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NUCLEAR ENERGY

PROJECTS DIVISION

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MFN 185-79

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JUL 23 1979
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July 20, 1979

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U. S. Nuclear Regulatory Commission
Division of Systems Safety
Office of Nuclear Reactor Regulation
Washington, DC 20555

Attention: Frank Schroeder, Acting Director
Division of Systems Safety

Gentlemen:

SUBJECT: TWO LOOP TEST APPARATUS (TLTA) INFORMATION

Reference:
1. Roger J. Mattson (NRC) letter to G. G. Sherwood (GE) dated February 9, 1979 (no subject)
2. G. G. Sherwood (GE) letter to Frank Schroeder (NRC) dated June 15, 1979, "Two Loop Test Apparatus (TLTA) Results"
3. R. H. Buchholz (GE) letter to Frank Schroeder (NRC) dated July 13, 1979, "Leibnitz Rule in LOCA Models" (MFN-183-79)

Reference 1 requested General Electric to provide information pertaining to previous TLTA tests. Reference 2 provided part of the information requested in Reference 1 and defined additional information which would be provided by July 31. The purpose of this letter is to further clarify that additional information.

By July 31, General Electric will provide the following information:

1. A writeup to support the May 24 slides - General Electric will provide a descriptive writeup to accompany the slides used at the May 24 presentation. A description of what was learned from the TLTA tests with and without ECC will be provided. Differences and similarities between the tests with and without ECC will also be shown.

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2. Steam separator ΔP and break flow discussion - General Electric will describe the mass balance for the tests with and without ECC and will discuss the mass energy balance (analyses) which leads to the conclusion that more liquid is going out the break for the case with ECC than for the case without ECC. This shows that break flow is the major contributer to the variation in the difference of the depressurization rate seen in both tests. General Electric will also discuss the analysis which demonstrates that total flow out the steam separator was substantially lower for the case with ECC than for the case without ECC. Separate sensitivity studies which show that the flow through the steam separator was basically all vapor will also be presented.

3. TLTA scaling discussion - General Electric will provide a discussion of scaling in general in the TLTA and describe where compromises were needed and where the simulation is representative of the BWR.

4. TLTA/1974 vaporization data base comparison - General Electric will provide a further explanation of the facility design and the method used for the 1974 test which provided the data for the presently approved vaporization correlation.

5. Side entry orifice CCFL - General Electric will provide a writeup to show that neglecting this effect is conservative.

6. Grid spacer water accumulation discussion - General Electric will provide a writeup which will discuss whether it is possible to have water accumulation at the grid spacer during different phases of the transient.

7. H=4 to H=12 additional discussion - General Electric will provide additional clarification concerning the application of the heat transfer coefficient during core spray initiation.

8. Discussion of plant choices for Leibnitz Rule study - This was provided by reference 3.

In addition, General Electric will provide:

1. The measured pressures from the average power TLTA tests (with and without ECC) and the pressures from the calculation of the TLTA test with GE licensing evaluation models and

2. The indirectly measured break flow from the TLTA tests and the break flow predicted by the GE licensing evaluation models.

General Electric will continue to work with the NRC staff to resolve the TLTA issue as defined in Reference 1. This will be accomplished as described in Reference 2 and as amplified by this letter. Other TLTA information for which General Electric is contractually obligated per contract NRC-04-76-215 will be provided on the presently negotiated NRC/EPRI/GE schedule. It is General Electric's intent to supply sufficient information to close out the eight (8) clarification items listed above. We believe the commitments made in this letter should allow the NRC to close out the TLTA issue in the near future. If further clarification is required, please contact R. N. Woldstad of my staff at (408) 925-2539.

Very truly yours,

R B Johnson

acting for E. P. Stroupe, Manager
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RNW:ggo/97-8

cc: L. S. Gifford (Bethesda)
L. E. Phillips (NRC)