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Dresden Generating Station
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October 27, 1997

JSPLTR: 97-0185

U. S. Nuclear Regulatory Commission
Attn.: Document Control Desk
Washington, D. C. 20555-0001

SUBJECT: Dresden Nuclear Power Station Units 2 and 3
Response to Request for Information Regarding a Containment Analysis
Using ANS 5.1-1979 Decay Heat Curve with 2 Sigma Adder
Docket Nos. 50-237 and 50-249

Pursuant to 10 CFR 50.90, ComEd requested NRC approval of changes to Facility Operating Licenses DPR-19 and DPR-25 through the Reference (a). References (b), (d) and (e) provided additional information requested by the Staff, as well as a status of the ongoing activities. The Staff approved the amendment request within Reference (f). However, the NRC requested ComEd provide the Staff with a revised containment analysis using a decay heat curve with a 2 sigma adder. The purpose of this letter is to provide the containment analysis report using a decay heat curve with the 2 sigma adder.

ComEd has completed a containment analysis which includes a 2-sigma uncertainty factor in the ANS 5.1-1979 Decay Heat curve. This analysis is for the most limiting condition for ECCS pump NPSH at the peak suppression pool temperature. The containment analysis of the DBA-LOCA with ANS 5.1 - 1979 Decay Heat with 2 sigma adder and 20% mixing shows that the maximum suppression pool temperature is 178.6 °F concurrent with containment pressure of 3.75 psig.

Due to the revised containment analysis, ComEd evaluated the impact of the temperature and pressure on the EQ of electrical equipment, torus attached piping, and Low Pressure ECCS pump net positive suction head calculations. The results of these evaluations are described below:

Environmental Qualification

The containment analysis with 2 sigma adder raised the suppression pool water temperature from 176 to 178.6 °F. The change in the pool temperature would not significantly increase the ambient temperatures in the Reactor Building Corner Rooms, torus Area and the Reactor Building General Areas. ComEd has concluded that Dresden Station remains in compliance with 10 CFR 50.49 based on Dresden's original EQ data. Our conclusion is based on equipment testing that bounds the environmental conditions caused by the DBA-LOCA.

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Torus Attached Piping

In support of the Reference (a) amendment request, ComEd evaluated the torus attached piping systems and supports stresses and determined that such stresses are within the UFSAR allowable stress limits. This evaluation was based on a postulated torus long term post LOCA heat up to 183 °F. Since, the revised peak torus temperature of 178.6 °F is less than the 183 °F used previously, ComEd believes there is no further evaluation required.

Low Pressure ECCS Pump NPSH

ComEd has revised the long-term NPSH calculation for the Low Pressure ECCS Pumps to include an analysis of the effect of the 2 sigma adder on NPSH margin. The containment pressure necessary to meet the ECCS Pump NPSH requirements for the most limiting condition was calculated using torus water temperature from the containment analysis. The most limiting NPSH margin is the difference between the available containment pressure and the containment pressure necessary to meet ECCS Pump NPSH requirements. It was found to be 0.69 psi. The NPSH margin remains comparable due to the inherent coupling between the suppression pool temperature and containment pressure. Therefore, the NPSH margin is available and remains within the license basis. There is no change in the short-term NPSH condition.

Conclusion

Based on the aforementioned evaluations using revised Containment Analysis, new peak torus water temperatures and pressures, ComEd believes the Equipment Qualification of electrical equipment, stresses on torus attached piping and ECCS pump NPSH are all maintained within the licensing basis. Therefore, ComEd does not require any changes to the current licensing basis as described in Reference (f).

Attachment A to this letter provides the proprietary references to GE documentation .

Attachment B contains a list of reference documents.

This submittal contains items that are proprietary in nature to General Electric Company. ComEd has provided the material that is considered proprietary in Attachment A and requests that all material in Attachment A be withheld from public disclosure. ComEd has included, in Attachment A, an affidavit per the requirements of 10 CFR 2.790 (b) explaining the reasons and circumstances for withholding the applicable information from public disclosure.


