

Peter Zarakas
Vice President

Consolidated Edison Company of New York, Inc.
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March 11, 1980

Re: Indian Point Unit No. 2
Docket No. 50-247

Director of Nuclear Reactor Regulation
ATTN: Mr. A. Schwencer, Chief
Operating Reactors Branch No. 1
Division of Operating Reactors
U. S. Nuclear Regulatory Commission
Washington, D. C. 20555

Dear Mr. Schwencer:

Attachment A to this letter completes our response to NRC's "Interim Position For Containment Purge and Vent Valve Operation Pending Resolution of Isolation Valve Operability" as contained in your October 23, 1979 letter. The revised commitments contained herein, supersede those contained in our previous submittals dated January 9, 1979, July 9, 1979, November 15, 1979 and December 19, 1979 concerning this issue.

The information provided in Attachment A demonstrates compliance with the above interim position thereby satisfying the requirements of item B.4 of the NRC's February 11, 1980 Confirmatory Order for Indian Point Unit No. 2.

In addition, Attachment B to this letter provides the results of our electrical bypass review as requested by NRC's November 28, 1978 letter along with the status of our long term valve qualification program in response to NRC's Nov 28, 1978 and September 27, 1979 letters respectively.

This information is being submitted pursuant to 10CFR50.54(f) as requested and forty (40) copies of this submittal are being provided.

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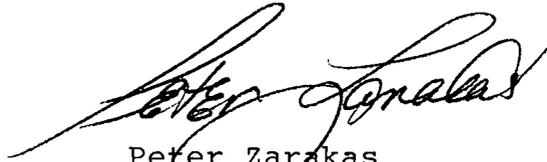
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Should you or your staff have any additional questions, please contact us.

Very truly yours,



Peter Zarakas
Vice President

attach.

cc: Mr. T. Rebelowski, Resident Inspector
U. S. Nuclear Regulatory Commission
P. O. Box 38
Buchanan, New York 10511

Subscribed and sworn to before
me this 11th day of March, 1980



Notary Public
ANGELA ROBERTI
Notary Public, State of New York
No. 41-8593813
Qualified in Queens County
Commission Expires March 30, 1980

ATTACHMENT A

Response to NRC's October 23, 1979 "Interim Position
For Containment Purge and Vent Valve Operation Pending
Resolution of Isolation Valve Operability" and
Item B4 of Appendix A to NRC's Feb. 11, 1980 Con-
firmatory Order for Indian Point Unit No. 2

Consolidated Edison Company of New York, Inc.
Indian Point Unit No. 2
Docket No. 50-247
March, 1980

NRC Position 1

Whenever the containment integrity is required, emphasis should be placed on operating the containment in a passive mode as much as possible and on limiting all purging and venting times to as low as achievable. To justify venting or purging, there must be an established need to improve working conditions to perform a safety related surveillance or safety related maintenance procedure. (Examples of improved working conditions would include deinerting, reducing temperature*, humidity*, and airborne activity sufficiently to permit efficient performance or to significantly reduce occupational radiation exposures).

* Only where temperature and humidity controls are not in the present design.

Response

Whenever containment integrity is required, the Indian Point Unit No. 2 containment is operated in a passive mode as much as possible and all purging and venting times are limited to as low as achievable. As discussed in our earlier January 9, 1979 and July 9, 1979 submittals, the containment purge system is used for containment atmospheric cleanup, cooldown and ventilation immediately prior to and during shutdown modes when personnel access to containment is required. In addition, the purge system may be utilized to facilitate personnel access at those infrequent instances when containment entry during power operation may be necessary. Past operating experience has shown that only approximately 2% of the annual purge system operating time occurs during power operation.

Whenever the reactor is above cold shutdown, emphasis will be placed on operating the containment in a passive mode as much as possible and on limiting all purging and venting times to as low as achievable. To justify purging there must be an established need to improve working conditions to perform a safety related surveillance or safety related maintenance procedure.

Also as discussed in our previous submittals, the independent 10-inch Containment Pressure Relief Line, not the Containment Purge System, is utilized to relieve normal containment atmosphere pressure buildup during power operation. The Containment Pressure Relief System satisfies the need to periodically relieve containment atmosphere pressure to compensate for air in-leakage to containment from various instrument air system and weld channel and containment penetration pressurization system sources. This containment pressure relief is necessary to preclude actuation of the high containment pressure safety injection signal at 1.6 psig and subsequent unnecessary and unwarranted tripping and cycling of the unit and actuation of safety injection engineered safeguards systems. Past operating experience has shown that essentially 100% of pressure relief line use occurs during power operation and that containment pressure relieving an equivalent of approximately 2 to 3 hours per day at design flow rate (i.e., 1500 cfm) is required

to limit containment atmosphere pressure. As stated in our earlier July 9, 1979 submittal, we have committed to containment pressure relieving (i.e., venting) only for the minimum time necessary to limit containment atmospheric pressure below the high containment pressure SI actuation setpoint.

