

received 10/4/92

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* ADMITTED IN DC
* ADMITTED IN WA
* ADMITTED IN NJ
* ADMITTED IN MA

September 24, 1992

Martin J. Virgilio, Assistant Director
for Regions IV and V Reactors
Office of Nuclear Reactor Regulation
U.S. Nuclear Regulatory Commission
Washington, D.C. 20001

Re: Comanche Peak Steam Electric Station 2.206
Petition Review (TAC No. M84073)

Dear Mr. Virgilio:

In a September 15, 1992 letter addressed to Mr. William J. Cahill, you indicate that review of the 10 C.F.R. 2.206 petition filed by me required TU Electric to submit documentation related to settlements entered into between TU Electric and its former co-owners. I request that your office instruct TU Electric to serve a copy of their response to your September 15, 1992 letter upon petitioner.

Thank you for your assistance in this matter.

Sincerely yours,


Michael D. Kohn

CC: William J. Cahill, Jr.
TU Electric
400 North Olive Street, L.B. 81
Dallas, Texas 75201

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P PDR

MULTIPLE SUPPORT RESPONSE SPECTRUM MODAL REPORT

M-RZ FW BREAK

COMBINED NODE DISPLACEMENTS, ROTATIONS
COMBINATION METHOD 6 FOR MODAL SHAPES, MODE # 1 TO 30

LOAD CASE # 1 (FINAL)

| JOINT LABEL | X-TRANSLATION | Y-TRANSLATION | Z-TRANSLATION | X-ROTATION | Y-ROTATION | Z-ROTATION |
|-------------|---------------|---------------|---------------|--------------|--------------|--------------|
| 001. | 2.16476E-05 | -2.81278E-05 | 0. | 1.17122E 18 | 1.17122E 18 | 1.17122E 18 |
| 002. | 1.15271E-02 | -1.04473E-05 | 0. | 0. | 2.52785E-01 | 1.17122E 18 |
| 003. | -5.18340E-03 | 1.07470E-04 | -4.32352E-05 | 0. | 1.17122E 18 | 1.17122E 18 |
| 003.01 | 4.65993E-02 | 3.02049E-02 | 1.53552E-04 | 0. | 0. | 2.52785E-01 |
| 004. | -1.53744E 04 | -1.76810E-03 | 3.10715E-05 | -9.21466E-05 | 0. | 1.17122E 18 |
| 005. | 8.59796E 04 | 1.99716E-01 | 1.95821E-01 | 2.13065E-04 | 4.78894E-01 | 4.62006E-01 |
| 006. | 1.17122E 18 | 1.17122E 18 | 1.17122E 18 | 4.68756E-02 | 2.23517E-08 | 9.18892E 02 |
| 007. | 2.52785E-01 | 1.17122E 18 | 2.23517E-07 | 1.19209E-07 | 1.43410E-01 | 4.58434E 03 |
| 008. | 5.12012E 00 | 5.18460E 02 | -6.92252E 02 | 2.21918E-04 | -1.79208E-06 | 2.95384E-06 |
| 009. | 0. | 0. | 3.70520E-01 | 3.68124E-01 | 2.52785E-01 | 1.17122E 18 |
| 012. | 1.17122E 18 | 4.68756E-02 | 7.45058E-09 | 2.28054E 03 | 7.64472E 02 | 4.00963E 05 |
| 013. | 1.17122E 18 | 1.17122E 18 | 4.68756E-02 | 7.45058E-09 | 1.64332E 00 | 1.29818E 00 |
| 014. | 6.94071E-02 | 7.39635E-02 | 2.00869E-04 | 6.34738E-01 | 8.50216E-01 | 2.52785E-01 |
| 015. | 0. | 0. | 0. | 0. | 0. | 0. |
| 016. | 1.17122E 18 | 4.68756E-02 | 2.23517E-08 | 1.31199E 00 | -7.90701E 00 | 7.02843E 02 |
| 018. | -3.00619E 02 | 9.65019E-05 | -7.79507E-07 | 1.28458E-06 | 0. | 1.17122E 18 |
| 018.01 | 2.52785E-01 | 1.17122E 18 | 2.23517E-07 | 5.96046E-08 | 2.05080E-01 | 0. |
| 019. | 7.45058E-09 | 4.50750E 03 | 1.01599E 04 | 4.97793E 05 | 1.99716E-01 | 1.95821E-01 |
| 021. | 5.32351E-04 | 1.72496E-04 | 2.05393E-01 | 1.17122E 18 | 1.17122E 18 | 1.17122E 18 |
| 023. | 2.16067E-07 | 1.34110E-07 | 1.43410E-01 | 1.88967E 01 | 1.56261E 03 | -3.57146E 02 |
| 024. | 1.17122E 18 | 4.68756E-02 | 1.49012E-08 | -2.65689E-01 | 1.50384E-01 | -3.75546E 02 |
| 025. | 1.17122E 18 | 2.16067E-07 | 1.34110E-07 | 1.43410E-01 | 1.28115E-01 | 2.54222E 00 |
| 029. | 1.17122E 18 | 1.17122E 18 | 4.68756E-02 | 7.45058E-09 | -2.37831E 01 | 6.46955E 01 |
| 031. | -1.16583E 03 | 2.92979E-03 | 8.72418E-04 | -1.9146E-06 | 0. | 0. |
| 032. | -4.67132E 02 | 1.88165E 03 | -4.51074E-04 | 8.53732E-06 | -3.59381E-06 | 0. |
| 027. | 7.45058E-09 | 1.52381E-01 | -3.66633E-01 | 2.25069E 02 | 3.66315E-05 | -2.34281E-05 |
| 034. | 1.65265E-07 | 0. | 0. | 1.39504E-01 | 1.17122E 18 | 2.15067E-07 |
| 035. | 1.17122E 18 | 1.17122E 18 | 1.17122E 18 | 4.68756E-02 | 2.23517E-08 | -1.37799E 02 |
| 036. | 1.39504E-01 | 1.17122E 18 | 2.16067E-07 | 1.56462E-07 | 1.43410E-01 | 1.38491E 01 |
| 037. | 1.27813E-02 | 6.50637E-05 | 1.65208E-01 | 1.73771E-01 | 1.39504E-01 | 1.17122E 18 |
| 038. | 1.19209E-07 | 1.43410E-01 | 2.85782E 03 | 2.60682E 05 | 1.62276E 05 | 2.65072E-02 |
| 040. | -9.21466E-05 | 0. | 1.17122E 18 | 1.17122E 18 | 1.17122E 18 | 4.68756E-02 |
| 040.01 | -9.31003E 01 | -4.12954E-05 | 2.02612E-05 | -2.38421E-07 | 0. | 0. |
| 041. | 1.17122E 18 | 2.23517E-07 | 5.96046E-08 | 1.43410E-01 | 2.22847E 00 | 2.25571E 02 |
| 043. | -1.13547E-05 | 1.16347E-07 | -1.63780E-07 | 0. | 1.17122E 18 | 1.17122E 18 |
| 043.01 | 2.52785E-01 | 1.17122E 18 | 2.50968E-07 | 1.68945E-02 | 0. | 0. |
| 044. | 9.85196E 04 | 1.32031E-02 | 2.41726E-04 | 1.35654E-04 | 1.84763E-01 | 1.17122E 18 |
| 046. | 5.59108E-03 | 3.36409E-03 | 7.24813E-05 | 2.32461E-01 | 1.17122E 18 | 1.17122E 18 |
| 047. | -2.85664E 00 | -1.54406E 00 | -1.34830E 02 | -5.98049E-05 | 2.93473E-05 | -3.45287E-07 |
| 049. | 1.73771E-01 | 2.52785E-01 | 1.17122E 18 | 2.23517E-07 | 1.34110E-07 | 1.43410E-01 |
| 051. | 1.33732E 05 | 2.28864E 05 | 2.65072E-02 | 5.32351E-04 | 1.72496E-04 | 2.05393E-01 |

MULTIPLE SUPPORT RESPONSE SPECTRUM MODAL REPORT

M-RZ FW BREAK

M U L T I P L E S U P P O R T R E S P O N S E S P E C T R U M M O D A L R E P O R T

M-RZ FH BREAK

| | | | | | | |
|--------|--------------|--------------|--------------|--------------|--------------|--------------|
| 053. | 1.17122E 18 | 1.17122E 18 | 4.68756E-02 | 7.45058E-09 | 1.75490E 03 | 6.65268E 03 |
| 054. | 1.17122E 18 | 2.23517E-07 | 0. | 1.43410E-01 | -5.14772E 00 | 1.49158E 04 |
| 055. | 1.17122E 18 | 4.68756E-02 | 9.68575E-08 | -1.24651E 02 | 2.01779E 02 | -5.96393E 03 |
| 056. | 2.23517E-07 | 0. | 1.43410E-01 | -4.15113E 02 | -2.91361E 04 | 1.42674E 04 |
| 057. | 4.68756E-02 | 5.21541E-08 | 1.21996E 02 | -1.08553E 02 | 7.43028E 03 | 2.40213E-03 |
| 058. | 7.37263E-01 | 1.56442E-07 | -3.59588E-09 | 3.29963E-09 | 0. | 1.17122E 18 |
| 059. | -5.98049E-05 | 2.93428E-05 | -3.45287E-07 | 0. | 0. | 1.39504E-01 |
| 061. | 2.21918E-04 | -1.79208E-06 | 2.95384E-06 | 0. | 1.17122E 18 | 1.17122E 18 |
| 061.01 | 4.68756E-02 | 2.23517E-08 | 9.69931E 02 | 1.05482E 02 | 9.65699E 04 | 1.31605E-02 |
| 062. | 2.13065E-04 | 4.78894E 01 | 4.62006E-01 | 1.39504E-01 | 1.17122E 18 | 2.16067E-07 |
| 064. | 1.43410E-01 | 5.62230E 02 | 5.28365E 01 | -1.09550E 04 | -1.76610E 03 | 3.10715E-05 |
| 065. | 1.17122E 18 | 1.17122E 18 | 4.68756E-02 | 1.49012E-08 | -1.97251E 00 | -2.44718E 00 |
| 067. | -4.97694E-05 | 5.46230E-05 | -3.47898E-07 | 0. | 0. | 2.52785E-01 |
| 069. | 2.08987E-01 | 3.72529E-08 | 1.43410E-01 | -7.35383E-01 | -2.09332E 01 | 5.14472E 01 |
| 071. | 8.64813E 01 | 3.66315E-05 | -2.34281E-05 | 1.65265E-07 | 0. | 0. |
| 072. | 1.17122E 18 | 2.23517E-07 | 2.98023E-08 | 1.43410E-01 | 2.25405E 03 | 1.05612E 05 |
| 073. | 2.23517E-07 | 2.23517E-08 | 1.43410E-01 | 6.27157E 02 | 3.40342E 04 | 3.85357E 04 |
| 074. | 0. | 1.17122E 18 | 1.17122E 18 | 1.17122E 18 | 4.68756E-02 | 1.49012E-08 |
| 075. | 8.51997E 02 | 9.49699E 04 | 1.31605E-02 | 1.27813E-02 | 6.50637E-05 | 1.65208E-01 |
| 076. | 3.72529E-08 | 1.43410E-01 | -1.42341E 00 | -7.36920E 01 | 3.56389E 01 | -1.13547E-05 |
| 077. | 1.16347E-07 | -1.63780E-07 | 0. | 1.17122E 18 | 1.17122E 18 | 1.17122E 18 |
| 079. | 4.68756E-02 | 2.23517E-08 | 2.47741E 00 | -1.06878E 01 | 6.29885E 02 | -4.97694E-05 |
| 079.01 | 5.46230E-05 | -3.47898E-07 | 0. | 0. | 1.39504E-01 | 1.17122E 18 |
| 080. | 2.16067E-07 | 5.96046E-08 | 1.43410E-01 | 8.21469E 00 | 6.79613E 02 | -1.54910E 02 |
| 082. | 9.65019E-05 | -7.79502E-07 | 1.28456E-06 | 0. | 1.17122E 18 | 1.17122E 18 |
| 082.01 | 1.17122E 18 | 4.68756E-02 | 1.49012E-08 | -1.83459E-01 | 1.03841E-01 | -2.59315E 02 |
| 083. | -4.12954E-05 | 2.02612E-05 | -2.38421E-07 | 0. | 0. | 1.39504E-01 |
| 085. | 1.17122E 18 | 2.16067E-07 | 5.96046E-08 | 1.43410E-01 | 1.05405E 02 | 2.27785E 03 |
| 086. | 6.76109E 02 | 1.27173E-04 | -3.29377E-06 | 2.78223E-06 | 0. | 1.17122E 18 |
| 088. | 1.17122E 18 | 1.17122E 18 | 4.68756E-02 | 7.45058E-09 | 4.04950E 03 | 1.02300E 03 |
| 090. | 1.07656E 06 | 0. | 0. | 0. | 2.61537E 00 | 2.66206E 00 |
| 092. | 1.39504E-01 | 1.17122E 18 | 2.16067E-07 | 2.53836E 03 | 0. | 0. |
| 093. | 0. | 0. | 0. | 4.93438E 02 | 0. | 0. |
| 094. | 2.03127E-01 | 0. | 1.43410E-01 | 4.18377E 03 | 2.33430E 05 | 3.24221E 05 |
| 095. | 2.53735E-02 | 4.37115E-04 | 2.84447E-04 | 1.19926E 00 | 1.17122E 18 | 1.17122E 18 |
| 096. | 1.17122E 18 | 4.68756E-02 | 2.23517E-08 | 8.75282E 03 | 5.65082E 03 | 5.79454E 05 |

MAXIMUM DISPLACEMENT, 1.17122E 18, OCCURED AT JOINT 096.
 MAXIMUM ROTATION, 1.17122E 18, OCCURED AT JOINT 095.

M U L T I P L E S U P P O R T R E S P O N S E S P E C T R U M M O D A L R E P O R T

M-RZ FH BREAK

MULTIPLE SUPPORT RESPONSE SPECTRUM MODAL REPORT

M-RZ FH BREAK

COMBINED NODE ACCELERATIONS
COMBINATION METHOD 6 FOR MODAL SH APES, MODE 41 TO 30

LOAD CASE # 1 (FINAL)

| JOINT LABEL | TRANSLATION (G) | | | ROTATION (R/SEC**2) | | |
|-------------|-----------------|--------------|--------------|---------------------|--------------|--------------|
| | X | Y | Z | X | Y | Z |
| 001. | 5.51536E-04 | 3.47436E-10 | 3.71528E-04 | 1.23024E-01 | 2.12474E 00 | 6.66582E-01 |
| 002. | 3.03425E 15 | 1.21439E-04 | 1.93020E-11 | -3.83160E 01 | 5.35980E 01 | -4.14219E 02 |
| 003. | 3.03425E 15 | 5.79061E-10 | 4.05342E-10 | 1.43410E-01 | 2.62871E 01 | 3.59736E 02 |
| 003.01 | 3.03425E 15 | 3.03425E 15 | 1.21439E-04 | 2.23517E-08 | -1.68521E 02 | 2.44624E 02 |
| 004. | 6.54883E-04 | 3.03425E 15 | 5.79061E-10 | 1.56462E-07 | 1.43410E-01 | -7.90176E 01 |
| 005. | 3.03425E 15 | 3.03425E 15 | 3.03425E 15 | 4.68756E-02 | 3.72529E-08 | 1.88879E 02 |
| 006. | 1.11948E 00 | -4.73696E 01 | 1.95723E 02 | 2.98050E-01 | 3.69667E-03 | 1.16899E-03 |
| 007. | -5.76046E-01 | 4.00984E 01 | 1.07639E-05 | 1.43389E-02 | 1.79119E-05 | 0. |
| 008. | 0. | 0. | 6.95362E-04 | 1.17122E 18 | 2.30968E-07 | 0. |
| 009. | 7.72081E-11 | -1.09807E 00 | 1.93020E-11 | 6.10049E 02 | -3.27639E 02 | 9.25512E 05 |
| 012. | 8.67691E 02 | 6.57344E-05 | 3242E-06 | 2.84447E-04 | 1.19926E 00 | 1.17122E 18 |
| 013. | -4.06793E 02 | 5.64001E 02 | 0. | 0. | 0. | 3.04755E 00 |
| 014. | 3.03425E 15 | 3.03425E 15 | 1.21439E-04 | 2.23517E-08 | 9.20681E 03 | 3.92490E 03 |
| 015. | 3.24694E-03 | 6.54883E-04 | 3.03425E 15 | 2.23517E-07 | 0. | 1.43410E-01 |
| 016. | 4.75909E-02 | 3.75790E-02 | 2.50325E 00 | 4.09272E-04 | -2.61738E-04 | 1.84560E-06 |
| 018. | 0. | 0. | 5.46476E-04 | 8.19564E-08 | 1.43410E-01 | -2.70691E 01 |
| 018.01 | 6.76584E-01 | -8.73518E 00 | 2.98113E-05 | 2.79382E-03 | -6.23577E 01 | -8.74453E 02 |
| 019. | 4.78034E 01 | 1.07639E-05 | 3.71475E-05 | 1.79119E-05 | 0. | 0. |
| 021. | 5.36356E-04 | 1.93020E-11 | 3.71528E-04 | 3.22016E 03 | 4.80063E 05 | 3.88745E 05 |
| 023. | -2.59780E-03 | 3.55270E-03 | 6.22541E-06 | 0. | 0. | 2.52785E-01 |
| 024. | 1.01308E 03 | 7.75501E-04 | 9.53067E-06 | 1.18182E-03 | 0. | 1.17122E 18 |
| 025. | -2.21862E 03 | -3.11772E-03 | 2.80780E-03 | 1.95218E-03 | 0. | 0. |
| 029. | -1.85966E 02 | 1.80831E 01 | 4.41677E-05 | -8.50209E-05 | 1.93450E-04 | 0. |
| 031. | 3.03425E 15 | 3.03425E 15 | 3.03425E 15 | 4.68756E-02 | 1.49012E-08 | -2.55169E 02 |
| 032. | 0. | 6.54883E-04 | 3.03425E 15 | 2.23517E-07 | 2.23517E-08 | 1.43410E-01 |
| 027. | 0. | 0. | 7.89522E-03 | 1.17122E 18 | 1.17122E 18 | 1.17122E 18 |
| 034. | 1.21439E-04 | 9.65101E-11 | 1.59268E 01 | 4.94051E 03 | 4.39963E 05 | 2.80431E-02 |
| 035. | 4.08125E 00 | 2.02476E 02 | 3.08203E 02 | 1.43284E-02 | 2.90103E-04 | 8.90032E-05 |
| 036. | 1.89885E 01 | 4.11206E 02 | -8.51763E-05 | -1.81668E-02 | 2.69772E-05 | 0. |
| 037. | 3.03425E 15 | 1.21439E-04 | 3.86040E-11 | -9.16517E 03 | 2.35002E 04 | -1.18197E 06 |
| 038. | 0. | 0. | 0. | 0. | 0. | 0. |
| 040. | 3.03425E 15 | 3.03425E 15 | 1.21439E-04 | 3.72529E-08 | 1.48954E 02 | -2.65314E 02 |
| 040.01 | 3.03425E 15 | 3.03425E 15 | 3.03425E 15 | 4.68756E-02 | 7.45058E-09 | -1.85174E 02 |
| 041. | 0. | 0. | 0. | 0. | 0. | 0. |
| 043. | 3.38445E-03 | 3.03425E 15 | 3.03425E 15 | 1.17122E 18 | 4.68756E-02 | 7.45058E-09 |
| 043.01 | 9.11521E 00 | 1.13224E 03 | 7.26506E-05 | 2.78064E-02 | 4.72869E-04 | 1.47645E 00 |
| 044. | 6.54883E-04 | 3.03425E 15 | 5.79061E-10 | 0. | 1.43410E-01 | 5.23182E 03 |
| 046. | 3.03425E 15 | 5.79061E-10 | 0. | 1.43410E-01 | 5.62847E 02 | 2.69414E 05 |
| 047. | 3.06171E-06 | 0. | 3.03425E 15 | 1.17122E 18 | 1.17122E 18 | 4.68756E-02 |
| 049. | -2.39905E 00 | 1.55522E-01 | -2.50381E 02 | -1.00275E 00 | 1.37134E 00 | 2.40301E-03 |

MULTIPLE SUPPORT RESPONSE SPECTRUM MODAL REPORT

M-RZ FH BREAK

M U L T I P L E S U P P O R T R E S P O N S E S P E C T R U M M O D A L R E P O R T

M-RZ FW BREAK

| | | | | | | |
|--------|--------------|--------------|--------------|--------------|--------------|--------------|
| 051. | 0. | 6.54883E-04 | 3.03425E 15 | 2.23517E-07 | 7.45058E-09 | 1.43410E-01 |
| 053. | -4.93278E 00 | 6.25259E 00 | -1.30395E-06 | 9.99584E-06 | -5.88483E-06 | 0. |
| 054. | -1.78340E 01 | 2.47916E-05 | 8.20782E-06 | 1.40423E-05 | 0. | 0. |
| 055. | 5.16607E 00 | -1.16859E-06 | 2.21174E-08 | -3.59381E-06 | 0. | 1.17122E 18 |
| 056. | 7.59013E-06 | 2.26015E-06 | -5.10740E-09 | 0. | 0. | 2.52785E-01 |
| 057. | 4.05291E-10 | -9.31575E-12 | 8.54827E-12 | 0. | 1.17122E 18 | 1.17122E 18 |
| 058. | 6.54883E-04 | 3.03425E 15 | 5.79061E-10 | 1.49012E-08 | 1.43410E-01 | 3.66832E 02 |
| 059. | 3.03425E 15 | 3.03425E 15 | 1.21439E-04 | 2.98023E-08 | -9.85652E 03 | 2.44236E 04 |
| 061. | 3.03425E 15 | 5.79061E-10 | 0. | 1.43410E-01 | 3.31175E 03 | 4.90931E 05 |
| 061.01 | 7.72152E-04 | 9.57687E-06 | 3.02848E-06 | 0. | 1.17122E 18 | 1.17122E 18 |
| 062. | 3.61408E-04 | 3.03425E 15 | 5.79061E-10 | 0. | 0. | 0. |
| 064. | 7.22189E 00 | -1.30395E-06 | 2.58960E-08 | -5.88483E-06 | 0. | 1.17122E 18 |
| 065. | -1.99622E 00 | 4.90608E 00 | -1.08280E-06 | 4.28267E-06 | -6.02865E-06 | 0. |
| 067. | 0. | 0. | 6.54883E-04 | 1.17122E 18 | 2.30968E-07 | 0. |
| 069. | 1.65462E 01 | 9.35938E 02 | 9.34771E 02 | 4.33261E-02 | 6.79121E-04 | 3.54975E-04 |
| 071. | 3.03425E 15 | 3.03425E 15 | 3.03425E 15 | 4.68756E-02 | 3.72529E-08 | 5.96669E 03 |
| 072. | 1.28399E 03 | 1.25502E-04 | 1.28160E-04 | 6.22482E-04 | 1.27888E 00 | 1.19923E 00 |
| 073. | 0. | 0. | 0. | 2.61537E 00 | 2.66208E 00 | 2.52785E-01 |
| 074. | 3.71528E-04 | 1.12502E 00 | -4.79013E 01 | 7.52895E 04 | 2.99343E-01 | 3.67804E-03 |
| 075. | 0. | 3.03425E 15 | 3.03425E 15 | 1.17122E 18 | 4.68756E-02 | 1.49012E-08 |
| 076. | 7.20373E-05 | 1.22505E-06 | 3.82500E-03 | 1.25332E 00 | 1.39504E-01 | 1.17122E 18 |
| 077. | 5.59759E-10 | 0. | 3.71528E-04 | 4.42091E 03 | 3.12806E 05 | 3.44240E 05 |
| 079. | 1.12244E-04 | 1.75938E-06 | 9.19625E-07 | 1.30640E 00 | 1.17122E 18 | 1.17122E 18 |
| 079.01 | 3.03425E 15 | 1.21439E-04 | 1.93020E-11 | 1.71110E 00 | -4.09721E 00 | 2.51482E 03 |
| 080. | 1.06029E-06 | -6.78077E-07 | 4.78134E-09 | 0. | 0. | 1.39504E-01 |
| 082. | 3.03425E 15 | 5.59759E-10 | 2.12322E-10 | 1.43410E-01 | -5.24026E 01 | -2.71257E 03 |
| 082.01 | 3.39850E 00 | -1.08280E-06 | 1.10950E-08 | -6.02865E-06 | 0. | 1.17122E 18 |
| 083. | 3.03425E 15 | 3.03425E 15 | 1.21439E-04 | 7.45058E-09 | -1.32582E 02 | 3.57542E 02 |
| 085. | -1.53914E 01 | 2.98113E-05 | 7.23787E-06 | -8.27471E-06 | 0. | 0. |
| 086. | 3.61408E-04 | 3.03425E 15 | 5.59759E-10 | 0. | 1.43410E-01 | -3.00503E 02 |
| 088. | 3.63294E 00 | 9.57363E 01 | -1.16718E-05 | 9.16476E-05 | -2.81278E-05 | 0. |
| 090. | 3.03425E 15 | 3.03425E 15 | 3.03425E 15 | 4.68756E-02 | 5.21541E-08 | 8.59646E 01 |
| 092. | -3.87884E-01 | 2.66651E 01 | 6.22313E-06 | 1.15271E-02 | -1.04473E-05 | 0. |
| 093. | 0. | 3.61408E-04 | 3.03425E 15 | 2.16067E-07 | 0. | 1.43410E-01 |
| 094. | -1.12171E 00 | -8.74327E 01 | 3.86199E 01 | -5.18340E-03 | 1.07470E-04 | -4.32352E-05 |
| 095. | 0. | 3.03425E 15 | 3.03425E 15 | 1.17122E 18 | 4.68756E-02 | 9.68575E-08 |
| 096. | 1.55807E-01 | -9.73878E-01 | -4.61879E 01 | 4.65993E-02 | 3.02040E-02 | 1.53552E-04 |

MAXIMUM TRANSLATIONAL ACCEL., 3.03425E 15, OCCURED AT JOINT 095.
 MAXIMUM ROTATIONAL ACCEL., 1.17122E 18, OCCURED AT JOINT 095.

M U L T I P L E S U P P O R T R E S P O N S E S P E C T R U M M O D A L R E P O R T

M-RZ FW BREAK

034IT 01 07-22-92 18.169 P I S Y S 0 6 FEEDWATER LINE A
M U L T I P L E S U P P O R T R E S P O N S E S P E C T R U M S T R E S S R E P O R T

PAGE 359
M-RZ FW BREAK

034IT 01 07-22-92 18.169 P I S Y S 0 6 FEEDWATER LINE A
M U L T I P L E S U P P O R T R E S P O N S E S P E C T R U M S T R E S S R E P O R T

PAGE 359
M-RZ FW BREAK

TITLE SUPPORT RESPONSE SPECTRUM STRESS REPORT

M-RZ FH BREAK

RESPONSE SPECTRUM ANALYSIS --- STRESS REPORT

P15Y5 PAGE 1

ELEMENT TYPE 1 --- 3-D STRAIGHT OR CURVED PIPE ELEMENTS

COMBINED ELEMENT FORCES AND MOMENTS
 COMBINED METHOD 6 MODE 1 TO MODE 30 --- INTERMEDIATE

| EM NO | LOAD CASE | AXIAL FORCE | Y-AXIS SHEAR | Z-AXIS SHEAR | TORSION MOMENT | Y-AXIS MOMENT | Z-AXIS MOMENT |
|-------|-----------|-------------|--------------|--------------|----------------|---------------|---------------|
| 1T | 1 001. | 5594.762 | 1308.943 | 1636.457 | 52186.727 | 14780.420 | 11188.574 |
| | 002. | 5594.762 | 1308.943 | 1636.457 | 52186.727 | 115134.092 | 92205.980 |
| 2T | 1 002. | 5432.667 | 1308.356 | 1635.056 | 52186.727 | 115134.092 | 92205.980 |
| | 003. | 5432.667 | 1308.356 | 1635.056 | 52186.727 | 108062.463 | 84544.719 |
| 3T | 1 003. | 5319.898 | 1306.718 | 1632.392 | 52186.727 | 108062.463 | 86544.719 |
| | 003.01 | 5319.898 | 1306.718 | 1632.392 | 52186.727 | 13959.746 | 10825.700 |
| 4T | 1 004. | 4904.359 | 1034.180 | 1307.288 | 52186.727 | 136940.593 | 109698.987 |
| | 005. | 4904.359 | 1034.180 | 1307.288 | 52186.727 | 139051.971 | 95448.426 |
| 6T | 1 005. | 4869.783 | 1015.820 | 1288.137 | 52186.727 | 136940.593 | 109698.987 |
| | 006. | 4869.783 | 1015.820 | 1288.137 | 52186.727 | 172769.566 | 138138.937 |
| 7T | 1 006. | 743.040 | 1363.408 | 1500.827 | 0.000 | 23043.695 | 20933.763 |
| | 007. | 743.040 | 1363.408 | 1500.827 | 0.000 | 0.000 | 0.000 |
| 8T | 1 006. | 3763.238 | 882.032 | 1559.251 | 40088.661 | 172769.566 | 137007.999 |
| | 008. | 3763.238 | 882.032 | 1559.251 | 40088.661 | 190562.296 | 151891.315 |
| 9T | 1 008. | 3723.417 | 884.481 | 1567.975 | 40088.661 | 190562.296 | 151891.315 |
| | 009. | 3723.417 | 884.481 | 1567.975 | 40088.661 | 205285.384 | 162143.599 |
| 0T | 1 009. | 3645.742 | 2230.392 | 3377.698 | 40088.661 | 205285.384 | 162143.599 |
| | 012. | 3645.742 | 2230.392 | 3377.698 | 40088.661 | 149463.578 | 127170.780 |
| 1T | 1 012. | 3601.066 | 2212.585 | 3364.707 | 40088.661 | 149463.578 | 127170.780 |
| | 013. | 3601.066 | 2212.585 | 3364.707 | 40088.661 | 75980.931 | 81494.948 |
| 2T | 1 013. | 1238.874 | 2361.621 | 1861.482 | 0.000 | 55991.503 | 71035.206 |
| | 014. | 1238.874 | 2361.621 | 1861.482 | 0.000 | 0.000 | 0.000 |

TITLE SUPPORT RESPONSE SPECTRUM STRESS REPORT

M-RZ FH BREAK

| T I P L E | S U P P O R T | R E S P O N S E | S P E C T R U M | S T R E S S | R E P O R T | M-RZ | F W | B R E A K |
|-----------|--------------------------|----------------------------------|----------------------------------|----------------------------------|-------------------------------------|-------------------------------------|---------------------------------------|-----------|
| 3T | 1 013. 015. | 1941.512 1941.512 | 1205.960 1205.960 | 2600 2600 | 43620.447 43620.447 | 75980.931 39509.730 | 67386.872 37216.082 | |
| 4T | 1 015. 016. | 1913.071 1913.071 | 1148.127 1148.127 | 2535.977 2535.977 | 43620.447 43620.447 | 39509.730 76018.454 | 37216.082 23308.746 | |
| 5B | 1 016. CENTER 018. | 1844.711 2570.823 2706.631 | 2283.082 1397.284 1105.879 | 959.590 959.590 959.590 | 43620.326 35464.420 30668.094 | 23308.998 36814.588 49375.370 | 76018.454 112708.724 123225.252 | |
| 6T | 1 018. 018.01 | 2320.630 2320.630 | 798.607 798.607 | 1029.606 1029.606 | 30667.636 30667.636 | 123225.252 105622.907 | 49375.637 82596.000 | |
| 7T | 1 018.01 019. | 2317.542 2317.542 | 684.916 684.916 | 1494.178 1494.178 | 30667.636 30667.636 | 105622.907 132017.951 | 82596.000 74667.392 | |
| 8T | 1 019. 021. | 2734.014 2734.014 | 1025.948 1025.948 | 4005.280 4005.280 | 30678.435 30678.435 | 132017.951 63097.277 | 74663.114 52199.990 | |
| 9B | 1 021. CENTER 023. | 3078.782 4328.999 4422.665 | 3457.853 1586.020 1346.732 | 1158.005 1158.005 1158.005 | 30672.331 24742.645 30456.627 | 52193.419 36969.975 28386.859 | 63097.277 115230.230 120399.465 | |
| 10T | 1 023. 024. | 4070.952 4070.952 | 1654.951 1654.951 | 1839.111 1839.111 | 30456.599 30456.599 | 120399.465 75632.343 | 28386.903 72596.683 | |
| 11T | 1 024. 025. | 3604.242 3604.242 | 1923.499 1923.499 | 2934.492 2934.492 | 48708.689 48708.689 | 90095.159 75050.850 | 77200.938 121491.598 | |
| 12T | 1 025. 029. | 3160.559 3160.559 | 1580.994 1580.994 | 2096.091 2096.091 | 48708.689 48708.689 | 75050.850 114125.474 | 121491.598 117002.051 | |
| 13T | 1 029. 031. | 2727.503 2727.503 | 915.383 915.383 | 1233.139 1233.139 | 48708.689 48708.689 | 114125.474 151212.205 | 117002.051 120793.885 | |
| 14T | 1 031. 032. | 1879.164 1879.164 | 1096.695 1096.695 | 1217.607 1217.607 | 43093.416 43093.416 | 141936.128 84454.417 | 120078.701 95844.790 | |
| 15T | 1 032. 027. | 1518.787 1518.787 | 1315.930 1315.930 | 1831.755 1831.755 | 43093.416 43093.416 | 84454.417 87596.678 | 95844.790 90128.430 | |
| 16T | 1 027. 034. | 1345.035 1345.035 | 1969.064 1969.064 | 1850.221 1850.221 | 43093.416 43093.416 | 87596.678 66287.699 | 90128.430 49980.846 | |
| 17T | 1 034. 035. | 285.817 285.817 | 969.480 969.480 | 547.014 547.014 | 0.000 0.000 | 16243.873 3348.808 | 28636.967 5738.913 | |
| 18T | 1 035. 036. | 85.753 85.753 | 323.921 323.921 | 188.892 188.892 | 0.000 0.000 | 3346.608 0.000 | 5738.913 0.000 | |

| T I P L E | S U P P O R T | R E S P O N S E | S P E C T R U M | S T R E S S | R E P O R T | M-RZ | F W | B R E A K |
|-----------|---------------|-----------------|-----------------|-------------|-------------|------|-----|-----------|
|-----------|---------------|-----------------|-----------------|-------------|-------------|------|-----|-----------|

