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ILLINOIS POWER COMPANY



CLINTON POWER STATION, P.O. BOX 678, CLINTON, ILLINOIS 61727

Docket No. 50-461

August 28, 1985

Director of Nuclear Reactor Regulation  
Attention: Mr. W. R. Butler, Chief  
Licensing Branch No. 2  
Division of Licensing  
U. S. Nuclear Regulatory Commission  
Washington, D. C. 20555

Clinton Power Station  
Station Blackout Evaluation Report  
SER Confirmatory Licensing Issue #42  
TMI Action Plan Item I.G.1

Dear Mr. Butler:

Attachment #1 provides the "Clinton Power Station, Station Blackout Evaluation Report". This report presents the results of an evaluation of the current capabilities of the Clinton Power Station (CPS) to withstand a Station Blackout (SBO) of extended duration. This report provides justification for not performing a full scale in-station SBO Test at CPS. As such, the requirements of NRC Generic Letter 83-24 are fully addressed. Attachment #2 provides details of the program for CPS compliance to the NRC requirements contained in TMI Action Plan Item I.G.1, "Training During Low Power Testing". This program is considered by Illinois Power Company (IP) to be in compliance with the NRC accepted generic program developed by the Boiling Water Reactor Owner's Group for TMI Activities (BWROG).

The requirement for performing an in-station SBO Test arose from TMI Action Plan Item I.G.1. In an October 27, 1981 letter from the NRC, IP was requested to commit to performing an SBO Test. In Appendix D of the CPS Final Safety Analysis Report, TMI Item I.G.1 response, IP committed to perform a low power test training program to be developed using the guidelines provided in the report entitled "BWR Owner's Group Program for Compliance with NUREG-0737, Item I.G.1, Training During Low Power Testing". IP also committed to performing an SBO Test if the results of similar tests that were to be performed at the LaSalle and Grand Gulf stations indicated that the test could be performed safely and would provide useful information and training for CPS.

In NRC Generic Letter 83-24, dated June 29, 1983, the NRC stated "...if it can be demonstrated that temperature and/or other SBO test conditions would adversely impact and pose a hazard to plant equipment, the BWR Owner's Group recommendations by themselves would constitute compliance with Item I.G.1....". The results of the CPS SBO Evaluation concludes the following key points (see Attachment #1):

1. Risks to plant equipment from performance of this test could occur. Drywell temperature concerns due to the loss of cooling are of primary significance in the short-term. As a result, performance of this test may require replacement of some equipment;

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2. Restrictions in any proposed test procedures, which are necessary to prevent damage to plant equipment, would not allow an accurate representation of extended SBO conditions, resulting in significantly reduced training benefits from such testing;
3. CPS has the capability to safely withstand an actual SBO event for a minimum of 2.4 hours if the Reactor Core Isolation Cooling (RCIC) System remains available for the event duration. The plant safety limit exceeded at this time is the Suppression Pool Heat Capacity Temperature Limit. IP considers this calculation to be conservative. Estimates indicate that significant concerns would not be reached until approximately 4 hours into the SBO event. If the RCIC system is not available, core cooling can be maintained for at least 30 minutes through core inventory boil off; and
4. Tests on individual systems will be performed that will provide information relative to the ability of equipment to perform their function under SBO conditions.

Attachment #2 provides a more detailed description of the CPS program to comply with TMI Action Plan Requirement I.G.1, and includes all aspects of training during low power testing (i.e., not limited to SBO-related tests and training). Based on the conclusions of Attachment #1, IP does not propose to perform an SBO Test. Therefore, Attachment #2 provides the compliance required by Generic Letter 83-24. As such, the information attached herein is considered complete and adequate to address the requirements of TMI Action Plan Item I.G.1 and result in Staff closure of CPS Safety Evaluation Report (NUREG-0853) Confirmatory Licensing Issue #42.

Following your review of this material, if you should have any questions on this issue, please call me.

Sincerely yours,

*D. W. Wilson for*

F. A. Spangenberg  
Director - Nuclear Licensing  
and Configuration  
Nuclear Station Engineering

TLR/lab

Attachments (2)

cc: B. L. Siegel, NRC Clinton Licensing Project Manager  
NRC Resident Office  
NRC Administrator, Region III Office  
Illinois Department of Nuclear Safety