

Proj. 693



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NRC:02:015

Document Control Desk  
ATTN: Chief, Planning, Program and Management Support Branch  
U.S. Nuclear Regulatory Commission  
Washington, D.C. 20555-0001

**NRC Review of EMF-2103(P) Revision 0, Realistic Large Break LOCA Methodology for Pressurized Water Reactors**

Ref.: 1. Letter, J. F. Mallay (FRA-ANP) to Document Control Desk (NRC), "Request for Review of EMF-2103(P) Revision 0, Realistic Large Break LOCA Methodology for Pressurized Water Reactors," NRC:01:035, August 2001 (Accession #ML012400042).

Framatome ANP requested the NRC's acceptance for referencing in licensing actions the topical report EMF-2103(P) Revision 0, "Realistic Large Break LOCA Methodology for Pressurized Water Reactors" in Reference 1. Two documentation errors have been identified since the submittal of Reference 1. The attachment to this letter contains two corrected pages which Framatome ANP proposes to use when the A version of EMF-2103 is issued following NRC review and approval.

The change on page 4-97 deletes the following sentences:

*As this value was based solely on data at 40 psia (2.76 bar), a penalty bias was included to cover the possibility of the system pressure falling below this value. The hydrodynamic film instability theory of Berenson was used to develop this pressure bias (Reference 5).*

The use of a pressure bias was considered during the development of the methodology but was determined to be unnecessary due to the extensive conservatism inherent in the base model. The primary conservatism derives from basing the  $T_{min}$  model on tests using stainless steel clad. Comparison of quench data for zircaloy clad quantify this conservatism to be around 200°F. A complete discussion of this model and the inherent conservatism is given in EMF-2102.

The change on page 5-22 deletes the entry "ECCS Losses" from the table. The ECCS losses are dominated by variations in break size and are therefore not treated separately. In addition, data from a series of accumulator drain down tests showed only a ±3% variation.

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Framatome ANP considers some of the information contained in the enclosure to this letter to be proprietary. The affidavit provided with the original submittal of EMF-2103(P) Revision 0 (Reference 1) satisfies the requirements of 10 CFR 2.790(b) to support the withholding of this information from public disclosure.

Very truly yours,



James F. Mallay, Director  
Regulatory Affairs

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Enclosure

cc: R. R. Landry  
J. S. Cushing  
D. G. Holland  
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