RESPONSE SPECTRUM ANALYSIS --- STRESS REPORT
 ELEMENT TYPE 1 --- 3D STRAIGHT OR CURVED PIPE ELEMENTS P15Y5 PAGE 7

COMBINED ELEMENT FORCES AND MOMENTS
 COMBINED METHOD 6 NODE 1 TO NODE 30 --- INTERMEDIATE

| EM NO | LOAD CASE | END | AXIAL FORCE | Y-AXIS SHEAR | Z-AXIS SHEAR | TORSION MOMENT | Y-AXIS MOMENT | Z-AXIS MOMENT |
|-------|-------------------|-----|-------------|--------------|--------------|----------------|---------------|---------------|
| 29T | 1 024.037. | | 1131.796 | 1035.646 | 1133.759 | 55227.248 | 69314.976 | 46009.562 |
| | | | 1131.796 | 1035.646 | 1133.759 | 55227.248 | 47093.981 | 32524.022 |
| 30T | 1 037.038. | | 1109.023 | 982.569 | 1136.682 | 55227.235 | 47093.997 | 32524.022 |
| | | | 1109.023 | 982.569 | 1136.682 | 55227.235 | 34672.276 | 28857.819 |
| 31B | 1 038.040. CENTER | | 1090.859 | 931.585 | 1133.819 | 55220.781 | 34682.656 | 28857.819 |
| | | | 1228.118 | 747.625 | 1133.819 | 43157.142 | 42312.621 | 27325.976 |
| | | | 1238.259 | 714.557 | 1133.819 | 28568.172 | 46191.958 | 24221.718 |
| 32T | 1 040.040.01 | | 1106.379 | 713.920 | 1096.457 | 28593.930 | 46176.254 | 24221.718 |
| | | | 1106.379 | 713.920 | 1096.457 | 28593.930 | 22061.595 | 18294.790 |
| 33T | 1 040.041. | | 916.251 | 507.025 | 838.803 | 28593.930 | 22061.595 | 18294.790 |
| | | | 916.251 | 507.025 | 838.803 | 28593.930 | 46827.907 | 35276.643 |
| 34B | 1 041.043. CENTER | | 810.219 | 580.749 | 271.665 | 28594.519 | 35276.320 | 46827.907 |
| | | | 846.435 | 522.453 | 271.665 | 28385.942 | 36385.502 | 48786.902 |
| | | | 850.018 | 523.237 | 271.665 | 29533.403 | 36665.548 | 50153.104 |
| 35T | 1 043.043.01 | | 622.565 | 257.297 | 428.809 | 29532.568 | 50153.104 | 36666.127 |
| | | | 622.565 | 257.297 | 428.809 | 29532.568 | 48346.414 | 28139.347 |
| 36T | 1 043.044. | | 364.424 | 616.918 | 584.136 | 29532.568 | 48346.414 | 28139.347 |
| | | | 364.424 | 616.918 | 584.136 | 29532.568 | 22437.443 | 17508.733 |
| 37B | 1 044.046. CENTER | | 410.224 | 776.383 | 897.349 | 29532.593 | 22437.443 | 17508.687 |
| | | | 766.910 | 429.905 | 897.349 | 12466.465 | 26102.865 | 22842.117 |
| | | | 776.104 | 410.755 | 897.349 | 12443.815 | 17174.224 | 22536.586 |
| 38T | 1 046.047. | | 996.231 | 1226.013 | 554.123 | 12431.725 | 15507.099 | 22979.344 |
| | | | 996.231 | 1226.013 | 554.123 | 12431.725 | 13399.710 | 45057.963 |
| 39B | 1 047.049. CENTER | | 1187.730 | 1282.144 | 671.259 | 12434.407 | 15932.171 | 44170.948 |
| | | | 1119.930 | 1330.175 | 671.259 | 13946.813 | 16036.971 | 49968.055 |
| | | | 1092.418 | 1356.016 | 671.259 | 15838.758 | 15897.296 | 55406.215 |

TIPLE SUPPORT RESPONSE SPECTRUM STRESS REPORT

M-RZ FH BREAK

RESPONSE SPECTRUM ANALYSIS --- STRESS REPORT
 ELEMENT TYPE 1 --- 3-D STRAIGHT OR CURVED PIPE ELEMENTS PISYS PAGE 3

COMBINED ELEMENT FORCES AND MOMENTS
 COMBINED METHOD 6 MODE 1 TO MODE 30 --- INTERMEDIATE

| EM NO | LOAD CASE | END | AXIAL FORCE | Y-AXIS SHEAR | Z-AXIS SHEAR | TORSION MOMENT | Y-AXIS MOMENT | Z-AXIS MOMENT |
|-------|-----------|--------|-------------|--------------|--------------|----------------|---------------|---------------|
| 40B | 1 049. | CENTER | 1143.256 | 1400.801 | 714.219 | 15834.626 | 15908.643 | 55404.187 |
| | 051. | | 1153.964 | 1404.689 | 714.219 | 17898.923 | 15541.465 | 60327.157 |
| | | | 1198.675 | 1381.440 | 714.219 | 20016.047 | 15046.473 | 64481.195 |
| 41B | 1 051. | CENTER | 1228.280 | 1437.269 | 754.084 | 19996.355 | 15051.514 | 64485.954 |
| | 053. | | 1281.258 | 1392.613 | 754.084 | 21823.374 | 14655.623 | 67823.985 |
| | | | 1332.492 | 1324.430 | 754.084 | 23409.674 | 14677.187 | 70243.721 |
| 42T | 1 053. | | 1422.860 | 1462.504 | 852.791 | 23407.177 | 14682.289 | 70243.403 |
| | 054. | | 1422.860 | 1462.504 | 852.791 | 23407.177 | 47628.912 | 107801.469 |
| 43T | 1 054. | | 1589.822 | 1483.162 | 895.940 | 23405.850 | 47628.912 | 107801.769 |
| | 055. | | 1589.822 | 1483.162 | 895.940 | 23405.850 | 63397.026 | 130355.741 |
| 44T | 1 055. | | 1761.541 | 1483.582 | 941.399 | 23412.907 | 63397.026 | 130354.417 |
| | 056. | | 1761.541 | 1483.582 | 941.399 | 23412.907 | 68800.147 | 138243.370 |
| 45T | 1 056. | | 36.974 | 0.003 | 21.833 | 0.000 | 166.745 | 0.023 |
| | 057. | | 36.974 | 0.003 | 21.833 | 0.000 | 0.000 | 0.000 |
| 46T | 1 031. | | 503.354 | 1184.492 | 997.697 | 36195.219 | 50877.149 | 40331.068 |
| | 058. | | 503.354 | 1184.492 | 997.697 | 36195.219 | 31471.696 | 19312.412 |
| 47T | 1 058. | | 480.914 | 1070.492 | 978.683 | 36195.208 | 31471.708 | 19312.412 |
| | 059. | | 480.914 | 1070.492 | 978.683 | 36195.208 | 21251.656 | 13826.317 |
| 48B | 1 059. | CENTER | 467.768 | 964.553 | 958.530 | 36190.551 | 21259.600 | 13826.317 |
| | 061. | | 779.372 | 739.192 | 958.530 | 27856.266 | 26180.477 | 14982.376 |
| | | | 987.987 | 426.444 | 958.530 | 18947.919 | 27384.311 | 14443.887 |
| 49T | 1 061. | | 788.714 | 289.186 | 873.095 | 18962.392 | 27374.017 | 16453.997 |
| | 061.01 | | 788.714 | 289.186 | 873.095 | 18962.392 | 13983.909 | 19636.173 |
| 50T | 1 061.01 | | 533.735 | 312.750 | 442.612 | 18962.392 | 13983.909 | 19636.173 |
| | 062. | | 533.735 | 312.750 | 442.612 | 18962.392 | 30352.581 | 15828.666 |

01 07-22-92 18.16° PISYS 06 FEEDWATER LINE A

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TIPLE SUPPORT RESPONSE SPECTRUM STRESS REPORT

M-RZ FH BREAK

LTIPLE SUPPORT RESPONSE SPECTRUM STRESS REPORT

M-RZ FW BREAK

| | | | | | | | |
|-----|--------------------------|----------------------------------|---------------------------------|----------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|
| 51B | 1 062. CENTER 064. | 412.571 665.326 545.098 | 545.505 165.640 413.105 | 302.578 302.578 302.578 | 18962.392 9916.227 26856.143 | 30352.581 31309.004 14131.834 | 15828.666 13364.510 12656.341 |
| 52T | 1 064. 065. | 809.282 809.282 | 803.638 803.638 | 423.610 423.610 | 26842.038 26842.038 | 12656.341 15602.202 | 14158.633 20300.660 |
| 53B | 1 065. CENTER 067. | 1012.781 1037.975 1000.836 | 422.592 388.182 509.879 | 980.944 980.944 980.944 | 26855.911 31148.021 34763.924 | 20282.300 18282.594 15418.168 | 15602.202 16485.623 16350.351 |
| 54B | 1 067. CENTER 069. | 1059.679 948.382 784.903 | 554.284 729.619 888.979 | 1044.919 1044.919 1044.919 | 34763.551 37462.210 39056.980 | 15419.007 12119.676 9131.121 | 16350.351 15106.794 13438.757 |
| 55B | 1 069. CENTER 071. | 814.478 605.463 421.835 | 951.280 1089.635 1162.786 | 1100.598 1100.598 1100.598 | 39052.427 39443.770 38595.624 | 9149.572 7750.577 9248.739 | 13438.757 12357.232 12929.159 |
| 56T | 1 071. 072. | 422.770 422.770 | 1314.100 1314.100 | 1232.646 1232.646 | 38598.098 38598.098 | 5238.432 46232.834 | 12929.159 59542.666 |
| 57T | 1 072. 073. | 423.007 423.007 | 1337.018 1337.018 | 1297.842 1297.842 | 38598.098 38598.098 | 46232.834 69133.807 | 59542.666 83586.790 |
| 58T | 1 073. 074. | 423.020 423.020 | 1337.489 1337.489 | 1397.099 1397.099 | 38598.098 38598.098 | 69133.807 77030.961 | 83586.790 91654.664 |
| 59T | 1 074. 075. | 0.000 0.000 | 0.003 0.003 | 43.907 43.907 | 0.000 0.000 | 335.359 0.000 | 0.023 0.000 |
| 60T | 1 076. 076. | 858.451 858.451 | 1002.451 1002.451 | 1128.355 1128.355 | 40314.630 40314.630 | 63674.167 40977.598 | 43093.416 29164.273 |
| 61T | 1 076. 077. | 871.570 871.570 | 923.374 923.374 | 1108.905 1108.905 | 40314.623 40314.623 | 40977.605 28577.556 | 29164.273 25941.456 |
| 62B | 1 077. CENTER 079. | 884.370 1038.401 1090.648 | 857.040 687.215 589.455 | 1084.181 1084.181 1084.181 | 40311.275 34078.715 26095.214 | 28582.319 29136.755 30832.540 | 25941.456 24627.567 23353.150 |
| 63T | 1 079. 079.01 | 1003.944 1003.944 | 588.287 588.287 | 992.545 992.545 | 26110.244 26110.244 | 30819.144 31168.488 | 23353.150 17955.664 |
| 64T | 1 079.01 080. | 883.354 883.354 | 485.939 485.939 | 668.927 668.927 | 26110.244 26110.244 | 31168.488 53653.418 | 17955.664 28703.116 |
| 65B | 1 080. CENTER | 818.053 852.160 | 427.720 362.473 | 329.000 329.000 | 26112.065 23014.449 | 28701.911 31676.454 | 53653.418 54683.018 |

T 01 07-22-92 18.169 P 1 S Y 5 0 6 FEEDWATER LINE A

LTIPLE SUPPORT RESPONSE SPECTRUM STRESS REPORT

M-RZ FW BREAK

| TITLE | | SUPPORT | RESPONSE | SPECTRUM | STRESS | REPORT | M-RZ FW BREAK |
|-------|--------------------------|----------------------------------|----------------------------------|-------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|
| | 082. | 838.074 | 396.869 | 329.000 | 22237.597 | 33602.305 | 54934.452 |
| 56T | 1 082. 082.01 | 625.909 625.909 | 309.867 309.867 | 506.108 506.108 | 22237.672 22237.672 | 54934.452 37704.632 | 33602.012 27877.984 |
| 57T | 1 082.01 083. | 310.665 310.665 | 533.113 533.113 | 580.944 580.944 | 22237.672 22237.672 | 37704.632 17364.836 | 27877.985 16096.674 |
| 58B | 1 083. CENTER 085. | 283.911 613.269 702.674 | 702.812 446.017 284.260 | 680.072 680.072 680.072 | 22237.669 10451.249 12353.629 | 17364.836 21161.841 14856.618 | 16096.675 19214.979 19781.342 |
| 59T | 1 085. 086. | 918.411 918.411 | 899.717 899.717 | 556.581 556.581 | 12342.276 12342.276 | 16867.464 12105.324 | 17617.439 37852.846 |
| 70B | 1 086. CENTER 088. | 1117.978 1080.787 1060.310 | 1049.724 1062.454 1104.098 | 507.598 507.598 507.598 | 12343.592 13007.082 13666.933 | 14250.069 13812.766 14096.618 | 36982.361 41501.453 45543.439 |
| 71B | 1 088. CENTER 090. | 1111.649 1088.432 1070.686 | 1155.234 1200.796 1224.682 | 557.694 557.694 557.694 | 13664.356 14324.703 15055.637 | 14103.471 14745.680 15840.779 | 45542.312 49027.310 52059.192 |
| 72B | 1 090. CENTER 092. | 1103.671 1092.129 1107.239 | 1292.477 1288.466 1260.509 | 604.930 604.930 604.930 | 15042.806 15931.102 17247.650 | 15842.894 17260.976 18477.023 | 52062.283 54477.241 56328.191 |
| 73T | 1 092. 093. | 1211.682 1211.682 | 1403.232 1403.232 | 716.686 716.686 | 17245.289 17245.289 | 18485.285 45830.618 | 56326.216 92586.697 |
| 74T | 1 093. 094. | 1400.880 1400.880 | 1424.406 1424.406 | 762.500 762.500 | 17244.588 17244.588 | 45830.618 59133.358 | 92586.834 114947.662 |
| 75T | 1 094. 095. | 1590.879 1590.879 | 1424.835 1424.835 | 812.327 812.327 | 17248.098 17248.098 | 59133.358 63710.891 | 114947.098 122733.211 |
| 76T | 1 095. 096. | 36.974 36.974 | 0.003 0.003 | 21.869 21.869 | 0.000 0.000 | 167.024 0.000 | 0.023 0.000 |

MAXIMUM AND/OR MINIMUM VALUES
CORRESPONDING ELEM/LOAD - CASE

| | | | | | | |
|--------------|----------|----------|----------|-----------|------------|------------|
| MAXIMUM TANG | 5594.762 | 2361.621 | 4005.280 | 55227.248 | 205285.385 | 162143.600 |
| MINIMUM | 0.000 | 0.003 | 21.833 | 0.000 | 0.000 | 0.000 |
| MAXIMUM BEND | 4422.665 | 3457.853 | 1158.005 | 55220.781 | 52192.419 | 123225.252 |

| TITLE | | SUPPORT | RESPONSE | SPECTRUM | STRESS | REPORT | M-RZ FW BREAK |
|-------|--|---------|----------|----------|--------|--------|---------------|
|-------|--|---------|----------|----------|--------|--------|---------------|

L T I P L E S U P P O R T R E S P O N S E S P E C T R U M S T R E S S R E P O R T

M-RZ FH BREAK

| | | | | | | |
|---------|---------------------------|---------------------------|---------------------------|----------------------------|----------------------------|-----------------------------|
| MINIMUM | 19- 1 283.911 68- 1 | 19- 1 165.640 31- 1 | 19- 1 271.665 34- 1 | 31- 1 9916.227 51- 1 | 19- 1 7750.577 55- 1 | 15- 1 12357.232 55- 1 |
|---------|---------------------------|---------------------------|---------------------------|----------------------------|----------------------------|-----------------------------|

L T I P L E S U P P O R T R E S P O N S E S P E C T R U M S T R E S S R E P O R T

M-RZ FH BREAK

RESPONSE SPECTRUM ANALYSIS --- STRESS REPORT
 ELEMENT TYPE 2 --- RESTRAINT ELEMENT

PISYS PAGE 4

COMBINED ELEMENT FORCES AND MOMENTS
 COMBINED METHOD 6 MODE 1 TO MODE 30 --- INTERMEDIATE

| LEM NO | LOAD CASE | RESTRAINT TYPE | PIPE JOINT | STRUCT. POINT | RESTRAINT FORCE | RESTRAINT MOMENT |
|--------|-----------|----------------|------------|---------------|-----------------|------------------|
| 1 | 1 | ANCHOR | 001. | ANC X | 1.636E 03 | 1.119E 04 |
| 2 | 1 | ANCHOR | 001. | ANC Y | 1.309E 03 | 1.428E 04 |
| 3 | 1 | ANCHOR | 001. | ANC Z | 5.734E 03 | 5.219E 04 |
| 4 | 1 | ANCHOR | 056. | RPUNIX | 8.958E 02 | 1.276E 05 |
| 5 | 1 | ANCHOR | 056. | RPUN1Y | 1.484E 03 | 6.879E 04 |
| 6 | 1 | ANCHOR | 056. | RPUN1Z | 1.973E 03 | 5.799E 04 |
| 7 | 1 | ANCHOR | 074. | RPUN2X | 4.230E 02 | 3.860E 04 |
| 8 | 1 | ANCHOR | 074. | RPUN2Y | 1.337E 03 | 7.701E 04 |
| 9 | 1 | ANCHOR | 074. | RPUN2Z | 1.521E 03 | 9.165E 04 |
| 10 | 1 | ANCHOR | 095. | RPUN3X | 9.398E 02 | 1.097E 05 |
| 11 | 1 | ANCHOR | 095. | RPUN3Y | 1.425E 03 | 6.370E 04 |
| 12 | 1 | ANCHOR | 095. | RPUN3Z | 1.731E 03 | 5.741E 04 |
| 13 | 1 | GLOBAL GUIDE | 009. | GUIDEX | 4.435E 03 | 0. |
| 14 | 1 | GLOBAL GUIDE | 009. | GUIDEY | 2.729E 03 | 0. |
| 15 | 1 | SNUBBER | 019. | AS003 | 6.198E 03 | 0. |
| 16 | 1 | SNUBBER | 025. | AS005 | 5.008E 03 | 0. |
| 17 | 1 | SNUBBER | 025. | AS004 | 2.812E 03 | 0. |
| 18 | 1 | SNUBBER | 025. | AS006 | 3.845E 03 | 0. |

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L T I P L E S U P P O R T R E S P O N S E S P E C T R U M S T R E S S R E P O R T

M-RZ FW BREAK

19 1 SHUBBER 032. A5006 2.356E 03 0.

T 01 07-22-92 18.169 P 15Y506 FEEDWATER LINE A

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L T I P L E S U P P O R T R E S P O N S E S P E C T R U M S T R E S S R E P O R T

M-RZ FW BREAK

T 01 07-22-92 18.169 P I S Y 5 0 6 FEEDWATER LINE A
S E Z F I L E G E N E R A T I O N R E P O R T

PAGE 369
H-RZ FH BREAK

SEZ FILE UPDATE HAS STARTED.
ANALYSIS CASE LABEL "H-RZ FH BREAK",
ANALYSIS CASE SEQUENCE NUMBER = 10 (PISEZ)
IS BEING ADDED.

SEZ FILE UPDATE IS COMPLETE.

T 01 07-22-92 18.169 P I S Y 5 0 6 FEEDWATER LINE A
S E Z F I L E G E N E R A T I O N R E P O R T

PAGE 369
H-RZ FH BREAK

| | | | | |
|-----------------------------------|--------------------------------|--------------------------------------|---------------------------------|--------------------------------------|
| LLLLL L L L L LLLLL L | LLL L L L L LLL | LLLL L LLLL L L L L L L L L | L L L L L L L L L L | LLLL L LLLL L L L L L L L L |
|-----------------------------------|--------------------------------|--------------------------------------|---------------------------------|--------------------------------------|

| | | |
|--------|--------|--------|
| LLLLLL | LLLLLL | LLLLLL |
|--------|--------|--------|

| | | | |
|----------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------|---------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------|
| LL L L LL L L L LL L L L L L L L L L L L L L L L L L L L L L L L L L L L L L L L L L L | L L L L L L L L L L L L L L L L L L L L L L L L L L L L L L L L L L L L L L L L | LLL LLL L L L L L L L L L L L L L L L L L L L L L L L L | LLLL LLLL LLLL LLLL L L L L L L L L L L L L L L L L L L L L L L L L L L L L L L L L L L L L L L L L |
|----------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------|---------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------|

| | |
|---------|---------|
| L L | L L |
| LL LL | LL LL |
| L L | L L |
| L L | L L |
| LLL LLL | LLL LLL |

SYS MASTER CONTROL INFORMATION

N LABEL = FEEDWATER LINE A
DEL DATE = 11/91
OBJECT TITLE =
OBJECT NUMBER =
B TITLE =
B NUMBER =
N NUMBER =

ANALYSIS CASE 11, OF 16

LOG PARAMETER = 0
N-H PARAMETER = 0
TA CHECK FLAG = 0
SEZ GENERATION = T

LOAD LABEL = M-RX MS BREAK

A MULTIPLE SUPPORT EXCITATION RESPONSE SPECTRUM ANALYSIS WAS SELECTED.

COMBINATION METHOD, MC, = 6
DISPLACEMENT OUTPUT OPTION = 5
STRESS OUTPUT OPTION = 0
NUMBER OF SPECTRUM CASES = 1
INTERPOLATION INDICATOR = 0

* WORKING FILES RESTARTED FROM TAPE # 12529 **

L T I P L E S U P P O R T R E S P O N S E S P E C T R U M I N P U T

M-RX MS BREAK

M I R O L I N F O R M A T I O N

NUMBER OF SPECTRA = 4
MAXIMUM NUMBER OF SPECTRUM
TABLE ENTRIES (PAIRS) = 39
METHOD OF COMBINATION = 6
EQ. 1, METHOD I
EQ. 2, METHOD II
EQ. 3, METHOD III
EQ. 4, METHOD IV
EQ. 5, METHOD V
EQ. 6, METHOD VI, (METHOD I + H/F)

NUMBER OF SPECTRUM
ANALYSIS LOAD CASES = 1

OUTPUT TYPE FLAG (NPRINT) = 5
EQ.0, PRINT COMB. RESULTS (DISP. ,
ACCEL.,STRESSES)
EQ.1, PRINT MODAL RESULTS AND
COMB. RESULTS
EQ.2, PRINT = 1 ,
SAVE MODAL & COMB. RESULTS
ON TAPE 10
EQ.3, PRINT = 0
SAVE = 2
EQ.4, RESULTS WITH 3 PEAK SHIFTS
EQ.5, RESULTS WITHOUT PEAK SHIFT
EQ.6, HI FREQ. RESP. USES MAX ZPA
EQ.N, RESULTS WITH (2*N-9) SHIFTS

PUT FLAG NPRINT VALUE OF 4 OR MORE IS A
SET OF COMBINATION METHOD VI AND CANNOT
USED WITH ANY OTHER COMBINATION OPTION
REFER TO USER'S MANUAL FOR DETAILS

FLAG FOR ELEMENT STRESS OUTPUT = 0
.EQ. 1 ELEMENT ORIENTED MODAL FORCES & MOMENTS
.EQ. 2 MODEL ORIENTED MODAL FORCES & MOMENTS

FLAG FOR SPECTRUM INTERPOLATION= 0
.EQ. 0 LINER INTERPOLATION
.EQ. 1 LOGARITHMIC INTERPOLATION

L T I P L E S U P P O R T R E S P O N S E S P E C T R U M I N P U T

M-RX MS BREAK

T 01 07-22-92 18.169 P I S Y S 0 6 FEEDWATER LINE A
L T I P L E S U P P O R T R E S P O N S E S P E C T R U M I N P U T

PAGE 373
M-RX HS BREAK

T 01 07-22-92 18.169 P I S Y S 0 6 FEEDWATER LINE A
L T I P L E S U P P O R T R E S P O N S E S P E C T R U M I N P U T

PAGE 373
M-RX HS BREAK

T 01 07-22-92 18.169 P I S Y 5 0 6 FEEDWATER LINE A
MULTIPLE SUPPORT RESPONSE SPECTRUM INPUT

PAGE 374
H-RX MS BREAK

SPECTRAL RESPONSE LOAD CASE DEFINITION

YXK DIRECTION OF APPLICATION (GLOBAL)
NO. -X- -Y- -Z-

1 1 0 0

T 01 07-22-92 18.169 P I S Y 5 0 6 FEEDWATER LINE A
MULTIPLE SUPPORT RESPONSE SPECTRUM INPUT

PAGE 374
H-RX MS BREAK

S P E C T R U M T A B L E S

S P E C T R U M T A B L E N U M B E R : 1
N U M B E R O F E N T R I E S : 31
S P E C T R U M T Y P E : P E R 0 0 0 / ACC
S C A L E F A C T O R : 386.0
D A M P I N G C O E F F I C I E N T : 2.000E-02
D E S C R I P T I O N : F W R P U M S B

S P E C T R A L P E R I O D / D I S P L A C E M E N T - O R - A C C E L E R A T I O N

| | |
|--------------|------------|
| 1.0000E-05 / | 9.1730E-01 |
| 1.6700E-02 / | 9.1730E-01 |
| 1.8300E-02 / | 9.1730E-01 |
| 2.0000E-02 / | 9.1689E-01 |
| 2.1700E-02 / | 9.3770E-01 |
| 2.3400E-02 / | 9.1772E-01 |
| 2.5100E-02 / | 9.4488E-01 |
| 2.8400E-02 / | 1.1229E 00 |
| 3.0100E-02 / | 1.2535E 00 |
| 3.3500E-02 / | 1.6604E 00 |
| 3.5100E-02 / | 1.6849E 00 |
| 3.6800E-02 / | 1.6849E 00 |
| 4.0700E-02 / | 1.7254E 00 |
| 4.1800E-02 / | 1.7328E 00 |
| 4.3500E-02 / | 1.7347E 00 |
| 4.5200E-02 / | 1.7335E 00 |
| 4.6900E-02 / | 1.7262E 00 |
| 4.8600E-02 / | 1.6760E 00 |
| 5.0200E-02 / | 1.6512E 00 |
| 5.1900E-02 / | 1.6512E 00 |
| 5.3600E-02 / | 1.6925E 00 |
| 5.5300E-02 / | 1.7214E 00 |
| 5.7000E-02 / | 1.7419E 00 |
| 5.8600E-02 / | 1.7867E 00 |
| 6.0300E-02 / | 1.8152E 00 |
| 8.0500E-02 / | 1.8152E 00 |
| 8.3800E-02 / | 1.8001E 00 |
| 1.5260E-01 / | 2.5340E-01 |
| 1.9460E-01 / | 1.2339E-01 |
| 2.0470E-01 / | 1.0783E-01 |
| 2.1470E-01 / | 9.7350E-02 |

S P E C T R U M T A B L E N U M B E R : 2
N U M B E R O F E N T R I E S : 26
S P E C T R U M T Y P E : P E R 0 0 0 / ACC

L T I P L E S U P P O R T R E S P O N S E S P E C T R U M I N P U T

M-RX MS BREAK

SCALE FACTOR = 386.0
 DAMPING COEFFICIENT = 3.000E-02
 DESCRIPTION = DEPSS ENV

P E C T R A L P E R I O D / D I S P L A C E M E N T - O R - A C C E L E R A T I O N

| | |
|--------------|------------|
| 1.0000E-05 / | 2.5657E 00 |
| 1.6700E-02 / | 2.5657E 00 |
| 1.8300E-02 / | 2.6025E 00 |
| 2.0000E-02 / | 2.5980E 00 |
| 2.1700E-02 / | 2.5678E 00 |
| 2.3400E-02 / | 2.4068E 00 |
| 2.5100E-02 / | 2.4236E 00 |
| 2.6700E-02 / | 2.7865E 00 |
| 3.0100E-02 / | 3.1770E 00 |
| 3.1800E-02 / | 3.2004E 00 |
| 4.0200E-02 / | 3.2004E 00 |
| 4.1800E-02 / | 3.1954E 00 |
| 4.3500E-02 / | 3.1519E 00 |
| 4.5200E-02 / | 3.0246E 00 |
| 5.5300E-02 / | 1.3496E 00 |
| 5.7000E-02 / | 1.3194E 00 |
| 5.8600E-02 / | 1.3251E 00 |
| 6.0300E-02 / | 1.3222E 00 |
| 6.2000E-02 / | 1.3171E 00 |
| 6.3700E-02 / | 1.3246E 00 |
| 8.3800E-02 / | 1.3246E 00 |
| 8.5500E-02 / | 1.3050E 00 |
| 1.2580E-01 / | 4.1918E-01 |
| 1.3250E-01 / | 3.7890E-01 |
| 1.5600E-01 / | 2.8490E-01 |
| 2.2480E-01 / | 1.0746E-01 |

P E C T R U M T A B L E N U M B E R = 3

N U M B E R O F E N T R I E S = 37

P E C T R U M T Y P E = P E R 0 0 0 / A C C

S C A L E F A C T O R = 386.0

D A M P I N G C O E F F I C I E N T = 3.000E-02

D E S C R I P T I O N = G U I D E

P E C T R A L P E R I O D / D I S P L A C E M E N T - O R - A C C E L E R A T I O N

| | |
|--------------|------------|
| 1.0000E-05 / | 1.0829E 00 |
| 1.6700E-02 / | 1.0829E 00 |
| 2.0000E-02 / | 1.0829E 00 |
| 2.1700E-02 / | 1.0115E 00 |
| 2.6700E-02 / | 5.3721E-01 |
| 3.1800E-02 / | 3.9473E-01 |
| 3.8500E-02 / | 2.9859E-01 |

L T I P L E S U P P O R T R E S P O N S E S P E C T R U M I N P U T

M-RX MS BREAK

L T I P L E S U P P O R T R E S P O N S E S P E C T R U M I N P U T

M-RX MS BREAK

| | | |
|------------|---|------------|
| 4.0200E-02 | / | 2.8733E-01 |
| 4.4000E-02 | / | 2.8397E-01 |
| 4.5000E-02 | / | 2.7462E-01 |
| 4.5000E-02 | / | 2.5084E-01 |
| 4.6900E-02 | / | 2.1152E-01 |
| 4.8600E-02 | / | 1.8735E-01 |
| 5.0200E-02 | / | 1.7148E-01 |
| 5.1900E-02 | / | 1.6331E-01 |
| 5.7000E-02 | / | 2.1581E-01 |
| 5.8600E-02 | / | 2.2385E-01 |
| 6.0300E-02 | / | 2.2860E-01 |
| 8.0500E-02 | / | 2.2860E-01 |
| 8.2100E-02 | / | 2.2654E-01 |
| 8.3800E-02 | / | 2.2415E-01 |
| 8.5500E-02 | / | 2.1721E-01 |
| 9.8900E-02 | / | 1.1488E-01 |
| 1.1400E-01 | / | 7.4300E-02 |
| 1.1910E-01 | / | 6.6850E-02 |
| 1.2410E-01 | / | 6.2280E-02 |
| 1.2580E-01 | / | 6.1070E-02 |
| 1.3080E-01 | / | 5.8950E-02 |
| 1.3250E-01 | / | 5.8680E-02 |
| 1.3750E-01 | / | 5.8680E-02 |
| 1.3920E-01 | / | 5.7660E-02 |
| 1.4420E-01 | / | 5.3380E-02 |
| 1.5940E-01 | / | 3.7210E-02 |
| 1.8620E-01 | / | 2.4010E-02 |
| 2.0470E-01 | / | 1.7590E-02 |
| 2.1140E-01 | / | 1.6060E-02 |
| 2.1310E-01 | / | 1.6080E-02 |

