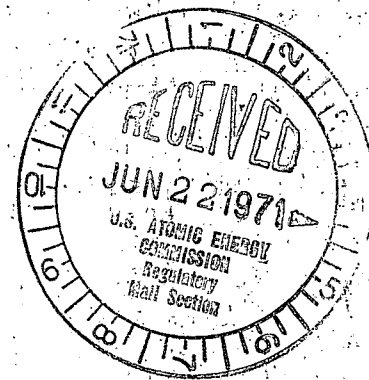


BEFORE THE  
UNITED STATES OF AMERICA  
ATOMIC ENERGY COMMISSION



In the Matter of )  
)  
CONSOLIDATED EDISON COMPANY )  
OF NEW YORK (Indian Point, )  
Unit No. 2) )

Docket No. 50-247

6-21-71

SUPPLEMENTAL  
STATEMENT OF PROPOSED FACTUAL FINDINGS  
WITH REFERENCES TO SUPPORTING DATA  
SUBMITTED BY THE CITIZENS COMMITTEE  
FOR THE PROTECTION OF THE ENVIRONMENT

1/  
10. Based upon the available data, the proposed mixture for the containment spray is substantially less effective in removing radioactivity from the containment atmosphere than a readily available alternative spray mixture, i.e. the addition of 1wt.% sodium thiosulfate to the proposed spray.

a. The spray effectiveness on radioactive iodine depends upon its reaction with the iodine. (AA-3-6)

1. These reactive qualities permit iodine (in the absence of a removal spray) to combine with other materials and form less reactive radioactive compounds. (AA-3-6)

b. Thiosulfate spray removes elemental iodine more quickly and has a substantially higher decontamination factor. (AA-4-5, 4-6, 4-7, Figures 4-3, 4-4, 4-13)

1/ Numbering is consecutive with the original statement.

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c. Thiosulfate spray substantially reduces methyl iodine concentrations while the applicants spray has little effect. (AA-4-9, 5-14, Figures 4-8, 4-28)

d. Reaction between iodine and thiosulfate is irreversible but with the applicants spray there is a reversible equilibrium between the iodine in vapor and the iodine in solution. (AA-5-12)

e. Thiosulfate spray removes hypiodous (a form of airborne iodine) acid but the applicants spray generates HOI vapor instead of removing it (AA-3-7, 3-16, 3-18, 7-1, 7-2)

11. Con Ed has placed substantial reliance upon IP #2 such that instances in which judgments must be made about the safe operation of the plant may occur at times when other considerations will influence the operators decision. This built-in potential for conflict is inherently unsafe for such a plant as IP #2 for which actual operating experience is extremely small.

a. Con Ed is relying upon the IP #2 to produce 72% of its maximum annual electric output each year. (Set G-2 (a))

1. This estimate of equipment availability is based upon the operation of plants which are substantially smaller than IP #2 (Set G-2(b))
  2. This estimate produces an average which disregards the fact that the specific unplanned outage may occur at the crucial time when full power is needed from the plant. (Set G-2(b))
  3. Of the 36% assumed non-full power operating time nearly 1/3 (11%) represents planned outages for refueling, etc. (Set G-1 (p.1))
  4. In 1972-1975 Con Ed intends that IP #2 will provide the largest single source of power on its entire system (except in 1974 when it is planned that IP #3 will provide more power) not only each year but for 37 of the 48 months. (Set G-2 (Tables attached to answer))
  5. In 1972-1975 IP #2 will provide from 13-18% of the total power output of the Con Ed system. (Set G-2 (Tables attached to answer))
- b. The choice for Con Ed in a case in which IP #2 should be shut down but where its power is needed on the system is to substantially reduce voltage or cut off selected customers.

1. If IP #2 were operating at full power (more than 800 MW) its shut down could cause an 8% voltage reduction and a load disconnection of 520 MW additional unless sufficient reserves existed to compensate for the plant loss (Set G-4 and Table A)
2. Con Ed has insufficient contracts for the guaranteed purchase of power from outside its system to be assured that the loss of IP #2 would not result in a reduction of voltage and load disconnection during peak periods.
  - a) Con Ed has firm commitments to purchase only 325 MW in the Summer of 1972, none thereafter and none for the winter months. (Set G-4 (pp. 6-7))
  - b) Con Ed's transmission system is inadequate to receive substantial power from outside its system even when the power is available. (Set J-2(a))
  - c. Con Ed's customers have the right to full power at all times and none have arrangements with Con Ed which legally permit the interruption of service.

1. Con Ed has no interruptible load. (Set J-6, J-7, J-11)

2. Very little of Con Ed's customers are in a category in which their load can be interrupted and a substantial portion such as sealed office buildings, the Transit Authority, the City of New York, the New York City Housing Authority, Rockefeller Center and Kennedy Airport must obtain full power at all times. (Set J-12)

d. The stability of the Con Ed system for 1971 and 1972 for the loss of IP #2 has not been established and its stability in 1973 and after is dependent upon the completion of construction and licensing of several new facilities including IP #3 (BB-3, 9, Exhibit 1) and the installation of two 345 KV buses at Buchanan (BB-2)

1. Under the worst possible situations operators will have to work under tremendous time pressures to keep the system stable. (BB-7, 8)

2. Rapid changes in the operation of the IP #2 plant would be required in certain cases irrespective of safety considerations. (Set J-4(b)(d))

3. IP #2 must be linked to the load frequency control system if Con Ed is to retain stability of its electric system in the event of an incident such as caused the November 1965 blackout.

a) System stability requires instantaneous adjustments to keep all generators at the same cycles, frequency, pulsation. (Z-20-21, 63-65)

b) Responses to such emergencies must be extremely rapid. (Z-14-17)

ADDITIONS TO PREVIOUS STATEMENT

Add to Contention 9 a subparagraph as follows:

f. We wish to cross-examine those members of the Staff who are primarily responsible for approval of the containment spray system for this plant and for the Midlands plant in order to explore the apparent inconsistency between approval of these two different safety systems for nuclear power plants.

Respectfully submitted,

BERLIN, ROISMAN & KESSLER  
1910 N Street, N. W.  
Washington, D. C. 20036

By

Anthony Z. Roisman

June 21, 1971

APPENDIX B

The Citizens Committee for the Protection of the Environment intends to offer into evidence the following documents:<sup>1/</sup>

Exhibit Z - A Report to the President by the FPC  
(December 6, 1965) Northeast Power Failure  
November 9 and 10, 1965, pages 1-21, 63-65

Exhibit AA- BAW-10024 (January, 1971)

Exhibit BB- Report on 345 KV Transmission Plans for  
1973 for Consolidated Edison Company of  
New York, Inc. (pp. 1-9, Exhibit 1)

Exhibit CC- Answers to Set G-1,2,4

Exhibit DD- Answers to Set J-2,4,6,7,11,12

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<sup>1/</sup> The Exhibits are cited in the statement of proposed facts by letter only but occasionally the full title of the document is given.