

ATTACHMENT A

APPLICATION FOR AMENDMENT
TO OPERATING LICENSE

Technical Specification
Page Revisions

Consolidated Edison Company of New York, Inc.
Indian Point Unit No. 2
Docket 50-247
Facility Operating License No. DPR-26
June, 1986

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3.10.2.6 Alarms are provided to indicate non-conformance with the flux difference requirements of 3.10.2.5 1 and the flux difference-time requirements of 3.10.2.6.1. If the alarms are temporarily out of service, conformance with the applicable limit shall be demonstrated by logging the flux difference at hourly intervals for the first 24 hours and half-hourly thereafter.

3.10.2.9 If the core is operating above 75% power with one excore nuclear channel out of service, then core quadrant power balance shall be determined once a day using movable incore detectors (at least two thimbles per quadrant).

3.10.3 Quadrant Power Tilt Limits

3.10.3.1 Except for physics tests, when the core is operating above 50% of rated thermal power and the indicated quadrant power tilt ratio exceeds 1.02 but is less than or equal to 1.09, within two hours reduce the quadrant power tilt ratio to within its limit or the following actions shall be taken:

- a) Restrict core power level and reset the power range high flux trip setpoint three percent of rated values for every percent of indicated power tilt exceeding 1.0, and
- b) Verify that the quadrant power tilt ratio is within its limit within 24 hours after exceeding the limit or restrict core power level to less than 50% of rated thermal power within the next 2 hours and reduce the power range high flux trip setpoint to less than or equal to 55% of rated thermal power within the next 4 hours.

3.10.3.2 Except for physics tests, if the indicated quadrant power tilt ratio exceeds 1.09 with the core operating above 50% of rated thermal power and

- a) there is a simultaneous indication of a misaligned control rod, restrict core power level three percent of rated value for every percent of indicated power tilt ratio exceeding 1.0 or until core power level is less than 50% of rated thermal power. If the quadrant power tilt ratio is not within its limit within 2 hours after exceeding the limit, restrict core power level to less than 50% of rated thermal power within the next 2 hours and reduce the power range high flux trip setpoint to less than or equal to 55% of rated thermal power within the next 4 hours.

-or-

b) there is no simultaneous indication of a misaligned control rod, reduce thermal power to less than 50% of rated thermal power within 2 hours and reduce the power range high flux trip setpoint to less than or equal to 55% of rated thermal power within the next 4 hours.

3.10.3.3 The rod position indicators shall be monitored and logged once each shift to verify rod position within each bank assignment.

3.10.3.4 The tilt deviation alarm shall be set to annunciate whenever the excore tilt ratio exceeds 1.02 except as modified in specification 3.10.10.

3.10.4 Rod Insertion Limits

3.10.4.1 The shutdown rods shall be fully withdrawn when the reactor is critical or approaching criticality (i.e., the reactor is no longer subcritical by an amount equal to or greater than the shutdown margin in Figure 3.10-1).

3.10.4.2 When the reactor is critical, the control banks shall be limited in physical insertion to the insertion limits shown in Figure 3.10-3 or Figure 3.10-4.

3.10.4.3 Control bank insertion shall be further restricted if:

a. The measured control rod worth of all rods, less the worth of the most reactive rod (worst case stuck rod), is less than the reactivity required to provide the design value of available shutdown,

b. A rod is inoperable (Specification 3.10.7).

3.10.4.4 Insertion limits do not apply during physics tests or during periodic exercise of individual rods. However, the shutdown margin indicated in Figure 3.10-1 must be maintained except for the low power physics test to measure control rod worth and shutdown margin. For this test the reactor may be critical with all but one control rod inserted.

The two hour time interval in this specification is considered ample to identify a dropped or misaligned rod and complete realignment procedures to eliminate the tilt condition. In the event that this tilt condition cannot be eliminated within the two hour time allowance, additional time would be needed to investigate the cause of the tilt condition. The measurements would include a full core physics map utilizing the moveable detector system. For a tilt condition ≤ 1.09 , an additional 22 hours time interval is authorized to accomplish these measurements. However, to assure that the peak core power is maintained below limiting values, a reduction of reactor power of three percent for each one percent of indicated tilt is required. Physics measurements have indicated that the core radial power peaking would not exceed a two to one relationship with the indicated tilt from the excore nuclear detector system for the worst rod misalignment.