PECTRUM TABLE NUMBER = 4
 NUMBER OF ENTRIES = 39
 PECTRUM TYPE = PER000/ ACC
 SCALE FACTOR = 386.0
 DAMPING COEFFICIENT = 3.000E-02
 DESCRIPTION = PENETRATION

PECTRAL PERIOD / DISPLACEMENT-OR-ACCELERATION

| | | |
|------------|---|------------|
| 1.0000E-05 | / | 1.6153E-01 |
| 1.6700E-02 | / | 1.6153E-01 |
| 1.8300E-02 | / | 1.6212E-01 |
| 2.0000E-02 | / | 1.6212E-01 |
| 2.1700E-02 | / | 1.6205E-01 |
| 2.3400E-02 | / | 1.5500E-01 |
| 2.6700E-02 | / | 1.1106E-01 |
| 2.8400E-02 | / | 1.0536E-01 |
| 3.6800E-02 | / | 1.0536E-01 |

L T I P L E S U P P O R T R E S P O N S E S P E C T R U M I N P U T

M-RX MS BREAK

L T I P L E S U P P O R T R E S P O N S E S P E C T R U M I N P U T

| | | |
|------------|---|------------|
| 3.8500E-02 | / | 1.0308E-01 |
| 4.0200E-02 | / | 1.0025E-01 |
| 4.1800E-02 | / | 9.3550E-02 |
| 4.5200E-02 | / | 6.6910E-02 |
| 4.6900E-02 | / | 6.3340E-02 |
| 4.8600E-02 | / | 6.8200E-02 |
| 5.1900E-02 | / | 9.7120E-02 |
| 5.3600E-02 | / | 9.2200E-02 |
| 5.5300E-02 | / | 9.3980E-02 |
| 5.7000E-02 | / | 9.4320E-02 |
| 7.3700E-02 | / | 9.4320E-02 |
| 7.5400E-02 | / | 9.4250E-02 |
| 7.7100E-02 | / | 9.4030E-02 |
| 8.0500E-02 | / | 9.3440E-02 |
| 8.8600E-02 | / | 8.7670E-02 |
| 9.3900E-02 | / | 6.3980E-02 |
| 1.0730E-01 | / | 6.1320E-02 |
| 1.0900E-01 | / | 5.0950E-02 |
| 1.1910E-01 | / | 5.0880E-02 |
| 1.2240E-01 | / | 4.9840E-02 |
| 1.2410E-01 | / | 4.9680E-02 |
| 1.2580E-01 | / | 4.9460E-02 |
| 1.3080E-01 | / | 4.7520E-02 |
| 1.5940E-01 | / | 1.9080E-02 |
| 1.7110E-01 | / | 1.6310E-02 |
| 1.7280E-01 | / | 1.6180E-02 |
| 1.8290E-01 | / | 1.7820E-02 |
| 2.0130E-01 | / | 2.1710E-02 |
| 2.0300E-01 | / | 2.1840E-02 |

U P P O R T E X C I T A T I O N I N P U T I N F O R M A T I O N

| RESTRAINT LABEL | X TRANSLATIONAL | Y TRANSLATIONAL | Z TRANSLATIONAL | M U L T I P L I E R S | S P E C T R U M N U M B E R |
|-----------------|-----------------|-----------------|-----------------|-----------------------|-----------------------------|
| RPUN1 | 1.0000E 00 | 0. | 0. | 0. | 1 |
| RPUN2 | 1.0000E 00 | 0. | 0. | 0. | 1 |
| RPUN3 | 1.0000E 00 | 0. | 0. | 0. | 1 |
| AS003 | 1.0000E 00 | 0. | 0. | 0. | 1 |
| AS005 | 1.0000E 00 | 0. | 0. | 0. | 1 |
| AS004 | 1.0000E 00 | 0. | 0. | 0. | 1 |
| AS007 | 1.0000E 00 | 0. | 0. | 0. | 1 |
| AS006 | 1.0000E 00 | 0. | 0. | 0. | 1 |
| GUIDE | 1.0000E 00 | 0. | 0. | 0. | 1 |
| ANC | 1.0000E 00 | 0. | 0. | 0. | 1 |

I T 0 1 0 7 - 2 2 - 9 2 1 8 . 1 6 9 P I S Y 5 0 6 F E E D W A T E R L I N E A

L T I P L E S U P P O R T R E S P O N S E S P E C T R U M I N P U T

LTIPLE SUPPORT RESPONSE SPECTRUM ANALYSIS

M-RX MS BREAK

PREVIOUSLY SAVED PARTICIPATION FACTORS HAVE BEEN SUCCESSFULLY RETRIEVED FROM FILE CODE 23
 MODAL PARTICIPATION FACTORS

| MODE NUMBER | FREQUENCY (HERTZ) | SUPPORT NUMBER AND FACTORS | | | | | | | | | |
|-------------|-------------------|----------------------------|--------------|----|--------------|----|--------------|----|--------------|----|--------------|
| 1 | 8.126 | 1 | -2.47121E 00 | 2 | -8.33189E-01 | 3 | 2.83760E 00 | 4 | 2.11920E-01 | 5 | 3.90609E-02 |
| | | 6 | 4.66300E-01 | 7 | -7.28889E-02 | 8 | 4.17094E-02 | 9 | 4.60421E-01 | 10 | -2.15295E-01 |
| | | 11 | 7.93844E-02 | 12 | 5.74998E-01 | 13 | 7.56524E 00 | 14 | 2.14310E 00 | 15 | -1.74536E 00 |
| | | 16 | -1.40429E 00 | 17 | 3.28341E 00 | 18 | 9.18522E-01 | 19 | 9.18552E-01 | 20 | -2.16636E 00 |
| | | 21 | 2.16373E 00 | 22 | -5.47649E-01 | 23 | -4.59772E-01 | 24 | 4.92717E-01 | 25 | -5.86890E-01 |
| 2 | 10.671 | 1 | 1.20032E 00 | 2 | -1.73186E 00 | 3 | -5.51535E-01 | 4 | -2.29063E-01 | 5 | 2.25932E-01 |
| | | 6 | 3.84387E-01 | 7 | 1.44198E-01 | 8 | 1.09624E-01 | 9 | -3.06140E-02 | 10 | 1.70547E-02 |
| | | 11 | 4.57423E-02 | 12 | -4.84575E-01 | 13 | -3.34059E 00 | 14 | 4.14417E 00 | 15 | 2.23215E-01 |
| | | 16 | 1.79595E-01 | 17 | -4.19917E-01 | 18 | 8.67347E-01 | 19 | 8.67376E-01 | 20 | -2.42355E 00 |
| | | 21 | 2.42061E 00 | 22 | 9.67769E-02 | 23 | 8.12480E-02 | 24 | 6.96325E-01 | 25 | -8.29414E-01 |
| 3 | 11.554 | 1 | -6.46668E-01 | 2 | 5.31906E-01 | 3 | 3.29275E-01 | 4 | 2.01890E-02 | 5 | -2.74524E-01 |
| | | 6 | 8.01196E-01 | 7 | 3.73147E-02 | 8 | -8.08778E-03 | 9 | 3.34001E-02 | 10 | -3.43092E-01 |
| | | 11 | -3.56686E-01 | 12 | -1.28909E 00 | 13 | 1.85154E 00 | 14 | -1.29654E 00 | 15 | -2.05889E-01 |
| | | 16 | -1.65655E-01 | 17 | 3.87322E-01 | 18 | 2.25550E-01 | 19 | 2.25558E-01 | 20 | 1.29283E 00 |
| | | 21 | -1.28127E 00 | 22 | -3.38250E-01 | 23 | -2.83974E-01 | 24 | -6.68390E-01 | 25 | 7.96140E-01 |
| 4 | 11.842 | 1 | 6.00221E-01 | 2 | 5.44366E-01 | 3 | -4.46262E-01 | 4 | -2.54188E-01 | 5 | -5.22341E-01 |
| | | 6 | 1.35285E 00 | 7 | 1.76461E-02 | 8 | -5.53318E-02 | 9 | -7.75584E-02 | 10 | 2.19431E-01 |
| | | 11 | 1.86903E-01 | 12 | 7.42028E-01 | 13 | -1.79554E 00 | 14 | -1.25791E 00 | 15 | -3.16647E-01 |
| | | 16 | -2.54769E-01 | 17 | 5.95683E-01 | 18 | -4.92073E-01 | 19 | -4.92089E-01 | 20 | 9.34800E-02 |
| | | 21 | -9.33666E-02 | 22 | 4.39743E-01 | 23 | 3.69181E-01 | 24 | 2.45898E-01 | 25 | -2.92897E-01 |
| 5 | 13.025 | 1 | -3.66546E-01 | 2 | -7.05655E-01 | 3 | -5.01030E-01 | 4 | 3.70877E-02 | 5 | 4.35788E-01 |
| | | 6 | 7.36382E-03 | 7 | -5.41073E-04 | 8 | 4.89478E-01 | 9 | -2.38921E-02 | 10 | -3.97476E-02 |
| | | 11 | 1.27252E 00 | 12 | 2.65602E-01 | 13 | 1.43531E 00 | 14 | 1.31039E 00 | 15 | 2.62247E-01 |
| | | 16 | 2.11000E-01 | 17 | -4.93346E-01 | 18 | -9.61373E-02 | 19 | -9.61405E-02 | 20 | 1.68235E 00 |
| | | 21 | -1.68031E 00 | 22 | 1.98823E 00 | 23 | 1.66919E 00 | 24 | -4.91990E-01 | 25 | 5.86025E-01 |
| 6 | 15.275 | 1 | 3.24656E-01 | 2 | 1.24210E 00 | 3 | 1.04385E 00 | 4 | 7.84291E-02 | 5 | -6.49649E-01 |
| | | 6 | -5.82303E-02 | 7 | 2.08878E-02 | 8 | -8.96499E-02 | 9 | 1.67002E-01 | 10 | -1.09051E-01 |
| | | 11 | 7.03582E-01 | 12 | -6.09131E-02 | 13 | -1.62016E 00 | 14 | -2.48899E 00 | 15 | -8.11394E-01 |
| | | 16 | -6.52834E-01 | 17 | 1.52641E 00 | 18 | -4.66183E-01 | 19 | -4.66199E-01 | 20 | -1.45964E 00 |
| | | 21 | 1.45787E 00 | 22 | 9.17860E-01 | 23 | 7.70579E-01 | 24 | 2.99487E-01 | 25 | -3.56727E-01 |
| 7 | 15.809 | 1 | 1.31258E-01 | 2 | 1.39885E 00 | 3 | 1.35978E 00 | 4 | -1.96674E-01 | 5 | 1.23788E 00 |
| | | 6 | -2.12795E-01 | 7 | 6.44740E-02 | 8 | 4.60681E-02 | 9 | 1.70967E-02 | 10 | 8.15989E-02 |
| | | 11 | -8.20362E-02 | 12 | -2.25314E-02 | 13 | -9.41577E-01 | 14 | -2.96517E 00 | 15 | -1.30894E-01 |

LTIPLE SUPPORT RESPONSE SPECTRUM ANALYSIS

M-RX MS BREAK

MULTIPLE SUPPORT RESPONSE SPECTRUM ANALYSIS

M-RX MS BREAK

| | | | | | | | | | | | |
|----|--------|----|--------------|----|--------------|----|--------------|----|--------------|----|--------------|
| 8 | 17.998 | 16 | -1.05315E-01 | 17 | 2.46240E-01 | 18 | 1.05810E 00 | 19 | 1.05814E 00 | 20 | -8.75106E-01 |
| | | 21 | 8.74044E-01 | 22 | 7.79779E-02 | 23 | 6.54654E-02 | 24 | 5.29598E-01 | 25 | -6.30820E-01 |
| | | 1 | 3.27171E-02 | 2 | -1.87328E-01 | 3 | -4.22821E-01 | 4 | -7.11660E-03 | 5 | -1.03090E-01 |
| | | 6 | 7.73104E-03 | 7 | 1.32906E-01 | 8 | 6.06063E-02 | 9 | 2.26804E-01 | 10 | 5.62685E-01 |
| | | 11 | -4.91030E-01 | 12 | -2.89594E-01 | 13 | 2.01215E-01 | 14 | 3.15807E-01 | 15 | -1.31501E-01 |
| | | 16 | -1.05804E-01 | 17 | 2.47382E-01 | 18 | -1.66525E-01 | 19 | -1.66530E-01 | 20 | 1.01962E-02 |
| 9 | 19.854 | 21 | -1.01838E-02 | 22 | 1.14561E 00 | 23 | 9.61787E-01 | 24 | 2.74787E 00 | 25 | -3.27307E 00 |
| | | 1 | -6.04652E-01 | 2 | 3.47558E-01 | 3 | 7.40943E-01 | 4 | 2.55926E-01 | 5 | -5.01076E-01 |
| | | 6 | 1.20278E-01 | 7 | 1.67752E-01 | 8 | -3.33576E-03 | 9 | -4.04569E-01 | 10 | 2.64572E-01 |
| | | 11 | 2.03562E-01 | 12 | 1.04399E-01 | 13 | 8.75003E-01 | 14 | -5.64848E-01 | 15 | 1.40250E 00 |
| | | 16 | 1.12843E 00 | 17 | -2.63842E 00 | 18 | 2.07164E 00 | 19 | 2.07171E 00 | 20 | 5.20267E-01 |
| | | 21 | -5.19636E-01 | 22 | 1.52875E-01 | 23 | 1.28344E-01 | 24 | 5.11784E-01 | 25 | -6.09601E-01 |
| 10 | 21.590 | 1 | -1.30819E-01 | 2 | 1.41096E-01 | 3 | 1.61103E-01 | 4 | -5.24979E-01 | 5 | -3.74654E-01 |
| | | 6 | 1.34683E-01 | 7 | -1.30493E-01 | 8 | 9.11101E-02 | 9 | -2.24901E-01 | 10 | -4.33150E-01 |
| | | 11 | -1.65785E-01 | 12 | -1.05746E-01 | 13 | 8.00977E-02 | 14 | -2.46184E-01 | 15 | 3.78554E-01 |
| | | 16 | 3.04578E-01 | 17 | -7.12144E-01 | 18 | 3.63038E-01 | 19 | 3.63050E-01 | 20 | -8.07315E-01 |
| 11 | 21.903 | 21 | 8.06335E-01 | 22 | -3.27871E-01 | 23 | -2.75260E-01 | 24 | -1.19970E-01 | 25 | 1.42900E-01 |
| | | 1 | -8.97462E-02 | 2 | 5.33538E-02 | 3 | 5.62848E-03 | 4 | -4.29309E-01 | 5 | -1.82060E-01 |
| | | 6 | 8.83878E-02 | 7 | -2.46543E-02 | 8 | -5.95694E-02 | 9 | 8.29876E-01 | 10 | 3.34419E-01 |
| | | 11 | 2.44623E-01 | 12 | 1.04010E-01 | 13 | 8.08824E-02 | 14 | -8.29538E-02 | 15 | 1.90938E-01 |
| | | 16 | 1.60062E-01 | 17 | -3.74246E-01 | 18 | 5.27745E-02 | 19 | 5.27762E-02 | 20 | -3.92174E-01 |
| | | 21 | 3.91698E-01 | 22 | 5.47506E-02 | 23 | 4.59653E-02 | 24 | -1.88042E-01 | 25 | 2.23982E-01 |
| 12 | 22.948 | 1 | -1.31235E-02 | 2 | 4.34438E-02 | 3 | 2.51818E-01 | 4 | 3.06332E-01 | 5 | -1.72857E-01 |
| | | 6 | -1.45745E-03 | 7 | 3.57920E-02 | 8 | 3.78481E-01 | 9 | 7.48086E-01 | 10 | -2.56487E-01 |
| | | 11 | -4.61861E-01 | 12 | -2.98470E-02 | 13 | 1.54236E-02 | 14 | -8.19220E-02 | 15 | 2.47635E-01 |
| | | 16 | 1.99243E-01 | 17 | -4.65857E-01 | 18 | 1.08673E 00 | 19 | 1.08676E 00 | 20 | 2.02489E-01 |
| 13 | 23.646 | 21 | -2.02245E-01 | 22 | 1.05631E 00 | 23 | 8.86812E-01 | 24 | -4.15774E-01 | 25 | 4.95241E-01 |
| | | 1 | 1.03513E-01 | 2 | 6.12122E-03 | 3 | 2.01237E-01 | 4 | -1.44009E-01 | 5 | -1.53150E-01 |
| | | 6 | -1.27489E-02 | 7 | -4.78375E-03 | 8 | 3.98423E-01 | 9 | -4.26482E-01 | 10 | 3.27447E-01 |
| | | 11 | -6.07306E-01 | 12 | -1.99569E-02 | 13 | -5.32195E-02 | 14 | -3.50851E-02 | 15 | -5.78572E-01 |
| | | 16 | -4.65510E-01 | 17 | 1.08842E 00 | 18 | 2.84433E-01 | 19 | 2.84442E-01 | 20 | -1.62491E-01 |
| | | 21 | 1.62294E-01 | 22 | 2.25957E 00 | 23 | 1.89700E 00 | 24 | -7.65428E-01 | 25 | 9.11725E-01 |
| 14 | 25.645 | 1 | 2.14401E-01 | 2 | -1.10049E-01 | 3 | 2.50268E-01 | 4 | 1.15693E-02 | 5 | -2.77656E-01 |
| | | 6 | -3.40458E-02 | 7 | 9.81769E-03 | 8 | 7.44911E-01 | 9 | -5.54737E-02 | 10 | -1.00700E-01 |
| | | 11 | 4.96218E-01 | 12 | 6.85672E-02 | 13 | 9.78428E-01 | 14 | 5.90768E-02 | 15 | -7.92523E-01 |
| | | 16 | -6.37651E-01 | 17 | 1.49091E 00 | 18 | 6.96416E-01 | 19 | 6.96439E-01 | 20 | -1.23850E-01 |
| 15 | 27.271 | 21 | 1.23699E-01 | 22 | -9.23687E-01 | 23 | -7.75471E-01 | 24 | 3.28474E-01 | 25 | -3.91255E-01 |
| | | 1 | 9.94608E-02 | 2 | -2.24455E-01 | 3 | -6.24734E-01 | 4 | -2.43517E-02 | 5 | 1.42304E-01 |
| | | 6 | -1.88016E-02 | 7 | -8.13451E-02 | 8 | -4.60575E-01 | 9 | 9.85066E-03 | 10 | 6.48079E-03 |
| | | 11 | 8.00290E-02 | 12 | -2.10897E-02 | 13 | 3.36997E 00 | 14 | 1.47404E-01 | 15 | -3.62079E-02 |
| | | 16 | -2.91323E-02 | 17 | 6.81152E-02 | 18 | 5.05399E-01 | 19 | 5.05416E-01 | 20 | -1.38183E 00 |

MULTIPLE SUPPORT RESPONSE SPECTRUM ANALYSIS

M-RX MS BREAK

MULTIPLE SUPPORT RESPONSE SPECTRUM ANALYSIS

M-RX MS BREAK

| | | | | | | | | | | | |
|----|--------|----|--------------|----|--------------|----|--------------|----|--------------|----|--------------|
| 16 | 30.144 | 21 | 1.38016E 00 | 22 | 3.57989E-01 | 23 | 3.00545E-01 | 24 | -3.40369E-01 | 25 | 4.05424E-01 |
| | | 1 | 6.30132E-02 | 2 | -1.95152E-01 | 3 | -1.22213E 00 | 4 | 2.30605E-03 | 5 | 2.20860E-01 |
| | | 6 | -1.02547E-02 | 7 | -2.70236E-01 | 8 | 2.06983E-01 | 9 | -2.52317E-02 | 10 | 1.94945E-02 |
| | | 11 | 3.40851E-01 | 12 | -3.99359E-02 | 13 | -2.10067E 00 | 14 | 1.35832E-01 | 15 | 3.42049E-01 |
| | | 16 | 2.75207E-01 | 17 | -6.43470E-01 | 18 | 3.97023E-01 | 19 | 3.97023E-01 | 20 | -1.42486E 00 |
| | | 21 | 1.42313E 00 | 22 | 1.52207E-01 | 23 | 1.27784E-01 | 24 | -5.54984E-01 | 25 | 6.61058E-01 |
| 17 | 32.488 | 1 | 3.60086E-02 | 2 | 1.75351E-01 | 3 | -4.24779E-01 | 4 | -1.99841E-02 | 5 | 1.59585E-01 |
| | | 6 | 2.19861E-02 | 7 | -4.07051E-01 | 8 | 1.73568E 00 | 9 | 4.46901E-03 | 10 | 1.42633E-01 |
| | | 11 | -4.34714E-01 | 12 | 6.95124E-02 | 13 | 8.56100E-01 | 14 | -1.17212E-01 | 15 | 3.39826E-01 |
| | | 16 | 2.73418E-01 | 17 | -6.39288E-01 | 18 | -4.98297E-01 | 19 | -4.98313E-01 | 20 | -4.36723E-01 |
| | | 21 | 4.36193E-01 | 22 | -4.55634E-01 | 23 | -3.82523E-01 | 24 | -1.72810E-01 | 25 | 2.05840E-01 |
| 18 | 34.289 | 1 | -1.36581E-01 | 2 | 2.02740E-01 | 3 | 1.45240E 00 | 4 | 3.95864E-01 | 5 | -1.30524E 00 |
| | | 6 | -2.62692E-01 | 7 | -1.56914E-01 | 8 | -4.76817E-02 | 9 | 1.16293E-02 | 10 | 1.72446E-01 |
| | | 11 | -3.94680E-01 | 12 | 7.62528E-02 | 13 | -1.50262E-01 | 14 | 1.69380E-03 | 15 | -2.86914E-01 |
| | | 16 | -2.30847E-01 | 17 | 5.39750E-01 | 18 | -4.05365E-02 | 19 | -4.05379E-02 | 20 | -2.32882E-01 |
| | | 21 | 2.32599E-01 | 22 | -2.54697E-01 | 23 | -2.47409E-01 | 24 | -3.41254E-01 | 25 | 4.86477E-01 |
| 19 | 35.752 | 1 | -6.14533E-01 | 2 | 2.97217E-01 | 3 | 2.29453E 00 | 4 | -6.58103E-02 | 5 | 7.71128E-01 |
| | | 6 | 2.34444E-01 | 7 | -1.44258E-01 | 8 | 2.78188E-01 | 9 | 1.14263E-02 | 10 | -8.05167E-02 |
| | | 11 | 6.95680E-01 | 12 | -2.03512E-01 | 13 | -5.22684E-01 | 14 | 1.65181E-01 | 15 | -3.57734E-01 |
| | | 16 | -2.87827E-01 | 17 | 6.72977E-01 | 18 | -5.00416E-02 | 19 | -5.00432E-02 | 20 | 1.18593E-01 |
| | | 21 | -1.18449E-01 | 22 | 1.48621E-01 | 23 | 1.24773E-01 | 24 | -2.28624E-01 | 25 | 2.72321E-01 |
| 20 | 36.127 | 1 | -2.12367E-01 | 2 | 8.63089E-03 | 3 | 5.52804E-01 | 4 | -1.20712E-01 | 5 | 7.69783E-01 |
| | | 6 | 2.13815E-01 | 7 | 4.44070E-02 | 8 | -3.79308E-01 | 9 | 1.14168E-02 | 10 | 2.56316E-01 |
| | | 11 | -1.39328E 00 | 12 | 4.06129E-01 | 13 | -4.56826E-01 | 14 | 3.41663E-02 | 15 | -1.51036E-01 |
| | | 16 | -1.21521E-01 | 17 | 2.84132E-01 | 18 | 1.62995E-01 | 19 | 1.63001E-01 | 20 | -7.14056E-02 |
| | | 21 | 7.13189E-02 | 22 | -3.44929E-01 | 23 | -2.89581E-01 | 24 | -4.12671E-02 | 25 | 4.91545E-02 |
| 21 | 38.942 | 1 | 7.67296E-01 | 2 | 9.72044E-01 | 3 | 6.44488E-01 | 4 | 3.05086E-02 | 5 | 1.61219E-01 |
| | | 6 | 6.72778E-02 | 7 | 4.73289E-02 | 8 | -3.80664E-01 | 9 | -1.19166E-02 | 10 | 2.80740E-02 |
| | | 11 | 7.83509E-02 | 12 | -2.89640E-02 | 13 | 2.66240E 00 | 14 | 6.59399E-01 | 15 | 2.09884E-01 |
| | | 16 | 1.68869E-01 | 17 | -3.94839E-01 | 18 | -1.42439E-01 | 19 | -1.42444E-01 | 20 | 7.53509E-02 |
| | | 21 | -7.52594E-02 | 22 | 2.80877E-02 | 23 | 2.35807E-02 | 24 | -9.79784E-02 | 25 | 1.16705E-01 |
| 22 | 43.322 | 1 | 1.29903E 00 | 2 | -4.84699E-01 | 3 | 1.13627E 00 | 4 | 2.13976E-01 | 5 | 3.64096E-01 |
| | | 6 | 2.92792E-01 | 7 | -5.41529E-02 | 8 | 1.15820E-01 | 9 | 1.46783E-02 | 10 | 9.31923E-02 |
| | | 11 | 8.50111E-02 | 12 | -8.39944E-02 | 13 | 2.49446E 00 | 14 | -6.10834E-01 | 15 | -1.29970E-01 |
| | | 16 | -1.04572E-01 | 17 | 2.44503E-01 | 18 | 1.49104E-01 | 19 | 1.49109E-01 | 20 | 1.29898E-01 |
| | | 21 | -1.29741E-01 | 22 | -1.09230E-01 | 23 | -9.17032E-02 | 24 | -6.77898E-02 | 25 | 8.07465E-02 |
| 23 | 46.471 | 1 | 5.70113E-01 | 2 | 1.67067E-01 | 3 | 1.67845E 00 | 4 | -4.52065E-01 | 5 | -2.77632E-01 |
| | | 6 | -3.63702E-01 | 7 | -3.90691E-02 | 8 | 2.17543E-01 | 9 | -9.46433E-03 | 10 | -4.96940E-01 |
| | | 11 | -2.90667E-01 | 12 | 3.82141E-01 | 13 | 1.37917E 00 | 14 | 5.45171E-01 | 15 | -5.12375E-02 |
| | | 16 | -4.12248E-02 | 17 | 9.63891E-02 | 18 | 5.10252E-02 | 19 | 5.10269E-02 | 20 | 5.90134E-02 |
| | | 21 | -5.89417E-02 | 22 | 1.96343E-01 | 23 | 1.66516E-01 | 24 | 5.35959E-02 | 25 | -6.38398E-02 |

MULTIPLE SUPPORT RESPONSE SPECTRUM ANALYSIS

M-RX MS BREAK

MULTIPLE SUPPORT RESPONSE SPECTRUM ANALYSIS

M-RX MS BREAK

| | | | | | | | | | | | |
|----|--------|----|--------------|----|--------------|----|--------------|----|--------------|----|--------------|
| 24 | 47.729 | 1 | 2.15162E-01 | 2 | -2.14475E-01 | 3 | 6.81612E-01 | 4 | -6.13658E-01 | 5 | -1.89102E-01 |
| | | 6 | -4.02258E-01 | 7 | 1.13006E-02 | 8 | -7.80485E-02 | 9 | 4.46438E-02 | 10 | 6.31332E-01 |
| | | 11 | 1.93232E-01 | 12 | -4.03363E-01 | 13 | 5.51999E-01 | 14 | -4.21783E-01 | 15 | 1.72522E-02 |
| | | 16 | 1.38808E-02 | 17 | -3.1152E-02 | 18 | 1.47142E-02 | 19 | 1.47142E-02 | 20 | 8.49401E-02 |
| | | 21 | -8.48370E-02 | 22 | -1.27192E-01 | 23 | -1.06783E-01 | 24 | -6.99012E-02 | 25 | 8.32614E-02 |
| 25 | 49.575 | 1 | 7.65267E-02 | 2 | 1.50596E-00 | 3 | -1.52166E-01 | 4 | 3.16759E-02 | 5 | 2.42985E-02 |
| | | 6 | 3.16798E-02 | 7 | 4.27303E-03 | 8 | 9.63754E-02 | 9 | 1.01303E-01 | 10 | 1.94183E-01 |
| | | 11 | 2.22175E-02 | 12 | -1.15609E-01 | 13 | -2.59725E-01 | 14 | 4.04172E-00 | 15 | -8.78932E-02 |
| | | 16 | -6.91083E-02 | 17 | 1.6584E-01 | 18 | 1.48720E-01 | 19 | 1.48725E-01 | 20 | -7.82199E-02 |
| | | 21 | 7.81249E-02 | 22 | -4.0532E-02 | 23 | -3.40289E-02 | 24 | 5.64491E-02 | 25 | -6.72382E-02 |
| 26 | 50.540 | 1 | -2.14697E-02 | 2 | -1.1247E-01 | 3 | -6.05878E-02 | 4 | -4.63795E-03 | 5 | 4.51672E-03 |
| | | 6 | 4.35301E-04 | 7 | -1.20911E-03 | 8 | -5.40663E-03 | 9 | 1.15363E-00 | 10 | -5.08296E-02 |
| | | 11 | -1.09225E-03 | 12 | 2.59934E-02 | 13 | -1.47363E-02 | 14 | -3.31014E-01 | 15 | 2.33215E-03 |
| | | 16 | -1.87641E-03 | 17 | 4.38730E-03 | 18 | -2.30910E-03 | 19 | -2.30917E-03 | 20 | 6.71914E-03 |
| | | 21 | -6.71098E-03 | 22 | -3.45130E-03 | 23 | -2.89800E-03 | 24 | -5.09006E-03 | 25 | 6.06293E-03 |
| 27 | 53.593 | 1 | -1.60633E-01 | 2 | 1.65860E-01 | 3 | -2.13603E-00 | 4 | -4.89865E-01 | 5 | 2.03374E-01 |
| | | 6 | -1.1012E-01 | 7 | -2.53958E-02 | 8 | -1.06297E-01 | 9 | -2.90131E-02 | 10 | -3.51754E-01 |
| | | 11 | 1.12861E-01 | 12 | 1.18590E-01 | 13 | -5.59327E-01 | 14 | 2.44804E-01 | 15 | -4.75990E-02 |
| | | 16 | -3.82974E-02 | 17 | 8.95443E-02 | 18 | 4.02166E-02 | 19 | 4.02179E-02 | 20 | 5.03423E-02 |
| | | 21 | -5.02812E-02 | 22 | -1.57139E-01 | 23 | -1.31924E-01 | 24 | -8.88979E-02 | 25 | 1.05889E-01 |
| 28 | 56.477 | 1 | -1.27592E-01 | 2 | -7.64194E-02 | 3 | -2.54981E-00 | 4 | -1.05012E-01 | 5 | 8.84458E-02 |
| | | 6 | 3.16076E-02 | 7 | -4.32751E-02 | 8 | 2.73510E-01 | 9 | 2.11158E-03 | 10 | 3.01026E-01 |
| | | 11 | -2.29003E-01 | 12 | -1.10060E-02 | 13 | -2.00821E-01 | 14 | -6.82500E-01 | 15 | -7.3947E-02 |
| | | 16 | -5.94931E-02 | 17 | 1.39103E-01 | 18 | 1.03470E-01 | 19 | 1.03474E-01 | 20 | 2.31574E-01 |
| | | 21 | -2.31292E-01 | 22 | 1.73536E-01 | 23 | 1.45690E-01 | 24 | -9.65282E-03 | 25 | 1.14978E-02 |
| 29 | 58.590 | 1 | -2.68508E-01 | 2 | -6.36916E-02 | 3 | 6.25965E-00 | 4 | -1.30052E-01 | 5 | 1.14533E-01 |
| | | 6 | 9.07052E-03 | 7 | 3.84781E-03 | 8 | 6.51186E-02 | 9 | -9.47381E-03 | 10 | 3.74007E-02 |
| | | 11 | -2.68213E-02 | 12 | -7.97425E-03 | 13 | -6.75376E-01 | 14 | 7.62561E-01 | 15 | 6.18322E-02 |
| | | 16 | 4.97492E-02 | 17 | -1.10324E-01 | 18 | 1.02214E-01 | 19 | 1.02218E-01 | 20 | -8.47182E-02 |
| | | 21 | 8.46157E-02 | 22 | -6.06731E-03 | 23 | -5.09374E-03 | 24 | 4.65879E-02 | 25 | -5.54923E-02 |
| 30 | 65.799 | 1 | -3.41462E-01 | 2 | 2.00700E-01 | 3 | 1.35377E-00 | 4 | 4.78694E-02 | 5 | -1.03593E-02 |
| | | 6 | 6.50402E-02 | 7 | -1.89243E-02 | 8 | -1.39023E-01 | 9 | 1.90361E-02 | 10 | 3.47859E-03 |
| | | 11 | -1.78854E-01 | 12 | 2.11762E-01 | 13 | -1.78500E-01 | 14 | 1.27369E-00 | 15 | 8.85513E-02 |
| | | 16 | 7.12470E-02 | 17 | -1.66585E-01 | 18 | -1.73795E-01 | 19 | -1.78801E-01 | 20 | 1.84582E-01 |
| | | 21 | -1.84358E-01 | 22 | 6.5198E-02 | 23 | 5.16482E-02 | 24 | -1.26586E-01 | 25 | 1.51257E-01 |

