ATTACHMENT A

Technical Specification

Page Revisions

Consolidated Edison Company of New York, Inc.
Indian Point Unit No. 2
Docket No. 50-247
March, 1982

LIST OF FIGURES

3.3 ENGINEERED SAFETY FEATURES

Applicability

Applies to the operating status of the Engineered Safety Features.

Objective

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

Specification

The following specifications apply except during low temperature physics tests.

A. Safety Injection and Residual Heat Removal Systems

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

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

   b. The boron injection tank liquid volume and pressure are in the acceptable region of Figure 3.3-1 with a 11 1/2% to 13% by weight (20,000 ppm to 22,500 ppm of boron) boric acid solution at a temperature of at least 145°F. Two channels of heat tracing shall be available for the flow path. Valves 1821 and 1831 shall be open and valves 1822A and 1822B shall be closed, except during short periods of time when they can be cycled to demonstrate their operability. Three channels of level instrumentation for automatic tank isolation are available in the untripped mode and set to initiate isolation with between 440 gallons and 640 gallons remaining in the tank.

   c. The four accumulators are pressurized to at least 600 psig and each contains a minimum of 716 ft^3 and a maximum of 731 ft^3 of water with a boron concentration of at least 2000 ppm. None of these four accumulators may be isolated.

   d. Three safety injection pumps together with their associated piping and valves are operable.

   e. Two residual heat removal pumps and heat exchangers together with their associated piping and valves are operable.

f. Two recirculation pumps together with the associated piping and valves are operable.

g. Valves 842 and 843 in the mini-flow return lines from the discharge of the safety injection pumps to the RWST are de-energized in the open position.

h. Valves 856A, C, D and E, in the discharge header of the safety injection header are in the open position. Valves 856B and F, in the discharge header of the safety injection header are in the closed position. The hot leg valves (856B and F) shall be closed with their motor operators de-energized by locking out the circuit breakers at the Motor Control Centers.

i. The four accumulator isolation valves shall be open with their motor operators de-energized by locking out the circuit breakers at the Motor Control Centers.

j. Valve 1810 on the suction line of the high-head SI pumps and valves 882 and 744, respectively on the suction and discharge line of the residual heat removal pumps, shall be blocked open by de-energizing the valve-motor operators.

k. The refueling water storage tank low level alarms are operable and set to alarm between 92,800 gallons and 99,000 gallons of water in the tank.

2. During power operation, the requirements of 3.3.A-1 may be modified to allow any one of the following components to be inoperable at any one time. If the system is not restored to meet the requirements of 3.3.A-1 within the time period specified, the reactor shall be placed in the hot shutdown condition utilizing normal operation procedures. If the requirements of 3.3.A-1 are not satisfied within an additional 48 hours the reactor shall be placed in the cold shutdown condition utilizing normal operating procedures.

a. One safety injection pump may be out of service, provided the pump is restored to operable status within 24 hours and the remaining two pumps are demonstrated to be operable.

b. One residual heat removal pump may be out of service, provided the pump is restored to operable status within 24 hours and the other residual heat removal pump is demonstrated to be operable.

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

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

e. One channel of heat tracing may be out of service for 48 hours.

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

g. One of three required channels of level instrumentation for automatic boron injection tank isolation may be out of service for 48 hours.

h. Boron injection tank liquid volume, boron concentration, temperature, and/or pressure may be outside the limit(s) of specification 3.3.A.1.b. for a period not to exceed 24 hours.

