Docket 50-247

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APR 16 1980

Docket Nos. 50-247
and 50-286

LICENSEES: Consolidated Edison Company of New York
Power Authority of the State of New York

FACILITIES: Indian Point, Units 2 and 3

SUBJECT: SUMMARY OF MEETING HELD ON APRIL 3, 1980 WITH CONSOLIDATED EDISON COMPANY OF NEW YORK (CON ED) AND THE POWER AUTHORITY OF THE STATE OF NEW YORK (PASNY) TO DISCUSS ENVIRONMENTAL QUALIFICATION OF ELECTRICAL EQUIPMENT

On April 3, 1980, the NRC staff met with representatives of Con Ed, PASNY, and Westinghouse to discuss the environmental qualification of electrical equipment in Indian Point Units 2 and 3. The attendees are listed in Attachment 1.

On March 19 and 20, 1980 and March 26 and 27, 1980, members of the NRC staff visited Indian Point Unit 3 and Con Ed offices, respectively, to review environmental qualification data. In reviewing Indian Point 2 data, the staff discovered that a Foxboro transmitter (613HM), discussed in WCAP 7410-L, Volume 1, December 1970, failed its radiation qualification test. Specifically, after 17 hours (the first time data was taken in this test) and exposure to 1.7×10^7 rads, the transmitter output was described as erratic. Con Ed was asked to justify continued operation with these transmitters until they are replaced. (Indian Point 3 does not use these same transmitters.)

Con Ed stated at the meeting that Indian Point 2 has 27 of these transmitters used in measuring the following parameters:

4	Pressurizer pressure
4	Pressurizer level
8	Accumulator pressure
5	RHR low head flow
2	Containment recirculation spray flow
4	High head safety injection flow
27	

Although some of these parameters are used to initiate reactor trip and safety injection, Con Ed stated that these actions will have been initiated before radiation reaches the level at which the transmitters will fail. (Westinghouse and Foxboro estimates that the transmitters will operate properly up to about 10^6 rads. This estimate is based on analysis and knowledge that the reported failure in the transmitter after 2×10^8 rads was due to the dashpot fluid gelling and the teflon wire insulation becoming brittle.) In addition, reactor trip and safety injection, in the event of a LOCA, will also be initiated by high containment pressure. The transmitters for high containment pressure are located outside containment.

For longer-term operation following an accident, Con Ed has reviewed each of these parameters and determined that they are not essential or that they can be inferred from other measurements. Pressurizer pressure can be measured with the three transmitters used for the overpressure protection system. Instead of relying on pressurizer level instrumentation, the licensee will alter procedures so that the pressurizer will be operated in a filled condition. Accumulator pressure is not required after an accident. Adequate flow can be verified by examining valve position, ΔP across the pumps, pump current, core temperature, etc.

Con Ed committed to review all applicable emergency procedures and revise them to acknowledge that these 27 measurements may be inaccurate for the longer term following an accident. Con Ed intends to replace these transmitters (except those used in accumulator pressure) at the next refueling outage, now scheduled for December 1980. The replacement transmitters are expected to be qualified to IEEE 323-1974, but qualification testing is not complete. Furthermore, power supply modification kits for the replacement transmitters are not yet available.

Westinghouse committed to notify all of their customers who have the same transmitters of the actions being taken by Con Ed.

In summary, we agreed with Con Ed that continued operation of the plant is safe because (1) automatic reactor trip and safety injection will be initiated prior to when the transmitters are exposed to the dose at which they fail, and (2) the parameters measured with these transmitters are either not required, or backup indications exist, in the longer term following an accident.

Original signed by

L. N. Olshan, Project Manager
Operating Reactors Branch #1
Division of Operating Reactors

Attachments:
1. List of Attendees

Meeting Summary for Consolidated Edison Company of New York
Power Authority of the State of New York, Inc.