MULTIPLE SUPPORT RESPONSE SPECTRUM ANALYSIS

M-RX MS BREAK

SPECTRUM ANALYSIS LOAD CASE = (1)

| MODE NUMBER | NATURAL FREQUENCY | SPECTRUM (1) | SPECTRUM (2) | SPECTRUM (3) | SPECTRUM (4) | SPECTRUM (0) | SPECTRUM (0) | SPECTRUM (0) | SPECTRUM (0) |
|-------------|-------------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|
| 1 | 8.13 | -1.0360E-02 | -2.1637E-01 | 7.0829E-02 | -1.8214E-02 | | | | |
| 2 | 10.87 | -9.0664E-03 | -5.1923E-02 | -4.6337E-02 | 6.1888E-03 | | | | |
| 3 | 11.55 | -3.6360E-02 | 2.7779E-02 | 2.8367E-02 | -3.3343E-03 | | | | |
| 4 | 11.84 | -2.1304E-03 | -2.7183E-03 | -2.7732E-02 | 3.1976E-03 | | | | |
| 5 | 13.02 | -3.3489E-04 | 6.5534E-01 | 1.8911E-02 | -1.9764E-03 | | | | |
| 6 | 15.27 | -7.4040E-04 | -8.4362E-02 | -1.5520E-02 | 1.2832E-03 | | | | |
| 7 | 15.81 | -3.5932E-03 | 3.4132E-02 | -8.4205E-03 | 4.8432E-04 | | | | |
| 8 | 18.00 | 3.5838E-02 | 1.4637E-01 | 1.2208E-03 | 9.2861E-05 | | | | |
| 9 | 19.85 | 2.8190E-02 | 2.5049E-01 | 3.7044E-03 | -1.1750E-03 | | | | |
| 10 | 21.59 | -3.9476E-02 | -3.0585E-02 | 3.7799E-04 | -1.7717E-04 | | | | |
| 11 | 21.90 | -4.2187E-03 | -1.6453E-02 | 3.9610E-04 | -1.2063E-04 | | | | |
| 12 | 22.95 | 2.7581E-03 | 1.2719E-01 | 7.8335E-05 | -1.9402E-05 | | | | |
| 13 | 23.65 | 5.4172E-03 | 5.7745E-02 | -2.6176E-04 | 1.6237E-04 | | | | |
| 14 | 25.64 | -2.176E-03 | -3.8786E-02 | 4.2958E-03 | 3.2595E-04 | | | | |
| 15 | 27.27 | -2.179E-03 | -3.7667E-02 | 1.4393E-02 | 1.3777E-04 | | | | |
| 16 | 30.14 | -4.17E-03 | -3.7488E-02 | -8.4768E-03 | 7.1441E-05 | | | | |
| 17 | 32.49 | -3.5173E-03 | -3.6120E-02 | 3.3563E-03 | 3.5146E-05 | | | | |
| 18 | 34.29 | 4.0426E-03 | -3.0537E-02 | -5.8528E-04 | -1.1967E-04 | | | | |
| 19 | 35.75 | -2.4445E-03 | -8.2813E-03 | -2.0060E-03 | -5.0205E-04 | | | | |
| 20 | 36.13 | 1.4619E-03 | -9.6785E-03 | -1.7448E-03 | -1.7142E-04 | | | | |
| 21 | 38.94 | 6.6659E-04 | 1.2010E-03 | 1.0884E-02 | 6.1267E-04 | | | | |
| 22 | 43.32 | 1.2146E-03 | -3.5531E-04 | 1.1440E-02 | 1.0579E-03 | | | | |
| 23 | 46.47 | -4.1850E-03 | 3.6171E-03 | 6.3637E-03 | 4.1831E-04 | | | | |
| 24 | 47.73 | 1.1547E-04 | -8.8830E-04 | 2.4709E-03 | 1.4978E-04 | | | | |
| 25 | 49.57 | 8.4139E-04 | 5.4048E-06 | -1.1115E-03 | 4.9356E-05 | | | | |
| 26 | 50.54 | -1.9893E-04 | -6.4298E-05 | -6.1084E-05 | -1.3324E-05 | | | | |
| 27 | 53.59 | -2.7071E-03 | -1.7985E-03 | -2.0619E-03 | -8.9685E-05 | | | | |
| 28 | 56.48 | 4.2949E-04 | 3.3726E-03 | -6.6662E-04 | -6.3324E-05 | | | | |
| 29 | 58.59 | -2.3202E-04 | 8.7870E-04 | -2.0831E-03 | -1.2364E-04 | | | | |
| 30 | 65.80 | 6.7169E-05 | 1.6729E-04 | -4.3653E-04 | -1.2456E-05 | | | | |

TABLE OF SELECTED SPECTRA
AND ZPA VALUES FOR HIGH FREQUENCY RESPONSE

| SUPPORT NUMBER | SPECTRUM SELECTED | SCALE FACTOR | ZPA VALUE USED |
|-------------------|----------------------|-----------------|-------------------|
| 1 | 4 | 1.00 | 0.1615 |
| 4 | 1 | 1.00 | 0.9173 |
| 7 | 1 | 1.00 | 0.9173 |
| 10 | 1 | 1.00 | 0.9173 |
| 13 | 3 | 1.00 | 1.0829 |
| 15 | N | 1.00 | 2.5657 |
| 18 | N | 1.00 | 2.5657 |
| 20 | N | 1.00 | 2.5657 |
| 22 | N | 1.00 | 2.5657 |
| 24 | 2 | 1.00 | 2.5657 |

ULTIPLE SUPPORT RESPONSE SPECTRUM MODAL REPORT

M-RX MS BREAK

COMBINED NODE DISPLACEMENTS/ROTATIONS
COMBINATION METHOD 6 FOR MODAL SHAPES, MODE # 1 TO 30

OAD CASE # 1 (FINAL)

| JOINT LABEL | X-TRANSLATION | Y-TRANSLATION | Z-TRANSLATION | X-ROTATION | Y-ROTATION | Z-ROTATION |
|-------------|---------------|---------------|---------------|-------------|-------------|-------------|
| 01. | 3.50256E-09 | 2.93642E-09 | 7.16998E-09 | 2.32322E-08 | 3.69919E-08 | 1.53370E-07 |
| 02. | 7.93573E-05 | 2.59517E-05 | 8.99438E-05 | 8.53510E-06 | 9.85284E-06 | 1.52050E-05 |
| 03. | 8.88485E-05 | 4.38018E-05 | 9.13096E-05 | 8.86827E-06 | 1.02365E-05 | 1.55410E-05 |
| 03.01 | 4.28464E-03 | 3.71625E-03 | 3.11433E-04 | 5.71548E-05 | 6.51733E-05 | 1.30905E-04 |
| 04. | 7.41479E-03 | 6.50733E-03 | 5.27974E-04 | 1.07899E-05 | 1.34573E-05 | 2.46269E-04 |
| 05. | 7.11864E-03 | 6.25985E-03 | 5.68425E-04 | 3.48164E-05 | 4.03706E-05 | 2.68182E-04 |
| 06. | 5.49495E-03 | 4.84645E-03 | 6.12261E-04 | 7.05926E-05 | 8.03621E-05 | 2.95096E-04 |
| 07. | 8.31665E-03 | 4.85142E-03 | 1.47929E-03 | 7.08738E-05 | 8.03621E-05 | 2.96746E-04 |
| 08. | 2.56900E-03 | 2.29238E-03 | 6.50462E-04 | 1.10549E-04 | 1.23637E-04 | 3.14208E-04 |
| 09. | 1.82626E-07 | 9.41886E-08 | 6.94173E-04 | 1.53844E-04 | 1.68476E-04 | 3.33906E-04 |
| 12. | 3.62698E-03 | 3.28598E-03 | 7.38257E-04 | 1.94353E-04 | 2.09154E-04 | 3.54251E-04 |
| 13. | 1.01380E-02 | 9.37407E-03 | 7.75747E-04 | 2.21158E-04 | 2.31091E-04 | 3.74099E-04 |
| 14. | 1.43642E-02 | 9.39017E-03 | 7.17118E-03 | 2.25041E-04 | 2.31091E-04 | 3.84031E-04 |
| 15. | 1.69253E-02 | 1.58652E-02 | 7.99053E-04 | 2.30230E-04 | 2.35449E-04 | 3.70740E-04 |
| 16. | 2.22656E-02 | 2.11771E-02 | 8.33305E-04 | 2.35545E-04 | 2.23396E-04 | 3.69000E-04 |
| 18. | 2.82370E-02 | 2.38856E-02 | 3.25531E-03 | 2.32868E-04 | 9.63421E-05 | 3.79452E-04 |
| 18.01 | 2.74575E-02 | 2.19582E-02 | 9.37406E-03 | 2.48895E-04 | 9.94899E-05 | 3.90742E-04 |
| 19. | 2.44966E-02 | 3.48868E-02 | 1.59176E-02 | 2.98761E-04 | 2.06469E-04 | 3.87785E-04 |
| 21. | 2.59900E-02 | 4.15727E-02 | 2.31143E-02 | 3.24509E-04 | 2.36161E-04 | 3.89381E-04 |
| 23. | 2.73840E-02 | 3.68106E-02 | 2.68924E-02 | 3.43577E-04 | 1.36849E-04 | 4.09497E-04 |
| 24. | 2.46151E-02 | 2.51643E-02 | 2.69893E-02 | 3.17364E-04 | 1.50285E-04 | 4.37247E-04 |
| 25. | 2.24641E-02 | 1.88696E-02 | 2.70577E-02 | 2.62940E-04 | 1.45935E-04 | 4.43356E-04 |
| 29. | 2.33968E-02 | 1.74850E-02 | 2.71684E-02 | 1.52656E-04 | 1.15187E-04 | 4.60782E-04 |
| 31. | 2.31661E-02 | 1.79959E-02 | 2.72243E-02 | 1.37999E-04 | 1.42048E-04 | 4.74997E-04 |
| 32. | 2.08845E-02 | 2.02863E-02 | 2.73950E-02 | 5.9912E-04 | 2.74241E-04 | 5.47468E-04 |
| 33. | 1.48888E-02 | 1.88888E-02 | 1.73888E-02 | 1.88888E-04 | 1.88888E-04 | 1.88888E-04 |
| 36. | 3.96487E-02 | 4.44811E-02 | 2.73399E-02 | 3.17535E-04 | 3.24907E-04 | 6.02948E-04 |
| 37. | 2.46545E-02 | 2.10734E-02 | 2.77161E-02 | 3.32454E-04 | 1.59775E-04 | 5.16580E-04 |
| 38. | 2.54863E-02 | 1.91911E-02 | 2.83682E-02 | 3.48525E-04 | 1.92355E-04 | 5.51304E-04 |
| 40. | 2.62244E-02 | 1.74982E-02 | 2.88428E-02 | 3.86788E-04 | 3.06703E-04 | 6.86635E-04 |
| 40.01 | 2.63327E-02 | 3.46009E-02 | 3.22255E-02 | 4.73485E-04 | 3.17892E-04 | 6.94948E-04 |
| 41. | 2.64126E-02 | 5.97565E-02 | 3.70125E-02 | 5.74139E-04 | 2.12038E-04 | 5.15649E-04 |
| 43. | 2.61422E-02 | 6.19277E-02 | 3.70079E-02 | 6.30989E-04 | 2.34706E-04 | 3.25221E-04 |
| 43.01 | 2.66237E-02 | 4.81891E-02 | 3.07948E-02 | 7.05450E-04 | 4.22024E-04 | 1.96761E-04 |
| 44. | 3.32471E-02 | 2.53505E-02 | 3.27270E-02 | 6.73398E-04 | 4.52008E-04 | 3.24093E-04 |
| 46. | 3.19466E-02 | 2.22679E-02 | 2.69248E-02 | 5.19856E-04 | 3.81188E-04 | 3.23218E-04 |
| 47. | 2.00300E-02 | 2.21626E-02 | 1.06771E-02 | 4.67745E-04 | 3.67734E-04 | 3.21354E-04 |
| 49. | 1.71202E-02 | 2.12676E-02 | 9.45749E-03 | 4.16154E-04 | 3.66705E-04 | 2.73655E-04 |
| 51. | 1.38869E-02 | 1.85730E-02 | 7.94911E-03 | 3.87768E-04 | 3.51106E-04 | 2.34633E-04 |

ULTIPLE SUPPORT RESPONSE SPECTRUM MODAL REPORT

M-RX MS BREAK

ULTIPLE SUPPORT RESPONSE SPECTRUM MODAL REPORT

M-RX MS BREAK

| | | | | | | |
|-------|-------------|-------------|-------------|-------------|-------------|-------------|
| 53. | 1.09095E-02 | 1.48320E-02 | 6.25172E-03 | 3.55768E-04 | 3.08138E-04 | 2.06362E-04 |
| 54. | 1.89110E-03 | 1.72898E-03 | 1.07989E-03 | 1.23215E-04 | 1.31033E-04 | 6.67871E-05 |
| 55. | 2.74387E-04 | 4.27841E-05 | 1.57671E-04 | 6.33312E-06 | 5.23133E-05 | 3.41235E-06 |
| 56. | 2.32887E-09 | 3.79169E-09 | 1.12213E-09 | 2.18374E-07 | 4.82839E-05 | 1.18926E-07 |
| 57. | 3.19314E-04 | 1.88079E-06 | 1.84386E-04 | 2.18386E-07 | 4.82825E-05 | 1.18933E-07 |
| 58. | 2.54026E-02 | 2.01204E-02 | 2.77003E-02 | 1.32228E-04 | 3.37211E-04 | 4.20087E-04 |
| 59. | 2.73355E-02 | 2.22142E-02 | 2.80222E-02 | 1.57166E-04 | 4.51691E-04 | 3.83413E-04 |
| 61. | 2.85586E-02 | 2.47964E-02 | 2.98305E-02 | 1.57320E-04 | 7.16300E-04 | 2.46565E-04 |
| 61.01 | 2.86223E-02 | 2.79491E-02 | 5.29388E-02 | 3.15789E-04 | 7.85049E-04 | 2.00628E-04 |
| 62. | 2.86473E-02 | 2.59753E-02 | 8.03087E-02 | 5.21503E-04 | 6.04749E-04 | 3.00000E-04 |
| 64. | 2.35397E-02 | 2.34567E-02 | 7.29836E-02 | 8.63248E-04 | 1.78046E-04 | 3.00000E-04 |
| 65. | 7.91773E-03 | 2.33520E-02 | 3.52337E-02 | 8.42959E-04 | 2.23842E-04 | 3.94883E-04 |
| 67. | 4.11875E-03 | 2.24502E-02 | 2.71237E-02 | 7.17172E-04 | 2.65578E-04 | 4.19088E-04 |
| 69. | 1.12786E-03 | 1.96684E-02 | 2.04784E-02 | 6.10795E-04 | 2.91415E-04 | 4.30981E-04 |
| 71. | 1.04325E-04 | 1.56292E-02 | 1.59521E-02 | 5.15965E-04 | 3.27000E-04 | 4.05793E-04 |
| 72. | 2.96641E-05 | 1.77769E-03 | 3.09774E-03 | 1.01119E-04 | 1.70010E-04 | 1.42246E-04 |
| 73. | 2.10635E-06 | 4.31916E-05 | 4.52566E-04 | 4.23954E-06 | 7.41958E-05 | 7.30998E-06 |
| 74. | 2.18603E-09 | 3.74027E-09 | 3.45406E-09 | 1.09238E-07 | 6.85039E-05 | 2.53860E-07 |
| 75. | 4.24915E-07 | 1.93575E-06 | 3.23303E-04 | 1.09238E-07 | 6.85065E-05 | 2.53876E-07 |
| 76. | 3.38462E-02 | 3.98612E-02 | 2.93929E-02 | 3.01887E-04 | 3.09138E-04 | 7.21589E-04 |
| 77. | 3.77799E-02 | 3.89775E-02 | 3.12741E-02 | 3.17159E-04 | 3.31137E-04 | 7.54103E-04 |
| 79. | 4.07170E-02 | 4.55671E-02 | 3.41166E-02 | 3.62399E-04 | 4.41313E-04 | 7.89396E-04 |
| 79.01 | 4.08629E-02 | 7.28379E-02 | 4.55783E-02 | 4.72298E-04 | 4.12965E-04 | 6.86343E-04 |
| 80. | 4.09741E-02 | 9.48027E-02 | 5.29549E-02 | 6.14234E-04 | 2.75692E-04 | 4.35167E-04 |
| 82. | 4.08718E-02 | 9.57154E-02 | 5.21017E-02 | 6.77860E-04 | 4.08562E-04 | 2.70429E-04 |
| 82.01 | 4.45535E-02 | 7.39439E-02 | 3.71156E-02 | 8.06178E-04 | 7.53400E-04 | 4.44360E-04 |
| 83. | 5.85454E-02 | 4.16786E-02 | 4.91467E-02 | 8.28017E-04 | 7.87715E-04 | 6.50738E-04 |
| 85. | 3.41893E-02 | 6.01600E-02 | 4.30012E-02 | 8.19213E-04 | 6.10849E-04 | 6.44489E-04 |
| 86. | 8.66809E-03 | 3.98839E-03 | 4.12884E-03 | 7.89289E-04 | 5.28284E-04 | 6.33227E-04 |
| 88. | 3.05822E-03 | 3.38165E-03 | 1.04595E-02 | 7.12294E-04 | 5.10842E-04 | 5.64389E-04 |
| 90. | 1.78340E-03 | 3.88896E-03 | 3.17178E-03 | 6.49838E-04 | 4.89446E-04 | 4.76811E-04 |
| 92. | 3.43824E-03 | 1.79866E-03 | 6.77882E-03 | 3.65342E-04 | 3.89186E-04 | 3.87403E-04 |
| 93. | 1.7184E-03 | 2.6529E-03 | 1.29129E-03 | 1.62756E-04 | 1.58919E-04 | 1.05503E-04 |
| 94. | 3.28740E-04 | 5.16693E-05 | 1.88561E-04 | 8.08824E-06 | 6.28021E-05 | 5.09327E-06 |
| 95. | 2.65828E-09 | 4.11691E-09 | 1.35175E-09 | 2.79196E-07 | 5.79516E-05 | 1.70978E-07 |
| 96. | 3.83298E-04 | 2.47491E-06 | 2.21327E-04 | 2.79207E-07 | 5.79518E-05 | 1.70984E-07 |

MAXIMUM DISPLACEMENT, 9.57154E-02, OCCURED AT JOINT 082.
 MAXIMUM ROTATION, 8.63248E-04, OCCURED AT JOINT 064.

ULTIPLE SUPPORT RESPONSE SPECTRUM MODAL REPORT

M-RX MS BREAK

MULTIPLE SUPPORT RESPONSE SPECTRUM MODAL REPORT

M-RX MS BREAK

COMBINED NODE ACCELERATIONS
COMBINATION METHOD 6 FOR MODAL SH APES, MODE # 1 TO 30

LOAD CASE # 1 (FINAL)

| JOINT LABEL | TRANSLATION (GS) | | | ROTATION (R/SEC**2) | | |
|-------------|------------------|-------------|-------------|---------------------|-------------|-------------|
| | X | Y | Z | X | Y | Z |
| 101. | 3.24867E-07 | 2.10869E-07 | 1.23583E-06 | 3.48245E-04 | 4.82374E-04 | 3.53401E-03 |
| 102. | 7.05141E-03 | 4.23126E-03 | 1.55028E-02 | 1.90777E-01 | 2.82138E-01 | 3.50358E-01 |
| 103. | 1.02826E-02 | 6.27848E-03 | 1.57374E-02 | 1.98985E-01 | 2.91540E-01 | 3.58102E-01 |
| 103.01 | 3.43082E-01 | 2.28816E-01 | 5.34065E-02 | 1.21691E 00 | 1.78026E 00 | 3.01636E 00 |
| 104. | 5.17895E-01 | 3.54652E-01 | 8.97894E-02 | 4.29651E-01 | 6.72352E-01 | 5.67462E 00 |
| 105. | 4.82091E-01 | 3.32081E-01 | 9.64565E-02 | 9.12933E-01 | 1.37200E 00 | 6.17954E 00 |
| 106. | 3.49230E-01 | 2.43087E-01 | 1.03654E-01 | 1.54832E 00 | 2.24877E 00 | 6.79969E 00 |
| 107. | 5.41993E-01 | 2.43962E-01 | 1.31696E-01 | 1.57048E 00 | 2.24877E 00 | 6.87725E 00 |
| 108. | 1.42937E-01 | 1.04087E-01 | 1.09216E-01 | 1.52337E 00 | 2.71928E 00 | 7.07116E 00 |
| 109. | 1.59547E-05 | 6.42404E-06 | 1.15533E-01 | 2.24604E 00 | 2.68954E 00 | 7.39088E 00 |
| 112. | 1.32698E-01 | 1.16630E-01 | 1.21811E-01 | 2.46341E 00 | 2.70348E 00 | 7.76975E 00 |
| 113. | 3.37326E-01 | 3.07527E-01 | 1.27103E-01 | 2.56856E 00 | 2.75407E 00 | 8.17242E 00 |
| 114. | 7.27484E-01 | 3.08824E-01 | 2.87120E-01 | 2.70346E 00 | 2.75407E 00 | 8.59504E 00 |
| 115. | 5.33076E-01 | 4.37954E-01 | 1.29440E-01 | 2.46304E 00 | 2.84174E 00 | 7.57448E 00 |
| 116. | 6.83875E-01 | 6.22239E-01 | 1.32774E-01 | 2.44470E 00 | 2.81028E 00 | 6.86445E 00 |
| 118. | 8.59435E-01 | 5.92614E-01 | 2.52174E-01 | 3.32966E 00 | 3.11483E 00 | 5.47275E 00 |
| 118.01 | 9.12863E-01 | 6.73937E-01 | 8.14818E-01 | 3.58206E 00 | 9.09173E-01 | 4.81039E 00 |
| 119. | 8.72016E-01 | 1.16056E 00 | 4.56741E-01 | 3.91217E 00 | 3.28567E 00 | 5.37823E 00 |
| 121. | 9.95597E-01 | 1.47053E 00 | 4.81853E-01 | 4.22553E 00 | 3.68001E 00 | 5.66579E 00 |
| 123. | 1.11716E 00 | 1.36618E 00 | 5.73740E-01 | 5.09847E 00 | 2.90652E 00 | 6.14658E 00 |
| 124. | 1.04729E 00 | 1.03314E 00 | 5.78741E-01 | 5.04674E 00 | 3.26595E 00 | 6.75563E 00 |
| 125. | 1.02545E 00 | 9.37204E-01 | 5.82525E-01 | 4.56943E 00 | 3.49848E 00 | 6.86729E 00 |
| 129. | 1.27624E 00 | 1.14628E 00 | 5.88367E-01 | 2.68548E 00 | 2.4965E 00 | 7.37046E 00 |
| 131. | 1.31580E 00 | 1.18924E 00 | 5.91114E-01 | 2.32698E 00 | 2.198E 00 | 7.82928E 00 |
| 132. | 9.29029E-01 | 1.00916E 00 | 5.95339E-01 | 5.22834E 00 | 5.07492E 00 | 8.32538E 00 |
| 127. | 9.09883E-01 | 1.11693E 00 | 5.95943E-01 | 5.78255E 00 | 5.48242E 00 | 8.49868E 00 |
| 134. | 1.06217E 00 | 1.44640E 00 | 5.96506E-01 | 6.26670E 00 | 5.72064E 00 | 8.79032E 00 |
| 135. | 1.26378E 00 | 1.74706E 00 | 5.96812E-01 | 6.3788E 00 | 5.81325E 00 | 8.79032E 00 |
| 136. | 1.47175E 00 | 1.99354E 00 | 5.96880E-01 | 6.3935E 00 | 5.82558E 00 | 8.79032E 00 |
| 137. | 1.03728E 00 | 9.17703E-01 | 5.45033E-01 | 5.10752E 00 | 3.04208E 00 | 8.55069E 00 |
| 138. | 1.07087E 00 | 8.83684E-01 | 5.31767E-01 | 5.34005E 00 | 3.67592E 00 | 8.85280E 00 |
| 140. | 1.09102E 00 | 8.29464E-01 | 5.29437E-01 | 6.16068E 00 | 6.04426E 00 | 9.61154E 00 |
| 140.01 | 1.10346E 00 | 1.14714E 00 | 9.26431E-01 | 7.48330E 00 | 5.82682E 00 | 1.01257E 01 |
| 141. | 1.11301E 00 | 1.96509E 00 | 1.30286E 00 | 9.07680E 00 | 2.94563E 00 | 8.64454E 00 |
| 143. | 1.11221E 00 | 2.03082E 00 | 1.28428E 00 | 9.99152E 00 | 4.34311E 00 | 7.15154E 00 |
| 143.01 | 1.26901E 00 | 1.64550E 00 | 7.00191E-01 | 1.10444E 01 | 8.83728E 00 | 6.64713E 00 |
| 144. | 1.63252E 00 | 1.54021E 00 | 1.14247E 00 | 1.11786E 01 | 9.43310E 00 | 6.89671E 00 |
| 146. | 1.58490E 00 | 1.59798E 00 | 1.05073E 00 | 9.92972E 00 | 8.11116E 00 | 8.71100E 00 |
| 147. | 1.30513E 00 | 1.58906E 00 | 6.40067E-01 | 8.42667E 00 | 8.52187E 00 | 7.64590E 00 |
| 149. | 1.24983E 00 | 1.56416E 00 | 6.71425E-01 | 7.35927E 00 | 8.91940E 00 | 5.45070E 00 |

MULTIPLE SUPPORT RESPONSE SPECTRUM MODAL REPORT

M-RX MS BREAK

ULTIPLE SUPPORT RESPONSE SPECTRUM MODAL REPORT

M-RX MS BREAK

| | | | | | | |
|--------|-------------|-------------|-------------|-------------|-------------|-------------|
| 151. | 1.10384E 00 | 1.43514E 00 | 6.24794E-01 | 8.65877E 00 | 9.38654E 00 | 4.60897E 00 |
| 153. | 9.01974E-01 | 1.18610E 00 | 5.193.6E-01 | 9.98393E 00 | 9.20701E 00 | 4.91341E 00 |
| 154. | 1.65166E-01 | 1.47480E-01 | 9.50567E-02 | 3.92719E 00 | 4.31850E 00 | 2.01114E 00 |
| 155. | 2.40709E-02 | 3.78862E-03 | 1.38806E-02 | 2.06816E-01 | 1.76401E 00 | 1.07718E-01 |
| 156. | 1.85371E-07 | 3.49744E-07 | 1.28847E-07 | 7.16974E-03 | 1.62895E 00 | 3.82935E-03 |
| 157. | 2.79264E-02 | 1.60093E-04 | 1.61250E-02 | 7.17038E-03 | 1.62919E 00 | 3.82972E-03 |
| 158. | 1.33808E 00 | 1.17186E 00 | 5.91124E-01 | 2.41546E 00 | 6.00792E 00 | 8.63746E 00 |
| 159. | 1.39177E 00 | 1.24831E 00 | 5.98932E-01 | 2.78035E 00 | 8.30946E 00 | 8.58301E 00 |
| 161. | 1.43515E 00 | 1.36419E 00 | 5.79547E-01 | 2.73206E 00 | 1.36900E 01 | 8.15486E 00 |
| 161.01 | 1.43982E 00 | 1.64041E 00 | 2.28615E 00 | 5.71999E 00 | 1.71768E 01 | 7.67078E 00 |
| 162. | 1.44116E 00 | 1.84153E 00 | 3.80752E 00 | 9.48504E 00 | 1.17225E 01 | 6.55310E 00 |
| 164. | 1.20287E 00 | 1.88655E 00 | 3.51227E 00 | 1.60160E 01 | 2.77760E 00 | 7.54919E 00 |
| 165. | 4.82201E-01 | 1.87726E 00 | 1.69673E 00 | 1.56822E 01 | 3.53530E 00 | 7.85563E 00 |
| 167. | 2.77085E-01 | 1.83042E 00 | 1.30872E 00 | 1.33702E 01 | 4.50769E 00 | 9.76891E 00 |
| 169. | 8.14921E-02 | 1.64687E 00 | 9.92678E-01 | 1.14289E 01 | 5.19569E 00 | 1.18329E 01 |
| 171. | 7.70324E-03 | 1.33586E 00 | 7.76517E-01 | 9.67235E 00 | 6.05982E 00 | 1.26360E 01 |
| 172. | 1.94304E-03 | 1.58818E-01 | 1.51908E-01 | 1.89559E 00 | 3.36356E 00 | 4.80468E 00 |
| 173. | 1.22593E-04 | 3.96587E-03 | 2.22013E-02 | 7.94749E-02 | 1.40340E 00 | 2.50941E-01 |
| 174. | 1.14802E-07 | 3.54265E-07 | 1.71370E-07 | 2.04778E-03 | 1.29651E 00 | 8.74166E-03 |
| 175. | 1.14808E-07 | 1.72676E-04 | 2.56585E-02 | 2.04778E-03 | 1.29656E 00 | 8.74238E-03 |
| 176. | 1.07354E 00 | 1.43231E 00 | 6.89429E-01 | 6.43826E 00 | 5.26966E 00 | 9.45713E 00 |
| 177. | 1.13448E 00 | 1.45246E 00 | 7.89605E-01 | 6.70480E 00 | 5.69411E 00 | 9.20192E 00 |
| 179. | 1.18035E 00 | 1.48004E 00 | 9.35413E-01 | 7.54666E 00 | 8.17354E 00 | 7.67003E 00 |
| 179.01 | 1.18610E 00 | 1.64335E 00 | 1.59544E 00 | 8.89507E 00 | 7.48738E 00 | 8.13833E 00 |
| 180. | 1.19034E 00 | 2.05227E 00 | 2.01387E 00 | 1.06370E 01 | 4.04738E 00 | 7.82397E 00 |
| 182. | 1.18560E 00 | 2.06214E 00 | 1.96085E 00 | 1.13756E 01 | 6.51380E 00 | 7.22954E 00 |
| 182.01 | 1.43565E 00 | 1.74902E 00 | 8.36794E-01 | 1.30220E 01 | 1.33619E 01 | 6.18029E 00 |
| 183. | 2.25974E 00 | 1.69730E 00 | 1.69006E 00 | 1.37234E 01 | 1.42894E 01 | 6.89607E 00 |
| 185. | 2.23006E 00 | 1.71028E 00 | 1.55900E 00 | 1.38998E 01 | 1.16231F 01 | 1.02356E 01 |
| 186. | 1.53443E 00 | 1.70285E 00 | 5.86193E-01 | 1.26547E 01 | 1.06899E 01 | 1.00548E 01 |
| 188. | 1.38049E 00 | 1.63733E 00 | 6.39757E-01 | 1.10582E 01 | 1.07054E 01 | 8.40275E 00 |
| 190. | 1.16439E 00 | 1.43628E 00 | 6.33519E-01 | 1.08219E 01 | 1.06111E 01 | 6.96395E 00 |
| 192. | 9.32530E-01 | 1.14464E 00 | 5.35244E-01 | 1.02443E 01 | 9.81109E 00 | 6.08803E 00 |
| 193. | 1.67344E-01 | 1.31870E-01 | 9.58881E-02 | 3.56443E 00 | 4.40691E 00 | 2.00926E 00 |
| 194. | 2.43461E-02 | 3.24802E-03 | 1.40127E-02 | 1.83547E-01 | 1.78637E 00 | 1.02973E-01 |
| 195. | 1.85419E-07 | 2.87225E-07 | 1.10390E-07 | 6.35507E-03 | 1.64933E 00 | 3.57786E-03 |
| 196. | 2.82748E-02 | 1.43506E-04 | 1.63263E-02 | 6.35555E-03 | 1.64955E 00 | 3.57813E-03 |

MAXIMUM TRANSLATIONAL ACCEL., 3.80752E 00, OCCURED AT JOINT 062.
 MAXIMUM ROTATIONAL ACCEL., 1.60160E 01, OCCURED AT JOINT 064.

