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ILLINOIS POWER COMPANY



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

August 26, 1985

Docket No. 50-461

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

Subject: Clinton Power Station  
Nuclear Systems Protection System  
Self-Test System Failure Detection and Indication

Dear Mr. Butler:

The Clinton Power Station (CPS) nuclear system protection system (NSPS) uses an automatic self test system (STS) to verify proper response of system components. The STS is an associated system whose primary purpose is to optimize the time to detect and determine the location of a failure in the NSPS. The circuitry is continually being checked, which greatly enhances the surveillance function of the CPS Technical Specifications.

The NRC Staff reported its technical review of the STS in Section 7.2.3.3 of the CPS Safety Evaluation Report, Supplement #2. A recent review of the STS design by Illinois Power Company (IP) has determined that the fault annunciation for functional logic failures in the NSPS will not perform as previously specified to the NRC Staff, and as subsequently described in the SER supplement. The installed design is not in agreement with SSER #2 in the following instance:

When a failure is detected in a division other than the master, by a test being performed by the master, the fault is annunciated as being in the division that is master. Thus, the division that contains the failure needs to be identified by plant personnel at the same time as the fault location is determined using the plant process computer diagnostic terminal.

This problem was identified and documented in Field Design Deviation Request (FDDR) #LH1-2167. Design modifications will be developed and implemented to correct this problem such that the correct division is annunciated by the STS during interdivisional testing. However, General Electric Company has indicated that a significant amount of engineering effort would be required to accommodate this change. The STS design change will not be implemented until the first refueling outage due to potential plant schedule impact at this time.

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During the interim period prior to the design change implementation, the STS inputs to the NSPS System Out of Service Alarms and the Test Pulse Fault indicators, all located in the Main Control Room on Panels P601 and P680, will be inhibited. The system will still be functional since a failure in the NSPS logic causes alarm of the "STS Detected Failure" annunciator and the exact fault will be located via the diagnostic terminal. The use of the diagnostic terminal in this case is consistent with the description in SSER #2, pages 7-2 and 7-3.

A review of these concerns, with respect to the current draft STS Technical Specifications, indicates that no impact on these Technical Specifications is expected.

Please contact us following the Staff's review of this material if you have any questions.

Sincerely yours,



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

TLR/kaf

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