



July 31, 2000  
FTI-00-1968

Document Control Desk  
U. S. Nuclear Regulatory Commission  
Washington, DC 20555-0001

Subject: Methodology Revision (Revision 5) to Framatome Technologies' RELAP5  
Computer Program for LOCA and Non-LOCA Transient Analysis, BAW-10164P

Gentlemen:

Framatome Technologies, Inc. (FTI) has revised its RELAP5 computer program for LOCA and non-LOCA transient analysis. The revision improves the large break LOCA predictive capabilities of RELAP5. Fifteen sets of change pages for the revised RELAP5 topical report (BAW-10164P, Revision 5) are submitted for NRC review and approval.

This RELAP5 revision is linked to and fully supports the revisions made to FTI's LBLOCA evaluation models—BAW-10168, Revision 4 for U-tube SG plants and BAW-10192, Revision 1 for once-through SG plants. The two EM revisions were submitted for NRC review separately. The revision to the two EM topical reports removes the REFLOD3B code (BAW-10171P-A, Revision 3, December 1995) from the LBLOCA code calculation package; RELAP5—in a systems mode—will now be used to predict the entire LBLOCA system transient. During refill/reflood, BEACH heat transfer and drag methods (subroutines within RELAP5) are applied, but the core and core channels are dynamically coupled to each other and to the reactor coolant system. The calculation is now a single-pass, dynamically coupled, systems prediction that uses only the RELAP5 computer code. The revision streamlines and closely couples LBLOCA calculations.

The BEACH topical report, BAW-10166P-A, Revision 4, February 1996, was not revised. Changes to BEACH routines were incorporated into this RELAP5 topical report revision. The topical report revision does not change or impact small break LOCA methods.

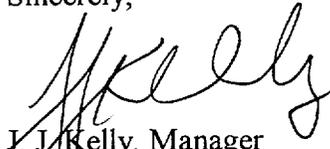
FTI intends to apply the revised RELAP5 code version in future LBLOCA analyses. Likely, the first application will be on either the MOX or the North Anna fuel reload. A completion date by the end of 2001 is requested.

1007  
1/15

The following attachment contains the revision pages to the RELAP5 topical report, BAW-10164. The material is considered proprietary to Framatome Technologies and is delineated in the text by brackets. FTI requests that BAW-10164P, Revision 5 be withheld from public disclosure. Please find attached an affidavit supporting the Proprietary classification of BAW-10164P, Revision 5.

If you require additional information, please contact me at 804/832-2964 or C. K. Nithianandan at 804/832-2381.

Sincerely,



J. J. Kelly, Manager  
B&W Owners Group Services

Attachment

c:	Stuart Bailey	-	Nuclear Regulatory Commission
	F. R. Orr	-	Nuclear Regulatory Commission
	J. R. Biller	-	Framatome Technologies/OF53
	J. A. Klingenfus	-	Framatome Technologies/OF53
	C. F. McPhatter	-	Framatome Cogema Fuels/OF12
	C. K. Nithianandan	-	Framatome Technologies/OF53
	R. N. Edwards	-	Framatome Technologies/MD82
	M. A. Schoppman	-	Framatome Technologies/MD82

AFFIDAVIT OF JOSEPH J. KELLY

- A. My name is Joseph J. Kelly. I am Manager of B&W Owners Group Services for Framatome Technologies, Inc. (FTI), and as such, I am authorized to execute this Affidavit.
- B. I am familiar with the criteria applied by FTI to determine whether certain information of FTI is proprietary and I am familiar with the procedures established within FTI to ensure the proper application of these criteria.
- C. In determining whether an FTI document is to be classified as proprietary information, an initial determination is made by the Unit Manager, who is responsible for originating the document, as to whether it falls within the criteria set forth in Paragraph D hereof. If the information falls within any one of these criteria, it is classified as proprietary by the originating Unit Manager. This initial determination is reviewed by the cognizant Section Manager. If the document is designated as proprietary, it is reviewed again by me to assure that the regulatory requirements of 10 CFR Section 2.790 are met.
- D. The following information is provided to demonstrate that the provisions of 10 CFR Section 2.790 of the Commission's regulations have been considered:
- (i) The information has been held in confidence by FTI. Copies of the document are clearly identified as proprietary. In addition, whenever FTI transmits the information to a customer, customer's agent, potential customer or regulatory agency, the transmittal requests the recipient to hold the information as proprietary. Also, in order to strictly limit any potential or actual customer's use of proprietary information, the substance of the following provision is included in all agreements entered into by FTI, and an equivalent version of the proprietary provision is included in all of FTI's proposals:

AFFIDAVIT OF JOSEPH J. KELLY (Cont'd.)

"Any proprietary information concerning Company's or its Supplier's products or manufacturing processes which is so designated by Company or its Suppliers and disclosed to Purchaser incident to the performance of such contract shall remain the property of Company or its Suppliers and is disclosed in confidence, and Purchaser shall not publish or otherwise disclose it to others without the written approval of Company, and no rights, implied or otherwise, are granted to produce or have produced any products or to practice or cause to be practiced any manufacturing processes covered thereby.