ULTIPLE SUPPORT RESPONSE SPECTRUM MODAL REPORT

M-RX MS BREAK

TIPLE SUPPORT RESPONSE SPECTRUM MODAL REPORT

M-RX MS BREAK

COMBINED MODE DISPLACEMENTS/ROTATIONS
 COMBINATION METHOD 6 FOR MODAL SHAPES, MODE # 1 TO 30

CASE # 1 (FINAL)

| NT EL | X- TRANSLATION | Y- TRANSLATION | Z- TRANSLATION | X- ROTATION | Y- ROTATION | Z- ROTATION |
|----------|-------------------|-------------------|-------------------|----------------|----------------|----------------|
| | 9.16476E-05 | -2.81278E-05 | 0. | 1.17122E 18 | 1.17122E 18 | 1.17122E 18 |
| | 1.15271E-02 | -1.04473E-05 | 0. | 0. | 2.52785E-01 | 1.17122E 18 |
| | -5.18340E-03 | 1.07470E-04 | -4.32352E-05 | 0. | 1.17122E 18 | 1.17122E 18 |
| 01 | 4.65993E-02 | 3.02040E-02 | 1.53552E-04 | 0. | 0. | 2.52785E-01 |
| | -1.53744E 04 | -1.76810E-03 | 3.10715E-05 | -9.21466E-05 | 0. | 1.17122E 18 |
| | 8.59796E 04 | 1.99716E-01 | 1.95821E-01 | 2.13065E-04 | 4.78894E-01 | 4.62006E-01 |
| | 1.17122E 18 | 1.17122E 18 | 1.17122E 18 | 4.68756E-02 | 2.23517E-08 | 9.18892E 02 |
| | 2.52785E-01 | 1.17122E 18 | 2.23517E-07 | 1.19209E-07 | 1.43410E-01 | 4.58434E 03 |
| | 5.12012E 00 | 5.18460E 02 | -6.92252E 02 | 2.21918E-04 | -1.79208E-06 | 2.95384E-06 |
| | 0. | 0. | 3.70520E-01 | 3.68124E-01 | 2.52785E-01 | 1.17122E 18 |
| | 1.17122E 18 | 4.68756E-02 | 7.45058E-09 | 2.28054E 03 | 7.64472E 02 | 4.00963E 05 |
| | 1.17122E 18 | 1.17122E 18 | 4.68756E-02 | 7.45058E-09 | 1.64332E 00 | 1.29818E 00 |
| | 5.94071E-02 | 7.39655E-02 | 2.00869E-04 | 6.34738E-01 | 8.50216E-01 | 2.52785E-01 |
| | 0. | 0. | 0. | 0. | 0. | 0. |
| | 1.17122E 18 | 4.68756E-02 | 2.23517E-08 | 1.51199E 00 | -7.90701E 00 | 7.02843E 02 |
| | -3.00619E 02 | 9.65019E-05 | -7.79502E-07 | 1.28458E-06 | 0. | 1.17122E 18 |
| 01 | 2.52785E-01 | 1.17122E 18 | 2.23517E-07 | 5.96046E-08 | 2.05080E-01 | 0. |
| | 7.45058E-09 | 4.50750E 03 | 1.01599E 04 | 4.97793E 05 | 1.99716E-01 | 1.95821E-01 |
| | 5.32351E-04 | 1.72496E-04 | 2.05393E-01 | 1.17122E 18 | 1.17122E 18 | 1.17122E 18 |
| | 2.16067E-07 | 1.34110E-07 | 1.43410E-01 | 1.88867E 01 | 1.56261E 03 | -3.57146E 02 |
| | 1.17122E 18 | 4.68756E-02 | 1.49012E-08 | -2.65689E-01 | 1.50384E-01 | -3.75546E 02 |
| | 1.17122E 18 | 2.16067E-07 | 1.34110E-07 | 1.43410E-01 | 1.28115E-01 | 2.54222E 00 |
| | 1.17122E 18 | 1.17122E 18 | 4.68756E-02 | 7.45058E-09 | -2.37831E 01 | 6.46955E 01 |
| | -1.16583E 03 | 2.92979E-03 | 8.72418E-04 | -1.97146E-06 | 0. | 0. |
| | -4.67132E 02 | 1.88165E 03 | -4.51074E-04 | 8.53732E-06 | -3.59381E-06 | 0. |
| | 7.45058E-09 | 1.52381E-01 | -3.66633E-01 | 2.25069E 02 | 3.66315E-05 | -2.34281E-05 |
| | 1.65265E-07 | 0. | 0. | 1.39504E-01 | 1.17122E 18 | 2.16067E-07 |
| | 1.17122E 18 | 1.17122E 18 | 1.17122E 18 | 4.68756E-02 | 2.23517E-08 | -1.37799E 02 |
| | 1.39504E-01 | 1.17122E 18 | 2.16067E-07 | 1.56462E-07 | 1.43410E-01 | 1.38491E 01 |
| | 1.27813E-02 | 6.54637E-05 | 1.65208E-01 | 1.73771E-01 | 1.39504E-01 | 1.17122E 18 |
| | 1.19209E-07 | 1.43410E-01 | 2.85782E 03 | 2.60682E 05 | 1.62276E 05 | 2.65072E-02 |
| | -9.21466E-05 | 0. | 1.17122E 18 | 1.17122E 18 | 1.17122E 18 | 4.68756E-02 |
| 01 | -9.31003E 01 | -4.12954E-05 | 2.02612E-05 | -2.38421E-07 | 0. | 0. |
| | 1.17122E 18 | 2.23517E-07 | 5.96046E-08 | 1.43410E-01 | 2.22844E 00 | 2.25571E 02 |
| | -1.13547E-05 | 1.16347E-07 | -1.63780E-07 | 0. | 1.17122E 18 | 1.17122E 18 |
| 01 | 2.52785E-01 | 1.17122E 18 | 2.30968E-07 | 1.68945E-02 | 0. | 0. |
| | 9.85196E 04 | 1.32031E-02 | 2.41726E-04 | 1.35654E-04 | 1.84763E-01 | 1.17122E 18 |
| | 5.59108E-03 | 3.36489E-05 | 7.24813E-05 | 2.32461E-01 | 1.17122E 18 | 1.17122E 18 |
| | -2.85664E 00 | -3.54406E 00 | -1.34830E 02 | -5.98049E-05 | 2.93428E-05 | -3.45287E-07 |
| | 1.17122E 18 | 1.17122E 18 | 4.12422E 18 | 2.23517E-07 | 1.17122E 18 | 4.12422E 18 |

TIPLE SUPPORT RESPONSE SPECTRUM MODAL REPORT

M-RX MS BREAK

T I P L E S U P P O R T R E S P O N S E S P E C T R U M M O D A L R E P O R T

M-RX MS BREAK

| | | | | | | |
|----|--------------|--------------|--------------|--------------|--------------|--------------|
| | 1.17122E 18 | 1.17122E 18 | 4.68756E-02 | 7.45058E-09 | 1.75490E 03 | 8.65268E 03 |
| | 1.17122E 18 | 2.23517E-07 | 0. | 1.43410E-01 | -5.14772E 00 | 1.49158E 04 |
| | 1.17122E 18 | 4.68756E-02 | 9.68575E-08 | -1.24651E 02 | 2.01779E 02 | -5.96393E 03 |
| | 2.23517E-07 | 0. | 1.43410E-01 | -4.15113E 02 | -2.91361E 04 | 1.42674E 04 |
| | 4.68756E-02 | 5.21541E-08 | 1.21996E 02 | -1.08553E 02 | 7.43028E 03 | 2.40213E-03 |
| | 7.37263E-01 | 1.56442E-07 | -3.59588E-09 | 3.29963E-09 | 0. | 1.17122E 18 |
| | -5.98049E-05 | 2.93428E-05 | -3.45287E-07 | 0. | 0. | 1.39504E-01 |
| | 2.21918E-04 | -1.79208E-06 | 2.95384E-06 | 0. | 1.17122E 18 | 1.17122E 18 |
| 01 | 4.68756E-02 | 2.23517E-08 | 9.69931E 02 | 1.05482E 03 | 9.65699E 04 | 1.3.505E-02 |
| | 2.13065E-04 | 4.78894E-01 | 4.62006E-01 | 1.39504E-01 | 1.17122E 18 | 2.16057E-07 |
| | 1.43410E-01 | 5.62230E 02 | 5.28365E 04 | -1.09550E 04 | -1.76810E-03 | 3.10715E-05 |
| | 1.17122E 18 | 1.17122E 18 | 4.68756E-02 | 1.49012E-08 | -1.97251E 00 | -2.44718E 00 |
| | -4.97694E-05 | 5.46230E-05 | -3.47898E-07 | 0. | 0. | 2.52785E-01 |
| | 2.08987E-01 | 3.72529E-08 | 1.43410E-01 | -7.35383E-01 | -2.09332E 01 | 5.14472E 01 |
| | 8.64813E 01 | 3.66315E-05 | -2.34281E-05 | 1.65265E-07 | 0. | 0. |
| | 1.17122E 18 | 2.23517E-07 | 2.98023E-08 | 1.43410E-01 | 2.25485E 03 | 1.05612E 05 |
| | 2.23517E-07 | 2.23517E-08 | 1.43410E-01 | 6.27157E 02 | 3.40342E 04 | 3.85357E 04 |
| | 0. | 1.17122E 18 | 1.17122E 18 | 1.17122E 18 | 4.68756E-02 | 1.49012E-08 |
| | 8.51997E 02 | 9.49699E 04 | 1.31605E-02 | 1.27813E-02 | 6.50637E-05 | 1.65208E-01 |
| | 3.72529E-08 | 1.43410E-01 | -1.42361E 00 | -7.36920E 01 | 3.56380E 01 | -1.13547E-05 |
| | 1.16347E-07 | -1.63780E-07 | 0. | 1.17122E 18 | 1.17122E 18 | 1.17122E 18 |
| 01 | 4.68756E-02 | 2.23517E-08 | 2.40431E 00 | -1.06878E 01 | 6.29885E 02 | -4.97694E-05 |
| | 2.16067E-07 | 5.96046E-08 | 1.43410E-01 | 0. | 1.39504E-01 | 1.17122E 18 |
| 01 | 9.65019E-05 | -7.79502E-07 | 1.28458E-06 | 8.21469E 00 | 6.79613E 02 | -1.54910E 02 |
| | 1.17122E 18 | 4.68756E-02 | 1.49012E-08 | 0. | 1.17122E 18 | 1.17122E 18 |
| | -4.12954E-05 | 2.02612E-05 | -2.38421E-07 | -1.83459E-01 | 1.03841E-01 | -2.59315E 02 |
| | 1.17122E 18 | 2.16067E-07 | 5.96046E-08 | 0. | 0. | 1.39504E-01 |
| | 6.76109E 02 | 1.27173E-04 | -3.29377E-06 | 1.43410E-01 | 1.05405E 02 | 2.27785E 03 |
| | 1.17122E 18 | 1.17122E 18 | 4.68756E-02 | 2.78223E-06 | 0. | 1.17122E 18 |
| | 1.07674E 04 | 0. | 0. | 7.45058E-09 | 4.04950E 03 | 1.02300E 03 |
| | 1.39504E-01 | 1.17122E 18 | 2.16067E-07 | 0. | 2.61537E 00 | 2.64208E 00 |
| | 0. | 0. | 0. | 2.53836E 03 | 0. | 0. |
| | 2.03127E-01 | 0. | 1.43410E-01 | 4.93438E 02 | 0. | 0. |
| | 7.53739E-08 | 4.37119E-04 | 2.89447E-04 | 4.18377E 03 | 2.33430E 05 | 3.24221E 05 |
| | 1.17122E 18 | 4.68756E-02 | 2.23517E-08 | 1.17122E 18 | 1.17122E 18 | 1.17122E 18 |
| | | | | 8.75282E 03 | 5.61082E 03 | 5.79454E 05 |

NUM DISPLACEMENT, 1.17122E 18, OCCURED AT JOINT 096.
 NUM ROTATION, 1.17122E 18, OCCURED AT JOINT 095.

T I P L E S U P P O R T R E S P O N S E S P E C T R U M M O D A L R E P O R T

M-RX MS BREAK

T I P L E S U P P O R T R E S P O N S E S P E C T R U M M O D A L R E P O R T

M-RX MS BREAK

M B I N E D M O D E A C C E L E R A T I O N S
M B I N A T I O N M E T H O D 6 F O R M O D A L S H A P E S . M O D E # 1 T O 3 0

CASE # 1 (FINAL)

| MT EL | TRANSLATION (G5) | X TRANSLATION (G5) | Y TRANSLATION (G5) | Z TRANSLATION (G5) | ROTATION (R/SEC**2) | X ROTATION (R/SEC**2) | Y ROTATION (R/SEC**2) | Z ROTATION (R/SEC**2) |
|----------|---------------------|--------------------------|--------------------------|--------------------------|------------------------|-----------------------------|-----------------------------|-----------------------------|
| | 5.51536E-04 | 3.47436E-10 | 3.71528E-04 | | 1.23024E-01 | 2.12474E 00 | 6.66582E-01 | |
| | 3.03425E 15 | 1.21439E-04 | 1.93020E-11 | | -3.83160E 01 | 5.35980E 01 | -4.14219E 02 | |
| | 3.03425E 15 | 5.79061E-10 | 4.05342E-10 | | 1.43410E-01 | 2.62871E 01 | 3.59736E 02 | |
| 01 | 3.03425E 15 | 3.03425E 15 | 1.21439E-04 | | 2.23517E-08 | -1.68521E 02 | 2.44624E 02 | |
| | 6.54883E-04 | 3.03425E 15 | 5.79061E-10 | | 1.56462E-07 | 1.43410E-01 | -7.90196E 01 | |
| | 3.03425E 15 | 3.03425E 15 | 3.03425E 15 | | 4.68756E-02 | 3.72529E-08 | 1.88879E 02 | |
| | 1.11948E 00 | -4.73696E 01 | 1.95723E 02 | | 2.98050E-01 | 3.69667E-03 | 1.16899E-03 | |
| | -5.76046E-01 | 4.00984E 01 | 1.07639E-05 | | 1.43389E-02 | 1.79119E-05 | 0. | |
| | 0. | 0. | 6.95362E-04 | | 1.17122E 18 | 2.30968E-07 | 0. | |
| | 7.72081E-11 | -1.09807E 1 | 1.93020E-11 | | 6.10049E 03 | -3.27639E 02 | 9.25512E 05 | |
| | 8.67691E 02 | 6.57344E-05 | 1.13242E-06 | | 2.84447E-04 | 1.19926E 00 | 1.17122E 18 | |
| | -4.06793E 02 | 5.64001E 02 | 0. | | 0. | 0. | 3.04755E 00 | |
| | 3.03425E 15 | 3.03425E 15 | 1.21439E-04 | | 2.23517E-08 | 9.20681E 03 | 3.92490E 03 | |
| | 3.24694E-03 | 6.54883E-04 | 3.03425E 15 | | 2.23517E-07 | 0. | 1.43410E-01 | |
| | 4.75909E-02 | 3.75790E-02 | 2.50325E 00 | | 4.09272E-04 | -2.61738E-04 | 1.84560E-06 | |
| | 0. | 0. | 5.46476E-04 | | 8.19564E-08 | 1.43410E-01 | -2.70691E 01 | |
| 01 | 6.76584E-01 | -8.73518E 00 | 2.98113E-05 | | 2.79382E-03 | -6.23577E 01 | -8.74453E 02 | |
| | 4.78034E 01 | 1.07639E-05 | 3.71475E-05 | | 1.79119E-05 | 0. | 0. | |
| | 5.36356E-04 | 1.93020E-11 | 3.71528E-04 | | 3.22016E 03 | 4.80063E 05 | 3.88745E 05 | |
| | -2.59780E-03 | 3.55270E-03 | 6.22541E-06 | | 0. | 0. | 2.52785E-01 | |
| | 1.01308E 03 | 7.75501E-04 | 9.53067E-06 | | 1.18182E-03 | 0. | 1.17122E 18 | |
| | -2.21862E 03 | -3.11772E-03 | 2.80780E-03 | | 1.95218E-03 | 0. | 0. | |
| | -1.85966E 02 | 1.80831E 01 | 4.41677E-05 | | -8.50209E-05 | 1.93450E-04 | 0. | |
| | 3.03425E 15 | 3.03425E 15 | 3.03425E 15 | | 4.68756E-02 | 1.49012E-08 | -2.55169E 02 | |
| | 0. | 6.54883E-04 | 3.03425E 15 | | 2.23517E-07 | 2.23517E-08 | 1.43410E-01 | |
| | 0. | 0. | 7.89522E-03 | | 1.17122E 18 | 1.17122E 18 | 1.17122E 18 | |
| | 1.21439E-04 | 9.65101E-11 | 1.59268E 01 | | 4.94051E 03 | 4.39963E 05 | 2.80431E-02 | |
| | 4.08125E 00 | 2.02476E 02 | 3.08203E 02 | | 1.43284E-02 | 2.90103E-04 | 8.90032E-05 | |
| | 1.89885E 01 | 4.11206E 02 | -8.51763E-05 | | -1.81668E-02 | 2.69772E-05 | 0. | |
| | 3.03425E 15 | 1.21439E-04 | 3.86040E-11 | | -9.16517E 03 | 2.35002E 04 | -1.18197E 06 | |
| | 0. | 0. | 0. | | 0. | 0. | 0. | |
| | 3.03425E 15 | 3.03425E 15 | 1.21439E-04 | | 3.72529E-08 | 1.48954E 02 | -2.65314E 02 | |
| 01 | 3.03425E 15 | 3.03425E 15 | 3.03425E 15 | | 4.68756E-02 | 7.45058E-09 | -1.85174E 02 | |
| | 0. | 0. | 0. | | 0. | 0. | 0. | |
| | 3.38445E-03 | 3.03425E 15 | 3.03425E 15 | | 1.17122E 18 | 4.68756E-02 | 7.45058E-09 | |
| 01 | 9.11521E 00 | 1.13224E 03 | 7.26506E-05 | | 2.78064E-02 | 4.72868E-04 | 1.47645E 00 | |
| | 6.54883E-04 | 3.03425E 15 | 5.79061E-10 | | 0. | 1.43410E-01 | 5.23182E 03 | |
| | 3.03425E 15 | 5.79061E-10 | 0. | | 1.43410E-01 | 5.62847E 03 | 2.69414E 05 | |
| | 3.06171E-06 | 0. | 3.03425E 15 | | 1.17122E 18 | 1.17122E 18 | 4.68756E-02 | |
| | -2.39905E 00 | 1.55522E-01 | -2.50381E 02 | | -1.00275E 00 | 1.37134E 00 | 2.40301E-03 | |

T I P L E S U P P O R T R E S P O N S E S P E C T R U M M O D A L R E P O R T

M-RX MS BREAK

TIPLE SUPPORT RESPONSE SPECTRUM MODAL REPORT

M-RX MS BREAK

| | | | | | |
|----------------|--------------|--------------|--------------|--------------|--------------|
| 0. | 6.54883E-04 | 3.03425E 15 | 2.23517E-07 | 7.45058E-09 | 1.43410E-01 |
| -4.93278E 00 | 6.25259E 00 | -1.30395E-06 | 9.99584E-06 | -5.88483E-06 | 0. |
| -1.78340E 01 | 2.47916E-05 | 8.20782E-06 | 1.40423E-05 | 0. | 0. |
| 5.16607E 00 | -1.16859E-06 | 2.21174E-08 | -3.59381E-06 | 0. | 1.17122E 18 |
| 7.59013E-06 | 2.26015E-06 | -5.10740E-09 | 0. | 0. | 2.52785E-01 |
| 4.05291E-10 | -9.31575E-12 | 8.54827E-12 | 0. | 1.17122E 18 | 1.17122E 18 |
| 6.54883E-04 | 3.03425E 15 | 5.79061E-10 | 1.49012E-08 | 1.43410E-01 | 3.66832E 02 |
| 3.03425E 15 | 3.03425E 15 | 1.21439E-04 | 2.98023E-08 | -9.85652E 03 | 2.44236E 04 |
| 3.03425E 15 | 5.79061E-10 | 0. | 1.43410E-01 | 3.31175E 03 | 4.90931E 05 |
| 01 7.72152E-04 | 9.57687E-06 | 3.02848E-06 | 0. | 1.17122E 18 | 1.17122E 18 |
| 3.61408E-04 | 3.03425E 15 | 5.79061E-10 | 0. | 0. | 0. |
| 22189E 00 | -1.30395E-06 | 2.58960E-08 | -5.88483E-06 | 0. | 1.17122E 18 |
| -1.99622E 00 | 4.90608E 00 | -1.08280E-06 | 4.28267E-06 | -6.02865E-06 | 0. |
| 0. | 0. | 6.54883E-04 | 1.17122E 18 | 2.30968E-07 | 0. |
| 1.63462E 01 | 9.35938E 02 | 9.34771E 02 | 4.33261E-02 | 6.79121E-04 | 3.54975E-04 |
| 3.03425E 15 | 3.03425E 15 | 3.03425E 15 | 4.68756E-02 | 3.72529E-08 | 5.96669E 03 |
| 1.28399E 03 | 1.25502E-04 | 1.28160E-04 | 6.22482E-04 | 1.27888E 00 | 1.19923E 00 |
| 0. | 0. | 0. | 2.61537E 00 | 2.66208E 00 | 2.52785E-01 |
| 3.71528E-04 | 1.12002E 00 | -4.79013E 01 | 7.52895E 04 | 2.95343E-01 | 3.67884E-03 |
| 0. | 3.03425E 15 | 3.03425E 15 | 1.17122E 18 | 4.68756E-02 | 1.49012E-08 |
| 7.20373E-05 | 1.22505E-06 | 3.82500E-03 | 1.25332E 00 | 1.39504E-01 | 1.17122E 18 |
| 5.59759E-10 | 0. | 3.71528E-04 | 4.42091E 03 | 3.12806E 05 | 3.44240E 05 |
| 1.12244E-04 | 1.75938E-06 | 9.19625E-07 | 1.30640E 00 | 1.17122E 18 | 1.17122E 18 |
| 01 3.03425E 15 | 1.21439E-04 | 1.93020E-11 | 1.71110E 00 | -4.09721E 00 | 2.51482E 03 |
| 1.06029E-06 | -6.78077E-07 | 4.78134E-09 | 0. | 0. | 1.39504E-01 |
| 3.03425E 15 | 5.59759E-10 | 2.12322E-10 | 1.43410E-01 | -5.24026E 01 | -2.71257E 03 |
| 01 3.39850E 00 | -1.03280E-06 | 1.10950E-08 | -6.02865E-06 | 0. | 1.17122E 18 |
| 3.03425E 15 | 3.03425E 15 | 1.21439E-04 | 7.45058E-09 | -1.32582E 02 | 3.57542E 02 |
| -1.53914E 01 | 2.98113E-05 | 7.23787E-06 | -8.27471E-06 | 0. | 0. |
| 3.61408E-04 | 3.03425E 15 | 5.59759E-10 | 0. | 1.43410E-01 | -3.00503E 02 |
| 3.63294E 00 | 9.57363E 01 | -1.16718E-05 | 9.16476E-05 | -2.81278E-05 | 0. |
| 3.03425E 15 | 3.03425E 15 | 3.03425E 15 | 4.68756E-02 | 5.21541E-08 | 8.59646E 01 |
| -3.87884E-01 | 2.66651E 01 | 6.22313E-06 | 1.15271E-02 | -1.04473E-05 | 0. |
| 0. | 3.61408E-04 | 3.03425E 15 | 2.16067E-07 | 0. | 1.43410E-01 |
| -1.12171E 00 | -8.24327E 01 | 3.86199E 01 | -5.18340E-03 | 1.07470E-04 | -4.32352E-05 |
| 0. | 3.03425E 15 | 3.03425E 15 | 1.17122E 18 | 4.68756E-02 | 9.68575E-08 |
| 1.53807E-01 | -9.73878E-01 | -4.61879E 01 | 4.65993E-02 | 3.02040E-02 | 1.53552E-04 |

MUM TRANSLATIONAL ACCEL., 3.03425E 15, OCCURED AT JOINT 095.
 MUM ROTATIONAL ACCEL., 1.17122E 18, OCCURED AT JOINT 095.

TIPLE SUPPORT RESPONSE SPECTRUM MODAL REPORT

M-RX MS BREAK

TIPLE SUPPORT RESPONSE SPECTRUM STRESS REPORT

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M-RX MS BREAK

01 07-22-92 18.169 P15Y506 FEEDWATER LINL A

TIPLE SUPPORT RESPONSE SPECTRUM STRESS REPORT

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M-RX MS BREAK

TIPLE SUPPORT RESPONSE SPECTRUM STRESS REPORT

M-RX MS BREAK

RESPONSE SPECTRUM ANALYSIS --- STRESS REPORT

PISYS PAGE 1

ELEMENT TYPE 4-B STRAIGHT OR CURVED PIPE ELEMENTS

COMBINED ELEMENT FORCES AND MOMENTS
 COMBINED METHOD 6 MODE 1 TO MODE 30 --- INTERMEDIATE

| LEM NO | LOAD CASE | END | AXIAL FORCE | Y-AXIS SHEAR | Z-AXIS SHEAR | TORSION MOMENT | Y-AXIS MOMENT | Z-AXIS MOMENT |
|--------|-----------|-----|-------------|--------------|--------------|----------------|---------------|---------------|
| 1T | 1 001. | | 7169.983 | 2936.424 | 3467.719 | 153370.338 | 36991.933 | 23232.173 |
| | 002. | | 7169.983 | 2936.424 | 3467.719 | 153370.338 | 236530.848 | 204184.469 |
| 2T | 1 002. | | 7145.312 | 2933.898 | 3445.780 | 153370.338 | 236530.848 | 204184.469 |
| | 003. | | 7145.312 | 2933.898 | 3445.780 | 153370.338 | 221651.398 | 191494.459 |
| 3T | 1 003. | | 7122.926 | 2928.373 | 3440.277 | 153370.338 | 221651.398 | 191494.459 |
| | 003.01 | | 7122.926 | 2928.373 | 3440.277 | 153370.338 | 36842.382 | 27144.747 |
| 4T | 1 003.01 | | 7007.463 | 2494.666 | 2806.280 | 153370.338 | 36842.382 | 27144.747 |
| | 004. | | 7007.463 | 2494.666 | 2806.280 | 153370.338 | 237213.246 | 208438.882 |
| 5T | 1 004. | | 6892.955 | 2151.753 | 2376.693 | 153370.338 | 237213.246 | 208438.882 |
| | 005. | | 6892.955 | 2151.753 | 2376.693 | 153370.338 | 268497.934 | 237689.826 |
| 6T | 1 005. | | 6871.294 | 2103.893 | 2326.769 | 153370.338 | 268497.934 | 237689.826 |
| | 006. | | 6871.294 | 2103.893 | 2326.769 | 153370.338 | 330749.092 | 295789.727 |
| 7T | 1 006. | | 2024.681 | 1098.717 | 4500.244 | 0.000 | 69096.750 | 16869.706 |
| | 007. | | 2024.681 | 1098.717 | 4500.244 | 0.000 | 0.000 | 0.000 |
| 8T | 1 006. | | 6025.495 | 2078.309 | 4338.837 | 120615.004 | 330749.092 | 289376.556 |
| | 008. | | 6025.495 | 2078.309 | 4338.837 | 120615.004 | 343190.005 | 314667.919 |
| 9T | 1 008. | | 5997.662 | 2094.191 | 4400.967 | 120615.004 | 343190.005 | 314667.919 |
| | 009. | | 5997.662 | 2094.191 | 4400.967 | 120615.004 | 271075.312 | 334180.546 |
| 10T | 1 009. | | 5943.221 | 4243.603 | 7428.302 | 120615.004 | 371075.312 | 334180.546 |
| | 012. | | 5943.221 | 4243.603 | 7428.302 | 120615.004 | 264868.385 | 264201.270 |
| 11T | 1 012. | | 5911.858 | 4205.981 | 7375.311 | 120615.004 | 264868.385 | 264201.270 |
| | 013. | | 5911.858 | 4205.981 | 7375.311 | 120615.004 | 186387.238 | 164019.968 |
| 12T | 1 013. | | 2869.709 | 2669.553 | 6751.453 | 0.000 | 203076.958 | 80297.477 |
| | 014. | | 2869.709 | 2669.553 | 6751.453 | 0.000 | 0.000 | 0.000 |

TIPLE SUPPORT RESPONSE SPECTRUM STRESS REPORT

M-RX MS BREAK

. T I P L E S U P P O R T R E S P O N S E S P E C T R U M S T R E S S R E P O R T

M-RX MS BREAK

| | | | | | | | |
|-----|--------------------------|----------------------------------|----------------------------------|----------------------------------|---------------------------------------|---------------------------------------|----------------------------------------|
| 13T | 1 013. 015. | 4091.356 4091.356 | 2012.791 2012.791 | 4898.746 4898.746 | 147372.167 147372.167 | 186387.238 116010.043 | 143545.716 98622.670 |
| 14T | 1 015. 016. | 4059.069 4059.069 | 1907.690 1907.690 | 4735.293 4735.293 | 147372.167 147372.167 | 116010.043 151707.009 | 98622.670 74746.137 |
| 15B | 1 016. CENTER 018. | 3964.304 5061.612 5011.721 | 4169.549 2758.870 2673.087 | 1664.665 1664.665 1664.665 | 147371.942 121847.453 76828.185 | 74746.550 107687.939 145693.599 | 151707.009 199937.574 210768.396 |
| 16T | 1 018. 018.01 | 4072.058 4072.058 | 1895.519 1895.519 | 2476.482 2476.482 | 76831.919 76831.919 | 210768.396 216955.816 | 145691.546 177811.142 |
| 17T | 1 018.01 019. | 4462.155 4462.155 | 1570.412 1570.412 | 3465.974 3465.974 | 76831.919 76831.919 | 216955.816 335527.136 | 177811.142 141623.235 |
| 18T | 1 019. 021. | 5806.514 5806.514 | 2333.399 2333.399 | 9282.724 9282.724 | 76843.273 76843.273 | 335527.136 116762.997 | 141619.091 127225.645 |
| 19B | 1 021. CENTER 023. | 6774.002 9502.243 9920.274 | 7970.205 3947.607 3075.536 | 2589.679 2589.679 2589.679 | 76836.161 85524.161 114332.588 | 127228.964 100876.072 78342.434 | 116762.997 235227.845 258725.683 |
| 20T | 1 023. 024. | 9110.520 9110.520 | 4221.912 4221.912 | 4198.555 4198.555 | 114332.470 114332.470 | 258725.683 167253.689 | 78342.641 190786.305 |
| 21T | 1 024. 025. | 8223.894 8223.894 | 4759.084 4759.084 | 7510.179 7510.179 | 117792.469 117792.469 | 190873.693 177858.332 | 203697.776 327301.190 |
| 22T | 1 025. 029. | 7408.177 7408.177 | 4430.553 4430.553 | 4903.992 4903.992 | 117792.469 117792.469 | 177858.332 255358.715 | 327301.190 284678.707 |
| 23T | 1 029. 031. | 6640.691 6640.691 | 2655.801 2655.801 | 2474.606 2474.606 | 117792.469 117792.469 | 255358.715 334527.265 | 284678.707 289329.671 |
| 24T | 1 031. 032. | 4068.555 4068.555 | 3002.272 3002.272 | 3562.645 3562.645 | 133027.673 133027.673 | 358593.150 242450.478 | 281201.036 258162.654 |
| 25T | 1 032. 027. | 3350.869 3350.869 | 6089.836 6089.836 | 6697.379 6697.379 | 133027.673 133027.673 | 242450.478 200148.476 | 258162.654 185944.691 |
| 26T | 1 027. 034. | 2999.521 2999.521 | 5351.494 5351.494 | 6458.277 6458.277 | 133027.673 133027.673 | 200148.476 122353.596 | 185944.691 107439.835 |
| 27T | 1 034. 035. | 668.032 668.032 | 2032.739 2032.739 | 1478.230 1478.230 | 0.000 0.000 | 43581.521 8804.885 | 59841.723 11835.789 |
| 28T | 1 035. 036. | 200.429 200.429 | 668.047 668.047 | 496.974 496.974 | 0.000 0.000 | 8804.885 0.000 | 11835.789 0.000 |