NRC Position 2

Maintain the containment purge and vent isolation valves closed whenever the reactor is not in the cold shutdown or refueling mode until such time as you can show that:

- a. All isolation valves greater than 3" nominal diameter used for containment purge and venting operations are operable under the most severe design basis accident flow condition loading and can close within the time limit stated in your Technical Specifications, design criteria or operating procedures. The operability of butterfly valves may, on an interim basis, be demonstrated by limiting the valve to be no more than 30° to 50° open (90° being full open). The maximum opening shall be determined in consultation with the valve supplier. The valve opening must be such that the critical valve parts will not be damaged by DBA-LOCA loads and that the valve will tend to close when the fluid dynamic forces are introduced, and
- b. Modifications as necessary, have been made to segregate the containment ventilation isolation signals to ensure that, as a minimum, at least one of the automatic safety injection actuation signals is uninhibited and operable to initiate valve closure when any other isolation signal may be blocked, reset, or overridden.

Response to 2.a

By letter dated December 19, 1979 we provided information demonstrating that within the timing constraints imposed, the containment purge and pressure relief isolation valves will perform satisfactorily following a DBA-LOCA and will close against the resultant ascending differential pressure. Nevertheless, to further assure the ability of the containment purge and pressure relief isolation valves to close against DBA-LOCA ascending pressure, and to fully comply with the Commission's "interim position", we have taken the conservative measure of installing travel stops to limit valve disk travel such that valve opening can never exceed 60° (90° being full open). This disk travel limitation has been determined in consultation with our valve supplier and further assures that these valves will close against DBA-LOCA flow condition loading even at the maximum calculated post-accident pressure.

Response to 2.b

Manual resetting of the containment ventilation isolation actuation circuitry inhibits reinitiation by any of the other automatic initiating signals until the original initiating signal has been cleared. This "lock in" safety feature precludes unwarranted reinitiation of safeguards sequencing upon actuating the reset function. The reset function at the system level is necessary to restore control of individual components to the plant operator. With the exception of the high radiation trip signals for the purge and pressure relief valves, all isolation signals to these valves also result in reactor trip and various safeguards equipment actuations. The plant would not be restored to power operation until the condition causing the actuation was resolved and the original initiating signal was cleared. Furthermore, in order to activate the reset circuitry, the valve control switches must be in the closed position. The high containment radiation initiating function, which does not necessarily result in plant trip, cannot be bypassed by actuating the containment ventilation isolation reset circuit since independent contacts in the actual valve circuitry will maintain the valves closed in the continued presence of a high radiation signal. Therefore, the containment ventilation isolation signals need not be segregated to insure at least one of the automatic safety injection actuation signals is uninhibited since resetting the automatic circuitry would not result in inadvertent reopening of the valves and would maintain them in the position required to fulfill their safety function.

ATTACHMENT B

- o Results of Electrical Bypass Study
in response to NRC's November 28,
1978 and October 23, 1979 letters
- o Status of Long Term Valve Operability
Qualification Program in response to
NRC's November 28, 1978 and Spetember
27, 1979 letters

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As requested by your Nov. 28, 1978 letter and as addressed in our previous submittals, we have completed our re-review of all safety actuation circuits incorporating manual override features. Table I (attached) provides a tabulation of those safety actuation signal circuits for which manual override capability is provided, together with a listing of the initiating signals bypassed, the bypass mechanism, bypass annunciation capability and a listing of alternate administrative and hardware provisions that serve to assure that operation of a bypass will not adversely affect a safety function.

As previously discussed for the containment ventilation isolation circuitry (Attachment A), manual resetting of all safeguards equipment actuating circuits inhibits reinitiating by any of the other automatic initiating signals until the previous initiating signal has cleared. This "lock in" safety feature precludes unwarranted reinitiation of safeguards sequencing upon actuating the reset function. The reset function at the system level is necessary to restore control of individual components to the plant operator. The initial actuating signal would result in a reactor trip and various safeguards equipment actuation. The plant would not be restored to power operation until the condition causing the actuation was resolved and the original initiating signal cleared.

We believe that the existing manual overrides listed in Table I are adequately addressed administratively in plant operating procedures. However, for those circuits in which the manual override is not now annunciated in the control room we plan to provide system level annunciation at the next outage of sufficient duration pending availability of the necessary components.

Also as discussed in our Dec. 19, 1979 letter and as requested by the Commission's Sept 27, 1979 letter, our valve qualification program for the containment purge and pressure relief isolation valves is proceeding on an expedited basis. The status of this qualification program together with the status of our evaluation considering the issues contained in Standard Review Plan 6.2.4 Rev. 1 and the associated Branch Technical Position CSB 6-4 will be provided by June 2, 1980.

