ILLINOIS POWER
CLINTON POWER STATION, P.O. BOX 678, CLINTON, ILLINOIS 61727-0678, TELEPHONE (217) 935-8881

U-601848
1A7-91(06-17)-LP
8E.110c

June 17, 1991

10CFR50.36

Docket No. 50-461

Document Control Desk
Nuclear Regulatory Commission
Washington, D.C. 20555

Subject: Clinton Power Station
Technical Specification Bases

Dear Sir:

The purpose of this letter is to request changes to Illinois Power Company's Clinton Power Station (CPS) Technical Specification Bases. The Bases contained in the CPS Technical Specifications summarize the reasons for the Specifications in Sections 2.0, 3.0 and 4.0, but in accordance with 10CFR50.36, are not part of the Technical Specifications. Therefore, these Bases changes are not being submitted as an application for amendment of Operating License NPF-62 since the requirements of 10CFR50.90 are not applicable to such changes.

The purpose or nature of these changes is as follows: 1) to replace the Maximum Average Planar Linear Heat Generation Rate (MAPLHGR) limit factor "0.85" for single recirculation loop operation with a reference to the CORE OPERATING LIMITS REPORT since this factor is operating cycle specific, 2) to correct the number of nozzles in the Residual Heat Removal (RHR) containment spray Train "A" to reflect the deletion of two spray nozzles, and 3) to clarify the Bases for the Main Control Room and Standby Gas Treatment system filter train heaters to note that heater test results are corrected for actual bus voltage during testing.

A discussion of each of these changes and revised (marked-up) Bases pages are provided in Attachment 1.

Sincerely yours,

F. A. Spangenberg, III
Manager, Licensing and Safety

DAS/alh

Attachment

cc: NRC Clinton Licensing Project Manager
NRC Resident Office
NRC Region III, Regional Administrator
Illinois Department of Nuclear Safety

A001
1/1

As identified in the cover letter, the proposed Technical Specification Bases changes consist of three separate changes based on their nature and purpose. Each of the three changes is described below.

1. Replace Single Loop Operation MAPLHGR Multiplier with a Reference to the CORE OPERATING LIMITS REPORT

During two recirculation loop operation, the Maximum Average Planar Linear Heat Generation Rate (MAPLHGR) limits specified in the CORE OPERATING LIMITS REPORT (COLR) are multiplied by the smaller of the flow-dependent MAPLHGR ($MAPFAC_f$) factor or the power-dependent MAPLHGR ($MAPFAC_p$) factor corresponding to the existing core flow and power conditions. This assures adherence to fuel mechanical design bases during the most limiting plant transients. The $MAPFAC_f$ factors are established to protect the core from core flow runout transients. The $MAPFAC_p$ factors are established to protect the core from plant transients other than core flow runout.

During single recirculation loop operation, the MAPLHGR limits specified in the COLR are multiplied by the smallest of $MAPFAC_f$, $MAPFAC_p$, or a factor which is derived from single loop operation loss-of-coolant accident (LOCA) analyses. This single loop operation MAPLHGR factor is required in order to account for earlier boiling transition at the limiting fuel node during single loop operation as compared to standard LOCA evaluations.

By Amendment No. 28 to the CPS Technical Specifications, the cycle-specific parameters in the CPS Technical Specifications were replaced with a reference to the COLR in accordance with NRC Generic Letter 88-16. However, at that time, it was not recognized that the single loop operation MAPLHGR factor is cycle-specific, although it is included in the COLR. Consequently, the single loop operation MAPLHGR factor (where it appears in the Technical Specification Bases) was not replaced with a reference to the COLR. (For the current CPS operating cycle, the single loop operation MAPLHGR factor is included in item b on page 4 of the COLR for Reload 2, Cycle 3, Revision 0).

This Bases change merely replaces the value of the single loop operation MAPLHGR factor specified on Bases page B3/4 2-2 with a reference to the COLR similar to the reference provided in Technical Specification 3/4.2.1. The value of this factor will continue to be determined for each operating cycle as required by Technical Specification 6.9.1.9. As a result, this proposed change cannot increase the probability or the consequences of any accident previously evaluated, create the possibility of a new or different accident, or result in a reduction in the margin of safety.

2. Correct the Number of Containment Spray Nozzles

The containment spray mode of the Residual Heat Removal (RHR) system is provided to protect the containment from overpressurization in the event of excessive suppression pool bypass leakage following a postulated LOCA. The RHR containment spray system consists of two 100% capacity trains, each with two spray rings located at different elevations on the inside circumference of the containment. RHR pump A supplies one train and RHR pump B supplies the other train.

Condensation of water vapor in the containment is enhanced by the use of nozzles on the spray rings. The turbulence caused by the spray system also aids in mixing the containment air volume to maintain a homogeneous mixture for hydrogen control.

The original design for the containment spray systems included [illegible] nozzles per train. During initial plant construction in April 1985, two of the nozzles were not installed in containment spray Train "A" because of interference with ventilation ductwork. However, the deletion of these two nozzles was not reflected in the CPS Updated Safety Analysis Report (USAR) or Technical Specification Bases. Therefore, this Bases change is provided to reflect that there are 249 nozzles in containment spray Train "A" and 251 nozzles in containment spray Train "B".

Evaluation of deletion of these two nozzles from containment spray Train "A" demonstrated that at least 90% of the net free area continues to be capable of being sprayed and that there is a negligible impact on the effective containment spray dispersion area. As a result, this proposed change cannot increase the probability or the consequences of any accident previously evaluated, create the possibility of a new or different kind of accident, or result in a reduction in the margin of safety.

3. Clarify Testing of Filter Train Heaters

By Amendment No. 55 to the CPS Technical Specifications, the values for the heat required to be dissipated from the Standby Gas Treatment system (SGTS) and the Main Control Room (MCR) filter train heaters as provided in Technical Specification Surveillance Requirements 4.6.6.3.d.5 and 4.7.2.e.6 were revised. Prior to issuance of Amendment No. 55, these values were specified as "20.0 +/- 2.0 kW" for the SGTS and "16 +/- 1.6 kW" for the MCR. Subsequent to issuance of Amendment No. 55, these values are specified as "at least 18.0 kW" and "at least 14.4 kW".

As stated in the NRC Safety Evaluation Report (SER) for Amendment No. 55, the basis for the change was to allow for heater testing at the CPS bus voltages which are higher than the voltage used to establish the heater's rating. Testing at higher bus voltages could cause the measured heater output to exceed the specified 10% tolerance. As stated in the SER, the nominal rating for each heater is based on the manufacturer's rating with an assumed bus voltage of 460 volts. The nominal bus voltage at CPS is 480 volts.

The changes to Bases pages B3/4 6-8 and B3/4 7-1 are provided to clarify that the heat dissipation rates specified in these surveillance requirements are based on a bus voltage of 460 volts and that the test results must be adjusted to account for actual bus voltage during the test. This will ensure that heaters tested at higher bus voltages have not degraded below the acceptable level which was based on a bus voltage of 460 volts. As a result, these proposed changes cannot increase the probability or the consequences of any accident previously evaluated, create the possibility of a new or different kind of accident, or result in a reduction in the margin of safety.