. T I P L E S U P P O R T R E S P O N S E S P E C T R U M S T R E S S R E P O R T

M-RX MS BREAK

LTIPLE SUPPORT RESPONSE SPECTRUM STRESS REPORT

M-RX MS BREAK

RESPONSE SPECTRUM ANALYSIS --- STRESS REPORT
 ELEMENT TYPE 1 --- 3-D STRAIGHT OR CURVED PIPE ELEMENTS PISYS PAGE 2

COMBINED ELEMENT FORCES AND MOMENTS
 COMBINED METHOD 6 MODE 1 TO MODE 30 --- INTERMEDIATE

| LEM NO | LOAD CASE | END | AXIAL FORCE | Y-AXIS SHEAR | Z-AXIS SHEAR | TORSION MOMENT | Y-AXIS MOMENT | Z-AXIS MOMENT |
|--------|-----------|----------------|-------------|--------------|--------------|----------------|---------------|---------------|
| 29T | 1 024. | 037. | 3062.844 | 2743.723 | 1486.849 | 37455.236 | 95850.387 | 108166.980 |
| | | | 3062.844 | 2743.723 | 1486.849 | 37455.236 | 68955.269 | 76605.505 |
| 30T | 1 037. | 038. | 2984.874 | 2601.791 | 1499.944 | 37455.227 | 68955.276 | 76605.505 |
| | | | 2984.874 | 2601.791 | 1499.944 | 37455.227 | 53888.635 | 71714.411 |
| 31B | 1 038. | CENTER 040. | 2923.047 | 2465.401 | 1501.870 | 37450.719 | 53893.023 | 71714.411 |
| | | | 3350.076 | 1871.764 | 1501.870 | 32261.950 | 48460.005 | 70543.679 |
| 32T | 1 040. | 040.01 | 3005.783 | 1806.027 | 1447.867 | 30395.206 | 39284.603 | 63990.891 |
| | | | 3005.783 | 1806.027 | 1447.867 | 30395.206 | 43919.479 | 48854.472 |
| 33T | 1 040.01 | 041. | 2424.193 | 1307.323 | 1032.427 | 30395.206 | 43919.479 | 48854.472 |
| | | | 2424.193 | 1307.323 | 1032.427 | 30395.206 | 80993.329 | 90560.239 |
| 34B | 1 041. | CENTER 043. | 2084.975 | 672.730 | 725.621 | 30404.811 | 90557.115 | 80993.329 |
| | | | 2151.658 | 388.679 | 725.621 | 20938.146 | 95794.687 | 82490.986 |
| 35T | 1 043. | 043.01 | 1556.831 | 658.588 | 813.211 | 32769.845 | 82307.136 | 95030.317 |
| | | | 1556.831 | 658.588 | 813.211 | 32769.845 | 44556.451 | 74295.804 |
| 36T | 1 043.01 | 044. | 839.396 | 1583.823 | 894.912 | 32769.844 | 44556.451 | 74295.805 |
| | | | 839.396 | 1583.823 | 894.912 | 32769.844 | 24888.271 | 37660.345 |
| 37B | 1 044. | CENTER 046. | 735.316 | 2043.336 | 806.295 | 32769.895 | 24888.271 | 37660.291 |
| | | | 1824.128 | 1180.089 | 806.295 | 21592.450 | 34868.731 | 53365.448 |
| 38T | 1 046. | 047. | 2579.849 | 991.568 | 1285.129 | 45.079 | 36658.785 | 52712.614 |
| | | | 2579.849 | 991.568 | 1285.129 | .045.079 | 29229.143 | 63763.706 |
| 39B | 1 047. | CENTER 049. | 3034.388 | 1226.363 | 1352.216 | 27046.213 | 27117.101 | 64571.435 |
| | | | 3081.976 | 1069.437 | 1352.216 | 28024.975 | 24917.363 | 68066.937 |
| | | | 2951.018 | 1362.356 | 1352.216 | 29212.412 | 23079.202 | 68324.446 |

LTIPLE SUPPORT RESPONSE SPECTRUM STRESS REPORT

M-RX MS BREAK

R E S P O N S E S P E C T R U M A N A L Y S I S --- S T R E S S R E P O R T
 E L E M E N T T Y P E 1 --- 3-D S T R A I G H T O R C U R V E D P I P E E L E M E N T S P I S Y 5 P A G E 3

 C O M B I N E D E L E M E N T F O R C E S A N D M O M E N T S
 C O M B I N E D M E T H O D 6 M O D E 1 T O M O D E 30 --- I N T E R M E D I A T E

| LEM NO | LOAD CASE | AXIAL FORCE | Y-AXIS SHEAR | Z-AXIS SHEAR | TORSION MOMENT | Y-AXIS MOMENT | Z-AXIS MOMENT |
|--------|--------------------------|----------------------------------|----------------------------------|----------------------------------|--------------------------------------|-------------------------------------|-------------------------------------|
| 40B | 1 049. CENTER 051. | 3094.496 2778.697 2317.779 | 1444.517 1981.364 2542.531 | 1475.680 1475.680 1475.680 | 29211.948 30121.796 31247.953 | 23084.765 22129.432 22621.708 | 68322.735 65380.014 60146.901 |
| 41B | 1 051. CENTER 053. | 2394.022 1805.202 1239.042 | 2678.498 3122.581 3373.120 | 1590.184 1590.184 1590.184 | 31244.445 31909.512 32757.542 | 22624.164 24522.465 27740.633 | 60147.034 53773.853 49076.468 |
| 42T | 1 053. 054. | 1277.775 1277.775 | 3732.965 3732.965 | 1856.323 1856.323 | 32753.068 32753.068 | 27754.425 98363.185 | 49071.129 156355.326 |
| 43T | 1 054. 055. | 1349.261 1349.261 | 3790.480 3790.480 | 1943.001 1943.001 | 32752.592 32752.592 | 98363.185 132686.601 | 156355.487 223940.160 |
| 44T | 1 055. 056. | 1427.193 1427.193 | 3791.698 3791.698 | 2011.679 2011.679 | 32755.936 32755.936 | 132686.601 144374.644 | 223939.430 246698.393 |
| 45T | 1 056. 057. | 23.048 23.048 | 0.008 0.008 | 40.968 40.968 | 0.000 0.000 | 312.886 0.000 | 0.061 0.000 |
| 46T | 1 031. 058. | 1329.739 1329.739 | 2731.782 2731.782 | 2840.874 2840.874 | 106584.542 106584.542 | 147241.251 90794.184 | 112092.666 74785.321 |
| 47T | 1 058. 059. | 1236.771 1236.771 | 2484.825 2484.825 | 2816.844 2816.844 | 106584.510 106584.510 | 90794.222 60037.352 | 74785.321 66344.993 |
| 48B | 1 059. CENTER 061. | 1177.680 1843.657 2311.488 | 2265.104 1769.983 1112.774 | 2778.648 2778.648 2778.648 | 106570.525 81146.848 52533.195 | 60062.382 75904.891 80425.919 | 66344.993 65979.705 65619.131 |
| 49T | 1 061. 061.01 | 1839.685 1839.685 | 902.528 902.528 | 2563.456 2563.456 | 52582.761 52582.761 | 80394.099 37505.335 | 65619.131 58456.202 |
| 50T | 1 061.01 062. | 1305.026 1305.026 | 940.415 940.415 | 1297.311 1297.311 | 52582.761 52582.761 | 37505.335 88956.329 | 58456.202 45327.411 |

L T I P L E S U P P O R T R E S P O N S E S P E C T R U M S T R E S S R E P O R T

M-RX MS BREAK

| | | | | | | | |
|-----|--------------------------|----------------------------------|----------------------------------|----------------------------------|----------------------------------------|-------------------------------------|-------------------------------------|
| 51B | 1 062. CENTER 064. | 1162.541 1842.787 1534.003 | 1535.063 577.037 1163.949 | 646.002 646.002 646.002 | 52582.761 24586.988 78438.687 | 88956.329 91953.127 41224.454 | 45327.411 38293.990 35959.456 |
| 52T | 1 064. 065. | 2257.675 2257.675 | 2246.710 2246.710 | 1311.284 1311.284 | 78395.419 78395.419 | 35959.456 45902.642 | 41306.733 54424.645 |
| 53B | 1 065. CENTER 067. | 2813.829 2924.061 2861.732 | 1333.438 1133.965 1416.120 | 2824.809 2824.809 2824.809 | 78438.019 91339.321 101712.522 | 54363.194 46495.078 35030.417 | 45902.642 49097.455 49537.960 |
| 54B | 1 067. CENTER 069. | 3028.581 2760.317 2339.085 | 1548.391 2013.579 2449.202 | 2992.981 2992.981 2992.981 | 101711.484 108963.149 112695.839 | 35833.361 24297.515 13561.648 | 49537.960 46723.114 42625.466 |
| 55B | 1 069. CENTER 071. | 2436.283 1878.634 1381.462 | 2628.744 3019.025 3239.509 | 3120.409 3120.409 3120.409 | 112687.229 112764.078 109228.623 | 14028.774 13709.444 23442.943 | 42625.466 39265.069 38982.310 |
| 56T | 1 071. 072. | 1508.203 1508.203 | 3672.570 3672.570 | 3381.642 3381.642 | 109237.576 109237.576 | 23401.233 121247.911 | 38982.310 164423.758 |
| 57T | 1 072. 073. | 1738.814 1738.814 | 3738.911 3738.911 | 3447.353 3447.353 | 109237.576 109237.576 | 121247.911 183838.050 | 164423.758 231362.079 |
| 58T | 1 073. 074. | 1972.297 1972.297 | 3740.283 3740.283 | 3455.341 3455.341 | 109237.576 109237.576 | 183838.050 204816.966 | 231362.079 253859.612 |
| 59T | 1 074. 075. | 46.096 46.096 | 0.009 0.009 | 1.289 1.289 | 0.000 0.000 | 9.848 0.000 | 0.067 0.000 |
| 60T | 1 034. 076. | 3446.306 3446.306 | 3444.500 3444.500 | 2551.623 2551.623 | 55177.450 55177.450 | 160043.224 111032.164 | 133611.673 74428.403 |
| 61T | 1 076. 077. | 3245.630 3245.630 | 3317.981 3317.981 | 2510.930 2510.930 | 55177.436 55177.436 | 111032.172 84747.430 | 74428.403 54611.734 |
| 62B | 1 077. CENTER 079. | 3087.025 3663.616 3900.984 | 3184.956 2524.289 2155.527 | 2459.947 2459.947 2459.947 | 55169.575 45930.971 47253.469 | 84753.252 73654.181 59102.643 | 54611.734 49164.457 48643.724 |
| 63T | 1 079. 079.01 | 3515.705 3515.705 | 1839.255 1839.255 | 2276.141 2276.141 | 47243.023 47243.023 | 59102.577 82250.654 | 48643.724 82989.048 |
| 64T | 1 079.01 080. | 2968.349 2968.349 | 1155.250 1155.250 | 1504.048 1504.048 | 47243.023 47243.023 | 82250.654 133341.514 | 82989.048 118553.722 |
| 65B | 1 080. CENTER | 2663.572 2789.309 | 919.512 485.837 | 737.221 737.221 | 47255.250 31300.085 | 118549.168 124608.344 | 133341.514 134906.922 |

L T I P L E S U P P O R T R E S P O N S E S P E C T R U M S T R E S S R E P O R T

M-RX MS BREAK

L T I P L E S U P P O R T R E S P O N S E S P E C T R U M S T R E S S R E P O R T

M-RX MS BREAK

| | | | | | | | |
|-----|--------------------------|----------------------------------|----------------------------------|----------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|
| | 082. | 2728.086 | 729.062 | 737.221 | 43736.701 | 122955.638 | 133982.195 |
| 66T | 1 082. 082.01 | 2055.754 2055.754 | 950.035 950.035 | 1314.743 1314.743 | 43724.942 43724.942 | 133982.195 60559.209 | 122959.407 91683.840 |
| 67T | 1 082.01 083. | 1059.311 1059.311 | 1816.612 1816.612 | 1388.587 1387.587 | 43724.940 43724.940 | 60559.209 39715.362 | 91683.841 53391.067 |
| 68B | 1 083. CENTER 085. | 906.620 2132.948 2348.561 | 2349.201 1321.068 908.285 | 802.289 802.289 802.289 | 43724.934 30216.761 41576.648 | 39715.362 51150.463 41524.864 | 53391.064 67260.570 67614.506 |
| 69T | 1 085. 086. | 2904.831 2904.831 | 1240.423 1240.423 | 1507.713 1507.713 | 41551.250 41551.250 | 53187.100 32001.161 | 57785.807 60460.021 |
| 70B | 1 086. CENTER 088. | 3382.945 3192.031 2857.784 | 1571.713 1827.206 2346.630 | 1577.528 1577.528 1577.528 | 41556.063 43906.699 45755.129 | 39887.800 36599.937 35232.003 | 55425.145 60618.499 64615.469 |
| 71B | 1 088. CENTER 090. | 2991.603 2535.625 2027.046 | 2458.785 2982.066 3367.618 | 1710.801 1710.801 1710.801 | 45752.694 46697.479 46692.551 | 35234.770 35066.566 37016.747 | 64616.395 68132.366 72732.251 |
| 72B | 1 090. CENTER 092. | 2086.742 1658.667 1612.494 | 3507.695 3724.768 3724.744 | 1831.242 1831.242 1831.242 | 46687.268 45978.258 47128.538 | 37024.114 41537.506 46220.752 | 72735.027 79275.429 87064.278 |
| 73T | 1 092. 093. | 1641.247 1641.247 | 4065.930 4065.930 | 2103.012 2103.012 | 47123.695 47123.695 | 46239.587 121900.051 | 87053.982 227676.028 |
| 74T | 1 093. 094. | 1697.316 1697.316 | 4115.911 4115.911 | 2181.567 2181.567 | 47124.643 47124.643 | 121900.051 160239.200 | 227675.940 300082.308 |
| 75T | 1 094. 095. | 1759.759 1759.759 | 4116.912 4116.912 | 2238.614 2238.614 | 47118.748 47118.748 | 160239.200 173274.589 | 300082.757 324534.816 |
| 76T | 1 095. 096. | 23.048 23.048 | 0.007 0.007 | 41.086 41.086 | 0.000 0.000 | 313.787 0.000 | 0.055 0.000 |

MAXIMUM AND/OR MINIMUM VALUES
CORRESPONDING ELEMENT/LOAD-CASE

| | | | | | | |
|--------------|-----------------|----------------|----------------|---------------|---------------|---------------|
| MAXIMUM TANG | 9110.520 | 6089.836 | 9282.724 | 153370.338 | 371075.313 | 334180.547 |
| MINIMUM | 20- 1 23.048 | 25- 1 0.007 | 18- 1 1.289 | 1- 1 0.000 | 9- 1 0.000 | 9- 1 0.000 |
| | 76- 1 | 76- 1 | 59- 1 | 59- 1 | 45- 1 | 76- 1 |
| MAXIMUM BEND | 9920.274 | 7970.205 | 3120.409 | 147371.942 | 145693.599 | 258725.683 |

L T I P L E S U P P O R T R E S P O N S E S P E C T R U M S T R E S S R E P O R T

M-RX MS BREAK

LTIPLE SUPPORT RESPONSE SPECTRUM STRESS REPORT

M-RX MS BREAK

| | | | | | | |
|---------|------------------|------------------|------------------|--------------------|--------------------|--------------------|
| MINIMUM | 19- 1 735.316 | 19- 1 388.679 | 55- 1 646.002 | 15- 1 20938.146 | 15- 1 13709.444 | 19- 1 35959.456 |
| | 37- 1 | 34- 1 | 51- 1 | 34- 1 | 55- 1 | 51- 1 |

LTIPLE SUPPORT RESPONSE SPECTRU STRESS REPORT

M-RX MS BREAK

LTIPLE SUPPORT RESPONSE SPECTRUM STRESS REPORT

M-RX MS BREAK

RESPONSE SPECTRUM ANALYSIS --- STRESS REPORT
 ELEMENT TYPE 2 --- RESTRAINT ELEMENT

PISYS PAGE 4

 COMBINED ELEMENT FORCES AND MOMENTS
 COMBINED METHOD 6 MODE 1 TO MODE 30 --- INTERMEDIATE

| ELEM NO | LOAD CASE | RESTRAINT TYPE | PIPE JOINT | STRUCT. POINT | RESTRAINT FORCE | RESTRAINT MOMENT |
|---------|-----------|----------------|------------|---------------|-----------------|------------------|
| 1 | 1 | ANCHOR | 001. | ANC X | 3.503E 03 | 2.323E 04 |
| 2 | 1 | ANCHOR | 001. | ANC Y | 2.936E 03 | 3.699E 04 |
| 3 | 1 | ANCHOR | 001. | ANC Z | 7.170E 03 | 1.534E 05 |
| 4 | 1 | ANCHOR | 056. | RPUNIX | 2.329E 03 | 2.184E 05 |
| 5 | 1 | ANCHOR | 056. | RPUN1Y | 3.792E 03 | 1.444E 05 |
| 6 | 1 | ANCHOR | 056. | RPUN1Z | 1.122E 03 | 1.189E 05 |
| 7 | 1 | ANCHOR | 074. | RPUN2X | 2.186E 03 | 1.092E 05 |
| 8 | 1 | ANCHOR | 074. | RPUN2Y | 3.740E 03 | 2.048E 05 |
| 9 | 1 | ANCHOR | 074. | RPUN2Z | 3.454E 03 | 2.539E 05 |
| 10 | 1 | ANCHOR | 095. | RPUN3X | 2.658E 03 | 2.792E 05 |
| 11 | 1 | ANCHOR | 095. | RPUN3Y | 4.117E 03 | 1.733E 05 |
| 12 | 1 | ANCHOR | 095. | RPUN3Z | 1.352E 03 | 1.710E 05 |
| 13 | 1 | GLOBAL GUIDE | 009. | GUIDEX | 1.023E 04 | 0. |
| 14 | 1 | GLOBAL GUIDE | 009. | GUIDEY | 5.275E 03 | 0. |
| 15 | 1 | SNUBBER | 019. | AS003 | 1.460E 04 | 0. |
| 16 | 1 | SNUBBER | 025. | AS005 | 1.361E 04 | 0. |
| 17 | 1 | SNUBBER | 025. | AS004 | 8.035E 03 | 0. |
| 18 | 1 | SNUBBER | 027. | AS007 | 9.875E 03 | 0. |

LTIPLE SUPPORT RESPONSE SPECTRUM STRESS REPORT

M-RX MS BREAK

IT 01 07-22-92 18.169 P I S Y S 0 6 FEEDWATER LINE A

PAGE 402

L T I P L E S U P P O R T R E S P O N S E S P E C T R U M S T R E S S R E P O R T

M-RX MS BREAK

19 1 SHUBBER 032. A5006 1.073E 04 0.

IT 01 07-22-92 18.169 P I S Y S 0 6 FEEDWATER LINE A

PAGE 402

L T I P L E S U P P O R T R E S P O N S E S P E C T R U M S T R E S S R E P O R T

M-RX MS BREAK

IT 01 07-22-92 18.169 P I S Y S 0 6 FEEDWATER LINE A
S E Z F I L E G E N E R A T I O N R E P O R T

PAGE 403
M-RX MS BREAK

ISEZ FILE UPDATE HAS STARTED.
ANALYSIS CASE LABEL "M-RX MS BREAK",
ANALYSIS CASE SEQUENCE NUMBER = 11 (PISEZ)
IS BEING ADDED.

ISEZ FILE UPDATE IS COMPLETE.

IT 01 07-22-92 18.169 P I S Y S 0 6 FEEDWATER LINE A
S E Z F I L E G E N E R A T I O N R E P O R T

PAGE 403
M-RX MS BREAK

3 MASTER CONTROL INFORMATION

.LABEL = FEEDWATER LINE A

. DATE = 11/91

ECT TITLE =

ECT NUMBER =

TITLE =

NUMBER =

NUMBER =

YSIS CASE 12, OF 16

3 PARAMETER = 0

4 PARAMETER = 0

CHECK FLAG = 0

Z GENERATION= T

.LOAD LABEL = H-RZ MS BREAK

3 MULTIPLE SUPPORT EXCITATION RESPONSE SPECTRUM ANALYSIS WAS SELECTED.

COMBINATION METHOD, MC, = 6
DISPLACEMENT OUTPUT OPTION = 5
STRESS OUTPUT OPTION = 0
NUMBER OF SPECTRUM CASES = 1
INTERPOLATION INDICATOR = 0

WORKING FILES RESTARTED FROM TAPE # 12529 ***

TITLE SUPPORT RESPONSE SPECTRUM INPUT

M-RZ MS BREAK

CONTROL INFORMATION

NUMBER OF SPECTRA = 4

MAXIMUM NUMBER OF SPECTRUM
TABLE ENTRIES (PAIRS) = 39

METHOD OF COMBINATION = 6

EQ. 1, METHOD I
EQ. 2, METHOD II
EQ. 3, METHOD III
EQ. 4, METHOD IV
EQ. 5, METHOD V
EQ. 6, METHOD VI, (METHOD I + H/F)

NUMBER OF SPECTRUM
ANALYSIS LOAD CASES = 1

OUTPUT TYPE FLAG (NPRINT) = 5

EQ.0, PRINT COMB. RESULTS (DISP. ,
ACCEL.,STRESSES)

EQ.1, PRINT MODAL RESULTS AND
COMB. RESULTS

EQ.2, PRINT = 1 ,
SAVE MODAL & COMB. RESULTS
ON TAPE 10

EQ.3, PRINT = 0
SAVE = 2

EQ.4, RESULTS WITH 3 PEAK SHIFTS

EQ.5, RESULTS WITHOUT PEAK SHIFT

EQ.6, HI FREQ. RESP. USES MAX ZPA

EQ.N, RESULTS WITH (2*N-9) SHIFTS

NOTE: FLAG NPRINT VALUE OF 4 OR MORE IS A
REstriction OF COMBINATION METHOD VI AND CANNOT
BE USED WITH ANY OTHER COMBINATION OPTION
REFER TO USER'S MANUAL FOR DETAILS

FLAG FOR ELEMENT STRESS OUTPUT = 0

.EQ. 1 ELEMENT ORIENTED MODAL FORCES & MOMENTS

.EQ. 2 MODEL ORIENTED MODAL FORCES & MOMENTS

FLAG FOR SPECTRUM INTERPOLATION= 0

.EQ. 0 LINER INTERPOLATION

.EQ. 1 LOGARITHMIC INTERPOLATION

M-RZ MS BREAK

01 07-22-92 18.169 P1SYS06 FEEDWATER LINE A
TITLE SUPPORT RESPONSE SPECTRUM INPUT

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M-RZ MS BREAK

01 07-22-92 18.169 P1SYS06 FEEDWATER LINE A
TITLE SUPPORT RESPONSE SPECTRUM INPUT

PAGE 407
M-RZ MS BREAK

01 07-22-92 18.169 P I S Y 5 0 6 FEEDWATER LINE A
T I P L E S U P P O R T R E S P O N S E S P E C T R U M I N P U T

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H-RZ MS BREAK

E C T R A L R E S P O N S E L O A D C A S E D E F I N I T I O N

K D I R E C T I O N O F A P P L I C A T I O N (G L O B A L)
-X- -Y- -Z-

1 0 0 1

01 07-22-92 18.169 P I S Y 5 0 6 FEEDWATER LINE A
T I P L E S U P P O R T R E S P O N S E S P E C T R U M I N P U T

PAGE 408
H-RZ MS BREAK

T I P L E S U P P O R T R E S P O N S E S P E C T R U M I N P U T

M-RZ MS BREAK

E C T R U M T A B L E S

CTRUM TABLE NUMBER = 1
 BER OF ENTRIES = 31
 CTRUM TYPE = PER000/ ACC
 LE FACTOR = 386.0
 PING COEFFICIENT = 2.000E-02
 CRIPT'ON = FW RPV MSB

CTRAL PERIOD / DISPLACEMENT-OR-ACCELERATION

| | |
|--------------|------------|
| 1.0000E-05 / | 9.1730E-01 |
| 1.6700E-02 / | 9.1730E-01 |
| 1.8300E-02 / | 9.1730E-01 |
| 2.0000E-02 / | 9.1689E-01 |
| 2.1700E-02 / | 9.3770E-01 |
| 2.3400E-02 / | 9.1772E-01 |
| 2.5100E-02 / | 9.4488E-01 |
| 2.8400E-02 / | 1.1229E 00 |
| 3.0100E-02 / | 1.2535E 00 |
| 3.3500E-02 / | 1.6604E 00 |
| 3.5100E-02 / | 1.6849E 00 |
| 3.6800E-02 / | 1.6849E 00 |
| 4.0200E-02 / | 1.7254E 00 |
| 4.1800E-02 / | 1.7328E 00 |
| 4.3500E-02 / | 1.7347E 00 |
| 4.5200E-02 / | 1.7335E 00 |
| 4.6900E-02 / | 1.7262E 00 |
| 4.8600E-02 / | 1.6760E 00 |
| 5.0200E-02 / | 1.6512E 00 |
| 5.1900E-02 / | 1.6512E 00 |
| 5.3600E-02 / | 1.6925E 00 |
| 5.5300E-02 / | 1.7214E 00 |
| 5.7000E-02 / | 1.7419E 00 |
| 5.8600E-02 / | 1.7867E 00 |
| 6.0300E-02 / | 1.8152E 00 |
| 8.0500E-02 / | 1.8152E 00 |
| 8.3800E-02 / | 1.8001E 00 |
| 1.5260E-01 / | 2.5340E-01 |
| 1.9460E-01 / | 1.2339E-01 |
| 2.0470E-01 / | 1.0783E-01 |
| 2.1470E-01 / | 9.7350E-02 |

CTRUM TABLE NUMBER = 2
 BER OF ENTRIES = 26
 CTRUM TYPE = PER000/ ACC

T I P L E S U P P O R T R E S P O N S E S P E C T R U M I N P U T

M-RZ MS BREAK

T I P L E S U P P O R T R E S P O N S E S P E C T R U M I N P U T

M-RZ MS BREAK

SCALE FACTOR = 386.0
 DAMPING COEFFICIENT = 3.000E-02
 DESCRIPTION = DEPRESS ENV

CENTRAL PERIOD / DISPLACEMENT-OR-ACCELERATION

| | |
|--------------|------------|
| 1.0000E-05 / | 2.5657E 00 |
| 1.6700E-02 / | 2.5657E 00 |
| 1.8300E-02 / | 2.6025E 00 |
| 2.0000E-02 / | 2.5980E 00 |
| 2.1700E-02 / | 2.5678E 00 |
| 2.3400E-02 / | 2.4068E 00 |
| 2.5100E-02 / | 2.4236E 00 |
| 2.6700E-02 / | 2.7865E 00 |
| 3.0100E-02 / | 3.1770E 00 |
| 3.1800E-02 / | 3.2004E 00 |
| 4.0200E-02 / | 3.2004E 00 |
| 4.1800E-02 / | 3.1954E 00 |
| 4.3500E-02 / | 3.1519E 00 |
| 4.5200E-02 / | 3.0246E 00 |
| 5.5300E-02 / | 1.3494E 00 |
| 5.7000E-02 / | 1.3194E 00 |
| 5.8600E-02 / | 1.3251E 00 |
| 6.0300E-02 / | 1.3222E 00 |
| 8.1800E-02 / | 1.3222E 00 |
| 8.5500E-02 / | 1.3050E 00 |
| 1.2580E-01 / | 4.1918E-01 |
| 1.3250E-01 / | 3.7893E-01 |
| 1.5600E-01 / | 2.9492E-01 |
| 2.2480E-01 / | 1.0746E-01 |

SPECTRUM TABLE NUMBER = 3
 NUMBER OF ENTRIES = 37
 SPECTRUM TYPE = PERIOD / ACC
 SCALE FACTOR = 386.0
 DAMPING COEFFICIENT = 3.000E-02
 DESCRIPTION = GUIDE

CENTRAL PERIOD / DISPLACEMENT-OR-ACCELERATION

| | |
|--------------|------------|
| 1.0000E-05 / | 1.0329E 00 |
| 1.6700E-02 / | 1.0829E 00 |
| 2.0000E-02 / | 1.0829E 00 |
| 2.1700E-02 / | 1.015E 00 |
| 2.6700E-02 / | 5.3721E-01 |
| 3.1800E-02 / | 3.9473E-01 |
| 3.8500E-02 / | 2.9859E-01 |

T I P L E S U P P O R T R E S P O N S E S P E C T R U M I N P U T

M-RZ MS BREAK

T I P L E S U P P O R T R E S P O N S E S P E C T R U M I N P U T

M-RZ MS BREAK

| | | |
|------------|---|------------|
| 4.0200E-02 | / | 2.8733E-01 |
| 4.1800E-02 | / | 2.8397E-01 |
| 4.3500E-02 | / | 2.7462E-01 |
| 4.5200E-02 | / | 2.5084E-01 |
| 4.6900E-02 | / | 2.1152E-01 |
| 4.8600E-02 | / | 1.8735E-01 |
| 5.0200E-02 | / | 1.7148E-01 |
| 5.1900E-02 | / | 1.6331E-01 |
| 5.3700E-02 | / | 1.5811E-01 |
| 5.5600E-02 | / | 1.5238E-01 |
| 5.7500E-02 | / | 1.4860E-01 |
| 5.9500E-02 | / | 1.4544E-01 |
| 6.1500E-02 | / | 1.4281E-01 |
| 6.3600E-02 | / | 1.4064E-01 |
| 6.5800E-02 | / | 1.3895E-01 |
| 6.8100E-02 | / | 1.3771E-01 |
| 7.0500E-02 | / | 1.3691E-01 |
| 7.3000E-02 | / | 1.3654E-01 |
| 7.5600E-02 | / | 1.3660E-01 |
| 7.8300E-02 | / | 1.3715E-01 |
| 8.1100E-02 | / | 1.3811E-01 |
| 8.4000E-02 | / | 1.3950E-01 |
| 8.7000E-02 | / | 1.4130E-01 |
| 9.0000E-02 | / | 1.4350E-01 |
| 9.3000E-02 | / | 1.4610E-01 |
| 9.6000E-02 | / | 1.4910E-01 |
| 1.0000E-01 | / | 1.5250E-01 |
| 1.0400E-01 | / | 1.5630E-01 |
| 1.0800E-01 | / | 1.6050E-01 |
| 1.1200E-01 | / | 1.6510E-01 |
| 1.1600E-01 | / | 1.7010E-01 |
| 1.2000E-01 | / | 1.7550E-01 |
| 1.2500E-01 | / | 1.8130E-01 |
| 1.3080E-01 | / | 1.8750E-01 |
| 1.3250E-01 | / | 1.8950E-02 |
| 1.3750E-01 | / | 5.8680E-02 |
| 1.3920E-01 | / | 5.8680E-02 |
| 1.4420E-01 | / | 5.8680E-02 |
| 1.4940E-01 | / | 5.8680E-02 |
| 1.5940E-01 | / | 5.3380E-02 |
| 1.6620E-01 | / | 3.7210E-02 |
| 1.8620E-01 | / | 2.4010E-02 |
| 2.0470E-01 | / | 1.7590E-02 |
| 2.1140E-01 | / | 1.6060E-02 |
| 2.1310E-01 | / | 1.6080E-02 |

SPECTRUM TABLE NUMBER = 4
 NUMBER OF ENTRIES = 34
 SPECTRUM TYPE = PERIOD/ ACC
 SCALE FACTOR = 286.0
 DAMPING COEFFICIENT = 3.000E-02
 DESCRIPTION = PENETRATION

CENTRAL PERIOD / DISPLACEMENT-OR-ACCELERATION

| | | |
|------------|---|------------|
| 1.0000E-05 | / | 1.6153E-01 |
| 1.6700E-02 | / | 1.6153E-01 |
| 1.8300E-02 | / | 1.6212E-01 |
| 2.0000E-02 | / | 1.6212E-01 |
| 2.1700E-02 | / | 1.6205E-01 |
| 2.3400E-02 | / | 1.5500E-01 |
| 2.6700E-02 | / | 1.1106E-01 |
| 2.8400E-02 | / | 1.0536E-01 |
| 3.6800E-02 | / | 1.0536E-01 |

T I P L E S U P P O R T R E S P O N S E S P E C T R U M I N P U T

M-RZ MS BREAK

101 07-22-92 18.169 P15Y506 FEEDWATER LINE A
 . T I P L E S U P P O R T R E S P O N S E S P E C T R U M I N P U T

| | |
|------------|------------|
| 3.0500E-02 | 1.0308E-01 |
| 4.0200E-02 | 1.0025E-01 |
| 4.1800E-02 | 9.3550E-02 |
| 4.5200E-02 | 6.6910E-02 |
| 4.6900E-02 | 6.3340E-02 |
| 4.8600E-02 | 6.8200E-02 |
| 5.1900E-02 | 8.7120E-02 |
| 5.3600E-02 | 9.2200E-02 |
| 5.5300E-02 | 9.3980E-02 |
| 5.7000E-02 | 9.4320E-02 |
| 7.2100E-02 | 9.4320E-02 |
| 7.3700E-02 | 9.4250E-02 |
| 7.5400E-02 | 9.4030E-02 |
| 7.7100E-02 | 9.3440E-02 |
| 8.0500E-02 | 8.7670E-02 |
| 8.8800E-02 | 6.3980E-02 |
| 9.0000E-02 | 6.1320E-02 |
| 1.0730E-01 | 5.0950E-02 |
| 1.0900E-01 | 5.0680E-02 |
| 1.1910E-01 | 5.0880E-02 |
| 1.2240E-01 | 4.9840E-02 |
| 1.2410E-01 | 4.9680E-02 |
| 1.2580E-01 | 4.9460E-02 |
| 1.3080E-01 | 4.7520E-02 |
| 1.5940E-01 | 1.5580E-02 |
| 1.7110E-01 | 1.6310E-02 |
| 1.7280E-01 | 1.6180E-02 |
| 1.8290E-01 | 1.7820E-02 |
| 2.0130E-01 | 2.1710E-02 |
| 2.0300E-01 | 2.1840E-02 |

PORT EXCITATION INPUT INFORMATION

| RESTRAINT LABEL | X TRANSLATIONAL | Y TRANSLATIONAL | Z TRANSLATIONAL | MULTIPLIERS | SPECTRUM NUMBER |
|-----------------|-----------------|-----------------|-----------------|-------------|-----------------|
| RPUN1 | 0. | 0. | 0. | 1.0000E 00 | 1 |
| RPUN2 | 0. | 0. | 0. | 1.0000E 00 | 1 |
| RPUN3 | 0. | 0. | 0. | 1.0000E 00 | 1 |
| AS003 | 0. | 0. | 0. | 1.0000E 00 | 2 |
| ANC | 0. | 0. | 0. | 1.0000E 00 | 4 |

