Formal Docket

UNITED STATES
ATOMIC ENERGY COMMISSION
WASHINGTON, D.C. 20545

November 20, 1968

Docket No. 50-286

Consolidated Edison Company
of New York, Inc.
4 Irving Place
New York, New York 10003

Attention: Mr. W. Donham Crawford
Administrative Vice President

Gentlemen:

We have reviewed the information contained in the supplements to the Indian Point Nuclear Generating Unit No. 3 Preliminary Safety Analysis Report. As a result of this review, we have concluded that the application is incomplete in certain areas and that additional information is required to permit us to complete our review of your application for a construction permit. The additional information required is identified in the attached list. These matters were discussed in meetings between representatives of Consolidated Edison Company and the regulatory staff on October 11, October 25, and November 6, 1968. Your response should be submitted as an amendment to your application.

Sincerely,

[Original signed by Peter A. Morris]

Peter A. Morris, Director
Division of Reactor Licensing

Enclosure:
Request for Additional
Information

cc: Arvin E. Upton, Esquire
LeBoeuf, Lamb, Leiby & MacRae
1821 Jefferson Street, NW.
Washington, D. C. 20036

ADDITIONAL INFORMATION REQUIRED

CONSOLIDATED EDISON COMPANY OF NEW YORK, INC.

INDIAN POINT STATION NO. 3, DOCKET NO. 50-286

1. Please present details of your calculations of flooding at the site. Consider both the flood resulting from heavy rainfall in the watershed of the Hudson River concurrent with dam failure and that resulting from the occurrence of the probable maximum hurricane. Relate the elevation of structures and components required for safe shutdown to these flood elevations and discuss the manner in which flooding protection will be provided. Discuss the ability of the intake structure to withstand the impact of marine vessels which may be present in the vicinity of the plant at the time the flood occurs.

2. In your PSAR as amended, it is stated that a tornado would not (1) cause a loss of coolant accident, (2) impair the ability to shut the plant down, and (3) impair the long-term safety of the plant following a loss of coolant accident. What additional criteria have you established regarding protection of vital structures, systems, and components so that the design tornado, or missiles associated with it should not cause other accidents which could release significant radioactivity to the environs? With regard to the ability for safe plant shutdown in the event that a tornado causes a loss of offsite power, what protection is provided to the emergency power system (including the diesel generators) from tornado effects?

3. Analyze the consequences of a missile generated by rotating machinery (such as a main coolant pump flywheel) striking critical portions of the primary or secondary system.

4. The rod ejection accident analysis in the PSAR refers to the analysis presented in the Indian Point Nuclear Generating Unit No. 2 PSAR. Supplement this information by discussing (1) the effect the gain in reactivity worth experienced by a fully inserted rod has on the consequences of this accident and (2) the mechanical effects on the fuel elements if this accident were to occur while operating with the maximum number of failed fuel elements which you will propose in establishing primary coolant activity limits in your Technical Specifications.

5. As discussed in our letter of February 19, 1968, and our meeting of November 6, 1968, the design basis accident doses evaluated by the staff do not meet the guideline dose levels recommended in 10 CFR 100. Please discuss the manner in which you intend to diminish these doses. If added equipment or modified assumptions are anticipated, please describe and provide an evaluation of the changes.

6. As discussed at our meeting on October 25, 1968, the following information is required in the areas of electrical power, instrumentation and control, cable routing, and radiation monitoring:

a. Please state your criteria, and design intent, with respect to the physical separation of redundant power lines (sources of offsite power) connecting the station with the Buchanan substation.

b. With reference to Supplement No. 5 to the PSAR, we understand that the 6.9 KV connection to auxiliary bus sections Nos. 5 and 6 automatically occurs upon loss of the 138 KV supply. Will the connection occur if the voltage loss is downstream of the 138 KV feeder? For example, will failure of the station auxiliary transformer result in the automatic connection?

c. Please provide a failure mode analysis to show that the complexity of your proposed onsite emergency power system in no way leads to circuit designs which violate the single failure criterion.

d. State and discuss your criterion with respect to minimum storage requirements of emergency fuel supplies.

e. State and discuss your criterion with respect to load margins for the emergency power system. Please include system sensitivity to unexpected load increases which diminish the design margins.

f. Discuss the protection provided for the diesel generators which prevents a failure in one diesel generator (e.g., fuel line failure and ensuing fire, failure of rotating machinery, etc.) from disabling the other units.

g. Please discuss, and justify, your criterion relating to the routing of redundant instrumentation, control and power cables associated with protection and safety feature equipment. Your response should include the following considerations.

   (1) Minimum physical separation (horizontal and vertical) between instrumentation, control, and power cables.

   (2) Minimum physical separation between redundant cables.

   (3) Cable tray loading.

   (4) Fire barriers at cable trays.

   (5) Fusing and/or breaker protection for 3-phase circuits.

   (6) Administrative responsibility for, and control over, the foregoing during design and installation.

h. Please discuss, and justify, your criterion relating to the physical separation of redundant instrumentation.

i. Please discuss the status of the environmental tests being performed on vital components and wiring located within containment.

j. We understand that the rod withdrawal inhibit circuits which prevent withdrawal in the event of a dropped rod (or rods) will be designed in accordance with IEEE 279. Please confirm.

k. Please state, and justify, your criterion relating to redundancy of radiation monitoring systems which act to prevent inadvertent gaseous and liquid releases. Also, please identify those which provide automatic isolation action, and those which do not, and justify your choice in each case.

l. We are concerned that a trip of the unit generator may have an adverse effect on the stability of the external grid if the reserve generating capacity of the grid were diminished. Please provide your evaluation of this occurrence.

m. State the length of time the batteries can supply essential loads without assistance from the battery chargers.

n. Discuss the protection provided to the station batteries which prevents disablement of these batteries by a single failure or a single external event.