B. Containment Cooling and Iodine Removal Systems

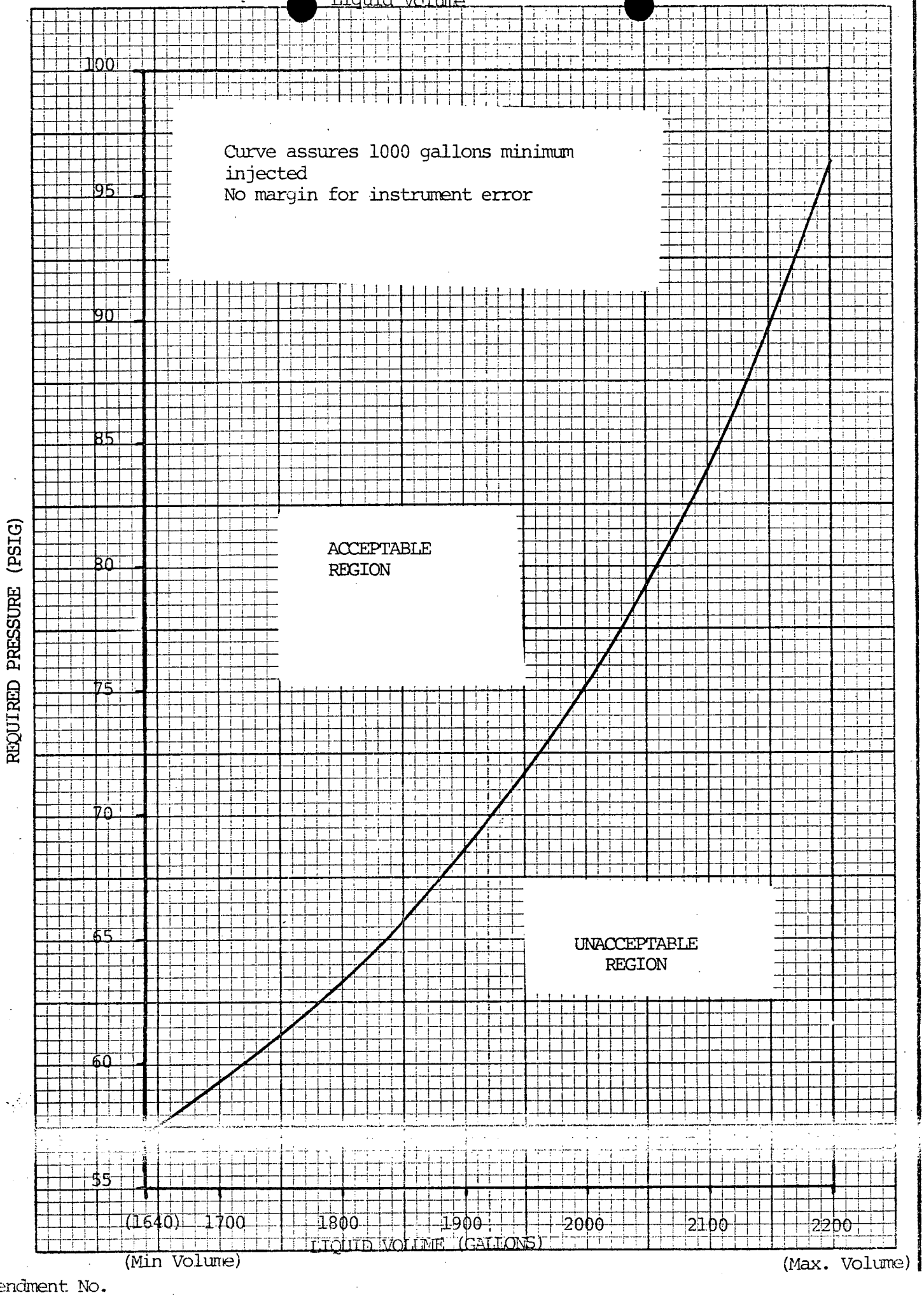
1. The reactor shall not be made critical unless the following conditions are met:

a. The spray additive tank contains not less than 4000 gallons of solution with a sodium hydroxide concentration of not less than 30% by weight.

b. The five fan cooler-charcoal filter units and the two spray pumps, with their associated valves and piping, are operable.