101 07-22-92 18.169 P15Y506 FEEDWATER LINE A
 . T I P L E S U P P O R T R E S P O N S E S P E C T R U M I N P U T

VIOUSLY SAVED PARTICIPATION FACTORS HAVE BEEN
 CCESSFULLY RETRIEVED FROM FILE CODE 23
 DAL PARTICIPATION FACTORS

| ORDER NUMBER | FREQUENCY (HERTZ) | SUPPORT NUMBER AND FACTORS | | | | | | | | | | | |
|--------------|-------------------|----------------------------|--------------|----|--------------|----|--------------|----|--------------|----|--------------|----|--------------|
| 1 | 8.126 | 1 | -2.47121E 00 | 2 | -8.33189E-01 | 3 | 2.83760E 00 | 4 | 2.11920E-01 | 5 | 3.90609E-02 | | |
| | | 6 | 4.66300E-01 | 7 | -7.28889E-02 | 8 | 4.17094E-02 | 9 | 4.60421E-01 | 10 | -2.15295E-01 | | |
| | | 11 | 7.93844E-02 | 12 | 5.74998E-01 | 13 | 7.56524E 00 | 14 | 2.14310E 00 | 15 | -1.74536E 00 | | |
| | | 16 | -1.40429E 00 | 17 | 3.28341E 00 | 18 | 9.18522E-01 | 19 | 9.18552E-01 | 20 | -2.16636E 00 | | |
| | | 21 | 2.16373E 00 | 22 | -5.47649E-01 | 23 | -4.59772E-01 | 24 | 4.92717E-01 | 25 | -5.06890E-01 | | |
| | | 2 | 10.871 | 1 | 1.20032E 00 | 2 | -1.73186E 00 | 3 | -5.51535E-01 | 4 | -2.29063E-01 | 5 | 2.25932E-01 |
| | | | | 6 | 3.84387E-01 | 7 | 1.44198E-01 | 8 | 1.09624E-01 | 9 | -3.06140E-02 | 10 | 1.70547E-02 |
| | | | | 11 | 4.57423E-02 | 12 | -4.84575E-01 | 13 | -3.34059E 00 | 14 | 4.14417E 00 | 15 | 2.23215E-01 |
| | | | | 16 | 1.79595E-01 | 17 | -4.19917E-01 | 18 | 8.67347E-01 | 19 | 8.67376E-01 | 20 | -2.42355E 00 |
| | | | | 21 | 2.42061E 00 | 22 | 9.67769E-02 | 23 | 8.12480E-02 | 24 | 6.96325E-01 | 25 | -8.29414E-01 |
| | | | | 3 | 11.554 | 1 | -6.46668E-01 | 2 | 5.31906E-01 | 3 | 3.29275E-01 | 4 | 2.01890E-02 |
| 6 | 8.01196E-01 | | | | | 7 | 3.73147E-02 | 8 | -8.08778E-03 | 9 | 3.34001E-02 | 10 | -3.43092E-01 |
| 11 | -3.56686E-01 | | | | | 12 | -1.28909E 00 | 13 | 1.85154E 00 | 14 | -1.29654E - | 15 | -2.05889E-01 |
| 16 | -1.65655E-01 | | | | | 17 | 3.87322E-01 | 18 | 2.25550E-01 | 19 | 2.25558E-0 | 20 | 1.28283E 00 |
| 21 | -1.28127E 00 | | | | | 22 | -3.38250E-01 | 23 | -2.83974E-01 | 24 | -6.68390E-01 | 25 | 7.96140E-01 |
| 4 | 11.842 | | | | | 1 | 6.00221E-01 | 2 | 5.44366E-01 | 3 | -4.46262E-01 | 4 | -2.54188E-01 |
| | | 6 | 1.35285E 00 | | | 7 | 1.76461E-02 | 8 | -5.53318E-02 | 9 | -7.75584E-02 | 10 | 2.19431E-01 |
| | | 11 | 1.86903E-01 | | | 12 | 7.42028E-01 | 13 | -1.79554E 00 | 14 | -1.25791E 00 | 15 | -3.16647E-01 |
| | | 16 | -2.54769E-01 | | | 17 | 5.95683E-01 | 18 | -4.92073E-01 | 19 | -4.92089E-01 | 20 | 9.34800E-02 |
| | | 21 | -9.33666E-02 | | | 22 | 4.39743E-01 | 23 | 3.69181E-01 | 24 | 2.45898E-01 | 25 | -2.92897E-01 |
| | | 5 | 13.025 | | | 1 | -3.66546E-01 | 2 | -7.05655E-01 | 3 | -5.01030E-01 | 4 | 3.70877E-02 |
| | | | | 6 | 7.36382E-03 | 7 | -5.41073E-04 | 8 | 4.89478E-01 | 9 | -2.38921E-02 | 10 | -3.97476E-02 |
| | | | | 11 | 1.27252E 00 | 12 | 2.65602E-01 | 13 | 1.43531E 00 | 14 | 1.31039E 00 | 15 | 2.62247E-01 |
| | | | | 16 | 2.11000E-01 | 17 | -4.93346E-01 | 18 | -9.61373E-02 | 19 | -9.61405E-02 | 20 | 1.68235E 00 |
| | | | | 21 | -1.68031E 00 | 22 | 1.98823E 00 | 23 | 1.66919E 00 | 24 | -4.91990E-01 | 25 | 5.86025E-01 |
| | | | | 6 | 15.275 | 1 | 3.24656E-01 | 2 | 1.24210E 00 | 3 | 1.04385E 00 | 4 | 7.84291E-02 |
| 6 | -5.82303E-02 | | | | | 7 | 2.08878E-02 | 8 | -8.96499E-02 | 9 | 1.67002E-01 | 10 | -1.09051E-01 |
| 11 | 7.03582E-01 | | | | | 12 | -6.09131E-02 | 13 | -1.62016E 00 | 14 | -2.48899E 00 | 15 | -8.11394E-01 |
| 16 | -6.52834E-01 | | | | | 17 | 1.52641E 00 | 18 | -4.66183E-01 | 19 | -4.66199E-01 | 20 | -1.45964E 00 |
| 21 | 1.45787E 00 | | | | | 22 | 9.17860E-01 | 23 | 7.70579E-01 | 24 | 2.99487E-01 | 25 | -3.56727E-01 |
| 7 | 15.809 | | | | | 1 | 1.31258E-01 | 2 | 1.39885E 00 | 3 | 1.35978E 00 | 4 | -1.96674E-01 |
| | | 6 | -2.12795E-01 | | | 7 | 6.44740E-02 | 8 | 4.60681E-02 | 9 | 1.70967E-02 | 10 | 8.15989E-02 |
| | | 11 | -8.20362E-02 | | | 12 | -2.25314E-02 | 13 | -9.41577E-01 | 14 | -2.96517E 00 | 15 | -1.30894E-01 |

LTIPLE SUPPORT RESPONSE SPECTRUM ANALYSIS

M-RZ MS BREAK

| | | | | | | | | | | | |
|----|--------|----|--------------|----|--------------|----|--------------|----|--------------|----|--------------|
| 8 | 17.998 | 16 | -1.05315E-01 | 17 | 2.46240E-01 | 18 | 1.05810E 00 | 19 | 1.05814E 00 | 20 | -8.75106E-01 |
| | | 21 | 8.74044E-01 | 22 | 7.79779E-02 | 23 | 6.54654E-02 | 24 | 5.29598E-01 | 25 | -6.30820E-01 |
| | | 1 | 3.27171E-02 | 2 | -1.87328E-01 | 3 | -4.22821E-01 | 4 | -7.11660E-03 | 5 | -1.03090E-01 |
| | | 6 | 7.73104E-03 | 7 | 1.32906E-01 | 8 | 6.06063E-02 | 9 | 2.26804E-01 | 10 | 5.62685E-01 |
| | | 11 | -4.91030E-01 | 12 | -2.89594E-01 | 13 | 2.01215E-01 | 14 | 3.15807E-01 | 15 | -1.31501E-01 |
| | | 16 | -1.05804E-01 | 17 | 2.47382E-01 | 18 | -1.66525E-01 | 19 | -1.66536E-01 | 20 | 1.01962E-02 |
| | | 21 | -1.01838E-02 | 22 | 1.14561E 00 | 23 | 9.61787E-01 | 24 | 2.74787E 00 | 25 | -3.27307E 00 |
| 9 | 19.854 | 1 | -6.04652E-01 | 2 | 3.47558E-01 | 3 | 7.40943E-01 | 4 | 2.55926E-01 | 5 | -5.01076E-01 |
| | | 6 | 1.20278E-01 | 7 | 1.67752E-01 | 8 | -3.33576E-03 | 9 | -4.04569E-01 | 10 | 2.64572E-01 |
| | | 11 | 2.03562E-01 | 12 | 1.04399E-01 | 13 | 8.75003E-01 | 14 | -5.64848E-01 | 15 | 1.40250E 00 |
| | | 16 | 1.12843E 00 | 17 | -2.63842E 00 | 18 | 2.07164E 00 | 19 | 2.07171E 00 | 20 | 5.20267E-01 |
| | | 21 | -5.19636E-01 | 22 | 1.52875E-01 | 23 | 1.28344E-01 | 24 | 5.11784E-01 | 25 | -6.09601E-01 |
| 10 | 21.590 | 1 | -1.30819E-01 | 2 | 1.41096E-01 | 3 | 1.61103E-01 | 4 | -5.24979E-01 | 5 | -3.74654E-01 |
| | | 6 | 1.34683E-01 | 7 | -1.30493E-01 | 8 | 9.11101E-02 | 9 | -2.24901E-01 | 10 | -4.33150E-01 |
| | | 11 | -1.65785E-01 | 12 | -1.05746E-01 | 13 | 8.00977E-02 | 14 | -2.46184E-01 | 15 | 3.78554E-01 |
| | | 16 | 3.04578E-01 | 17 | -7.12144E-01 | 18 | 3.63038E-01 | 19 | 3.63050E-01 | 20 | -8.07315E-01 |
| | | 21 | 8.06335E-01 | 22 | -3.27871E-01 | 23 | -2.75260E-01 | 24 | -1.19970E-01 | 25 | 1.42900E-01 |
| 11 | 21.903 | 1 | -8.97462E-02 | 2 | 5.33538E-02 | 3 | 5.62848E-03 | 4 | -4.29309E-01 | 5 | -1.82088E-01 |
| | | 6 | 8.83878E-02 | 7 | -2.46543E-02 | 8 | -5.95694E-02 | 9 | 8.29876E-01 | 10 | 3.34419E-01 |
| | | 11 | 2.44623E-01 | 12 | 1.04010E-01 | 13 | 8.08824E-02 | 14 | -8.22538E-02 | 15 | 1.98938E-01 |
| | | 16 | 1.60062E-01 | 17 | -3.74246E-01 | 18 | 5.27745E-02 | 19 | 5.27762E-02 | 20 | -3.92174E-01 |
| | | 21 | 3.91698E-01 | 22 | 5.47506E-02 | 23 | 4.59653E-02 | 24 | -1.88042E-01 | 25 | 2.23962E-01 |
| 12 | 22.948 | 1 | -1.31235E-02 | 2 | 4.34438E-02 | 3 | 2.51818E-01 | 4 | 3.06332E-01 | 5 | -1.72857E-01 |
| | | 6 | -1.45745E-03 | 7 | 3.57920E-02 | 8 | 3.78481E-01 | 9 | 7.48086E-01 | 10 | -2.56487E-01 |
| | | 11 | -4.61861E-01 | 12 | -2.98470E-02 | 13 | 1.54236E-02 | 14 | -8.19220E-02 | 15 | 2.47635E-01 |
| | | 16 | 1.99243E-01 | 17 | -4.65857E-01 | 18 | 1.08673E 00 | 19 | 1.08676E 00 | 20 | 2.02489E-01 |
| | | 21 | -2.02243E-01 | 22 | 1.05631E 00 | 23 | 8.86812E-01 | 24 | -4.15774E-01 | 25 | 4.95241E-01 |
| 13 | 23.646 | 1 | 1.03513E-01 | 2 | 6.12122E-03 | 3 | 2.01237E-01 | 4 | -1.44009E-01 | 5 | -1.53150E-01 |
| | | 6 | -1.27489E-02 | 7 | -4.78375E-03 | 8 | 3.98423E-01 | 9 | -4.26482E-01 | 10 | 3.27447E-01 |
| | | 11 | -6.07306E-01 | 12 | -1.99569E-02 | 13 | -5.32195E-02 | 14 | -3.50851E-02 | 15 | -5.78572E-01 |
| | | 16 | -4.65510E-01 | 17 | 1.08842E 00 | 18 | 2.84433E-01 | 19 | 2.84442E-01 | 20 | -1.62491E-01 |
| | | 21 | 1.62294E-01 | 22 | 2.25957E 00 | 23 | 1.89700E 00 | 24 | -7.65428E-01 | 25 | 9.11725E-01 |
| 14 | 25.645 | 1 | 2.14401E-01 | 2 | -1.10049E-01 | 3 | 2.50268E-01 | 4 | 1.15693E-02 | 5 | -2.77656E-01 |
| | | 6 | -3.40458E-02 | 7 | 9.81769E-03 | 8 | 7.44911E-01 | 9 | -5.54737E-02 | 10 | -1.00700E-01 |
| | | 11 | 4.96218E-01 | 12 | 6.85672E-02 | 13 | 9.78428E-01 | 14 | 5.90768E-02 | 15 | -7.92523E-01 |
| | | 16 | -6.37651E-01 | 17 | 1.49091E 00 | 18 | 6.96416E-01 | 19 | 6.96439E-01 | 20 | -1.23850E-01 |
| | | 21 | 1.23699E-01 | 22 | -9.23687E-01 | 23 | -7.75471E-01 | 24 | 3.28474E-01 | 25 | -3.91255E-01 |
| 15 | 27.271 | 1 | 9.94608E-02 | 2 | -2.24455E-01 | 3 | -6.24734E-01 | 4 | -2.43517E-02 | 5 | 1.42304E-01 |
| | | 6 | -1.88016E-02 | 7 | -8.13451E-02 | 8 | -4.60575E-01 | 9 | 9.85066E-03 | 10 | 6.48079E-03 |
| | | 11 | 8.00290E-02 | 12 | -2.10897E-02 | 13 | 3.36997E 00 | 14 | 1.47404E-01 | 15 | -3.62079E-02 |
| | | 16 | -2.91323E-02 | 17 | 6.81152E-02 | 18 | 5.05399E-01 | 19 | 5.05416E-01 | 20 | -1.38183E 00 |

LTIPLE SUPPORT RESPONSE SPECTRUM ANALYSIS

M-RZ MS BREAK

L T I P L E S U P P O R T R E S P O N S E S P E C T R U M A N A L Y S I S

M-RZ MS BREAK

| | | | | | | | | | | | |
|----|--------|----|--------------|----|--------------|----|--------------|----|--------------|----|--------------|
| 16 | 30.144 | 21 | 1.38016E 00 | 22 | 3.57989E-01 | 23 | 3.00545E-01 | 24 | -3.40369E-01 | 25 | 4.05424E-01 |
| | | 1 | 6.36132E-02 | 2 | -1.95152E-01 | 3 | -1.22213E 00 | 4 | 2.30605E-03 | 5 | 2.20860E-01 |
| | | 6 | -1.02547E-02 | 7 | -2.70236E-01 | 8 | 2.06983E-01 | 9 | -2.52312E-02 | 10 | 1.94945E-02 |
| | | 11 | 3.40851E-01 | 12 | -3.99359E-02 | 13 | -2.10067E 00 | 14 | 1.35834E-01 | 15 | 3.42049E-01 |
| | | 16 | 2.75207E-01 | 17 | -6.43470E-01 | 18 | 3.97023E-01 | 19 | 3.97036E-01 | 20 | -1.42486E 00 |
| | | 21 | 1.42313E 00 | 22 | 1.52207E-01 | 23 | 1.27784E-01 | 24 | -5.54984E-01 | 25 | 6.61058E-01 |
| 17 | 32.482 | 1 | 3.60086E-02 | 2 | 1.75351E-01 | 3 | -4.24779E-01 | 4 | -1.99841E-02 | 5 | 1.59585E-01 |
| | | 6 | 2.19861E-02 | 7 | -4.07051E-01 | 8 | 1.73568E 00 | 9 | 4.46901E-03 | 10 | 1.42633E-01 |
| | | 11 | -4.34714E-01 | 12 | 6.95124E-02 | 13 | 8.56100E-01 | 14 | -1.17212E-01 | 15 | 3.39826E-01 |
| | | 16 | 2.73418E-01 | 17 | -6.39288E-01 | 18 | -4.98297E-01 | 19 | -4.98313E-01 | 20 | -4.36723E-01 |
| | | 21 | 4.36193E-01 | 22 | -4.55634E-01 | 23 | -3.82523E-01 | 24 | -1.72810E-01 | 25 | 2.05840E-01 |
| 18 | 34.289 | 1 | -1.36581E-01 | 2 | 2.02740E-01 | 3 | 1.45240E 00 | 4 | 3.95864E-01 | 5 | -1.30524E 00 |
| | | 6 | -2.62692E-01 | 7 | -1.56914E-01 | 8 | -4.76817E-02 | 9 | 1.16293E-02 | 10 | 1.72446E-01 |
| | | 11 | -3.94680E-01 | 12 | 7.62528E-02 | 13 | -1.50262E-01 | 14 | 1.69380E-03 | 15 | -2.86914E-01 |
| | | 16 | -2.30847E-01 | 17 | 5.39750E-01 | 18 | -4.05365E-02 | 19 | -4.05379E-02 | 20 | 2.32882E-01 |
| | | 21 | 2.32599E-01 | 22 | -2.94697E-01 | 23 | -2.47409E-01 | 24 | -3.41254E-01 | 25 | 1.06477E-01 |
| 19 | 35.752 | 1 | -6.14533E-01 | 2 | 2.97217E-01 | 3 | 2.29453E 00 | 4 | -6.38103E-02 | 5 | 7.71128E-01 |
| | | 6 | 2.34444E-01 | 7 | -1.44258E-01 | 8 | 2.78188E-01 | 9 | 1.14263E-02 | 10 | -8.05167E-02 |
| | | 11 | 6.95680E-01 | 12 | -2.03512E-01 | 13 | -5.22684E-01 | 14 | 1.65181E-01 | 15 | -3.57734E-01 |
| | | 16 | -2.87827E-01 | 17 | 6.72977E-01 | 18 | -5.00416E-02 | 19 | -5.00432E-02 | 20 | 1.18593E-01 |
| | | 21 | -1.18449E-01 | 22 | 1.48621E-01 | 23 | 1.24773E-01 | 24 | -2.28624E-01 | 25 | 2.72321E-01 |
| 20 | 36.127 | 1 | -2.12367E-01 | 2 | 8.63089E-03 | 3 | 5.52804E-01 | 4 | -1.20712E-01 | 5 | 7.69783E-01 |
| | | 6 | 2.13815E-01 | 7 | 4.44070E-02 | 8 | -3.79308E-01 | 9 | 1.14168E-02 | 10 | 2.56316E-01 |
| | | 11 | -1.39328E 00 | 12 | 4.06129E-01 | 13 | -4.56826E-01 | 14 | 3.41663E-02 | 15 | -1.51036E-01 |
| | | 16 | -1.21521E-01 | 17 | 2.84132E-01 | 18 | 1.62295E-01 | 19 | 1.63001E-01 | 20 | -7.14056E-02 |
| | | 21 | 7.13189E-02 | 22 | -3.44929E-01 | 23 | -2.89581E-01 | 24 | -4.12671E-02 | 25 | 4.91545E-02 |
| 21 | 38.942 | 1 | 7.67296E-01 | 2 | 9.72044E-01 | 3 | 6.44488E-01 | 4 | 3.05086E-02 | 5 | 1.61219E-01 |
| | | 6 | 6.72778E-02 | 7 | 4.73289E-02 | 8 | -3.80664E-01 | 9 | -1.19166E-02 | 10 | 2.80740E-02 |
| | | 11 | 7.83509E-02 | 12 | -2.89640E-02 | 13 | 2.66240E 00 | 14 | 6.59399E-01 | 15 | 2.09884E-01 |
| | | 16 | 1.68869E-01 | 17 | -3.94839E-01 | 18 | -1.42439E-01 | 19 | -1.42444E-01 | 20 | 7.53509E-02 |
| | | 21 | -7.52594E-02 | 22 | 2.80877E-02 | 23 | 2.35807E-02 | 24 | -9.79784E-02 | 25 | 1.16705E-01 |
| 22 | 43.322 | 1 | 1.29903E 00 | 2 | -4.84699E-01 | 3 | 1.43627E 00 | 4 | 2.13976E-01 | 5 | 3.64096E-01 |
| | | 6 | 2.92792E-01 | 7 | -5.41529E-02 | 8 | 1.15820E-01 | 9 | 1.46783E-02 | 10 | 9.31923E-02 |
| | | 11 | 8.50111E-02 | 12 | -8.39944E-02 | 13 | 2.49446E 00 | 14 | -6.10834E-01 | 15 | -1.29970E-01 |
| | | 16 | -1.04572E-01 | 17 | 2.44503E-01 | 18 | 1.49104E-01 | 19 | 1.49109E-01 | 20 | 1.29898E-01 |
| | | 21 | -1.29741E-01 | 22 | -1.09230E-01 | 23 | -9.17032E-02 | 24 | -6.77898E-02 | 25 | 8.07465E-02 |
| 23 | 46.471 | 1 | 5.70113E-01 | 2 | 1.67067E-01 | 3 | 1.67845E 00 | 4 | -4.52065E-01 | 5 | -2.77632E-01 |
| | | 6 | -3.63702E-01 | 7 | -3.90691E-02 | 8 | 2.17543E-01 | 9 | -9.46433E-03 | 10 | -4.96940E-01 |
| | | 11 | -2.90667E-01 | 12 | 3.82141E-01 | 13 | 1.37917E 00 | 14 | 5.45171E-01 | 15 | -5.12375E-02 |
| | | 16 | -4.12248E-02 | 17 | 9.63891E-02 | 18 | 5.10252E-02 | 19 | 5.10269E-02 | 20 | 5.90134E-02 |
| | | 21 | -5.89417E-02 | 22 | 1.98343E-01 | 23 | 1.66516E-01 | 24 | 5.35959E-02 | 25 | -6.38398E-02 |

L T I P L E S U P P O R T R E S P O N S E S P E C T R U M A N A L Y S I S

M-RZ MS BREAK

LTIPLE SUPPORT RESPONSE SPECTRUM ANALYSIS

M-RZ MS BREAK

| | | | | | | | | | | | |
|----|--------|----|--------------|----|--------------|----|--------------|----|--------------|----|--------------|
| 24 | 47.729 | 1 | 2.15162E-01 | 2 | -2.14475E-01 | 3 | 6.81612E-01 | 4 | -6.13658E-01 | 5 | -1.89103E-01 |
| | | 6 | -4.02258E-01 | 7 | 1.13006E-02 | 8 | -7.80485E-02 | 9 | 4.46438E-02 | 10 | 6.31332E-01 |
| | | 11 | 1.93232E-01 | 12 | -4.03363E-01 | 13 | 5.51999E-01 | 14 | -4.21783E-01 | 15 | 1.72522E-02 |
| | | 16 | 1.38808E-02 | 17 | -3.24552E-02 | 18 | 1.47142E-02 | 19 | 1.47147E-02 | 20 | 8.49401E-02 |
| | | 21 | -8.48370E-02 | 22 | -1.27192E-01 | 23 | -1.06783E-01 | 24 | -6.99012E-02 | 25 | 8.32614E-02 |
| 25 | 49.575 | 1 | 7.65267E-02 | 2 | 1.50696E 00 | 3 | -1.52166E-01 | 4 | 3.16759E-02 | 5 | 2.42985E-02 |
| | | 6 | 3.16798E-02 | 7 | 4.27303E-03 | 8 | 9.63754E-02 | 9 | 1.01303E-01 | 10 | 1.94183E-01 |
| | | 11 | 2.22175E-02 | 12 | -1.15609E-01 | 13 | -2.59725E-01 | 14 | 4.04172E 00 | 15 | -8.58932E-02 |
| | | 16 | -6.91083E-02 | 17 | 1.61584E-01 | 18 | 1.48720E-01 | 19 | 1.48725E-01 | 20 | -7.82199E-02 |
| | | 21 | 7.81249E-02 | 22 | -4.05329E-02 | 23 | -3.40289E-02 | 24 | 5.64491E-02 | 25 | -6.72382E-02 |
| 26 | 50.540 | 1 | -2.14697E-02 | 2 | -1.12427E-01 | 3 | -6.05878E-02 | 4 | -4.63795E-03 | 5 | 4.51672E-03 |
| | | 6 | 4.35301E-04 | 7 | -1.20911E-03 | 8 | -5.40663E-03 | 9 | 1.15363E 00 | 10 | -5.08296E-02 |
| | | 11 | -1.09225E-03 | 12 | 2.59934E-02 | 13 | -1.47363E-02 | 14 | -3.31014E-01 | 15 | -2.33215E-03 |
| | | 16 | -1.87641E-03 | 17 | 4.38730E-03 | 18 | -2.30910E-03 | 19 | -2.30917E-03 | 20 | 6.71914E-03 |
| | | 21 | -6.71098E-03 | 22 | -3.45190E-03 | 23 | -2.89800E-03 | 24 | -5.09006E-03 | 25 | 6.06293E-03 |
| 27 | 53.593 | 1 | -1.60693E-01 | 2 | 1.65860E-01 | 3 | -2.13603E 00 | 4 | -4.89865E-01 | 5 | 2.03374E-01 |
| | | 6 | -1.10112E-01 | 7 | -2.53958E-02 | 8 | -1.06297E-01 | 9 | -2.90131E-02 | 10 | -3.51754E-01 |
| | | 11 | 1.12861E-01 | 12 | 1.18590E-01 | 13 | -5.5927E-01 | 14 | 2.44804E-01 | 15 | -4.75990E-02 |
| | | 16 | -3.82974E-02 | 17 | 8.95443E-02 | 18 | 4.72166E-02 | 19 | 4.02179E-02 | 20 | 5.03423E-02 |
| | | 21 | 5.82888E-02 | 22 | 1.82188E-02 | 23 | -4.81881E-02 | 24 | -8.88878E-02 | 25 | 8.05888E-04 |
| | | 6 | 3.16076E-02 | 7 | -4.32771E-02 | 8 | 2.73510E-01 | 9 | 2.71158E-03 | 10 | 3.01026E-01 |
| | | 11 | -2.29003E-01 | 12 | -1.10060E-02 | 13 | -2.00821E-01 | 14 | -6.82500E-01 | 15 | -7.39427E-02 |
| | | 16 | -5.94931E-02 | 17 | 1.39103E-01 | 18 | 1.03470E-01 | 19 | 1.03474E-01 | 20 | 2.31574E-01 |
| | | 21 | -2.31292E-01 | 22 | 1.73536E-01 | 23 | 1.5690E-01 | 24 | -9.65282E-03 | 25 | 1.14978E-02 |
| 29 | 58.590 | 1 | -2.68508E-01 | 2 | 6.36916E-02 | 3 | 6.25965E 00 | 4 | -1.30052E-01 | 5 | 1.14533E-01 |
| | | 6 | 9.07052E-03 | 7 | 3.84781E-03 | 8 | 6.51186E-02 | 9 | -9.47381E-03 | 10 | 3.74007E-02 |
| | | 11 | -2.68213E-02 | 12 | -7.97425E-03 | 13 | -6.75376E-01 | 14 | 7.62561E-01 | 15 | 6.18322E-02 |
| | | 16 | 4.97492E-02 | 17 | -1.16320E-01 | 18 | 1.02214E-01 | 19 | 1.02218E-01 | 20 | -8.47182E-02 |
| | | 21 | 8.46153E-02 | 22 | -6.06731E-03 | 23 | -5.09374E-03 | 24 | 4.65879E-02 | 25 | -5.54923E-02 |
| 30 | 65.799 | 1 | -3.41462E-02 | 2 | 2.00700E-01 | 3 | 1.35377E 00 | 4 | 4.78694E-02 | 5 | -1.03593E-02 |
| | | 6 | 6.50402E-02 | 7 | -1.89243E-02 | 8 | -1.39023E-01 | 9 | 1.90361E-02 | 10 | 3.47859E-03 |
| | | 11 | -1.78854E-01 | 12 | 2.11762E-01 | 13 | -1.78500E-01 | 14 | 1.27369E 00 | 15 | 8.85513E-02 |
| | | 16 | 7.12470E-02 | 17 | -1.66585E-01 | 18 | -1.78795E-01 | 19 | -1.78801E-01 | 20 | 1.84582E-01 |
| | | 21 | -1.84358E-01 | 22 | 6.15198E-02 | 23 | 5.16482E-02 | 24 | -1.26986E-01 | 25 | 1.51257E-01 |

LTIPLE SUPPORT RESPONSE SPECTRUM ANALYSIS

M-RZ MS BREAK

T 01 07-22-92 18.169 P I S Y 5 0 6 FEEDWATER LINE A
 L T I P L E S U P P O R T R E S P O N S E S P E C T R U M A N A L Y S I S
 I B L E O F M O D A L A M P L I T U D E S

PAGE 417
 H-RZ MS BREAK

SPECTRUM ANALYSIS LOAD CASE = (1)

| MODE NUMBER | NATURAL FREQUENCY | SPECTRUM (1) | SPECTRUM (2) | SPECTRUM (3) | SPECTRUM (4) | SPECTRUM (0) | SPECTRUM (0) | SPECTRUM (0) | SPECTRUM (0) |
|----------------|----------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|
| 1 | 8.13 | 2.0401E-01 | 2.3307E-01 | 0. | 2.0919E-02 | | | | |
| 2 | 10.87 | -1.7488E-02 | -4.0385E-02 | 0. | -2.8437E-03 | | | | |
| 3 | 11.55 | -5.7864E-02 | 3.6368E-02 | 0. | 1.6978E-03 | | | | |
| 4 | 11.84 | 2.5115E-01 | 5.4708E-02 | 0. | -2.3774E-03 | | | | |
| 5 | 11.93 | 6.0588E-03 | 1.7663E-02 | 0. | -2.7019E-03 | | | | |
| 6 | 11.97 | 6.4070E-03 | 4.7264E-03 | 0. | 4.1258E-04 | | | | |
| 7 | 11.98 | 8.4972E-03 | 1.2741E-03 | 0. | 9.0171E-05 | | | | |
| 8 | 11.99 | 8.6600E-03 | 1.0043E-03 | 0. | -1.2001E-04 | | | | |
| 9 | 11.99 | 3.6602E-03 | 1.1855E-03 | 0. | 4.3388E-05 | | | | |
| 10 | 11.99 | 1.0100E-03 | 1.0411E-03 | 0. | 2.1810E-05 | | | | |
| 11 | 11.99 | 6.0777E-04 | 8.4972E-04 | 0. | 2.1810E-05 | | | | |
| 12 | 22.55 | 2.3085E-02 | 2.7213E-02 | 0. | 7.2057E-04 | | | | |
| 13 | 23.65 | -1.3918E-02 | 6.0579E-02 | 0. | 3.1568E-04 | | | | |
| 14 | 25.64 | -5.3299E-04 | 7.0939E-02 | 0. | 3.8048E-04 | | | | |
| 15 | 27.27 | -6.6546E-04 | 2.8661E-03 | 0. | -8.6539E-04 | | | | |
| 16 | 30.14 | -1.3160E-03 | -2.2160E-02 | 0. | -1.3856E-03 | | | | |
| 17 | 32.49 | 1.1869E-03 | -1.8871E-02 | 0. | -4.1460E-04 | | | | |
| 18 | 34.29 | -1.7178E-03 | 1.3778E-02 | 0. | 1.2726E-03 | | | | |
| 19 | 35.75 | 3.5633E-04 | 1.5096E-02 | 0. | 1.8745E-03 | | | | |
| 20 | 36.13 | 5.1275E-03 | 6.1708E-03 | 0. | 4.4632E-04 | | | | |
| 21 | 38.94 | 1.6614E-04 | -6.5046E-03 | 0. | 5.1797E-04 | | | | |
| 22 | 43.32 | 1.0728E-03 | 3.1040E-03 | 0. | 1.1696E-03 | | | | |
| 23 | 46.47 | 3.8013E-05 | 1.1220E-03 | 0. | 1.2315E-03 | | | | |
| 24 | 47.73 | -3.0327E-03 | -3.5953E-04 | 0. | 4.7416E-04 | | | | |
| 25 | 49.57 | 6.3519E-05 | 1.6681E-03 | 0. | -9.8139E-05 | | | | |
| 26 | 50.54 | 4.1419E-03 | 4.3640E-05 | 0. | -3.7599E-05 | | | | |
| 27 | 53.59 | -6.4116E-05 | 7.9301E-04 | 0. | -1.1788E-03 | | | | |
| 28 | 56.48 | 6.3867E-05 | 1.1039E-03 | 0. | -1.2655E-03 | | | | |
| 29 | 58.59 | -2.1888E-05 | -8.5282E-04 | 0. | 2.8823E-03 | | | | |
| 30 | 65.80 | 6.1236E-04 | -9.6523E-04 | 0. | 4.9385E-04 | | | | |

T 01 07-22-92 18.169 P I S Y 5 0 6 FEEDWATER LINE A
 L T I P L E S U P P O R T R E S P O N S E S P E C T R U M A N A L Y S I S

