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Docket No. 50-461

10CFR50.36

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

Subject: Clinton Power Station
Core Operating Limits Report

Dear Sir:

Attached is a copy of the Clinton Power Station (CPS) Core Operating Limits Report (COLR) for Reload 4/Operating Cycle 5. In accordance with CPS Technical Specification 6.9.1.9, the analytical methods used to determine the core operating limits were previously reviewed and approved by the Nuclear Regulatory Commission (NRC) and have been documented in General Electric Standard Application for Reactor Fuel (GESTAR), NEDE-24011-P-A-US, as amended, and Maximum Extended Operating Domain and Feedwater Heater Out-of-Service Analysis for Clinton Power Station, NEDC-31546P, August 1988.

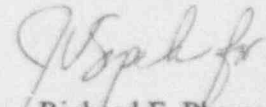
It should be noted that the reload fuel for Reload 4/Operating Cycle 5 is of the GE10 type. The GE10 fuel contains axial regions which have different operating limits. During normal plant operation, the margin to core thermal limits is monitored by the plant process computer. The Maximum Average Planar Linear Heat Generation Rate (MAPLHGR) limits contained in the process computer vary axially within the fuel bundle and have been determined for each axial region using analytical methods previously reviewed and approved by the NRC. In the event that the process computer and its backup are not available, margin to core thermal limits must be determined by manual calculations. In this case, the MAPLHGR limits are determined using the MAPLHGR versus Average Planar Exposure figures contained in the COLR. In order to simplify these manual calculations, the figure for GE10 fuel (Figure 2.1-7 within the COLR) is based on the MAPLHGRs for the most limiting enriched axial regions in the new fuel bundle design. Further, the power and flow dependent Minimum Critical Power Ratio (MCPR) limits will be different for Operating Cycle 5. However, the GE10 fuel retains the same 14.4 kW/ft linear heat generation rate (LHGR) limit as the GE8B fuel type used in Reload 3. The LHGR limit for the remaining fuel types for Operating Cycle 5 remains at 13.4 kW/ft.

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It should further be noted that the power and flow dependent MCPR curves contained in the attached COLR (Figures 2.2-1a, 2.2-1b and 2.2-2) reflect a penalty for fuel loading error (rotated fuel bundle) events. NRC approval of a General Electric submittal to generically eliminate this event will allow CPS to remove this operational restriction.

Sincerely yours,



Richard F. Phares
Director, Licensing

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cc: NRC Clinton Licensing Project Manager
NRC Resident Office, V-690
Regional Administrator, Region III, USNRC
Illinois Department of Nuclear Safety