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P. A. Morris, Director, Division of Reactor Licensing INDIAN POINT UNIT 3, DOCKET NO. 50-339, HYDROLOGIC ENGINEERING -QUESTIONS

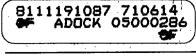
The hydrologic engineering questions concerning the Indian Point Unit 3, Nuclear Generating Station that we would like included in the next list of questions for transmittal to the applicant are attached.

> 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



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| Form AEC-318 (Rev. 9-53) U.S. GOVERNMENT PRINTING OFFICE : 1969-0-364-598 | | | | | | |

INDIAN POINT UNI 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.
- 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.

or action. Fortoncurr MEMO ROUTE SER See me about this. For Saformation. For signature. Form AEC-93 (Rev. May 14, 1947) AECM 0240 Note and return. REMARKS INITIALS TO (Name and unit) The Applicant has intormally 1, Minoque discussed these questions DATE ephone Conversation June 7 REMARKS INITIALS TO (Name and unit) the app 225 DATE 15 respond REMARKS INITIALS TO (Name and unit) otony 1 nrsba the 4 June Tele hone DATE ILCOULSIDDA. FROM (Name and unit) REMARKS nul Dwight 0 PHONE NO. DATE 8. June USE OTHER SIDE FOR ADDITIONAL REMARKS GPO : 1968 0--- 294-619