GENERAL ELECTRIC

NUCLEAR ENERGY BUSINESS OPERATIONS
GENERAL ELECTRIC COMPANY • 175 CURTNER AVENUE • SAN JOSE, CALIFORNIA 95125

MC 682, (408) 925-3392
MFN-144-85
HCP-040-85

December 2, 1985

U.S. Nuclear Regulatory Commission
Office of Nuclear Reactor Regulation
Washington, D.C. 20555

Attention: Mr. Cecil O. Thomas, Chief
Standardization and Special Projects Branch

Gentlemen:

SUBJECT: TECHNICAL KICKOFF MEETING FOR NEDE-30996-P "SAFER MODEL FOR EVALUATION OF LOSS OF COOLANT ACCIDENTS FOR JET PUMP AND NON-JET PUMP PLANTS"

Reference: Letter, H. C. Pfefferlen to C. O. Thomas, "Planned Submittal of Generic Licensing Topical Report NEDE-30996-P", May 31, 1985

On October 22, 1985 a meeting was held in Bethesda, Maryland with representatives of the NRC, GPU Nuclear Corporation and Niagara Mohawk Power Corporation. A list of attendees is provided in Attachment 1, and the presentation material included as Attachment 2. The purpose of the meeting was to discuss the technical basis for the SAFER and CORECOOL models to be addressed in NEDE-30996-P and to identify actions the NRC staff feels are needed to support the review.

The key points discussed during the meeting are as follows:

- M. W. Hodges has overall technical responsibility for the NRC review. H. Bernard is acting project manager but will transfer this responsibility to someone in the division of Boiling Water Reactor licensing when the NRC reorganization takes place.

- Manpower available for the detail review of the submitted material will be somewhat limited until the NRC reorganizes. The review staff does not expect this to impact the requested review schedule provided the reorganization is finalized by December 1985.

- The expectation that the licensing basis PCT for the BWR 2 large break LOCA would approach 2200°F was discussed. It was agreed that since this temperature response was dominated by core spray cooling rather than system effects, large reductions from the current model are not likely. The SAFER core spray modeling will provide a realistic assessment of the PCT and treat the modeling and performance uncertainties explicitly. It is anticipated that some improvement relative to the current model will be demonstrated for the large break but that the major improvement will be seen in the PCT associated with smaller breaks.

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- No problems or new actions were identified. It was agreed that General Electric will submit the preliminary SAFER material by November 7, 1985 and plan qualification submittal and supporting NRC meeting during January 1986.

The material stamped "proprietary" in Attachment 2 is of the type which General Electric maintains in confidence and withholds from public disclosure. This information has been handled and classified as proprietary by General Electric as indicated in the attached affidavit and we hereby request it be withheld from public disclosure in accordance with the provisions of 10CFR2.79.

Very truly yours,

HC Pfefferlen

H. C. Pfefferlen, Manager
BWR Licensing Programs

HCP:rm/A11265

Attachment

cc: H. Bernard (NRC)
L. S. Gifford (GE-Bethesda)
M. W. Hodges, w/att. (NRC)
R. B. Lee (GPUN)
L. E. Phillips (NRC)
T. M. Su (NRC)
W. C. Tetley (NMPC)

<u>G E N E R A L   E L E C T R I C   C O M P A N Y</u>

<u>AFFIDAVIT</u>

I, Glenn G. Sherwood, being duly sworn, depose and state as follows:

1. I am Manager, Nuclear Safety & Licensing Operation, General Electric Company, and have been delegated the function of reviewing the information described in paragraph 2 which is sought to be withheld and have been authorized to apply for its withholding.

2. The information sought to be withheld is contained in Attachment 2 to this letter from H. C. Pfefferlen to C. O. Thomas, "Technical Kickoff Meeting for NEDE-30996-P 'SAFER Model for Evaluation of Loss of Coolant Accident for Jet Pump and Non-Jet Pump Plants'". It consists of presentation material describing the proposed BWR/2 SAFER and CORECOOL model.

