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June 9, 1997  
NG-97-1009

Mr. Samuel Collins, Director  
Office of Nuclear Reactor Regulation  
U.S. Nuclear Regulatory Commission  
Attn: Document Control Desk  
Mail Station P1-37  
Washington, DC 20555-0001

Subject: Duane Arnold Energy Center (DAEC)  
Docket No: 50-331  
Op. License No: DPR-49  
Notification of Non-Significant Changes Affecting the  
Emergency Core Cooling System (ECCS) Analysis

References: 1) J. Franz (IELP) to Dr. T. Murley (NRC), "Notification of  
Significant Change in Peak Fuel Cladding Temperature  
Pursuant to 10 CFR 50.46(a)(3)," NG-93-4296, dated  
October 15, 1993  
2) R.J. Reda (GE) to R.C. Jones, Jr. (NRC), "Reporting of  
Changes and Errors in ECCS Evaluation Models," MFN-  
278-95, dated December 15, 1995  
3) R.J. Reda (GE) to R.C. Jones, Jr. (NRC), "Reporting of  
Changes and Errors in ECCS Evaluation Models," MFN-  
020-96, dated February 20, 1996

File: A-105

Dear Mr. Collins:

The purpose of this letter is to inform you of a non-significant change to the ECCS analysis for the Duane Arnold Energy Center (DAEC). This change is being reported pursuant to 10 CFR 50.46(a)(3) and the supplemental guidance contained in NRC Information Notice 97-15, dated April 4, 1997.

This report is necessary as the change upgrades the analysis models to address the potential for additional Loss-of-Coolant Accident (LOCA) break flow from the reactor pressure vessel (RPV) bottom head drain (BHD). The change and its effect on the fuel Peak Cladding Temperature (PCT) are further discussed below:

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By letters (References 2 and 3), dated December 15, 1995 and February 20, 1996, the General Electric Company (GE) notified the NRC that the RPV BHD had been found to have a slight impact on the LOCA analysis. Because the BHD is directly connected to the reactor recirculation loops, a recirculation line break LOCA would have additional flow contribution from the BHD and the vessel would depressurize to the drywell faster than assumed in previous ECCS analysis models. Such an event would also allow some of the water required to keep the core covered to the 2/3 core height to exit the core either by gravity or core pressure via the interconnected BHD and Reactor Water Cleanup (RWCU) suction lines. Based on the GE evaluation described in Reference 3, the impact on the fuel PCT resulting from the additional BHD flow in the LOCA analysis is less than 10°F.

IES Utilities staff have reviewed the Reference 2 and 3 letters. IES Utilities concurs with GE's conclusion that the PCT impact of the recirculation line break LOCA including the BHD is not significant, as defined by 10 CFR 50.46(a)(3)(i), since the fuel PCT is not increased by more than 50°F and remains well within the margins of the safety analysis (i.e., the original Licensing Basis PCT of 1570°F remains bounding for the DAEC). Furthermore, the impact of the BHD exiting flow on maintaining RPV level inside the shroud is also not significant. It was determined that a slightly higher minimum makeup flow will be required, however, the increased makeup is well within the margins of the available ECCS systems. The minimum makeup flow is that necessary to makeup for decay heat and the drain rate from the BHD.

In a letter (Reference 1), dated October 15, 1995, IES Utilities previously reported errors discovered in the plant-specific variables used in the ECCS analysis models. As discussed in the Reference 1 letter, the errors were corrected such that the Core Operating Limits Report (COLR) for DAEC Cycle 13 Operation was correct and accurate. The change to the ECCS analysis models being reported in this letter was identified subsequent to the accepted models for the Cycle 13 COLR. Since there is only one change to the previously accepted model, there is no cumulative effect on the fuel PCT.

Based on the evaluation of the change to the ECCS models by IES Utilities staff, the change was determined not to be significant. Moreover, no re-analysis or Technical Specification changes are required. Therefore, this submittal satisfies the reporting requirements pursuant to 10 CFR 50.46(a)(3) and no further actions are required.

There are no new commitments in this letter.

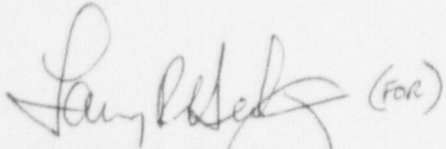
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Please contact this office if you have further questions on this matter.

Sincerely,

A handwritten signature in cursive script, appearing to read "Ken Peveler", followed by the word "(for)" in parentheses.

Kenneth E. Peveler,  
Manager, Regulatory Performance

KEP/CDM/cdm

cc: C. Mackaman  
J. Franz  
L. Root  
G. Kelly (NRC-NRR)  
A. B. Beach (Region III)  
NRC Resident Office  
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