2. During power operation, the requirements of 3.3.B-1 may be modified to allow any one of the following components to be inoperable. If the system is not restored to meet

Figure 3.3-1 Boron Injection Tank Required Pressure vs Liquid Volume



Assuming the reactor has been operating at full rated power for at least 100 days, the magnitude of the decay heat decreases after initiating hot shutdown. Thus the requirement for core cooling in case of a postulated loss-of-coolant accident while in the hot shutdown condition is significantly reduced below the requirements for a postulated loss-of-coolant accident during power operation. Putting the reactor in the hot shutdown condition significantly reduces the potential consequences of a loss-of-coolant accident and also allows more free access to some of the engineered safeguards components in order to effect repairs.

Failure to complete repairs within 48 hours of going to the hot shutdown condition is considered indicative of a requirement for major maintenance and therefore in such a case the reactor is to be put into the cold shutdown condition.

The limits imposed on boron injection tank parameters serve to ensure that sufficient negative reactivity is injected into the core to limit any increase in reactivity caused by reactor coolant system cooldown. Reactor coolant system cooldown can be caused by inadvertent depressurization, a loss-of-coolant accident or a steam line rupture. The steam line rupture is the limiting transient upon which the boron injection tank parameters are established.

The limit on boron injection tank minimum pressure ensures that sufficient driving head is available to inject the required amount of borated water into the reactor coolant system. The limits on boron injection tank volume, boron concentration and low level tank isolation assure that the assumptions used in the steam line rupture analysis are met. The limiting boron injection tank pressure/volume relationship depicted in Figure 3.3-1 does not include instrumentation errors which should be considered in determining compliance with this specification.

The requirement for three available channels of level instrumentation for automatic tank isolation ensures that: (1) inadvertent or spurious actuation of a single level isolation channel above the specified level isolation range will not preclude delivery of the required boron injection tank liquid volume to the reactor coolant system, and (2) the failure of a single level isolation channel to actuate will not preclude isolation of the tank when so required to prevent pressurization gas from entering the suction of the safety injection pumps.

The line from the Boron Injection Tank to the high head pump suction piping is provided with four motorized valves; two valves in series with each other and two valves in parallel with each other. Valves 1821 and 1831 are in series and are redundant to each other to assure tank isolation after boron injection, i.e., at least one valve must close. Valves 1822 A and B are in parallel and are redundant to each other, to assure an open path for boron injection following a safety injection signal.

Valves 1810, 744 and 882 are kept in the open position during plant operation to assure that flow passage from the refueling water storage tank will be available during the injection phase of a loss-of-coolant accident. As an additional assurance of flow passage availability, the valve motor operators are de-energized to prevent an extremely unlikely spurious closure of these valves to take place. This additional precaution is acceptable since failure to manually re-establish power to close valves 1810 and 882, following the injection phase, is tolerable as a single failure. Valve 744 will not need to be closed following the

TABLE 3-5

TABLE OF INDICATORS AND/OR RECORDERS AVAILABLE TO THE OPERATOR

PARAMETER	1 NO. OF CHANNELS AVAILABLE	2 MIN. NO. OF CHANNELS REQUIRED(1)	3 INDICATOR/ RECORDER(1)
1. Pressurizer Water Level	3	2	Indicator/One Channel is recorded
2. Reactor Coolant System Subcooling Margin Monitor(2)	1	1	Indicator
3. PORV Position Indicator (Limit Switch)	1/Valve	1/Valve	Indicator and alarm
4. PORV Block Valve Position Indicator (Limit Switch)	1/Valve(3)	1/Valve(3)	Indicator(3)
5. Safety Valve Position Indicator (Acoustic Monitor)	1/Valve	1/Valve	Indicator
6. Auxiliary Feedwater Flow Rate	1/S.G.	1/S.G.	Indicator
7. Boron Injection Tank			
a. Level	4	1(4)	Indicator(4)
b. Pressure	2	1(4)	Indicator(4)

Footnotes:

(1) Except as specified in another footnote, columns 2 and 3 may be modified to allow the instrument channels to be inoperable for up to 7 days and/or recorder(s) to be inoperable for up to 14 days. If the minimum number of channels required is not restored to meet the above requirements within the time periods specified, then:

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

b. If the requirements of Columns 2 and 3 are not satisfied within an additional 48 hours, the reactor shall be cooled to below 350°F utilizing normal operating procedures. The shutdown shall start no later than the end of the 48 hour period.