3. In designating material as proprietary, General Electric utilizes the definition of proprietary information and trade secrets set forth in the American Law Institute's Restatement Of Torts, Section 757. This definition provides:

   "A trade secret may consist of any formula, pattern, device or compilation of information which is used in one's business and which gives him an opportunity to obtain an advantage over competitors who do not know or use it.... A substantial element of secrecy must exist, so that, except by the use of improper means, there would be difficulty in acquiring information.... Some factors to be considered in determining whether given information is one's trade secret are: (1) the extent to which the information is known outside of his business; (2) the extent to which it is known by employees and others involved in his business; (3) the extent of measures taken by him to guard the secrecy of the information; (4) the value of the information to him and to his competitors; (5) the amount of effort or money expended by him in developing the information; (6) the ease or difficulty with which the information could be properly acquired or duplicated by others."

4. Some examples of categories of information which fit into the definition of proprietary information are:

   a. Information that discloses a process, method or apparatus where prevention of its use by General Electric's competitors without license from General Electric constitutes a competitive economic advantage over other companies;

b. Information consisting of supporting data and analyses, including test data, relative to a process, method or apparatus, the application of which provide a competitive economic advantage, e.g., by optimization or improved marketability;

c. Information which if used by a competitor, would reduce his expenditure of resources or improve his competitive position in the design, manufacture, shipment, installation, assurance of quality or licensing of a similar product;

d. Information which reveals cost or price information, production capacities, budget levels or commercial strategies of General Electric, its customers or suppliers;

e. Information which reveals aspects of past, present or future General Electric customer-funded development plans and programs of potential commercial value to General Electric;

f. Information which discloses patentable subject matter for which it may be desirable to obtain patent protection;

g. Information which General Electric must treat as proprietary according to agreements with other parties.

5. In addition to proprietary treatment given to material meeting the standards enumerated above, General Electric customarily maintains in confidence preliminary and draft material which has not been subject to complete proprietary, technical and editorial review. This practice is based on the fact that draft documents often do not appropriately reflect all aspects of a problem, may contain tentative conclusions and may contain errors that can be corrected during normal review and approval procedures. Also, until the final document is completed it may not be possible to make any definitive determination as to its proprietary nature. General Electric is not generally willing to release such a document to the general public in such a preliminary form. Such documents are, however, on occasion furnished to the NRC staff on a confidential basis because it is General Electric's belief that it is in the public interest for the staff to be promptly furnished with significant or potentially significant information. Furnishing the document on a confidential basis pending completion of General Electric's internal review permits early acquaintance of the staff with the information while protecting General Electric's potential proprietary position and permitting General Electric to insure the public documents are technically accurate and correct.

6. Initial approval of proprietary treatment of a document is made by the Subsection Manager of the originating component, the man most likely to be acquainted with the value and sensitivity of the information in relation to industry knowledge. Access to such documents within the Company is limited on a "need to know" basis and such documents at all times are clearly identified as proprietary.

7. The procedure for approval of external release of such a document is reviewed by the Section Manager, Project Manager, Principal Scientist or other equivalent authority, by the Section Manager of the cognizant Marketing function (or his delegate) and by the Legal Operation for technical content, competitive effect and determination of the accuracy of the proprietary designation in accordance with the standards enumerated above. Disclosures outside General Electric are generally limited to regulatory bodies, customers and potential customers and their agents, suppliers and licensees only in accordance with appropriate regulatory provisions or proprietary agreements.

8. The document mentioned in paragraph 2 above has been evaluated in accordance with the above criteria and procedures and has been found to contain information which is proprietary and which is customarily held in confidence by General Electric.

9. The information mentioned in paragraph 2 has been classified as proprietary because it contains details concerning General Electric LOCA analysis methods which were developed and qualified at considerable expense to General Electric and which were adapted for specific plant application under contract with GPU Nuclear Corporation and Niagara Mohawk Corporation. This material is preliminary and should be maintained in confidence in accordance with paragraph 5. In addition, portions of this information are covered by the definition or proprietary contained in paragraph 4.b and 4.c. Finally, some of the data has been provided to General Electric in confidence by a foreign source.

10. The information to the best of my knowledge and belief, has consistently been held in confidence by the General Electric Company, no public disclosure has been made, and it is not available in public sources. All disclosures to third parties have been made pursuant to regulatory provisions of proprietary agreements which provide for maintenance of the information in confidence.

