

ILLINOIS POWER COMPANY



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

June 30, 1986

Docket No. 50-461

Director of Nuclear Reactor Regulation  
Attention: Dr. W. R. Butler, Director  
BWR Project Directorate No. 4  
Division of BWR Licensing  
U. S. Nuclear Regulatory Commission  
Washington, DC 20555

Subject: Clinton Power Station  
Changes to Technical Specifications 3/4.3.8, 3/4.7.6  
Turbine Overspeed Protection System, Turbine Bypass System

Dear Dr. Butler:

The purpose of this letter is to request changes in Clinton Power Station Technical Specification (CPS-TS) 3/4.3.8, "Turbine Overspeed Protection System" and 3/4.7.6 "Turbine Bypass System." Specification 3/4.3.8 contains surveillance requirements and a limiting condition for operation intended to reduce the probability of generating a turbine missile. Nuclear plants typically have this technical specification in order to reduce the risk of damage to safety related equipment from turbine missiles. However, analyses contained in the Clinton Final Safety Analysis Report (FSAR) demonstrate that the potential for damage to safety related equipment due to turbine missiles is acceptably low.

The turbine-generator orientation at CPS is favorable for reducing the probability of damage to safety related equipment from turbine missiles since all safety related components and structures are located in the axial direction from the turbine-generator (see FSAR Figure 3.5-1). Because of the turbine-generator location and orientation, safety related equipment lies outside the low trajectory turbine missile strike zone which is defined as the zone where objects may be subject to a direct strike from a turbine missile. Therefore, the only type of turbine missile that presents a hazard to CPS safety related equipment is a high trajectory missile, defined as a missile which initially travels upward and then can cause damage when falling.

CPS FSAR Section 3.5.1.3, using GE and NUREG-0800 ("USNRC Standard Review Plan," July 1981.) turbine failure data, indicates that the probability of damage from high trajectory turbine missiles is acceptably low. The probability of damage to safety related equipment based on GE turbine failure data is  $1.05 \times 10^{-12}$  per year for one unit and based on NUREG-0800 turbine failure rate values is  $7.5 \times 10^{-9}$  per year for one unit. Using either GE or NUREG-0800 turbine failure rate data, the probability of damage to safety-related equipment associated with this event is less than  $10^{-7}$  per year, which the NRC considers an acceptable risk rate for the loss of an essential system from a single event.

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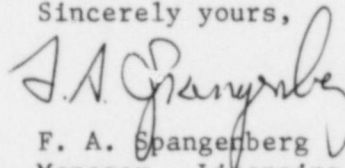
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It is believed that the probability of damage to safety related equipment at Clinton Power Station from turbine generated missiles is acceptably low and therefore a technical specification exception to Specification 3.0.4 is warranted. Illinois Power Company (IP) also recognizes that this exception has been granted to other recently licensed BWR's.

Specifications 3/4.3.8 and 3/4.7.6 require surveillance testing of the Main Turbine Control Valves (TCV's) and Main Turbine Bypass Valves (TBV's) at a frequency of once per seven (7) days in order to demonstrate operability. The General Electric Technical Information Letter (TIL) Number 969 and Service Information Letter (SIL) Number 413 confirm the excellent reliability of these valves and recommend a 31 day surveillance frequency. IP recognizes that this change has been approved for recently licensed BWR's and requests this change for the CPS-TS as indicated in the attached markup of the appropriate CPS-TS.

If you should have any questions or require additional information, please call me.

Sincerely yours,



F. A. Spangenberg  
Manager - Licensing  
and Safety

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Attachments

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