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December 4, 1992

Dr. Thomas E. Murley, Director
Office of Nuclear Reactor Regulation
Nuclear Regulatory Commission
Washington, D.C. 20555

Attn: Document Control Desk

Subject: Dresden Nuclear Power Station Unit 3
Revised Cycle 13 Core Operating Limits Report
NRC Docket No. 50-249

Reference: D.M. Crutchfield letter to All Power Reactor Licensees and
Applicants, Generic Letter 88-16, Concerning the Removal of
Cycle-Specific Parameter Limits from Technical Specifications

Dr. Murley:

Siemens Power Corporation (SPC) recently discovered a discrepancy in the methodology (COTRANSA-2) that determines the Minimum Critical Power Ratio (MCPR) operating limit for Dresden Unit 3 Cycle 13 (D3C13). This discrepancy only affects the Feedwater Controller Failure (FWCF) analysis results for Unit 3 Cycle 13, which has now become the limiting delta CPR event at Dresden (Unit 3 Cycle 13 represents the first use of COTRANSA-2 at Dresden). This issue is unrelated to Dresden Unit 2 as a different model (COTRANSA) was utilized by SPC in the development of the COLR for Unit 2. SPC has determined that the current D3C13 operating limit provides adequate protection until the core exposure has reached 22,700 MWD/MTU (not expected until March 1993). SPC has compensated for this discrepancy and has provided revised transient analysis results. The revised MCPR operating limit is provided in the attached revised D3C13 Core Operating Limits Report (COLR). The purpose of this letter is to notify the NRC staff of Commonwealth Edison Company's (CECo) review and approval of the revised Cycle 13 COLR under the provisions of 10CFR50.59, and to transmit the revised COLR consistent with Generic Letter 88-16.

The discrepancy in COTRANSA-2 results in an under-prediction of the delta-CPR when water level is above normal during pressurization of the dome. The energy transfer between the steam and liquid in the separator region is treated as instantaneous which results in a slower pressurization rate of the core. A slower core pressurization rate results in an underestimation of power response and a lower delta-CPR.

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SPC compensated for the discrepancy in the analysis by procedurally reducing the initial water level at the beginning of the FWCF event, which results in a high water level trip at the normal water level at which COTRANSA-2 was originally benchmarked. Steam dome volume is reduced to compensate for the increase in steam volume created by the water level reduction. This preserves the actual expected steam volume during the FWCF event. The procedural change is an interim measure until the COTRANSA-2 model is upgraded.

SPC has concluded that no similar discrepancy exists in the COTRANSA code. The separator model in COTRANSA allows for non-equilibrium thermal hydraulic conditions. Since Dresden Unit 2 Cycle 13 was analyzed with COTRANSA, no changes are required for Unit 2.

The revised transient analyses change the limiting MCPR event from the Load Reject Without Bypass (LRWoB) ($\Delta\text{-CPR} = 0.32$) to the FWCF with Feedwater Heaters Out of Service (FWHOOS) at 100% power and 87% flow ($\Delta\text{-CPR} = 0.35$). This results in an increase in the OLMCPR from 1.40 to 1.43 based on Technical Specification Scram Times.

CECo has performed a detailed review of the revised Feedwater Controller Failure analysis. Based on that review, a safety evaluation was prepared, as required by 10CFR50.59, and approved by On-Site and Off-Site Review. CECo has concluded that the COLR revision presents no unreviewed safety questions, and that no revisions to the current Technical Specifications are required as a result of the COLR revision.

Please contact this office should further information be needed.

Sincerely,



Peter L. Piet
Nuclear Licensing Administrator

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Attachment: Revised Core Operating Limits Report for
Dresden Station Unit 3 Cycle 13

cc: A.B. Davis - Regional Administrator, Region III
B.L. Siegel - Project Manager, NRR
L.E. Phillips - Section Chief, NRR, Reactor Systems Branch
W.G. Rogers - Senior Resident Inspector, Dresden