Notwithstanding the above, Purchaser may provide the NRC or any other regulatory agency with any such proprietary information as the NRC or such other agency may require; provided, however, that Purchaser shall first give Company written notice of such proposed disclosure and Company shall have the right to amend such proprietary information so as to make it non-proprietary. In the event that Company cannot amend such proprietary information, Purchaser shall prior to disclosing such information, use its best efforts to obtain a commitment from NRC or such other agency to have such information withheld from public inspection.

Company shall be given the right to participate in pursuit of such confidential treatment."

AFFIDAVIT OF JOSEPH J. KELLY (Cont'd.)

- (ii) The following criteria are customarily applied by FTI in a rational decision process to determine whether the information should be classified as proprietary. Information may be classified as proprietary if one or more of the following criteria are met:
- a. Information reveals cost or price information, commercial strategies, production capabilities, or budget levels of FTI, its customers or suppliers.
  - b. The information reveals data or material concerning FTI research or development plans or programs of present or potential competitive advantage to FTI.
  - c. The use of the information by a competitor would decrease his expenditures, in time or resources, in designing, producing or marketing a similar product.
  - d. The information consists of test data or other similar data concerning a process, method or component, the application of which results in a competitive advantage to FTI.
  - e. The information reveals special aspects of a process, method, component or the like, the exclusive use of which results in a competitive advantage to FTI.
  - f. The information contains ideas for which patent protection may be sought.

AFFIDAVIT OF JOSEPH J. KELLY (Cont'd.)

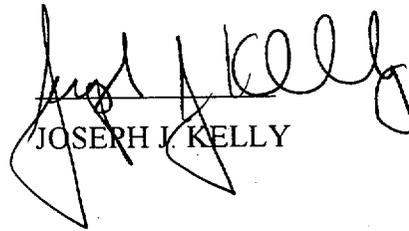
The document(s) listed on Exhibit "A", which is attached hereto and made a part hereof, has been evaluated in accordance with normal FTI procedures with respect to classification and has been found to contain information which falls within one or more of the criteria enumerated above. Exhibit "B", which is attached hereto and made a part hereof, specifically identifies the criteria applicable to the document(s) listed in Exhibit "A".

- (iii) The document(s) listed in Exhibit "A", which has been made available to the United States Nuclear Regulatory Commission was made available in confidence with a request that the document(s) and the information contained therein be withheld from public disclosure.
- (iv) The information is not available in the open literature and to the best of our knowledge is not known by Combustion Engineering, EXXON, General Electric, Westinghouse or other current or potential domestic or foreign competitors of FTI.
- (v) Specific information with regard to whether public disclosure of the information is likely to cause harm to the competitive position of FTI, taking into account the value of the information to FTI; the amount of effort or money expended by FTI developing the information; and the ease or difficulty with which the information could be properly duplicated by others is given in Exhibit "B".

E. I have personally reviewed the document(s) listed on Exhibit "A" and have found that it is considered proprietary by FTI because it contains information which falls within one or more of the criteria enumerated in Paragraph D, and it is information which is customarily held in confidence and protected as proprietary information by FTI. This report comprises

AFFIDAVIT OF JOSEPH J. KELLY (Cont'd.)

information utilized by FTI in its business which afford FTI an opportunity to obtain a competitive advantage over those who may wish to know or use the information contained in the document(s).

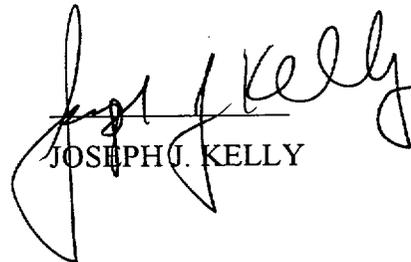
  
JOSEPH J. KELLY

State of Virginia)

) SS. Lynchburg

City of Lynchburg)

Joseph J. Kelly, being duly sworn, on his oath deposes and says that he is the person who subscribed his name to the foregoing statement, and that the matters and facts set forth in the statement are true.

  
JOSEPH J. KELLY

Subscribed and sworn before me  
this 31<sup>st</sup> day of July 2000.

Brenda C. Maddox  
Notary Public in and for the City  
of Lynchburg, State of Virginia.

My Commission Expires July 31, 2003  
*it was commissioned a notary public  
as Brenda C. Cardona.*

## **EXHIBITS A & B**

### **EXHIBIT A**

FTI Topical Report BAW-10164P, Rev. 5, "RELAP5/MOD2-B&W - An Advanced Computer Program for Light Water Reactor LOCA and Non-LOCA Transient Analysis," July 2000.

### **EXHIBIT B**

The above listed document contains information, which is considered Proprietary in accordance with Criteria b, c d, and e of the attached affidavit.