Docket Files
NRC PDR
Local PDR
ORB1 Reading
NRR Reading
H. Denton
E. Case
D. Eisenhut
R. Tedesco
G. Zech
B. Grimes
W. Gammill
L. Shao
J. Miller
R. Vollmer
T. J. Carter
A. Schwencer
D. Ziemann
P. Check
G. Lainas
D. Crutchfield
B. Grimes
T. Ippolito
R. Reid
V. Noonan
G. Knighton
D. Brinkman
Project Manager
OELD
OI&E (3)
C. Parrish/P. Kreutzer
ACRS (16)
NRC Participants
NSIC
TERA
Licensee
Short Service List

Attachment 1

LIST OF ATTENDEES

Con Ed	NRC	PASNY	Westinghouse	Other
J. O'Toole	J. Olshinski	C. Caputo	C. Benton	R. Schaffstall, KMC
R. Remshaw	L. Olshan		J. Hrabosky	
J. Makepeace	E. McKenna		R. Carter	
M. Scott	R. Wilson		R. Sero	
S. Dziadik	V. Thomas		G. Butterworth	
S. D'Auria	A. Bennett		R. Miller	
L. Liberatori	E. Rosztoczy		H. Julian	
	J. Lombardo			
	C. Hofmayer			
	G. Lainas			

memo

Docket Nos.: 50-003
50-247
50-286
50-295
and 50-304

APR 16 1980

MEMORANDUM FOR: Frank Congel, Leader
Radiological Impact Section, RAB, DSE

FROM: Earl H. Markee, Jr., Leader
Meteorology Section, HMB, DSE

SUBJECT: AVERAGE MORNING AND AFTERNOON MIXING HEIGHT VALUES FOR CRAC ANALYSIS AT INDIAN POINT AND ZION

S. Acharya, of your section has requested mixing height values for morning and afternoon time periods, these are in addition to the average seasonal values provided in my April 8, 1980 memorandum to you. Average morning and afternoon mixing height values and information on their relationship to stability conditions are enclosed. The estimates, and explanation of stability implications were prepared by J. Levine of the Meteorology Section.

Original Signed by
Earl H. Markee, Jr.

Earl H. Markee, Jr., Leader
Meteorology Section
Hydrology-Meteorology Branch, DSE

Enclosure:
As Stated

cc: w/enclosure
D. Eisenhut
W. Kreger
T. Speis
W. Bivins
S. Acharya
F. Kantor
L. Soffer
J. Meyer
J. Olshinski
E. Fenstermacher
J. Levine

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HMB RDG

OFFICE	DSE:HMB	DSE:HMB	DSE:HMB			
SURNAME	JRLevine:km	EHMarkee	WSBivins			
DATE	04/14/80	04/ /80	04/ /80			

MORNING AND AFTERNOON MIXING HEIGHTS AT INDIAN POINT & ZION

Mixing height is defined by Holzworth (1972) as the height above the surface through which vigorous vertical mixing occurs. The morning mixing height is calculated as the height above ground at which the dry adiabatic extension of the morning minimum surface temperature plus 5°C intersected the vertical temperature profile observed at 1200 Greenwich Meridian Time (GMT). The afternoon mixing height is calculated in the same way except that instead of the minimum temperature plus 5°C, the maximum surface temperature observed from 1200 through 1600 Local Standard Time (LST) was used.

In general, lower mixing height elevations occur in the morning and are indicative of more restrictive vertical dispersion conditions while less restrictive air motion is observed in the afternoon as indicated by significantly higher mixing heights. Average seasonal mixing heights by time of day are shown in the table below.

AVERAGE MIXING HEIGHT(m)

	Season				
	Winter	Spring	Summer	Fall	Annual
Time AM					
Indian Point	895	850	620	660	755
Zion	485	485	340	430	435
Time PM					
Indian Point	970	1610	1755	1200	1385
Zion	650	1470	1590	1115	1205

These are average mixing height values based on Albany and New York, New York data to represent Indian Point and on Peoria, Illinois and Green Bay, Wisconsin data to represent Zion, as published in Holzworth.*

*Holzworth, G. C., 1972 - "Mixing Height's, Wind Speeds, and Potential for Urban Air Pollution Throughout The Contiguous United States" EPA, Research Triangle Park, North Carolina, 118p.