



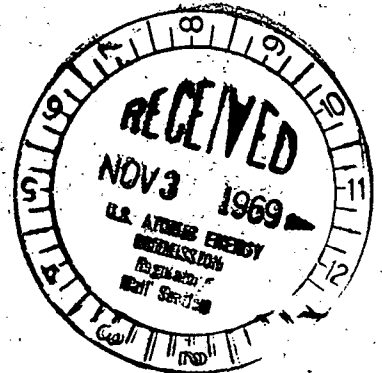
DEPARTMENT OF THE ARMY  
COASTAL ENGINEERING RESEARCH CENTER  
5201 LITTLE FALLS ROAD, N.W.  
WASHINGTON, D.C. 20016

CEREN

50-258

30 October 1969

Mr. Roger S. Boyd  
Asst. Director For Reactor Projects  
Division of Reactor Licensing  
U. S. Atomic Energy Commission  
Washington, D. C. 20545



Dear Mr. Boyd:

Reference is made to your letter of 7 January 1969 regarding Docket 50-225, Consumers Power Company's Palisades Plant, Final Safety Analysis Report and Amendment Nos. 9, 10, 11, 12, 14 & 15 thereto. Pursuant with our arrangements, Mr. R. A. Jachowski of CERC has reviewed this report from the viewpoint of the evaluation of the design water level at the plant site resulting from storm surge and wave runoff.

From the data presented in the report, it was not possible to ascertain the elevation of the maximum design water level for the plant site. The most recent reference to the maximum water level appears in Amendment 15, response to question 2.4 which implies a maximum flood level of El. 593.5 feet. It is apparent that the applicant has not made any calculations relevant to the evaluation of the surge in the southern basin of Lake Michigan associated with the Probable Maximum meteorological event and its effects on the design and operation of the plant. The only method presently available by which the maximum surge level may be derived is presented in a paper entitled "The Prediction of Surges in the Southern Basin of Lake Michigan" by G. W. Platman, S. M. Irish and L. A. Hughes, monthly Weather Review, Vol. 93, No. 5, May 1965. Applying the method described in this paper, assuming a pressure rise of 0.21 inches (8 mb) and shoaling factor of 3.5, the resultant maximum surge height at the Palisades Plant is 13.6 feet. Combining the surge with the maximum lake level (El. 583.6 USC&GS Datum) results in a maximum design water level elevation of 597.2 feet above USC&GS Datum. Similar calculations performed for the Donald C. Cook Plant, 23 miles southwest, resulted in a maximum design water level elevation of 594.5 feet USC&GS Datum.

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It should be recognized that the application of this method of surge prediction is based on intuitive judgment. The relative close proximity of the D. C. Cook Plant was considered in the final evaluation of the design water level. It is therefore the opinion of this office that the maximum design water level for the Palisades Plant should be established at no less than El. 594.5 feet USC&GS Datum but preferably recommended at El. 597.2 feet USC&GS Datum.

If you have any questions regarding this matter please let us know.

Sincerely yours,

*Joseph M. Caldwell*  
JOSEPH M. CALDWELL  
Acting Director