In the event a tilt condition of ≤ 1.09 cannot be eliminated after 24 hours, the reactor power level will be reduced to less than 50% of rated power. To avoid reset of a large number of protection setpoints, the power range nuclear instrumentation would be reset to cause an automatic reactor trip at 55% of allowed power. A reactor trip at this power has been selected to prevent, with margin, exceeding core safety limits even with a nine percent tilt condition.

If a tilt ratio greater than 1.09 occurs, which is not due to a misaligned rod, the reactor power level will be reduced to less than 50% of rated power for investigation. However, if the tilt condition can be identified as due to rod misalignment, operation can continue at a reduced power (3% for each one-percent the tilt ratio exceeds 1.0) for two hours to correct the rod misalignment.

Trip shutdown reactivity is provided consistent with plant safety analysis assumptions. One percent shutdown is adequate except for steam break analysis, which requires more shutdown if the boron concentration is low Figure 3.10-1 is drawn accordingly.

Rod insertion limits are used to assure adequate trip reactivity, to assure meeting power distribution limits, and to limit the consequence of a hypothetical rod ejection accident. The available control rod reactivity, or excess beyond needs, decreases with decreasing boron concentration because the negative reactivity required to reduce the power level from full power to zero power is largest when the boron concentration is low.

ATTACHMENT B

Safety Assessment

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

The proposed revisions to Technical Specification 3.10.3 and its bases, contained in Attachment A, would modify this Technical Specification using provisions regarding quadrant power tilt limits contained in the Standard Technical Specifications for Westinghouse Pressurized Water Reactors, NUREG-0452, Revision 4.

Currently, the Technical Specifications require the unit to be placed in Hot Shutdown when a tilt of greater than 1.09 exists with subsequent operation up to 50% of rated power allowed to determine the cause of the tilt. The proposed change would eliminate the unnecessary cyclic load on the reactor coolant system. The proposed change will also add a conservative limitation that requires the reactor core power level to be reduced three percent of rated power for every percent of indicated power tilt ratio exceeding 1.0. The current Technical Specification requires a two percent reduction in rated thermal power for every percent of indicated power tilt ratio exceeding 1.0.

Basis For No Significant Hazards Consideration Determination

The Commission has provided guidance concerning the application of the standard for determining whether a significant hazards consideration exists by providing certain examples (48 FR 14870). Example (ii) of those involving no significant hazards considerations discusses a change that constitutes an additional limitation, restriction, or control not presently included in the technical specifications. The proposed change to the quadrant power tilt ratio clearly fits this example. However, consistent with the Commission's criteria for determining whether a proposed amendment to an operating license involves no significant hazard considerations, 10 CFR 50.92 (48 FR 14871), we have determined that the proposed change will not:

- (i) increase the probability or the consequences of a new or different kind of an accident from any previously evaluated since the proposed change does not entail any physical changes in plant equipment, precludes a thermal transient and conservatively requires a greater reduction in power than that currently required.
- (ii) create the possibility of a new or different kind of accident from any previously evaluated since the proposed change will require the unit to be placed in the desired condition when a tilt condition exists, in a more conservative manner.
- (iii) involve a significant reduction in a margin of safety since the proposed change will continue to require the unit to operate below 50% rated thermal power when a tilt condition greater than 1.02 exists.

Therefore, since this application for amendment involves a proposed change that is similar to an example for which no significant hazards consideration exists, we have determined that this application involves no significant hazard consideration.

The proposed change has been reviewed by both the Station Nuclear Safety Committee and the Consolidated Edison Nuclear Facilities Safety Committee. Both committees concur that this change does not represent a significant hazards considerations and will not cause any change in the types or increase in the amounts of effluents or any change in the authorized power level of the facility.