11. Public disclosure of the information sought to be withheld is likely to cause substantial harm to the competitive position of the General Electric Company and deprive or reduce the availability of profit-making opportunities because:

    a. Many man-years of effort were expended to develop the information described in paragraph 2 above.

    b. The information is a part of the General Electric technological base which is valuable in many business opportunities. The precise market value of this information is difficult to assess but it is clearly substantial. Public disclosure of this material would deprive General Electric of the ability to seek reimbursement and would permit competitors to utilize the information to General Electric's detriment.

STATE OF CALIFORNIA)
COUNTY OF SANTA CLARA) ss:

Glenn G. Sherwood, being duly sworn, deposes and says:

That he has read the foregoing affidavit and the matters stated therein are true and correct to the best of his knowledge, information, and belief.

Executed at San Jose, California, this 2 day of DECEMBER 1985.

Glenn Sherwood
Glenn G. Sherwood
General Electric Company

Subscribed and sworn before me this 2 day of DECEMBER 1985

OFFICIAL SEAL
KAREN S VOGELHUBER
NOTARY PUBLIC - CALIFORNIA
SANTA CLARA COUNTY
My comm. expires DEC 30, 1988

Karen S. Vogelhuber
NOTARY PUBLIC, STATE OF CALIFORNIA

HCP:rm/A11139-4
11/13/85

ATTACHMENT 1

ATTENDEES - NRC MEETING ON BWR 2 LOCA MODEL

Hal Bernard	NRC/DL/SSPB
David D. Yue	DST/RRAB
Jens Andersen	GE
Bharat Shiralkar	GE
Brian Sheron	NRR/DSI/RSB
Wayne Hodges	NRR/DSI/RSB
Nelson T. Su	NRR/DSI/GIB
Robert B. Lee	GPUN
Joseph D. Lachenmayer	GPUN
William C. Tetley	NMPC
H. C. Pfefferlen	GE
L. E. Phillips	NRR/DSI/CPB

