GENERAL ELECTRIC

NUCLEAR ENERGY

PROJECTS DIVISION

GENERAL ELECTRIC COMPANY, 175 CURTNER AVE., SAN JOSE, CALIFORNIA 95125

MC 682, (408) 925-5040

June 29, 1979

MFN-177-79

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

Attention: Mr. Frank Schroeder, Acting Director
Division of Systems Safety

Gentlemen:

SUBJECT: TWO LOOP TEST APPARATUS (TLTA) RESULTS

Reference: 1) G. G. Sherwood (GE) letter to F. Schroeder, dated 6/15/79, "Two Loop Test Apparatus (TLTA) Results"
2) R. J. Mattson (NRC) letter to G. G. Sherwood (GE), dated 2/9/79 (no subject)

INTRODUCTION

In December 1978, General Electric received a verbal request from the NRC to perform a comparison of TLTA results and General Electric licensing evaluation model results. Although this required extensive resources to apply the licensing evaluation model to the TLTA facility, General Electric committed to perform a comparison of the measured TLTA peak cladding temperatures with the General Electric licensing evaluation model and provide it to the NRC by June 29, 1979. This letter transmits those final comparisons, thereby completing the General Electric commitment. The preliminary results were presented at the May 24 meeting and were documented in Reference 1. The final results support the preliminary conclusion that the evaluation model conservatively predicts the average power test (with and without ECC) by approximately 1,000°F.

TLTA/EM PEAK CLAD TEMPERATURE COMPARISON

Figures 1 and 2 show the final comparisons for the average power test with and without ECC. The extremely large margin for both tests is primarily due to the relatively long dryout delay (approximately 40 seconds) observed in the test, combined with significant steam cooling from lower plenum flashing and better heat transfer during the ECC phase of the test than that conservatively assumed in the evaluation model.

300 221

SUMMARY

General Electric believes that (1) based on the positive results from TLTA which show the approved BWR LOCA evaluation model significantly overpredicts the test results (on the order of 1,000°F), and (2) the completion of the GE commitments made in Reference 1 that the NRC issues identified in Reference 2 will be considered closed.

If further clarification is required, please contact R. N. Woldstad of my staff at (408) 925-2539.

Very truly yours,

Glenn Sherwood

Glenn G. Sherwood, Manager
Safety and Licensing Operation

GGS:gmm/406-407

cc: L. S. Gifford (Bethesda)

FIGURE 2

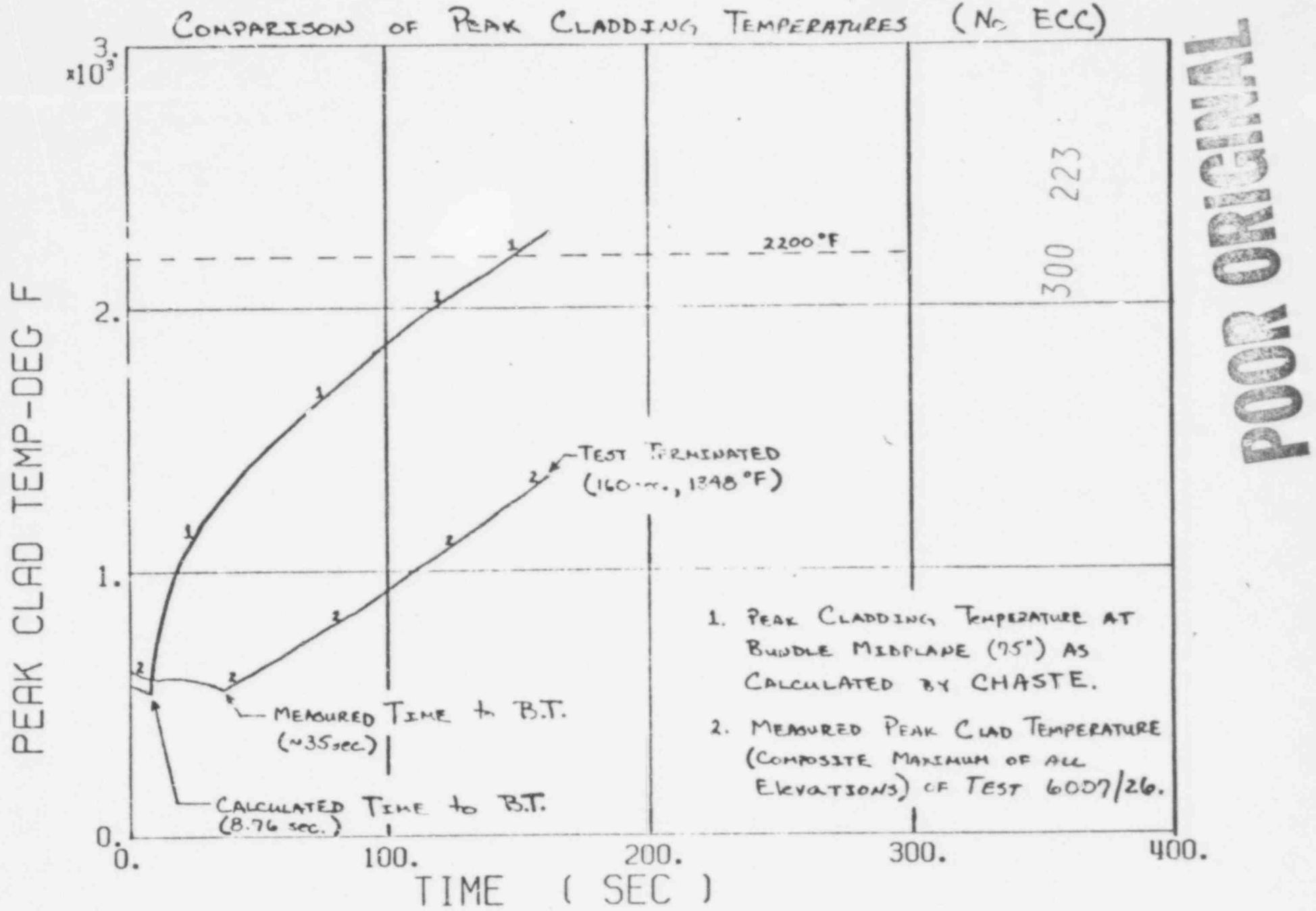

FIGURE 1