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FACIL:50-261 H. B. Robinson Plant, Unit 2, Carolina Power and Ligh 05000261
AUTH.NAME AUTHOR AFFILIATION
ZIMMERMAN,S.R. Carolina Power & Light Co.
RECIP.NAME RECIPIENT AFFILIATION
VARGA,S.A. Operating Reactors Branch 1

SUBJECT: Forwards proprietary "HB Robinson Loss of Feedwated Transient at 1,955 Mwt:Model Description & Results," Rept withheld (ref 10CFR2.790). 566 Rpt XN-NF-82-51 (P) 5007

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DEC 01 1982

Office of Nuclear Reactor Regulation
ATTN: Mr. Steven A. Varga, Chief
Operating Reactors Branch No. 1
United States Nuclear Regulatory Commission
Washington, D.C. 20555

H. B. ROBINSON STEAM ELECTRIC PLANT, UNIT NO. 2
DOCKET NO. 50-261
LICENSE NO. DPR-23
LOSS OF NORMAL FEEDWATER TRANSIENT ANALYSIS

Dear Mr. Varga:

As requested by the NRC Staff in its safety evaluation report for Operating License Amendment No. 71 for the H. B. Robinson Plant (HBR) and as committed in Carolina Power & Light Company's (CP&L) letter to you dated July 23, 1982, please find attached a more detailed loss of normal feedwater (LNFW) transient analysis. The attached report, H. B. Robinson Loss of Feedwater Transient at 1955 Mwt, Model Description and Results, XN-NF-82-91(P), prepared by Exxon Nuclear Company, Inc. (ENC) provides the requested plots of T_{avg}, primary and secondary pressure versus time for the duration of the transient. The minimum DNBR for this transient was not calculated for the more limiting case where the main coolant pumps are tripped. The MDNBR for a LNFW with reactor coolant pump trips is accurately predicted, however, by calculations performed for a Loss of Flow (3-pump coastdown) transient because of the similarity of these two transients during the early stages of the coastdown period. For an initial DNBR of 3.13 the MDNBR for the Loss of Flow transient is 2.58 occurring 3.5 seconds after coastdown initiation. This relatively large MDNBR precludes the possibility of DNB from occurring during a LNFW transient. Further, the MDNBR question was considered of importance only because previously submitted analyses showed primary water relief. This analysis shows no primary water relief.

The attached report also contains the description of the model developed by ENC to perform the LNFW analysis. This model, using the Slow Transient (SLOTRAX) code, was developed by ENC for the purpose of modeling relatively slow long term plant transients such as the LNFW event. Exxon Nuclear Company considers information contained in the subject report, XN-NF-82-91(P), to be proprietary. In accordance with the Commission's Regulation 10 CFR 2.790(b), the enclosed Affidavit executed by Exxon Nuclear's Dr. Richard B. Stout provides the necessary information to support the withholding of this document from public disclosure.

PA01

411 Fayetteville Street • P. O. Box 1551 • Raleigh, N. C. 27602

Should you have any questions regarding this information, please contact a member of our Nuclear Licensing staff.

Yours very truly,

S. R. Zimmerman
Manager
Licensing & Permits

DCS/pgp (5785C4T2)
Attachments

cc: Mr. J. P. O'Reilly (NRC-RII)
Mr. G. Requa (NRC)
Mr. Steve Weise (NRC-HBR)

A F F I D A V I T

STATE OF Washington)
ss.
COUNTY OF Benton)

I, Richard B. Stout, being duly sworn, hereby say and depose:

1. I am Manager, Licensing and Safety Engineering, for Exxon Nuclear Company, Inc. ("ENC"), and as such I am authorized to execute this Affidavit.

2. I am familiar with ENC's detailed document control system and policies which govern the protection and control of information.

3. I am familiar with the document XN-NF-82-91(P), entitled "H.B. Robinson Loss of Feedwater Transient at 1955 MWt; Model Description and Results", referred to as "Document". Information contained in this Document has been classified by ENC as proprietary in accordance with the control system and policies established by ENC for the control and protection of information.

4. The Document contains information of a proprietary and confidential nature and is of the type customarily held in confidence by ENC and not made available to the public. Based on my experience, I am aware that other companies regard information of the kind contained in the Document as being proprietary and confidential.

5. The Document has been made available to the United States Nuclear Regulatory Commission in confidence, with the request that the information contained in the Document not be disclosed or divulged.

6. The Document contains information which is vital to a competitive advantage of ENC and would be helpful to competitors of ENC when competing with ENC.

7. The information contained in the Document is considered to be proprietary by ENC because it reveals certain distinguishing aspects of safety analysis methods which secure competitive economic advantage to ENC for fuel design optimization and improved marketability, and includes information utilized by ENC in its business which affords ENC an opportunity to obtain a competitive advantage over its competitors who do not or may not know or use the information contained in the Document.

8. The disclosure of the proprietary information contained in the Document to a competitor would permit the competitor to reduce its expenditure of money and manpower and to improve its competitive position by giving it extremely valuable insights into safety analysis methods, and would result in substantial harm to the competitive position of ENC.

9. The Document contains proprietary information which is held in confidence by ENC and is not available in public sources.

10. In accordance with ENC's policies governing the protection and control of information, proprietary information contained in the Document has been made available, on a limited basis, to others outside ENC only as required and under suitable agreement providing for non-disclosure and limited use of the information.

11. ENC policy requires that proprietary information be kept in a secured file or area and distributed on a need-to-know basis.

12. This Document provides information which reveals safety analysis methods developed by ENC over the past several years. ENC has invested millions of dollars and many man-years of effort in developing the analysis methods revealed in the Document. Assuming a competitor had available the same background data and incentives as ENC, the competitor might, at a minimum, develop the information for the same expenditure of manpower and money as ENC.

13. Based on my experience in the industry, I do not believe that the background data and incentives of ENC's competitors are sufficiently similar to the corresponding background data and incentives of ENC to reasonably expect such competitors would be in a position to duplicate ENC's proprietary information contained in the Document.

THAT the statements made hereinabove are, to the best of my knowledge, information, and belief, truthful and complete.

FURTHER AFFIANT SAYETH NOT.

Richard B. Stout

SWORN TO AND SUBSCRIBED
before me this 22 day of
Nov, 19 82.

Susan L. Backus
NOTARY PUBLIC