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Vice President



OK Central file  
Consumers  
Power  
Company

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January 28, 1974

MIDLAND PLANT  
Design Control - Prototype Testing  
Docket No 50-329 and 50-330

Dr. Donald F. Knuth, Director  
Directorate of Regulatory Operations  
US Atomic Energy Commission  
Washington, DC 20545

Dear Dr. Knuth:

During a Consumers Power Company audit of Babcock & Wilcox Nuclear Power Generation Group (Lynchburg) procedures for implementing the requirements of 10 CFR 50, Appendix B, an apparent deficiency in procedures was discovered. Specifically, it was found that when Babcock & Wilcox personnel were asked to produce for review a procedure for implementation of the requirement "When a test program is used to verify the adequacy of a specific design feature in lieu of other verifying or checking processes, it shall include suitable qualification testing of a prototype unit under the most adverse design conditions" (10 CFR 50, Appendix B, Criterion III), no such procedure was produced. Although references dealing with prototype testing were produced, no procedure requiring "testing of a prototype unit under the most adverse design conditions" was produced.

In the process of identifying this deficiency to Babcock & Wilcox by means of a Consumers Power nonconformance report (NCR #48), an evaluation was made as to the reportability of the deficiency pursuant to 10 CFR 50.55(e) and it was decided that the deficiency represented a significant breakdown in a portion of the Quality Assurance Program (in that this was one of four procedures for design control requirements of 10 CFR 50, Appendix B, which could not be produced), which were it to have remained uncorrected could have adversely affected the safety of operations of the Midland Plant (in that a failure to assure that a design can withstand the most adverse design conditions might lead to a failure under those conditions); therefore, this deficiency was considered to be reportable.

On December 28, 1973, a verbal report on this subject was made (by telephone) to Mr. Roger Rohrbacher of the Region III Regional Office of Compliance.

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When the nonconformance report was sent to Babcock & Wilcox, in addition to identifying the details of the nonconformance, it recommended, as corrective action, that Babcock & Wilcox:

1. Prepare and implement procedures requiring future prototype testing to be done under the most adverse design conditions.
2. Review all test programs being used for the Midland Project (for the verification of design) to determine if testing was done under the most adverse design conditions.

The nonconformance report required action by February 4, 1974.

On January 25, 1974, the following response to NCR #48 and, for the purposes of preparation of this report, a letter was received from Babcock & Wilcox which stated the following:

"In response to your NCR No. 48 and letter SIAG-13-74 dated January 17, 1974, we offer the following information.

"Criterion III of 10CFR50 Appendix B requires that suitable design control measures be employed to verify or check the adequacy of the design, 'such as by the performance of design reviews, by the use of alternate or simplified calculational methods or by the performance of a suitable testing program.' Additionally, it states, 'Where a test program is used to verify the adequacy of a specific design feature in lieu of other verifying or checking processes, it shall include suitable qualification testing with (sic) a prototype unit under the most adverse design conditions.

"B&W/HPGD's policy is to verify the adequacy of designs by alternate or simplified analysis techniques. When deemed appropriate or required by Regulatory Agencies, tests are conducted in conjunction with, and in support of the verifying calculational techniques. In no case are test programs used in lieu of our normal design checking process.

"Tests conducted in support of analysis may be characterized as B&W research and development or vendor supplied tests. B&W research and development plans are documented by the HPGD R&D program plan. Requirements for vendor supplied tests are covered by the applicable equipment specification. In both cases, test procedures and test reports must be provided to and reviewed by cognizant design personnel.

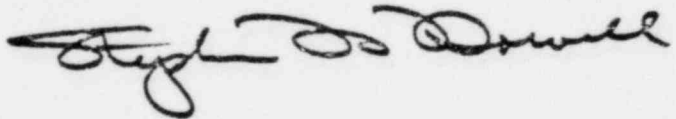
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"In view of the above facts, NCR No. 48 is incorrect in concluding that a significant breakdown in any portion of our Quality Assurance Program has occurred. Additionally, NCR No. 48 is incorrect in concluding that the safety of operations of the nuclear power plant may have been adversely affected. It is B&W's belief that our present system adequately covers this subject and no further action is required."

In view of the date that the above information was received, Consumers Power Company has not been able to fully evaluate the above response. Further evaluation and clarifications with Babcock & Wilcox will be necessary before this deficiency can be closed out. Therefore, it is not possible at this time to prepare a final report on this non-conformance and this must be an interim report. Depending on the results of the above-mentioned evaluation and clarifications, it is expected that significant activity will have occurred by March 1, 1974 and, therefore, we propose submitting either another interim report or a final report at that time.

Yours very truly,



SHH/sjb

CC: JGKeppler, AEC, Glen Ellyn, IL