" condition. There was no engineering data or visual indication that suggested that the degraded condition was time dependent. During plant startup, the steam generator snubbers were instrumented at strategic locations to evaluate the loads during RCS heat up period. All the snubbers operated in an acceptable manner during the heat up. None of the snubbers or structural frames experienced loads that were indicative of the as found snubber conditions.

SECTION III – NO SIGNIFICANT HAZARDS EVALUATION

Consistent with the criteria of 10CFR50.92, the enclosed application is judged to involve no significant hazards based on the following information for Hydraulic Shock Suppressors (Snubbers).

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

The proposed license amendment does not involve a significant increase in the probability or consequences of an accident previously evaluated. The results of the visual inspection over the period from 1989 to 1998 indicate that all of the snubbers were found to be acceptable. Any discrepant conditions found during the inspection were remedied either by repair or replacement of the snubber.

All snubbers passed an "As Left" visual inspection (including the replacement snubber installed in place for those removed for functional testing) that assures that the snubber meet the original design configuration prior to returning the snubber to service.

The Technical Specification functional testing program requires a sampling program that provides a 95% confidence level that 90-100% of the snubbers operate within acceptance limits. For each snubber failing the functional test an additional sample lot must be selected and tested to assure that the required confidence level is maintained.

Based upon the historical data, it is concluded that an extension of the visual inspection interval of four months and the functional test interval of seven months will have minimal risk impact.

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

The proposed license amendment does not create the possibility of a new or different kind of accident from any previously evaluated. The proposed change does not involve the addition of any new or different type of equipment, nor does it involve operating equipment required for safe operation of the facility in a manner that is different from that addressed in the Updated Final Safety Analysis Report. Also, the increased surveillance interval (one-time only) will not adversely affect the snubbers.

The past visual and functional test history with no visual inspection failures and very few functional test failures (three) provides assurance that an extension in the surveillance will not result in increased snubber failures.

In all cases, the functional test failures were thoroughly analyzed and appropriate action was taken to prevent recurrence. Subsequent testing resulted in all snubbers meeting their design requirements.

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

The purpose of the functional test is to provide a 95% confidence level that 90-100% of the snubbers operate within the specified acceptance limits. The performance of visual examinations is a separate process that complements the functional testing program and provides additional confidence in snubber operability.

The review of past inspection and test history indicates that this objective was met at the time of the inspection and testing. There are no identified trends that would suggest that the same success rate would not be maintained over the requested extension period. The proposed license amendment does not involve a significant reduction in a margin of safety. The proposed change for a one-time extension of the test interval does not adversely affect the performance of any safety related system, component or structure and does not result in increased severity of any of the accidents considered in the Updated Final Safety Analysis Report. Based on past rest results, the one-time extension of 4 months for the visual tests and seven months for the functional tests does not involve a significant reduction in a margin of safety.

SECTION IV - Impact of Changes

These changes will not adversely impact the following:

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

The proposed amendment provides for extending the surveillance interval for the snubber visual inspection and the functional test of 10% of the snubber population. There are no functional or physical changes to the snubbers or to any other equipment. These snubbers tests are not specifically discussed or implied in the UFSAR. There is no impact on the Updated Final Safety Analysis Report. There are no new failure modes introduced by this change. There are no functional or physical changes to any equipment.

SECTION V – CONCLUSION

The incorporation of this change: a) will not significantly increase the probability or consequences of an accident or malfunction of equipment important to safety as previously evaluated in the Updated Final Safety Analysis Report; b) will not create the possibility of an accident or malfunction of a different type than any evaluated previously in the Updated Final Safety Analysis Report; c) will not reduce the margin of safety as defined in the bases for any technical specification.

Therefore, this change does not involve a significant hazards consideration as defined in 10CFR50.92.

ATTACHMENT R

SUMMARY OF THE PROPOSED CHANGE

CONSOLIDATED EDISON COMPANY OF NEW YORK, INC.
INDIAN POINT UNIT NO. 2
DOCKET NO. 50-247
MARCH 1999

SUMMARY OF THE PROPOSED CHANGE

The proposed amendment will provide for a one-time extension of the surveillance test intervals for up to seven months of the tests described herein. There are no new failure modes introduced by this change. There are no functional or physical changes to any equipment. The extension of each surveillance interval covered by this change has been reviewed and approved by the Station Nuclear Safety Committee and the Nuclear Facilities Safety Committee.