STONE & WEBSTER ENGINEERING CORPORATION

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April 13, 1979

Mr. Victor Stello, Jr., Director
Division of Operating Reactors
Office of Nuclear Reactor Regulation
U.S. Nuclear Regulatory Commission
Washington, D.C. 20555

Dear Mr. Stello:

Attached is an update and status report on Stone & Webster Engineering Corporation "Plan for Verification of Dynamic Analysis Codes", dated April 6, 1979. As previously indicated the plan addresses the verification requirements in Enclosure 3 to your April 2nd letters on the following dockets:

Addressee	Unit	Docket No.
G.T.Berry	Power Authority of the State of New York James A Fitzpatrick Nuclear Plant	50-333
C.N.Dunn	Duquesne Light Company Beaver Valley Power Station Unit 1	50-334
W.L.Profitt	Virginia Electric & Power Company Surry Power Station, Unit 1 Surry Power Station, Unit 2	50-280 50-281
R.H.Groce	Yankee Atomic Electric Company Maine Yankee Atomic Power Station	50-309

This submittal is, therefore, applicable to the above listed dockets.

Very truly yours

S.B.Jacobs

S.B.Jacobs
Chief Licensing Engineer

I hereby acknowledge receipt of the attached material.

_____
Signature

_____
Title

_____
Date

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ADD: C Stephens
W Russell

April 13, 1979

STATUS REPORT
ON
STONE & WEBSTER

Plan for Verification of Dynamic Analysis Codes

Requirement 1 - Copies of the program listings for PSTRESS/SHOCK 2, PSTRESS/SHOCK 3, PSTRESS/SHOCK 1, NUPIPE, were transmitted to Dr. Harold Denton, Director of the Office of Nuclear Reactor Regulation, on a proprietary basis on April 6, 1979. Stone & Webster's commitments with regard to requirement 1 were completed at that time.

Requirement 2 - As indicated in the verification plan, initial solutions to the Hovgaard bend and coffee table benchmark problems were compared to the results obtained by the NRC staff and the frequencies and pipe stresses were virtually identical. Solutions for these problems with additional earthquake excitations were received from Dr. Paul Bezler at Brookhaven National Laboratory (BNL) on April 11, 1979. These problems are being analyzed with PSTRESS/SHOCK 3 and NUPIPE and will be completed by April 17, 1979. The results of the initial comparison were not transmitted on April 10, as originally intended, but will be forwarded with the results of the comparison of the additional Brookhaven runs.

Comparison of the reactor coolant loop solutions was completed but did not agree exactly with the solutions received from BNL, because NUPIPE combines the earthquake response using the square root sum of the squares method (SRSS). Furthermore, additional information concerning mass distribution was received by S&W on April 12, 1979. Comparison of the results will require that BNL rerun the problem using the SRSS method before a valid comparison can be drawn. Note that difficulty in modeling this problem on PSTRESS/SHOCK 3 is still being encountered and modifications to the problem will be forwarded to BNL for a comparison as soon as possible.

Requirement 3 - Three Maine Yankee problems run on SHOCK 1 were selected at random and rerun on NUPIPE. Comparison of the solutions was completed on April 11, and reviewed with Yankee Atomic on April 12. The comparison of the results was good and they will be sent to the NRC upon completion of the Surry comparison runs. The Surry effort has been delayed beyond April 13; however, three Surry problems are expected to be available by April 20.

Requirement 4 - The confirmatory problems identified in requirement 4 of the verification plan have been completed with the exception of Maine Yankee problem 803, coded on NUPIPE. Problem 803 will be transmitted on April 16, 1979. All other problems identified in requirement 4 have been previously transmitted.