The information provided herein has been reviewed by onsite and offsite review groups in accordance with Company procedures and policies.

ComEd is notifying the State of Illinois of this application for amendment by transmitting a copy of this letter and its attachments to the designated state official.

To the best of my knowledge and belief, the statements contained in this document are true and correct. In some respects these statements are not based on my personal knowledge, but on information furnished by ComEd employees, contractor employees, and/or consultants. Such information has been reviewed in accordance with company practice, and I believe it to be reliable.

If there are any questions concerning this matter, please contact Frank Spangenberg, Regulatory Assurance Manager, at (815) 942-2920, extension 3800.

Sincerely,


J. Stephen Perry
Site Vice President
Dresden Station

Signed before me on this 27th day,
October, 1997,
by Lisa Ann Delimata
Notary Public



Attachments: A. Proprietary References
B. Other References

cc: A. Bill Beach, Regional Administrator - RIII
K. Riemer, Senior Resident Inspector - Dresden
J. F. Stang, Project Manager - NRR
Office of Nuclear Facility Safety - IDNS

bcc Dresden Regulatory Assurance CHRON File w/attachments
Dresden Regulatory Assurance Subject File w/attachments
Document Control Desk - Downers Grove w/attachments
F. A. Spangenburg, Regulatory Assurance Manager
R. Freeman - Site Engineering Manager
T. Riley - Regulatory Assurance Supervisor
L. Weir - Design Engineering Superintendent
A. Fuhs - Nuclear Licensing
B. Rybak - Nuclear Licensing

ATTACHMENT A -PROPRIETARY REFERENCES

DESCRIPTION	PROPRIETARY STATUS	REV.	DATE
1. GE-NE-T2300740-3, DRF T23-00740, Class II, Dresden Nuclear Power Station Units 2 and 3 Containment Analysis of the DBA-LOCA With ANS 5.1 - 1979 Decay Heat With 2 Sigma Adders.	Proprietary		October 1997
2. GE Memorandum, C.L. Martin to J. Gulick, Subject Decay Heat Curve for Dresden Nuclear Station, dated June 20, 1997.	Proprietary		6/20/1997

ATTACHMENT B

OTHER REFERENCES

- a) J. Stephen Perry Letter to U.S. NRC, dated February 17, 1997; Dresden Nuclear Power Station Units 2 and 3, Application for Amendment to Facility Operating Licenses DPR-19 and DPR-25, Appendix A, Technical Specifications, Section 3/4.7.K. "Suppression Chamber," and Section 3/4.8.C. "Ultimate Heat Sink." Docket Nos. 50-237 and 50-249
- b) J. Stephen Perry Letter to U.S. NRC, dated February 27, 1997, Dresden Nuclear Power Station Units 2 and 3, Additional Information Regarding Application for Amendment to Facility Operating Licenses DPR- 19 and DPR-25, Appendix A. Technical Specification. Docket Nos. 50-237 and 50-249
- c) J. F. Stang Letter to Irene Johnson, dated March 21, 1997, Request for Additional Information (TAC Nos. M97983 and M97984).
- d) J. Stephen Perry Letter to U.S. NRC, dated March 26, 1997; Dresden Nuclear Power Station Units 2 and 3, Additional Information Regarding Application for Amendment to Facility Operating Licenses DPR-19 and DPR-25, Appendix A, Technical Specifications, Section 3/4.7.K. "Suppression Chamber," and Section 3/4.8.C. "Ultimate Heat Sink." Docket Nos. 50-237 and 50-249
- e) J. Stephen Perry Letter to U.S. NRC, dated April 10, 1997; Dresden Nuclear Power Station Units 2 and 3, Additional Information Regarding Application for Amendment to Facility Operating Licenses DPR-19 and DPR-25, Appendix A, Technical Specifications, Section 3/4.7.K. "Suppression Chamber," and Section 3/4.8.C. "Ultimate Heat Sink." Docket Nos. 50-237 and 50-249
- f) J. F. Stang Letter to Irene Johnson, dated April 30, 1997, Issuance of Amendments (TAC Nos. M97983 and M97984).