HCP:rm/A111310-1
11/13/85

ATTACHMENT 2

PRESENTATION MATERIAL

HCP:rm/A111310-2
11/13/85

<u>BWR 2 LOCA MODEL</u>

TECHNICAL KICKOFF

MEETING

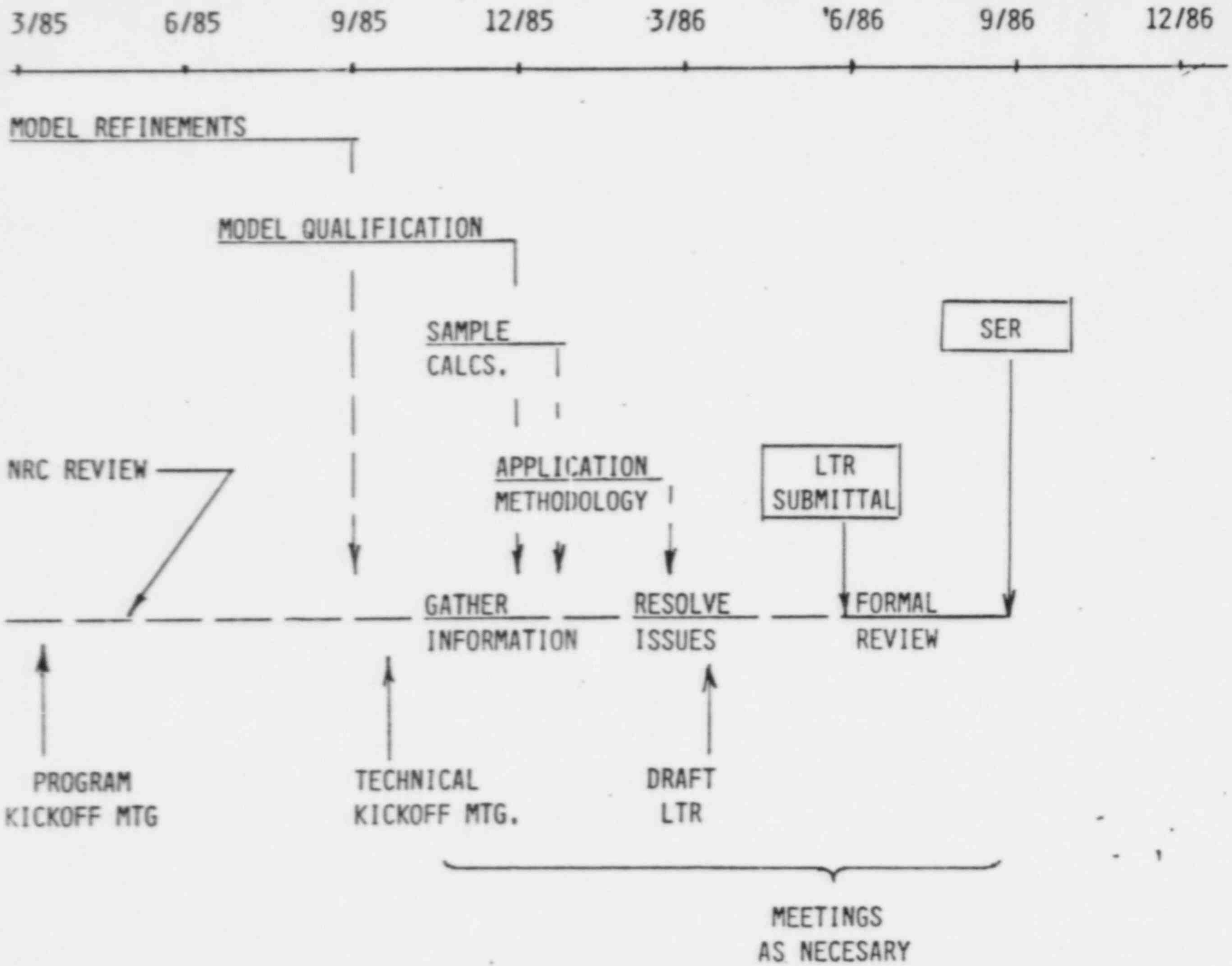
WITH NRC

OCTOBER 22, 1985

HCP:RM/A101510-1
10/15/85

MEETING OBJECTIVES

- PRESENT TECHNICAL BASIS FOR PROPOSED BWR 2 MODEL REFINEMENTS
- RESPOND TO NRC QUESTIONS
- IDENTIFY ACTIONS NEEDED TO SUPPORT REVIEW SCHEDULE



GPUN LOCA MODEL REVIEW

HCP:RF/G03185*-11
3/18/85

AGENDA

9:00	INTRODUCTION	H. C. PFEFFERLEN
9:30	MODEL OVERVIEW	B. S. SHIRALKAR
10:00	SAFER HYDRAULIC MODEL REFINEMENTS	B. S. SHIRALKAR
11:00	DETAIL CORE H. T. MODEL (CORECOOL)	J. G. ANDERSEN
12:00	LUNCH	--
1:00	DETAIL CORE H. T. MODEL (CORECOOL)	J. G. ANDERSEN
2:00	SAFER H. T. MODEL REFINEMENTS	B. S. SHIRALKAR
3:00	SUMMARY ACTIONS	H. C. PFEFFERLEN
3:30	ADJOURN	--

NON-JET PUMP PLANT LOCA CHARACTERISTICS

- o RELATIVELY LOW POWER DENSITY
- o RECIRCULATION LINES CONNECTED TO LOWER PLENUM (BOTTOM BREAKS NEED TO BE CONSIDERED)
- o SMALL BREAKS ARE REFLOODABLE
- o INTERMEDIATE AND LARGE BREAKS DEPEND ON CORE SPRAY COOLING

