

acceptable margin of safety against brittle failure of the RPV.

The NRC staff has reviewed the exemption request submitted by FPLE Seabrook and has concluded that an exemption should be granted to permit the licensee to utilize the provisions of ASME Code Case N-641 for the purpose of developing Seabrook RPV P-T limit curves.

3.0 Discussion

Pursuant to 10 CFR 50.12, the Commission may, upon application by any interested person or upon its own initiative, grant exemptions from the requirements of 10 CFR part 50 when: (1) The exemptions are authorized by law, will not present an undue risk to public health or safety, and are consistent with the common defense and security; and (2) when special circumstances are present.

Special circumstances, pursuant to 10 CFR 50.12(a)(2)(ii), are present in that continued operation of Seabrook with the P-T limit curves developed in accordance with ASME Section XI, Appendix G without the relief provided by ASME Code Case N-641 is not necessary to achieve the underlying purpose of appendix G to 10 CFR part 50. Application of ASME Code Case N-641 in lieu of the requirements of ASME Code Section XI, Appendix G provides an acceptable alternative methodology which will continue to meet the underlying purpose of appendix G to 10 CFR part 50. The underlying purpose of the regulations in appendix G to 10 CFR part 50 is to provide an acceptable margin of safety against brittle failure of the RCS during any condition of normal operation to which the pressure boundary may be subjected over its service lifetime.

The staff examined the licensee's rationale to support the exemption request, and concluded that the use of ASME Code Case N-641 would satisfy 10 CFR part 50, section 50.12(a)(1) as follows:

(1) The requested exemption is authorized by law:

No law exists which precludes the activities covered by this exemption request. The regulation 10 CFR part 50, section 50.60(b), allows the use of alternatives to 10 CFR part 50, appendices G and H, when an exemption is granted by the Commission pursuant to 10 CFR part 50, section 50.12.

(2) The requested exemption does not present an undue risk to the public health and safety:

ASME Code Case N-641 permits the use of alternate reference fracture toughness (K_{IC} fracture toughness curve

instead of K_{IA} fracture toughness curve) for RPV Materials in determining the P-T limits. The use of the K_{IC} curve provides greater allowable fracture toughness than the corresponding K_{IA} curve. The other margins involved with the ASME Code, Section XI, Appendix G process of determining P-T limit curves remain unchanged.

Use of the K_{IC} curve in determining the lower-bound fracture toughness, which is, in turn, used in the development of the P-T operating limits curve, models the slow heatup and cooldown process of a reactor vessel. The K_{IC} curve appropriately implements the use of static initiation fracture toughness behavior to evaluate the controlled heatup and cooldown process of an RPV.

Use of this approach is justified by the initial conservatism of the K_{IA} curve when it was codified in 1974. This initial conservatism was necessary due to limited knowledge of RPV material fracture toughness. Since 1974, additional knowledge has been gained about the fracture toughness of vessel materials and their fracture response to applied loads. The additional knowledge demonstrates that the lower-bound fracture toughness provided by the K_{IA} curve is well beyond the margin of safety required to protect against potential RPV failure. The lower-bound K_{IC} fracture toughness provides an adequate margin of safety to protect against potential RPV failure and does not present an undue risk to public health and safety.

(3) The requested exemption will not endanger the common defense and security:

The common defense and security are not affected and, therefore, not endangered by this exemption.

Based upon a consideration of the conservatism that is explicitly incorporated into the methodologies of appendix G to 10 CFR part 50; Appendix G to Section XI of the ASME Code; and Regulatory Guide 1.99, Revision 2; the staff concluded that application of ASME Code Case N-641, as described, would provide an adequate margin of safety against brittle failure of the RPV. Therefore, the staff concludes that pursuant to 10 CFR 50.12(a)(1), an exemption from the requirements of 10 CFR part 50, appendix G is appropriate, and that the methodology of Code Case N-641 may be used to revise the P-T limits for the Seabrook RPV.

4.0 Conclusion

Accordingly, the Commission has determined that, pursuant to 10 CFR 50.12(a), the exemption is authorized by

law, will not present an undue risk to the public health and safety, and is consistent with the common defense and security. Also, special circumstances are present. Therefore, the Commission hereby grants FPL Energy Seabrook, LLC an exemption from the requirements of 10 CFR 50.60(a) and 10 CFR part 50, Appendix G, to allow application of ASME Code Case N-641 in establishing TS requirements for the reactor vessel pressure limits at low temperatures for Seabrook.

Pursuant to 10 CFR 51.32, the Commission has determined that the granting of this exemption will not have a significant effect on the quality of the human environment (68 FR 44109).

This exemption is effective upon issuance.

Dated at Rockville, Maryland, this 1st day of August, 2003.

For The Nuclear Regulatory Commission.

Ledyard B. Marsh,

Director, Division of Licensing Project Management, Office of Nuclear Reactor Regulation.

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NUCLEAR REGULATORY COMMISSION

[Docket No. 040-08798]

Notice of Consideration of Request for License Termination of Hitchcock Industries, Inc. License and Release of Its Facility in Minneapolis, Minnesota, Amendment, and Opportunity To Provide Comments and Request a Hearing

ACTION: Notice of consideration of amendment request to terminate Source Material License No. SMB-1404 and release of facility for unrestricted use.

FOR FURTHER INFORMATION CONTACT: Dr. Peter J. Lee, Division of Nuclear Materials Safety, U.S. Nuclear Regulatory Commission, Region III, 801 Warrenville Road, Lisle, Illinois 60532-4351; telephone (630) 829-9870 or by e-mail at pjl2@nrc.gov.

SUPPLEMENTARY INFORMATION:

I. Introduction

The U.S. Nuclear Regulatory Commission (NRC) is considering the issuance of an amendment to Hitchcock Industries, Inc. (Hitchcock) Source Material License No. SMB-1404, to terminate the license and release its facility located at 8701 Harriet Avenue South in Minneapolis, Minnesota, for unrestricted use. In 1982, this license