Table I

| <u>Circuit/Function</u> | <u>Bypass Mechanism</u> | <u>Bypass Annunciated</u> | <u>Bypassed Initiations (system level)</u> | <u>Remarks</u> |
|-------------------------------|-------------------------|---------------------------|--|--|
| Safety Injection | reset | No | <ul style="list-style-type: none"> o All SI initiations¹ (except manual) | <ul style="list-style-type: none"> o Manual SI (system level) remains available. o Manual control at the component level available. o Upon resetting, equipment remains functioning under operator control. o Administrative procedure require the operator to verify automatic actions and manually initiate, as necessary, if required actions have not occurred. |
| Containment Isolation Phase A | reset | No | <ul style="list-style-type: none"> o Manual initiation¹ o Safety Injection Initiation¹ | <ul style="list-style-type: none"> o Manual control at the component level available. o Prior to resetting actuating circuit, administrative procedures require that individual switches for each isolation valve be placed in the closed position, assuring failsafe configuration. o Hardware is installed that precludes resetting until control switches for all Phase A containment isolation valves have been placed in the closed position. o Administrative procedures caution operator to remain alert to plant parameters after resetting in order to manually re-initiate any required actions. |
| Containment Isolation Phase B | reset | No | <ul style="list-style-type: none"> o Containment Spray¹ Actuation initiation¹ | <ul style="list-style-type: none"> o Manual control of the component level available. o Prior to resetting actuating circuit, administrative procedures require that individual switches for each isolation valve be placed in the closed position, assuring failsafe configuration (Note: Phase B isolation valves do not automatically change position on resetting of the Phase B isolation signal; deliberate manual action by the operator would be required). |

Table I

| <u>Circuit/Function</u> | <u>Bypass Mechanism</u> | <u>Bypass Annunciated</u> | <u>Bypassed Initiations (system level)</u> | <u>Remarks</u> |
|-----------------------------------|-------------------------|---------------------------|---|---|
| Containment Ventilation Isolation | reset | No | o Cont. Isol. initiation. ¹ | o Hi Cont. Rad. Isol Signal remains available to Isolate. |
| | | | o Spray Actuation initiation. ¹ | |
| | | | o SI initiation. | o Prior to resetting actuating circuit, administrative procedures require that individual switches for each isolation valve be placed in the closed position, assuring fail safe configuration. |
| | | | o Hi Rad. in Plant Vent ¹ | o Hardware is installed that precludes resetting until control switches for these containment isolation valves have been placed in the closed position. |
| Containment Spray | reset | No | o All initiations ¹ | o Manual control at component level available. |
| | | | | o Administrative procedures caution operator to remain alert to plant parameters after resetting in order to manually re-initiate any required actions. |
| Steam Generator Blowdown | bypass switch | No | o Aux Blr Fd initiation | o Manual control at component level available. |
| | | | o Hi Rad. Initiation | o Cont. Isol. Phase A is <u>not</u> bypassed and remains available. |
| Feedwater Isolation | Logic-Test Push buttons | Yes | o SI initiation | o Bypass is annunciated. |
| | | | o S/Gen level logic initiation. | o Manual control at component level available. |
| | | | | o Admin. procedures require the operator to verify automatic actions and manually initiate as necessary if required actions have not occurred. |
| Steam Isolation | Logic-Test Push buttons | Yes | o Steam line logic initiation of Steamline Isolation. | o Manual control at component level available. |
| | | | | o Bypass is annunciated. |
| | | | | o Spray actuation initiation remains available. |
| | | | | o Administrative procedures caution operator to verify automatic actions and manually initiate as necessary if automatic actions have not occurred. |

Table I

| <u>Circuit/Function</u> | <u>Bypass Mechanism</u> | <u>Bypass Annunciated</u> | <u>Bypassed Initiations (system level)</u> | <u>Remarks</u> |
|---------------------------|-------------------------|---------------------------|--|---|
| Boron Inj. Tank Discharge | Logic Test Pushbuttons | Yes | <ul style="list-style-type: none">o Bit level logic initiation (close discharge valves on low level/ open discharge valves | <ul style="list-style-type: none">o Manual control at component level available.o Bypass is annunciated.o Administrative procedures caution operator to verify automatic actions and manually initiate as necessary if automatic actions have not occurred. |
| NIS | Manual block | Yes | <ul style="list-style-type: none">o Source, Intermediate & Power Purge Logic Initiation of Reactor Trip. | <ul style="list-style-type: none">o Bypass is annunciated.o Manual reactor trip available. |

Notes

1) Initiation is bypassed upon actuation of reset-until actuating signal has cleared