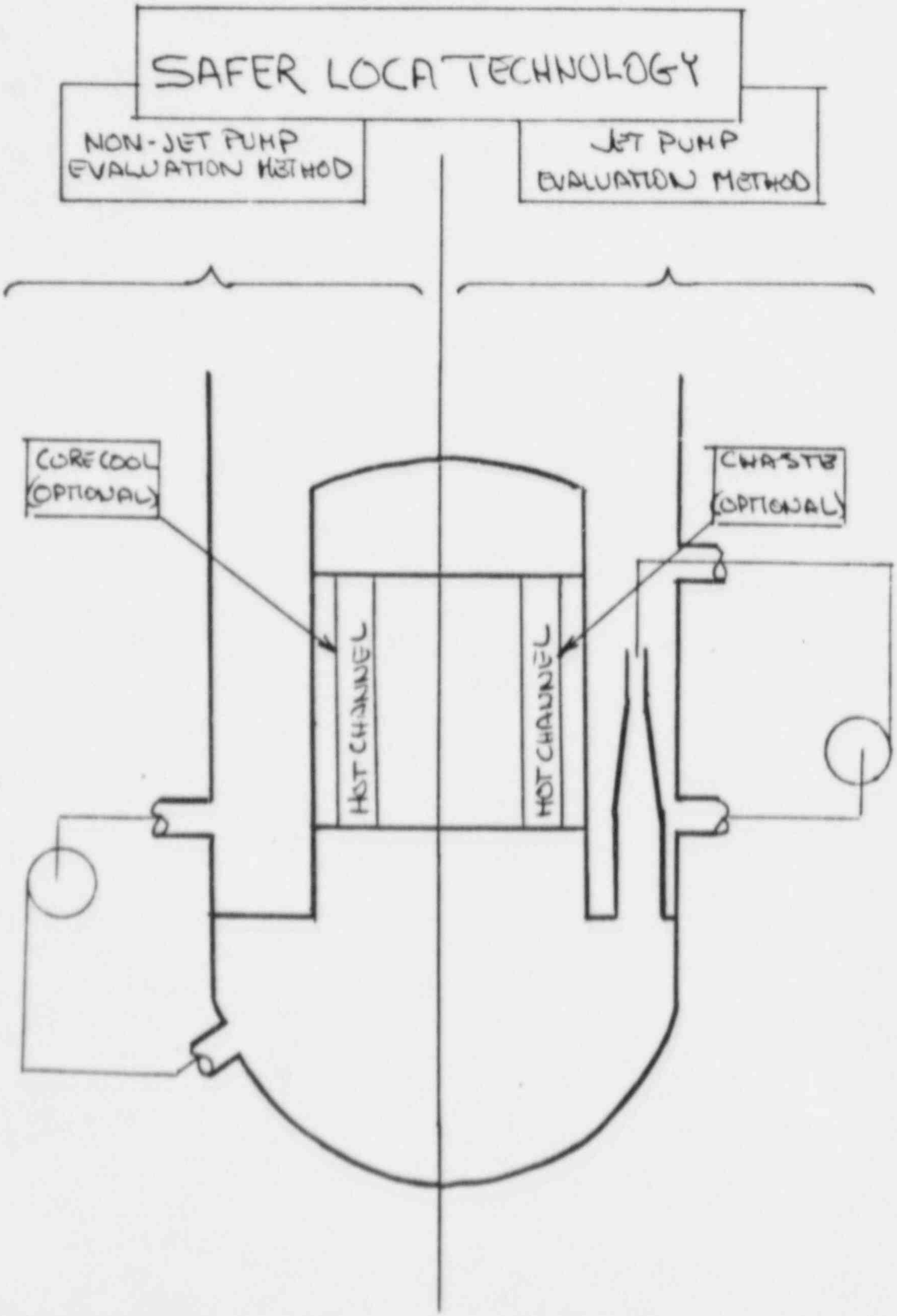

SAFER LOCA TECHNOLOGY
NON-JET PUMP EVALUATION METHOD
JET PUMP EVALUATION METHOD
CORECOOL (OPTIONAL)
CHASTE (OPTIONAL)
HOT CHANNEL
HOT CHANNEL