(2) If the subcooling margin monitor is inoperable for more than seven (7) days, plant operation may continue for an additional thirty (30) days provided that steam tables are continuously maintained in the control room and the subcooling margin is determined and recorded once a shift.

(3) Except at times when the valve operator is deenergized in accordance with technical specification 3.1.A.4.c.

(4) If fewer than the minimum number of indicators required for boron injection tank level and/or pressure are available, plant operation may continue provided the affected parameter(s) are determined and recorded once a shift.

TABLE 4.1-1 (CONTINUED)

Channel Description	Check	Calibrate	Test	Remarks
10. Rod Position Bank Counters	S	N.A.	N.A.	With analog rod position
11. Steam Generator Level	S	R	M	
12. Charging Flow	N.A.	R	N.A.	
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	R	N.A.	
16A. Boron Injection Tank Level	W	R	R	
16B. Boron Injection Tank Pressure	W	R	R	
17. Volume Control Tank Level	N.A.	R	N.A.	
18. (a) Containment Pressure	D	R	M	Wide range
(b) Containment Pressure	S	R	M	Narrow range
19. Process and Area Radiation Monitoring Systems	D	R	M	
20. Boric Acid Make-up Flow Channel	N.A.	R	N.A.	
21A. Containment Sump and Recirculation Sump Level (Discrete)	S	R	R	Discrete Level Indication Systems
21B. Containment Sump, Recirculation Sump and Reactor Cavity Level (Continuous)	S	R	R	Continuous Level Indication Systems
21C. Reactor Cavity Level Alarm	N.A.	R	R	Level Alarm System
21D. Containment Sump Discharge Flow	S	R	M	Flow Monitor
21E. Containment Fan Cooler Condensate Flow	S	R	M	Monthly visual inspection of condensate weirs

ATTACHMENT B

Safety Evaluation

Consolidated Edison Company of New York, Inc.
Indian Point Unit No. 2
Docket No. 50-247
March, 1982

Safety Evaluation

The proposed changes, contained in Attachment A to this Application, would revise the technical specifications to clarify the minimum conditions required for operability of the boron injection tank (BIT). Specifically, the single minimum required liquid volume would be replaced by a curve which would establish a pressure/liquid volume relationship for determining BIT operability. In addition, specifc limiting conditions for operation (LCOs) and surveillance requirements would be established for BIT parameters and required instrumentation channels. The requested changes are the result of Con Edison's followup review of the Reportable Occurrence reported as LER-82-009/01T-0.

The proposed changes have been reviewed by the Station Nuclear Safety Committee and the Consolidated Edison Nuclear Facilities Safety Committee. Both committees concur that the proposed changes do not represent a significant hazards consideration and will not cause any change in the types or an increase in the amounts of effluents or any change in the authorized power level of the facility.

UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

In the Matter of	)	
	)	
CONSOLIDATED EDISON COMPANY OF NEW YORK, INC. (Indian Point Station, Unit No. 2)	)	Docket No. 50-247
	)	
STATE OF NEW YORK	)	
	)	ss:
COUNTY OF NEW YORK	)	

AFFIDAVIT OF SERVICE

Jeffrey H. Lomm, being sworn, states:

That he is an Engineer employed by Consolidated Edison Company of New York, Inc., and that he has served the foregoing document, sworn to on March 23, 1982, entitled "Application for Amendment to Operating License" by mailing a copy thereof, first class postage prepaid and properly addressed to the following person:

Hon. George V. Begany
Mayor, Village of Buchanan
235 Tate Avenue
Buchanan, New York 10511

Jeffrey H. Lomm

Subscribed and sworn to before me this 23 day of March, 1982.

Notary Public

THOMAS LOVE
Notary Public State of New York
No. 31-2409638
Qualified in New York County
Commission Expires March 30, 1983