MAY 2 4 1976

Docket No. 50-410

Niagara Mohawk Power Corporation
ATTN: Mr. Gerald R. Rhode
Vice President - Engineering
300 Erie Boulevard, West
Syracuse, New York 13202

Gentlemen:

We have reviewed the enclosure to your letter to the NRC staff dated March 5, 1976 which relates to the design and analysis methods for the revetment-ditch system for Nine Mile Point, Unit 2. In that letter you requested that we first review and approve Section 4 "Physical Model Study" of the enclosure before evaluating the entire design since that study will determine the actual revetment design requirements.

We have reviewed Section 4 of the enclosure to your letter and conclude that additional information is required in order to complete our review of that section. The enclosure to this letter delineates the additional information which we require at this time. The requests for additional information contained in the enclosure were made available to your representatives last week. A meeting has been scheduled for June 4, 1976 to receive your responses to these requests and to discuss other matters related to this review.

If you require clarification of the information requested please contact the staff's assigned licensing project manager immediately.

Sincerely,

Original Signed by

John F. Stolz, Chief
Light Water Reactors Branch No. 1
Division of Project Management

Enclosure:
Request for Additional
Information

cc: see next page

OFFICE ➤	LWR-1	LWR-1				
SURNAME ➤	Ukane/ms	JStolz				
DATE ➤	5/24/76	5/24/76				

Niagara Mohawk Power Corporation

MAY 2 4 1976

cc: Arvin E. Upton, Esquire
LeBoeuf, Lamb, Leiby & MacRae
1757 N. Street, N. W.
Washington, D. C. 20036

Miss Juanita Kersey, Librarian
Oswego City Library
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Mr. Richard Goldsmith
Syracuse University
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Dr. William E. Seymour
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New York State Atomic Energy Council
New York State Department of Commerce
99 Washington Street
Albany, New York 12210

Anthony Z. Roisman, Esquire
Berkin, Roisman & Kessler
1712 N. Street N. W.
Washington, D. C. 20036

ENCLOSURE

REQUEST FOR ADDITIONAL INFORMATION

(1) Provide a detailed preliminary report of the proposed tests outlining: (a) the various tests that will be performed; (b) the methods that will be used to analyze test data; (c) a schedule of proposed testing, completion dates, and submittal of information for staff reviews; (d) the personnel, including their affiliations and qualifications, who will perform the tests, interpret the results, and write the reports; and (e) a detailed description of the model, including a description of construction materials, methods used to measure parameters, scale relations, and other physical characteristics of model. The tests proposed should provide consideration of the effect of onshore winds and of those wave heights, wave periods, and other parameters which produce the most critical cases for design of the revetment and ditches. For example, the 50-ft. wave proposed for consideration will break far offshore and not be the critical case for the design of the ditch-revetment system. The report must be provided for staff review and approval prior to construction of the model. In addition, arrangements should be made to have the staff present periodically during model operation to observe the actual performance of the model.

(2) Provide a commitment to furnish (at the completion of model testing and prior to construction of the prototype) a final report containing the following information, analyses, and documentation:

(a) Document how the various conditions of geometric, kinematic, and dynamic similitude that take into account the physical properties and flow state of the fluid (i.e., Froude, Reynolds, Euler, and other related numbers) have been considered. Documentation should be provided to substantiate nonconsideration of any forces by showing that these forces (1) are of negligible magnitude, or (2) oppose other neglected forces in such a manner that the effect of both is negligible, or (3) these forces are such that their neglect leads to the establishment of conservative design bases. Additionally, document the methods used to satisfy the equations of similitude in the model. (For example, it will be impossible to satisfy the requirements of both the Froude and Reynolds similitude in a model if water is the fluid in both the model and prototype. If similitude is based on the Froude relationship, the Reynolds number will be higher in the prototype, requiring compensation in resistance forces or test result corrections for scale effect). Document the effects of scale distortions on data gathered from the model studies. Verification of the model should be provided if historical data are available and applicable.

(b) Provide comparisons of your model results with those from similar model tests. Describe the previous testing performed and the results of these tests. Document the applicability of such tests to the problem in question, and discuss any conclusions derived from these tests. Verification of the ability of those models to reproduce or predict prototype performance should also be provided.

(c) Any changes to the originally proposed prototype as a result of the model test should be discussed. Document the designs that were modeled and the basis for eliminating any design configuration; discuss any problems, undesirable flow characteristics, or failure modes for that configuration.

(d) The above documentation should be submitted in report form. The figures, tabulated laboratory data, tables, graphs, photographs, and text should be of sufficient detail to allow the staff to independently evaluate the applicability of the model to the design problem in question. (A typical model investigation report as published by the U. S. Army Waterways Experiment Station has been found acceptable in the past). Provide the bases for your interpretation of model results and for any conclusions reached. It is advisable that you provide partial test results for staff review during the course of testing. The model should not be dismantled until the staff has reviewed the submittals.

Distribution (Request for Additional Information)

Docket File
LWR-1 File
NRC PDR
Local PDR
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F. Williams
J. Stolz
W. Kane
H. Smith (2)
R. Heineman
H. Denton
V. Moore
R. Vollmer
M. Ernst
W. Gammill
W. McDonald
OELD
IE (3)
ACRS (16)