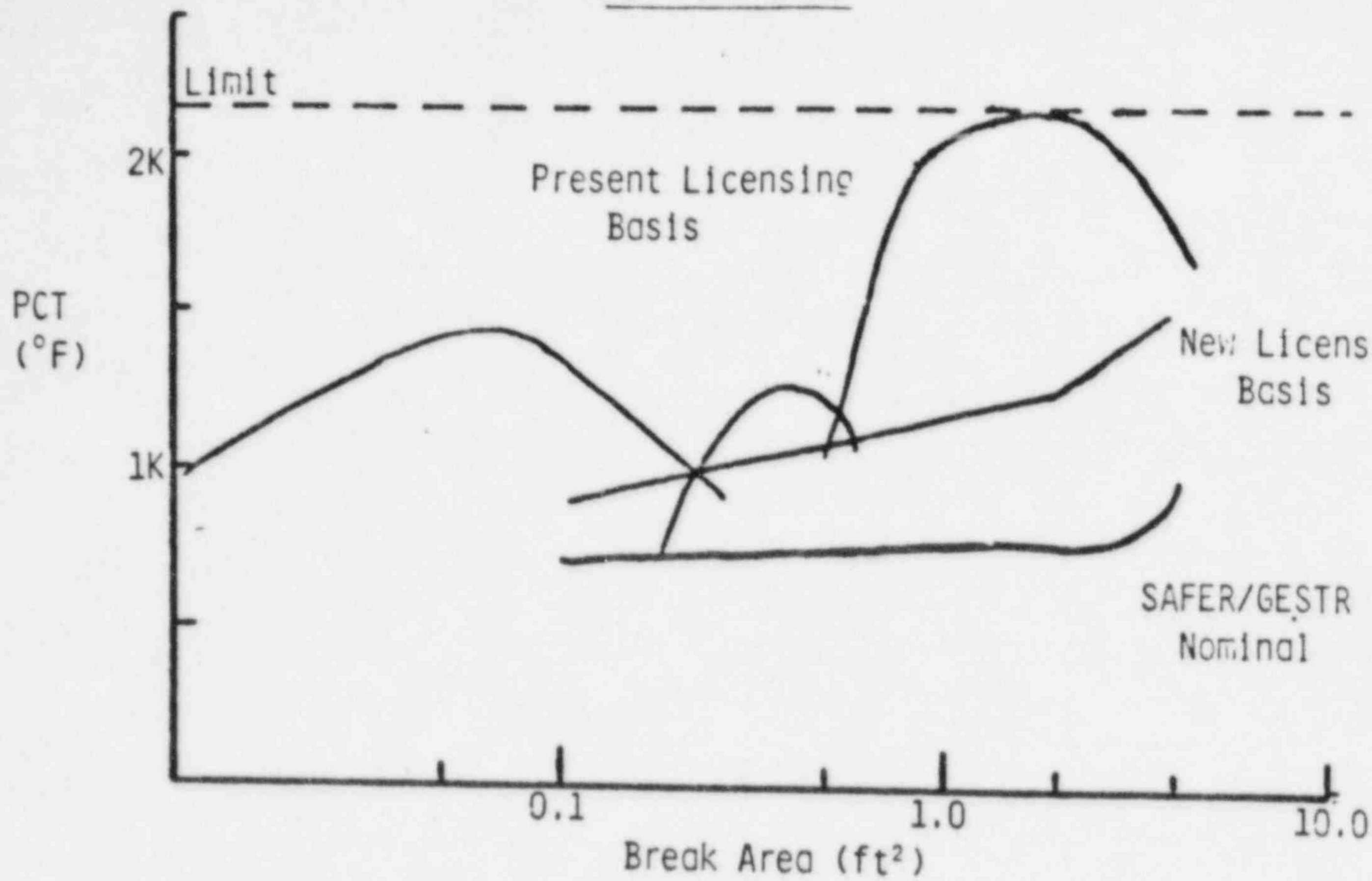
FIGURE 1

GE LOCA ANALYSIS METHODS

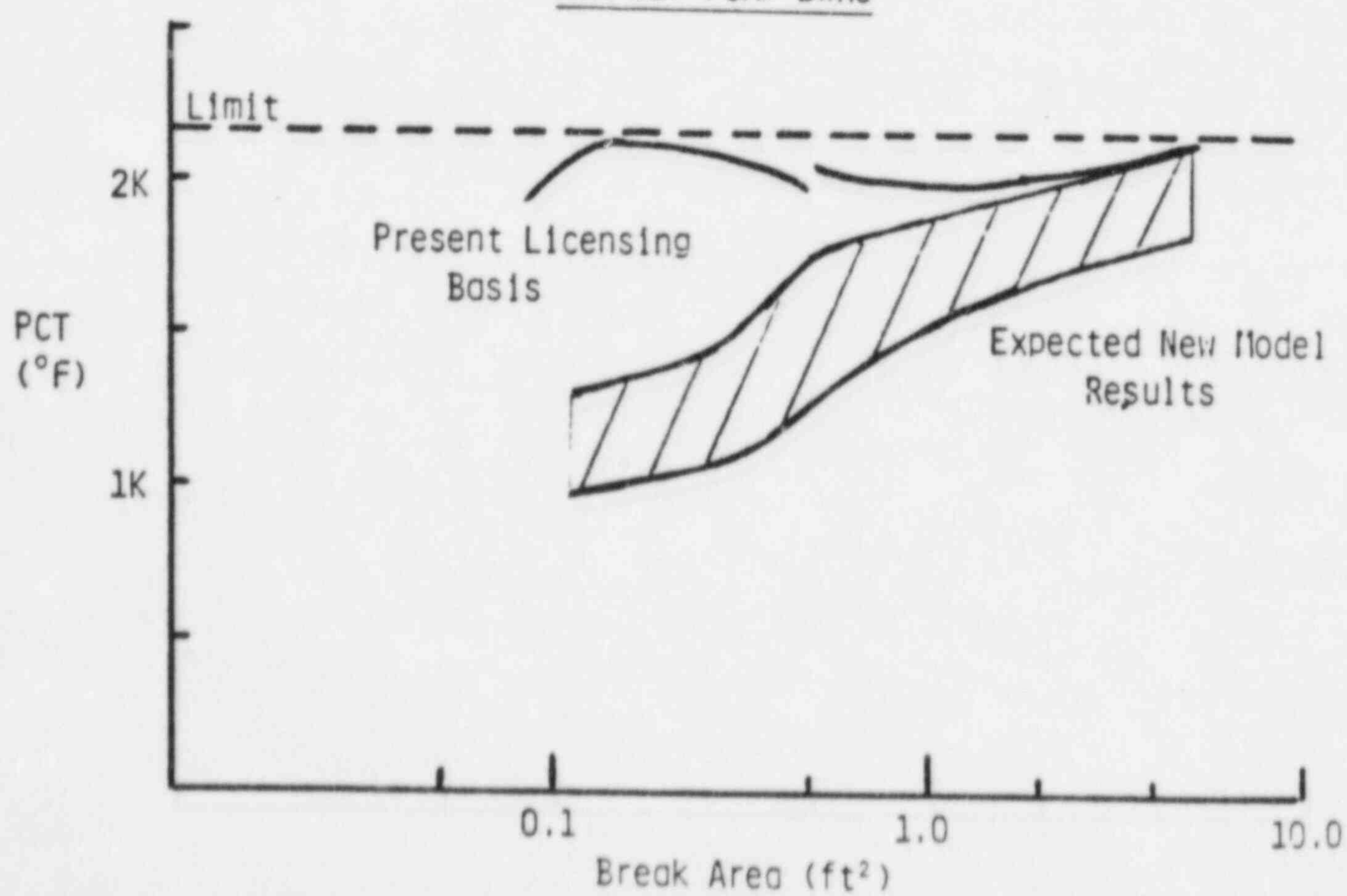
APPLICATION	CURRENT DESIGN METHOD	APPROVED BWR 3-6 EVALUATION METHOD	PROPOSED BWR 2 EVALUATION METHOD
o SHORT TERM SYSTEM BLOWDOWN	LAMB	LAMB	LAMB
o SHORT TERM HOT CHANNEL HEAT TRANSFER	SCAT	SCAT	SCAT
o LONG TERM SYSTEM INVENTORY (REFILL)	SAFE REFLOOD	SAFER	SAFER (WITH REFINEMENTS)
o FUEL ROD HEATUP	CHASTE	CHASTE (IF NEEDED)	CORECOOL (IF NEEDED)
o FUEL ROD MODEL	GEGAP	GESTR	GESTR

HP:csc/I1^^12-1
10/1/85

JET PUMP BWRs



NON JET PUMP BWRs



SUMMARY GE APPROACH

- o BUILD ON APPROVED SAFER/GESTR MODEL
- o MAINTAIN APPROVED APPLICATION METHODOLOGY
- o PREVIEW MODEL REFINEMENTS/DATA BASE/QUALIFICATION BASIS

$\Downarrow$

FACILITATE BWR/2 LOCA MODEL REVIEW PROCESS

APPROVAL OBJECTIVE -
BWR/2 APPLICATION TO
2200°F

HCP:RF:CAL/G03185*-7
3/21/85