Docket

JUN 14 1971

50-286

P. A. Morris, Director, Division of Reactor Licensing

INDIAN POINT UNIT 3, DOCKET NO. 50-~~339~~-286, HYDROLOGIC ENGINEERING QUESTIONS

The hydrologic engineering questions concerning the Indian Point Unit 3, Nuclear Generating Station that we would like included in the next list of questions for transmittal to the applicant are attached.

Original Signed By
E. G. Case

E. G. Case, Director
Division of Reactor Standards

Enclosure:
Indian Pt. Unit 3, Hydro.
Engr. Questions

cc w/enclosure:
R. DeYoung, DRL
C. Long, DRL
C. Hale, DRL
H. Denton, DRL

OFFICE ▶	DRS	DRS	DRS			
SURNAME ▶	LEHULMAN	DENunn:bc	R.Minogue	E.G.Case		
DATE ▶	6/8/71	6/8/71	6/12/71	6/14/71		

Memo

INDIAN POINT UNIT 3

DOCKET NO. 50-286

HYDROLOGIC ENGINEERING

QUESTIONS

1. In maximizing hydrologic parameters for PMF determinations, the assumption is generally made that an antecedent storm about half as severe as the PMF has occurred 3-6 days before the start of PMF precipitation. This assumption usually is sufficient to assume ground wetness, resulting in minimum losses and maximum rainfall excess, which was done satisfactorily. However, the antecedent storm is generally also sufficient to fill a substantial portion of the available flood control storage before substantial PMF runoff can occur. Justify the antecedent reservoir storage conditions assumed.

2. Verification of selected unit hydrographs is adequate. The routing coefficients should also be verified at selected locations by similar reconstitution methods where data is available.

3. Coincidental wave action at the plant site should be evaluated using techniques presented in U. S. Army Coastal Engineering Center Technical Report No. 4, or similar. Significant and maximum wave heights, and corresponding runup, should be determined for critical waterfront locations.

4. Since the occurrence of a PMF and a spring high tide may be postulated almost as readily as the three tide conditions presented at the Battery on Figure V-1, provide the estimated PMF water level at the site concurrently with a spring high tide. In addition, what provisions have been made for the variable tidal flow between the Battery and the site? Further clarification of the discharges used to compute the profiles on Figure V-1 is required.

5. The computations of surge attenuation effects are highly dependent on the selection of empirical coefficients. The number of historical surges in the Hudson, some of which are illustrated on Figure A-46, would provide ideal data for coefficient verification. Substantiate the surge attenuation coefficients by reconstituting at least one of the higher historical events.

MEMO ROUTE SLIP
Form AEC-93 (Rev. May 14, 1947) AECM 0240

See me about this. | For concurrence. | For action.
Note and return. | For signature. | For information.

TO (Name and unit)	INITIALS / DATE	REMARKS
R. Minogue DRS		The Applicant has informally discussed these questions in a telephone Conversation (4 June 71) (with Me & Prof. Leader Hale)
TO (Name and unit)	INITIALS / DATE	Upon receipt of the official questions the applicant will document his responce (analyses)
TO (Name and unit)	INITIALS / DATE	which will probably be satifactory based on the 4 June Telephone discussions.
FROM (Name and unit)		REMARKS
Nunn		Dwight.
PHONE NO.	DATE: 8 June 71	

USE OTHER SIDE FOR ADDITIONAL REMARKS

GPO : 1968 O—294-619