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U. S. Nuclear Regulatory Commission
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Subject: Arkansas Nuclear One - Unit 2
Docket No. 50-368
License No. NPF-6
Installation and Utilization of Reload Data Block

Gentlemen:

The purpose of this submittal is to inform the Staff of Entergy Operations' intent to install the Reload Data Block (RDB) as a modification to the Core Protection Calculator (CPC) software at Arkansas Nuclear One, Unit 2 (ANO-2). The utilization of the RDB will allow ANO-2 to regain some operating margin and to minimize future operating margin loss. ANO-2 Technical Specification 6.8.1.g requires NRC prior approval for additions or deletions to the CPC addressable constants or changes to addressable constant software limit values. The RDB values are not considered addressable constants. The Staff has reviewed the RDB program as discussed below. Therefore, this letter is being provided for information only.

The CPC system is designed to provide low departure from nucleate boiling ratio (DNBR) and high local power density (LPD) trips to ensure that the specified acceptable fuel design limits on DNBR and centerline fuel melting are not exceeded during anticipated operational occurrences and to assist the engineered safety features system in limiting the consequences of certain postulated accidents. In an effort to enhance the CPC system, several years ago the CPC Improvement Program (CIP) was partially implemented at ANO-2 with amendment 77 to the technical specifications, dated July 22, 1986 (2CNA078606). The CIP consisted of CPC modifications and methodology improvements in order to reduce future reload efforts and, possibly, the need for NRC reload reviews, by attempting to avoid future software changes.

One of the areas of the CIP was the Reload Data Block Constants Program. The RDB is a group of constants that are located in protected memory of the CPC and the Control Element Assembly Calculator (CEAC), separate from algorithms and from other non-

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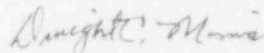
addressable constants. There are approximately 800 values in the RDB which address all of the cycle-dependent parameters, most operating condition-dependent parameters, and CEA related parameters. The RDB constants are loaded from a separate RDB disk and can be changed without requiring a CPC/CEAC software change.

The RDB feature is described in further detail in CEN-330-P-A, "CPC/CEAC Software Modifications for the CPC Improvement Program Reload Data Block," dated October 1987, which was reviewed and approved by the Staff on August 12, 1986. Previously, on August 5, 1986, the Staff approved CEN-323-P-A, "Reload Data Block Constant Installation Guidelines," dated September 1986, for generating and updating the RDB constants. It should be noted that Waterford 3 and Palo Verde Units 1, 2, and 3 have previously implemented this software change to their CPCs.

The initial incorporation of the RDB feature into the ANO-2 CPC/CEAC software will be performed in accordance with CEN-39(A)-P, "CPC Protection Algorithm Software Change Procedure," Revision 3, dated November 1986, as required by ANO-2 Technical Specification 6.8.1.g. Once this software change is implemented, subsequent RDB changes will be performed in accordance with the NRC approved topicals CEN-330-P-A and CEN-323-P-A.

Entergy Operations currently intends to implement the RDB improvements during the mid-cycle outage scheduled to begin January 7, 1995, and to change the cold leg specific volume normalization constant (VADJ) via 10CFR50.59 to match the current reduced cold leg temperature. Should you have any questions, please contact me.

Very truly yours,



Dwight C. Mims
Director, Licensing

DCM/nbm

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