UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D. C. 20555

13

OCT 4 1976

MEMORANDUM FOR: G. C. Lainas, Chief, Containment Systems Branch, DSS

FROM: T. M. Su, Containment Systems Branch, DSS

THRU: J. A. Kudrick, Section A Leader, Containment Systems Branch, DSS

SUBJECT: SUMMARY OF MEETING WITH GENERAL ELECTRIC ON THE SAFETY/RELIEF VALVE (RAMSHEAD) ANALYTICAL MODEL (TAR-1720)

A meeting was held on September 21, 1976 in Bethesda, Maryland with representatives of General Electric, NRC staff and our consultants (INEL). A list of attendees is enclosed. The purpose of the meeting was to discuss areas of concern developed during our review of the safety relief valve analytical model as described in Topical Report NEDE-20942-P.

Most of our concerns were associated with the lack of a sufficient data base necessary to substantiate several key model assumptions. GE indicated that a final resolution of these concerns would be contingent on the Monticello test evaluation. This is currently scheduled for the second quarter of 1977. We indicated that we recognize the importance of this evaluation and have raised these concerns to assure that they be considered during this critical evaluation phase. A summary of these concerns are listed below.

1. Value for Bubble Formation Efficiency

   Based on evaluation of the Quad City test data, GE has selected an efficiency value of 10%. This value represents the best fit of the test data. We pointed out that although this value yields the best prediction for peak positive pressure, it also yields a less conservative prediction for peak negative pressure and oscillation frequency. This apparent discrepancy will be considered in the evaluation of the Monticello test data.

Contact:
T. Su, CSB
492-7711

D-49

2. Initial Bubble Position

Currently the bubble is assumed to form 4 ft. from the ramshead exit. This value was again obtained to give the best agreement between the predicted pressure field and the Quad City test data. Reevaluation of this value will be performed considering the Monticello test data.

3. Multiple Bubble Pressure Super Position

GE representatives indicated the method of the square root of the sum of the square (SRSS) proposed within the model results in a conservative prediction. An alternate method is also presented within the Topical Report which yielded a better fit of the existing test data. This latter approach yields less conservative results. For design purposes, GE indicated that the former more conservative method will be used.

In summary, GE indicated that no modifications to the current analytical model are planned prior to the completion of the Monticello test evaluation. As major deficiencies are uncovered, possible modifications will be addressed at that time. With respect to how the analytical model will be used for design purposes, GE indicated that the model will be used to predict the following parameters:

1. bubble positive pressure;

2. bubble negative pressure; and

3. frequency of oscillatory pressure loads on structures.

It is further indicated that the model will only be used for first actuation pressure loads. For sequential actuation loads, another analytical model effort is under way. Based on the Mark I schedule, completion of this analytical model is not scheduled until the third quarter of 1978.

Tsung M. Su
Containment Systems Branch
Division of Systems Safety

Enclosure:
Meeting Attendees List

cc: See Page 3

cc: B. Rusche
E. Case
R. Heineman
S. Hanauer
R. Fraley, ACRS (16)
R. DeYoung
D. Vassallo
D. Skovholt
R. Tedesco
J. Glynn
D. Ross
I&E (3)
NRC PDR
LOCAL PDR
M. Kehnemuyi
J. Kudrick
J. Guibert
T. Su
File

September 21, 1976
Attendance List

Name	Organization
C. Grimes	NRC/DOR
H. Schierling	NRC/DOR
J. Guibert	NRC/DOR
L. Sobon	GE
P. Valandani	GE
R. M. Crawford	S&L
F. A. Schraub	Nuclear Services Corp.
R. A. Wells	I.N.E.L.
T. M. Su	NRC/CSB
J. J. Mills	INEL
L. Slegers	NRC/RSR
D. M. Chapin	MPR (JCP&L)
J. T. Robin	Southern Co. Services, Inc.
C. J. DeBevec	NRC:IE
J. A. Kudrick	NRC/DSS/CSB