



UNITED STATES  
NUCLEAR REGULATORY COMMISSION  
WASHINGTON, D. C. 20555

JUL 10 1979

Docket No. STN 50-482

MEMORANDUM FOR: G. W. Reinmuth, Assistant Director, Division of Reactor Construction Inspection, Office of Inspection and Enforcement

FROM: S. A. Varga, Acting Assistant Director for Light Water Reactors, Division of Project Management, Office of Nuclear Reactor Regulation

SUBJECT: EVALUATION OF REACTOR BUILDING BASE MAT - WOLF CREEK NUCLEAR GENERATING STATION

On January 3, 1979, lead responsibility for the review and acceptance of the concrete strength of the Wolf Creek reactor building base mat was transferred to DPM. The issue concerned the fact that, at the end of a 90-day curing period, 34 out of 66 sets of concrete test cylinders exhibited strengths below the specified value of 5000 pounds per square inch.

On January 4, 1979, a meeting was held in Bethesda, Maryland with representatives of the Wolf Creek applicant, IE, and NRR to discuss the issue. IE had performed an investigation of the matter and documented its findings in a report, dated February 16, 1979. The results of the applicant's investigations into the matter were submitted in a report, dated October 26, 1978.

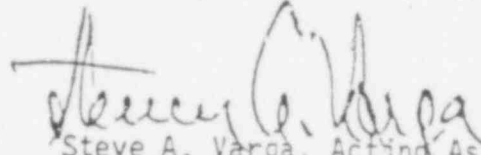
Subsequent to the January 4, 1979 meeting, the applicant performed additional tests for the concrete and submitted the results of the tests by letters, dated February 28, 1979 and May 3, 1979. At our request, the applicant also submitted the results of a reanalysis of the base mat, by letters dated May 10, 1979 and June 6, 1979, to demonstrate that with the strength of concrete indicated by the 90-day cylinder tests, the base mat satisfies the design commitments made in the Wolf Creek PSAR. At the request of IE, the Structures Laboratory of the Corps of Engineers, USAE Waterways Experiment Station, Vicksburg, Mississippi, conducted a petrographic examination of concrete thin sections and documented its conclusions in a report, dated July 2, 1979.

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The Structural Engineering Branch has completed the review of all the above documents and its evaluation of this matter is presented in the enclosed report. The report concludes that, based on the review of the test results and the results of the reanalysis, the base mat concrete strength has not retrogressed, the strength of the base mat meets the original design criteria in the Wolf Creek PSAR, and the mat will withstand the specified design loads and loading combinations without impairment of structural integrity or safety function.

  
Steve A. Varga, Acting Assistant  
Director for Light Water Reactors  
Division of Project Management

Enclosure:  
As Stated

cc w/enclosure:

K. Seyfrit, IE, IV  
R. Shewmaker  
F. Ingram

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