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July 11, 1985

W3P85-2501
A4.07

Director of Nuclear Reactor Regulation
Attention: Mr. G.W. Knighton, Chief
Licensing Branch No. 3
Division of Licensing
U.S. Nuclear Regulatory Commission
Washington, D.C. 20555

SUBJECT: Waterford SES 3
Docket No. 50-382
Combustion Engineering Large Break LOCA Evaluation Model

REFERENCE: CE Letter LD-85-031, dated July 2, 1985

Dear Mr. Knighton:

As you are aware, LP&L has been notified by Combustion Engineering (CE) that a potential nonconservatism exists in the CE Large Break LOCA Evaluation Model. This letter addresses the relative significance of this matter for Waterford 3 and also delineates actions which have been taken by LP&L.

Sensitivity studies performed by CE have indicated that the application of a different axial power distribution than currently used in the approved evaluation model is expected to increase the peak clad temperature (PCT) calculated during a Large Break LOCA for CE plants. LP&L understands the evaluations are preliminary. The increase in PCT is estimated to be greater than 20°F.

LP&L and CE personnel have carefully evaluated this potential PCT variance. LP&L believes that a significant safety hazard is not present, and the 2200°F acceptance criteria limit of 10CFR 50.46 would not be exceeded when other non-model related conservatisms are considered.

The effect of the revised axial power distribution has been estimated by CE to result in an increase of PCT of about 34°F. For Waterford 3, which currently has a PCT of 2188°F, an increase of this magnitude in PCT would exceed the acceptance criteria of 2200°F. However, CE has performed a preliminary analysis which demonstrates that when other factors are considered, the PCT for Waterford 3 will not exceed 2200°F. Specifically, the current ECCS evaluation includes an assumption that containment purge is operating at the time of initiation of the LOCA event. Preliminary analysis

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shows that when the effect of containment purge is eliminated, the PCT decreases by about 36°F. The containment purge effect therefore compensates for the increase in PCT due to a flatter axial power distribution. The elimination of containment purge from the ECCS analysis is considered to be an acceptable input change since Waterford 3 has a Technical Specification (LCO 3.6.1.7) that limits purging during power operation to less than 90 hours per year. Therefore, a LOCA event concurrent with purging would be sufficiently unlikely, and thus removal of this conservatism assumption is warranted. Standard Review Plan 6.3.4, Section II.6.n, documents the acceptability of eliminating purging from analyses provided a 90 hour limitation is incorporated into the Technical Specification.

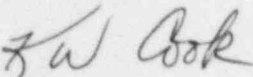
Further, LP&L is evaluating other plant input related conservatisms included in the ECCS evaluation for convenience that are not specified by regulation. Waterford 3, for example, used the worst case flow resistance K-factors for all SIT injection lines, rather than actual flow resistance K-factors for each SIT injection line. Such factors collectively provide added assurance that the Waterford 3 PCT is less than the 10CFR 50.46 acceptance criteria limit.

LP&L has instructed CE to finalize the ECCS reevaluation for Waterford 3 considering the elimination of containment purge and other plant unique factors. The results of the analysis are expected to be completed by July 19, 1985. These analyses are expected to conclusively demonstrate that the Waterford 3 PCT is below the 2200°F acceptance limit. These analyses will thus provide a revised ECCS evaluation licensing basis for Waterford 3 and satisfy the reanalysis requirement of 10CFR50, Appendix K.

Finally, although only preliminary results are available at this time, LP&L is reviewing the reporting requirements of this matter. Reporting evaluations have been initiated pursuant to LP&L procedures. The determination of reportability will be provided via a separate letter or other notification, as appropriate.

Please contact me or Robert J. Murillo should you have any questions.

Very truly yours,



K. W. Cook
Nuclear Support & Licensing Manager

KWC/RJM/ch

cc: B.W. Churchill, W.M. Stevenson, R.D. Martin, D.M. Crutchfield, J. Wilson,
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