PAGE 417
 H-RZ MS BREAK

T 01 07-22-92 18.169 P I S Y S 0 6 FEEDWATER LINE A
L T I P L E S U P P O R T R E S P O N S E S P E C T R U M A N A L Y S I S

PAGE 418

M-RZ MS BREAK

A B L E O F S E L E C T E D S P E C T R A
A N D Z P A V A L U E S F O R H I G H F R E Q U E N C Y R E S P O N S E

| <u>REPORT NUMBER</u> | <u>SPECTRUM SELECTED</u> | <u>SCALE FACTOR</u> | <u>ZPA VALUE USED</u> |
|--------------------------|------------------------------|-------------------------|---------------------------|
| 3 | 4 | 1.00 | 0.1615 |
| 6 | 1 | 1.00 | 0.9173 |
| 9 | 1 | 1.00 | 0.9173 |
| 12 | 1 | 1.00 | 0.9173 |
| 17 | 2 | 1.00 | 2.5657 |

T 01 07-22-92 18.169 P I S Y S 0 6 FEEDWATER LINE A
L T I P L E S U P P O R T R E S P O N S E S P E C T R U M A N A L Y S I S

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M-RZ MS BREAK

L T I P L E S U P P O R T R E S P O N S E S P E C T R U M M O D A L R E P O R T

M-RZ MS BREAK

COMBINED MODE DISPLACEMENTS/ROTATIONS
COMBINATION METHOD 6 FOR MODAL SHAPES, MODE # 1 TO 30

ID CASE # 1 (FINAL)

| INT BEL | X- TRANSLATION | Y- TRANSLATION | Z- TRANSLATION | X- ROTATION | Y- ROTATION | Z- ROTATION |
|------------|------------------------|------------------------|------------------------|----------------|----------------|----------------|
| . | 2.89652E-09 | 2.08466E-09 | 5.74332E-09 | 1.76356E-08 | 2.59078E-08 | 8.36585E-08 |
| . | 2.52507E-05 | 1.85675E-05 | 7.13496E-05 | 6.16200E-06 | 8.70407E-06 | 8.29382E-06 |
| . | 3.49486E-05 | 2.84541E-05 | 7.24215E-05 | 6.40082E-06 | 9.03917E-06 | 8.47712E-06 |
| .01 | 3.75898E-03 | 2.67174E-03 | 2.44103E-04 | 4.14295E-05 | 5.87400E-05 | 7.14045E-05 |
| . | 6.70183E-03 | 4.72164E-03 | 4.11751E-04 | 7.30963E-06 | 9.53475E-06 | 1.34332E-04 |
| . | 6.47293E-03 | 4.55125E-03 | 4.42940E-04 | 2.47881E-05 | 3.44294E-05 | 1.46284E-04 |
| . | 5.05519E-03 | 3.53844E-03 | 4.76721E-04 | 5.10365E-05 | 7.20146E-05 | 1.60965E-04 |
| . | 6.52465E-03 | 3.54134E-03 | 9.86056E-04 | 5.12088E-05 | 7.20146E-05 | 1.62018E-04 |
| . | 2.41887E-03 | 1.68815E-03 | 5.05425E-04 | 8.11691E-05 | 1.16062E-04 | 1.70648E-04 |
| . | 1.46437E-07 | 7.57811E-08 | 5.38287E-04 | 1.14574E-04 | 1.64989E-04 | 1.80626E-04 |
| . | 3.59254E-03 | 2.46310E-03 | 5.71409E-04 | 1.45989E-04 | 2.09985E-04 | 1.90920E-04 |
| . | 1.01837E-02 | 7.04910E-03 | 5.99586E-04 | 1.66701E-04 | 2.36026E-04 | 2.00960E-04 |
| . | 1.04199E-02 | 7.05880E-03 | 5.17174E-03 | 1.69022E-04 | 2.36026E-04 | 2.05082E-04 |
| . | 1.71923E-02 | 1.19713E-02 | 6.18293E-04 | 1.74091E-04 | 2.42502E-04 | 2.01449E-04 |
| .01 | 1.88814E-08 | 1.68828E-08 | 8.38882E-09 | 1.75738E-04 | 2.38782E-04 | 2.03279E-04 |
| . | 1.99358E-02 | 2.81028E-02 | 2.10805E-02 | 1.58896E-04 | 2.29196E-04 | 1.92414E-04 |
| . | 1.83448E-02 | 2.80920E-02 | 3.00502E-02 | 1.82325E-04 | 2.34151E-04 | 1.86337E-04 |
| . | 1.66585E-02 | 2.24776E-02 | 3.43396E-02 | 2.16353E-04 | 1.31572E-04 | 1.76201E-04 |
| . | 1.37055E-02 | 1.51138E-02 | 3.44151E-02 | 2.02915E-04 | 1.35019E-04 | 1.75500E-04 |
| . | 1.23397E-02 | 1.12771E-02 | 3.44687E-02 | 1.69625E-04 | 1.24053E-04 | 1.66912E-04 |
| . | 1.39841E-02 | 1.08747E-02 | 3.45551E-02 | 9.27597E-05 | 7.15981E-05 | 1.57726E-04 |
| . | .38163E-02 | 1.09962E-02 | 3.45985E-02 | 8.59528E-05 | 6.43551E-05 | 1.57430E-04 |
| . | 7.96671E-03 | 1.09887E-02 | 3.46598E-02 | 1.76027E-04 | 1.49456E-04 | 1.56225E-04 |
| . | 7.99704E-03 | 1.37406E-02 | 3.46699E-02 | 1.99726E-04 | 1.67264E-04 | 1.60261E-04 |
| . | 1.11346E-02 | 1.98000E-02 | 3.46816E-02 | 2.24201E-04 | 1.89727E-04 | 1.68066E-04 |
| . | 1.47557E-02 | 2.48599E-02 | 3.46851E-02 | 2.29322E-04 | 1.92422E-04 | 1.68066E-04 |
| . | 1.78682E-02 | 2.87449E-02 | 3.46858E-02 | 2.29970E-04 | 1.92772E-04 | 1.68066E-04 |
| . | 1.33426E-02 | 1.42388E-02 | 3.53216E-02 | 2.32199E-04 | 2.66432E-04 | 2.26958E-04 |
| . | 1.33911E-02 | 1.38484E-02 | 3.58958E-02 | 2.58108E-04 | 3.62876E-04 | 2.53997E-04 |
| . | 1.35021E-02 | 1.36369E-02 | 3.62467E-02 | 2.90798E-04 | 6.12685E-04 | 3.60624E-04 |
| .01 | 1.35498E-02 | 2.14382E-02 | 4.96886E-02 | 4.39037E-04 | 7.32399E-04 | 3.82341E-04 |
| . | 1.35828E-02 | 3.42272E-02 | 7.40505E-02 | 6.17570E-04 | 6.54421E-04 | 2.99917E-04 |
| . | 1.38915E-02 | 3.52782E-02 | 7.85133E-02 | 6.69437E-04 | 5.57429E-04 | 2.16752E-04 |
| .01 | 2.28749E-02 | 2.90666E-02 | 9.45500E-02 | 9.01222E-04 | 4.46934E-04 | 2.57333E-04 |
| . | 2.17472E-02 | 2.94618E-02 | 9.93411E-02 | 1.11476E-03 | 4.08675E-04 | 3.77430E-04 |
| . | 2.80774E-02 | 3.31720E-02 | 7.60861E-02 | 1.27405E-03 | 3.67142E-04 | 4.14836E-04 |
| . | 1.53987E-02 | 3.31195E-02 | 2.29548E-02 | 1.20033E-03 | 3.45075E-04 | 4.05457E-04 |
| . | 1.33930E-02 | 3.04161E-02 | 1.31352E-02 | 1.01939E-03 | 3.35277E-04 | 3.52789E-04 |
| . | 1.10945E-02 | 2.41608E-02 | 7.37769E-03 | 8.04763E-04 | 3.05101E-04 | 2.76243E-04 |

L T I P L E S U P P O R T R E S P O N S E S P E C T R U M M O D A L R E P O R T

M-RZ MS BREAK

L T I P L E S U P P O R T R E S P O N S E S P E C T R U M M O D A L R E P O R T

M-RZ M5 BREAK

| | | | | | |
|-------------|-------------|-------------|-------------|-------------|-------------|
| 0.78802E-03 | 1.76639E-02 | 5.09135E-03 | 5.67210E-04 | 2.94451E-04 | 1.05089E-04 |
| 1.47359E-03 | 1.63057E-03 | 8.65412E-04 | 1.30059E-04 | 1.03099E-04 | 5.45023E-05 |
| 2.14252E-04 | 3.41819E-05 | 1.24656E-04 | 6.49111E-06 | 4.10724E-05 | 2.70450E-06 |
| 1.38549E-09 | 2.51842E-09 | 2.75881E-09 | 2.16958E-07 | 3.79003E-05 | 9.75907E-08 |
| 2.50694E-04 | 1.78999E-06 | 1.44710E-04 | 1.18966E-07 | 1.78991E-06 | 9.79990E-08 |
| 4.07680E-04 | 1.21847E-06 | 4.72333E-05 | 3.9132E-05 | 1.05438E-04 | 1.78683E-04 |
| 1.38467E-04 | 1.43475E-06 | 4.48017E-05 | 4.6181E-06 | 4.11344E-04 | 1.78003E-04 |
| 1.66033E-04 | 1.75096E-06 | 9.03799E-05 | 1.01167E-04 | 1.62877E-04 | 1.42657E-04 |
| 1.93089E-04 | 1.50966E-06 | 9.03799E-05 | 9.88673E-08 | 4.61331E-08 | 1.0781E-04 |
| 9.33651E-05 | 1.63435E-06 | 1.11164E-04 | 1.12472E-04 | 7.74794E-08 | 8.08184E-05 |
| 2.62135E-03 | 1.47189E-02 | 1.67163E-02 | 5.02328E-04 | 1.88783E-04 | 2.33788E-04 |
| 7.25394E-04 | 1.29236E-02 | 1.27012E-02 | 4.25609E-04 | 2.01219E-04 | 2.60894E-04 |
| 4.84094E-05 | 1.02813E-02 | 9.87935E-03 | 3.59869E-04 | 2.03266E-04 | 2.77481E-04 |
| 1.22092E-05 | 1.16996E-03 | 1.88803E-03 | 3.02918E-04 | 2.09939E-04 | 2.65884E-04 |
| 7.70311E-07 | 2.83848E-05 | 2.75819E-04 | 5.93660E-05 | 1.09190E-04 | 9.36332E-05 |
| 7.21359E-10 | 2.44796E-09 | 2.24356E-09 | 2.48899E-06 | 4.52231E-05 | 4.81142E-06 |
| 7.21386E-10 | 1.27402E-06 | 3.18993E-04 | 6.41323E-08 | 4.17732E-05 | 1.67080E-07 |
| 1.12439E-02 | 1.95038E-02 | 3.51469E-02 | 6.41323E-08 | 4.17705E-05 | 1.67090E-07 |
| 1.16597E-02 | 1.93658E-02 | 3.56418E-02 | 2.37039E-04 | 2.86772E-04 | 2.11261E-04 |
| 1.20130E-02 | 1.87936E-02 | 3.68444E-02 | 2.53323E-04 | 3.47941E-04 | 2.34967E-04 |
| 1.20590E-02 | 2.24277E-02 | 4.78225E-02 | 2.93996E-04 | 5.05175E-04 | 3.37020E-04 |
| 1.20914E-02 | 3.30199E-02 | 6.31709E-02 | 4.08807E-04 | 5.47166E-04 | 3.76366E-04 |
| 1.24744E-02 | 3.37055E-02 | 6.54161E-02 | 5.55314E-04 | 4.61992E-04 | 3.20785E-04 |
| 2.08288E-02 | 2.57126E-02 | 7.06992E-02 | 6.03556E-04 | 4.25993E-04 | 2.50047E-04 |
| 3.25898E-02 | 2.48820E-02 | 7.35118E-02 | 7.86788E-04 | 4.90043E-04 | 1.97389E-04 |
| 3.06040E-02 | 2.74059E-02 | 5.62241E-02 | 9.28067E-04 | 5.00204E-04 | 2.76889E-04 |
| 1.69439E-02 | 2.73521E-02 | 1.62312E-02 | 9.95606E-04 | 4.20769E-04 | 3.69342E-04 |
| 1.39823E-02 | 2.52992E-02 | 9.64879E-03 | 9.21388E-04 | 3.62543E-04 | 3.75871E-04 |
| 1.09183E-02 | 2.04398E-02 | 6.34952E-03 | 7.75891E-04 | 3.45761E-04 | 3.30694E-04 |
| 8.34327E-03 | 1.51811E-02 | 4.80079E-03 | 6.22352E-04 | 3.09958E-04 | 2.62647E-04 |
| 1.37391E-03 | 1.47034E-03 | 7.90553E-04 | 4.50755E-04 | 2.50320E-04 | 1.91286E-04 |
| 1.98882E-04 | 3.22020E-05 | 1.14692E-04 | 1.17184E-04 | 9.74555E-05 | 5.60345E-05 |
| 1.46974E-09 | 2.51643E-09 | 2.27090E-09 | 5.60413E-06 | 3.81321E-05 | 2.77583E-06 |
| 2.32659E-04 | 1.61056E-06 | 1.34321E-04 | 1.89710E-07 | 3.51792E-05 | 9.70733E-08 |
| | | | 1.89717E-07 | 3.51782E-05 | 9.70779E-08 |

NUM DISPLACEMENT, 9.93411E-02, OCCURED AT JOINT 044.
 NUM ROTATION, 1.27405E-03, OCCURED AT JOINT 046.

L T I P L E S U P P O R T R E S P O N S E S P E C T R U M M O D A L R E P O R T

M-RZ M5 BREAK

LTIPLE SUPPORT RESPONSE SPECTRUM MODAL REPORT

M-RZ MS BREAK

COMBINED NODE ACCELERATIONS
COMBINATION METHOD 6 FOR MODAL SHAPES, MODE # 1 TO 30

ID CASE # 1 (FINAL)

| JINT IBEL | TRANSLATION (G) | | | ROTATION (R/SEC**2) | | |
|--------------|-----------------|-------------|-------------|---------------------|-------------|-------------|
| | X | Y | Z | X | Y | Z |
| . | 1.60017E-07 | 1.35295E-07 | 1.16579E-06 | 2.68875E-04 | 2.99534E-04 | 1.92979E-03 |
| . | 3.21044E-03 | 3.03559E-03 | 1.46242E-02 | 1.20176E-01 | 1.46985E-01 | 1.91318E-01 |
| . | 4.70486E-03 | 4.27784E-03 | 1.48452E-02 | 1.25383E-01 | 1.53254E-01 | 1.95546E-01 |
| 1.01 | 1.75388E-01 | 1.44927E-01 | 5.03097E-02 | 7.65376E-01 | 9.42065E-01 | 1.64712E 00 |
| . | 2.75071E-01 | 2.22986E-01 | 8.43895E-02 | 2.82115E-01 | 3.13617E-01 | 3.09870E 00 |
| . | 2.58442E-01 | 2.01756E-01 | 9.06008E-02 | 5.81774E-01 | 6.86747E-01 | 3.37442E 00 |
| . | 1.90921E-01 | 1.52461E-01 | 9.72992E-02 | 9.77022E-01 | 1.18363E 00 | 3.71306E 00 |
| 7. | 3.13076E-01 | 1.53120E-01 | 1.19138E-01 | 9.97940E-01 | 1.18363E 00 | 3.75949E 00 |
| . | 8.11855E-02 | 6.53173E-02 | 1.02171E-01 | 1.24188E 00 | 1.52991E 00 | 3.83590E 00 |
| . | 7.41665E-06 | 5.46743E-06 | 1.07687E-01 | 1.41790E 00 | 1.67580E 00 | 3.97478E 00 |
| . | 8.53757E-02 | 7.52384E-02 | 1.13136E-01 | 1.57005E 00 | 1.80692E 00 | 4.13402E 00 |
| . | 2.24615E-01 | 1.97104E-01 | 1.17714E-01 | 1.64417E 00 | 1.88054E 00 | 4.30040E 00 |
| . | 3.47276E-01 | 1.98037E-01 | 2.20954E-01 | 1.78202E 00 | 1.88054E 00 | 4.47079E 00 |
| . | 3.62442E-01 | 3.12262E-01 | 1.19140E-01 | 1.57915E 00 | 1.89743E 00 | 4.06678E 00 |
| . | 4.67672E-01 | 3.99239E-01 | 1.21104E-01 | 1.58964E 00 | 1.85048E 00 | 3.79967E 00 |
| . | 5.87251E-01 | 4.08507E-01 | 2.06659E-01 | 2.07756E 00 | 2.46995E 00 | 3.34264E 00 |
| 1.01 | 6.45141E-01 | 5.03972E-01 | 6.27888E-01 | 2.23878E 00 | 7.55888E-01 | 1.93561E 00 |
| . | 5.91217E-01 | 7.06876E-01 | 3.82851E-01 | 1.61885E 00 | 1.30593E 00 | 1.17838E 00 |
| . | 8.52933E-01 | 8.40099E-01 | 3.89494E-01 | 1.84295E 00 | 1.55561E 00 | 1.26637E 00 |
| . | 6.65327E-01 | 7.60225E-01 | 4.22149E-01 | 1.33731E 00 | 1.34516E 00 | 1.17702E 00 |
| . | 5.58888E-01 | 5.63190E-01 | 4.25374E-01 | 1.30387E 00 | 2.75752E 00 | 1.30756E 00 |
| . | 5.54942E-01 | 5.37027E-01 | 4.27861E-01 | 1.03047E 00 | 2.84881E 00 | 1.33734E 00 |
| . | 7.93324E-01 | 7.19752E-01 | 4.31782E-01 | 1.76153E 00 | 1.66696E 00 | 3.66805E 00 |
| . | 8.25857E-01 | 7.47566E-01 | 4.33683E-01 | 1.82657E 00 | 1.16339E 00 | 4.02248E 00 |
| . | 4.35973E-01 | 6.41794E-01 | 4.36208E-01 | 4.43643E 00 | 1.84966E 00 | 4.07069E 00 |
| . | 4.11308E-01 | 7.88536E-01 | 4.36566E-01 | 1.03180E 00 | 1.92904E 00 | 4.14505E 00 |
| . | 8.84838E-01 | 1.19489E 00 | 4.36884E-01 | 1.64304E 00 | 1.30131E 00 | 4.88444E 00 |
| . | 7.99168E-01 | 1.47272E 00 | 4.37079E-01 | 1.77496E 00 | 1.38795E 00 | 4.28442E 00 |
| . | 8.1421E-01 | 1.73254E 00 | 4.37121E-01 | 1.79188E 00 | 1.39992E 00 | 4.28442E 00 |
| . | 4.38244E-01 | 6.21172E-01 | 4.37468E-01 | 1.86877E 00 | 1.66919E 00 | 4.13783E 00 |
| . | 5.0718E-01 | 6.11878E-01 | 4.37878E-01 | 1.88834E 00 | 1.82711E 00 | 4.48342E 00 |
| . | 5.55024E-01 | 5.09669E-01 | 4.71976E-01 | 1.62941E 00 | 5.49552E 00 | 5.42847E 00 |
| 1.01 | 5.60482E-01 | 7.52351E-01 | 9.23673E-01 | 5.69256E 00 | 5.91079E 00 | 5.72086E 00 |
| . | 5.64534E-01 | 1.19908E 00 | 1.41215E 00 | 7.02587E 00 | 4.23026E 00 | 4.85144E 00 |
| . | 5.64607E-01 | 1.22262E 00 | 1.45238E 00 | 7.61395E 00 | 4.44062E 00 | 4.27840E 00 |
| 1.01 | 7.70867E-01 | 9.33391E-01 | 1.39631E 00 | 8.98405E 00 | 7.14015E 00 | 4.60946E 00 |
| . | 1.19118E 00 | 1.10673E 00 | 1.60562E 00 | 9.66032E 00 | 7.71410E 00 | 4.58239E 00 |
| . | 1.18850E 00 | 1.17968E 00 | 1.30035E 00 | 9.83370E 00 | 6.39673E 00 | 5.39237E 00 |
| . | 7.98687E-01 | 1.17432E 00 | 4.25282E-01 | 8.96074E 00 | 5.88244E 00 | 5.12305E 00 |
| . | 7.13374E-01 | 1.13716E 00 | 3.66532E-01 | 7.79343E 00 | 5.84312E 00 | 4.19546E 00 |

LTIPLE SUPPORT RESPONSE SPECTRUM MODAL REPORT

M-RZ MS BREAK

L T I P L E S U P P O R T R E S P O N S E S P E C T R U M M O D A L R E P O R T

M-RZ MS BREAK

| | | | | | | |
|------|-------------|-------------|-------------|-------------|-------------|-------------|
| 1. | 5.95458E-01 | 1.01312E 00 | 3.26969E-01 | 7.43429E 00 | 5.66880E 00 | 3.69992E 00 |
| 1. | 4.72915E-01 | 8.19490E-01 | 2.71652E-01 | 7.23586E 00 | 5.08096E 00 | 3.59571E 00 |
| 1. | 8.34367E-02 | 9.79049E-02 | 4.78487E-02 | 2.62884E 00 | 2.21396E 00 | 1.38809E 00 |
| 1. | 1.21269E-02 | 2.46784E-03 | 6.98215E-03 | 1.36790E-01 | 8.91282E-01 | 7.33521E-02 |
| 1. | 9.55680E-08 | 2.24109E-07 | 7.30912E-08 | 4.73931E-03 | 8.22784E-01 | 2.58735E-03 |
| 1. | 1.41043E-02 | 1.06407E-04 | 8.14398E-03 | 4.73972E-03 | 8.22881E-01 | 2.58759E-03 |
| 1. | 8.85805E-01 | 8.02446E-01 | 4.37124E-01 | 1.95058E 00 | 3.47039E 00 | 5.14484E 00 |
| 1. | 9.45330E-01 | 8.80062E-01 | 4.43726E-01 | 2.20336E 00 | 4.82089E 00 | 5.24302E 00 |
| 1. | 9.88061E-01 | 9.89082E-01 | 5.18329E-01 | 2.51517E 00 | 7.89151E 00 | 4.66824E 00 |
| 1.01 | 9.92123E-01 | 1.17253E 00 | 1.32881E 00 | 4.75094E 00 | 8.74361E 00 | 4.10468E 00 |
| 1. | 9.94066E-01 | 1.21976E 00 | 2.19146E 00 | 7.46603E 00 | 6.80403E 00 | 3.75444E 00 |
| 1. | 8.32212E-01 | 1.20078E 00 | 2.00424E 00 | 1.10484E 01 | 2.39415E 00 | 4.85575E 00 |
| 1. | 3.23436E-01 | 1.19491E 00 | 1.15917E 00 | 1.04684E 01 | 3.72456E 00 | 5.41536E 00 |
| 1. | 1.81898E-01 | 1.16129E 00 | 1.04329E 00 | 8.56319E 00 | 4.50445E 00 | 6.57143E 00 |
| 1. | 5.26602E-02 | 1.03867E 00 | 9.09575E-01 | 7.07443E 00 | 5.44894E 00 | 7.70930E 00 |
| 1. | 4.34720E-03 | 8.38588E-01 | 7.50384E-01 | 5.93372E 00 | 6.13978E 00 | 8.03669E 00 |
| 1. | 1.09654E-03 | 9.86581E-02 | 1.44166E-01 | 1.16289E 00 | 3.20601E 00 | 2.99962E 00 |
| 1. | 6.91843E-05 | 2.44684E-03 | 2.10686E-02 | 4.87556E-02 | 1.33269E 00 | 1.56058E-01 |
| 1. | 6.47877E-08 | 2.16758E-07 | 1.60087E-07 | 1.25626E-03 | 1.23112E 00 | 5.43225E-03 |
| 1. | 6.47909E-08 | 1.07306E-04 | 2.43738E-02 | 1.25626E-03 | 1.23129E 00 | 5.43267E-03 |
| 1. | 5.30335E-01 | 1.10917E 00 | 4.59060E-01 | 5.82878E 00 | 4.47602E 00 | 4.82968E 00 |
| 1. | 5.18730E-01 | 1.08305E 00 | 5.11678E-01 | 5.94711E 00 | 4.73863E 00 | 4.96133E 00 |
| 1. | 5.07254E-01 | 9.92513E-01 | 6.11718E-01 | 6.43349E 00 | 5.89323E 00 | 6.09518E 00 |
| 1.01 | 5.10541E-01 | 7.34624E-01 | 1.07265E 00 | 7.13224E 00 | 5.08273E 00 | 7.32594E 00 |
| 1. | 5.12780E-01 | 1.10046E 00 | 1.40277E 00 | 8.19647E 00 | 3.29881E 00 | 6.92945E 00 |
| 1. | 5.15023E-01 | 1.14606E 00 | 1.39205E 00 | 8.74185E 00 | 4.66242E 00 | 6.13261E 00 |
| 1.01 | 7.50026E-01 | 1.03654E 00 | 9.97337E-01 | 9.94190E 00 | 8.43576E 00 | 4.48420E 00 |
| 1. | 1.30795E 00 | 1.15863E 00 | 1.39897E 00 | 1.04396E 01 | 9.06124E 00 | 3.93042E 00 |
| 1. | 1.30266E 00 | 1.19619E 00 | 1.17358E 00 | 1.01242E 01 | 7.32554E 00 | 5.60073E 00 |
| 1. | 8.42238E-01 | 1.19067E 00 | 3.67051E-01 | 8.95494E 00 | 6.36099E 00 | 5.53745E 00 |
| 1. | 7.44861E-01 | 1.15034E 00 | 3.55430E-01 | 7.59718E 00 | 6.21991E 00 | 4.64905E 00 |
| 1. | 6.15532E-01 | 1.01920E 00 | 3.36202E-01 | 7.44775E 00 | 5.95302E 00 | 3.97250E 00 |
| 1. | 4.88022E-01 | 8.18986E-01 | 2.79338E-01 | 7.22683E 00 | 5.27163E 00 | 3.74341E 00 |
| 1. | 0.58229E-02 | 9.61914E-02 | 4.89830E-02 | 2.58417E 00 | 2.27763E 00 | 1.39623E 00 |
| 1. | 1.24634E-02 | 2.39961E-03 | 7.16120E-03 | 1.33915E-01 | 9.15779E-01 | 7.32101E-02 |
| 1. | 9.94704E-08 | 2.15446E-07 | 6.81458E-08 | 4.64117E-03 | 8.45377E-01 | 2.57028E-03 |
| 1. | 1.44915E-02 | 1.04605E-04 | 8.36761E-03 | 4.64154E-03 | 8.45476E-01 | 2.57049E-03 |

(IMUM TRANSLATIONAL ACCEL., 2.19146E 00, OCCURED AT JOINT 062.
 (IMUM ROTATIONAL ACCEL., 1.10484E 01, OCCURED AT JOINT 064.

L T I P L E S U P P O R T R E S P O N S E S P E C T R U M M O D A L R E P O R T

M-RZ MS BREAK

LTIPLE SUPPORT RESPONSE SPECTRUM MODAL REPORT

M-RZ M5 BREAK

COMBINED NODE DISPLACEMENTS/ROTATIONS
COMBINATION METHOD 6 FOR MODAL SHAPES, MODE # 1 TO 30

AD CASE # 1 (FINAL)

| JINT LABEL | X-TRANSLATION | Y-TRANSLATION | Z-TRANSLATION | X-ROTATION | Y-ROTATION | Z-ROTATION |
|------------|---------------|---------------|---------------|--------------|--------------|--------------|
| 1. | 9.16476E-05 | -2.81278E-05 | 0. | 1.17122E 18 | 1.17122E 18 | 1.17122E 18 |
| 2. | 1.15271E-02 | -1.04473E-05 | 0. | 0. | 2.52785E-01 | 1.17122E 18 |
| 3. | -5.18340E-03 | 1.07470E-04 | -4.32352E-05 | 0. | 1.17122E 18 | 1.17122E 18 |
| 3.01 | 4.65993E-02 | 3.02040E-02 | 1.53552E-04 | 0. | 0. | 2.52785E-01 |
| 4. | -1.53744E 04 | -1.76810E-03 | 3.10715E-05 | -9.21466E-05 | 0. | 1.17122E 18 |
| 5. | 8.59796E 04 | 1.99716E-01 | 1.95821E-01 | 2.13065E-04 | 4.78894E-01 | 4.62006E-01 |
| 6. | 1.17122E 18 | 1.17122E 18 | 1.17122E 19 | 4.68756E-02 | 2.23517E-08 | 9.18892E 02 |
| 7. | 2.52785E-01 | 1.17122E 18 | 2.23517E-07 | 1.19209E-07 | 1.43410E-01 | 4.58434E 03 |
| 8. | 5.12012E 00 | 5.18460E 02 | -6.92252E 02 | 2.21918E-04 | -1.79208E-06 | 2.95384E-06 |
| 9. | 0. | 0. | 3.70520E-01 | 3.68121E-01 | 2.52785E-01 | 1.17122E 18 |
| 2. | 1.17122E 18 | 4.68756E-02 | 7.45058E-09 | 2.28054E 03 | 7.64472E 02 | 4.00963E 05 |
| 3. | 1.17122E 18 | 1.17122E 18 | 4.62756E-02 | 7.45058E-09 | 1.64332E 00 | 1.29818E 00 |
| 4. | 6.94071E-02 | 7.39655E-02 | 2.00869E-04 | 6.34738E-01 | 8.50216E-01 | 2.52785E-01 |
| 5. | 0. | 0. | 0. | 0. | 0. | 0. |
| 6. | 1.17122E 18 | 4.68756E-02 | 2.23517E-08 | 1.51199E 00 | -7.90701E 00 | 7.02243E 02 |
| 8. | -3.00619E 02 | 9.65019E-05 | -7.79502E-07 | 1.28458E-06 | 0. | 1.17122E 18 |
| 8.01 | 2.52785E-01 | 1.17122E 18 | 2.23517E-07 | 5.96046E-08 | 2.05080E-01 | 0. |
| 9. | 7.45058E-09 | 4.50750E 03 | 1.01599E 04 | 4.97793E 05 | 1.99716E-01 | 1.95821E-01 |
| 1. | 5.32351E-04 | 1.72496E-04 | 2.05393E-01 | 1.17122E 18 | 1.17122E 18 | 1.17122E 18 |
| 3. | 2.16067E-07 | 1.34110E-07 | 1.43410E-01 | 1.88867E 01 | 1.56261E 03 | -3.57146E 02 |
| 4. | 1.17122E 18 | 4.68756E-02 | 1.49012E-08 | -2.65689E-01 | 1.50384E-01 | -3.75546E 02 |
| 5. | 1.17122E 18 | 2.16067E-07 | 1.34110E-07 | 1.43410E-01 | 1.28115E-01 | 2.54222E 00 |
| 9. | 1.17122E 18 | 1.17122E 18 | 4.68756E-02 | 7.45058E-09 | -2.37831E 01 | 6.46955E 01 |
| 1. | -1.16583E 03 | 2.92979E-03 | 8.72418E-04 | -1.97146E-06 | 0. | 0. |
| 2. | -4.67132E 02 | 1.88165E 03 | -4.51074E-04 | 8.53732E-06 | -3.59381E-06 | 0. |
| 7. | 7.45058E-09 | 1.52381E-01 | -3.66633E-01 | 2.25069E 02 | 3.66315E-05 | -2.32281E-05 |
| 4. | 1.65265E-07 | 0. | 0. | 1.39504E-01 | 1.17122E 18 | 2.16067E-07 |
| 5. | 1.17122E 18 | 1.17122E 18 | 1.17122E 18 | 4.68756E-02 | 2.23517E-08 | -1.37799E 02 |
| 6. | 1.39504E-01 | 1.17122E 18 | 2.16067E-07 | 1.56462E-07 | 1.43410E-01 | 1.39504E 01 |
| 7. | 1.27813E-02 | 6.50637E-05 | 1.65208E-01 | 1.73771E-01 | 1.39504E-01 | 1.17122E 18 |
| 3. | 1.19209E-07 | 1.43410E-01 | 2.85782E 03 | 2.60682E 05 | 1.62276E 05 | 2.65072E-02 |
| 3.01 | -9.21466E-05 | 0. | 1.17122E 18 | 1.17122E 18 | 1.17122E 18 | 4.68756E-02 |
| 1. | -9.31003E 01 | -4.12974E-05 | 2.02612E-05 | -2.38421E-07 | 0. | 0. |
| 1. | 1.17122E 18 | 2.23517E-07 | 5.96046E-08 | 1.43410E-01 | 2.22844E 00 | 2.25571E 02 |
| 3. | -1.13547E-05 | 1.16347E-07 | -1.63780E-07 | 0. | 1.17122E 18 | 1.17122E 18 |
| 3.01 | 2.52785E-01 | 1.17122E 18 | 2.30968E-07 | 1.68945E-02 | 0. | 0. |
| 4. | 9.85196E 04 | 1.32031E-02 | 2.41726E-04 | 1.35654E-04 | 1.84763E-01 | 1.17122E 18 |
| 5. | 5.59108E-03 | 3.36489E-05 | 7.24813E-05 | 2.32461E-01 | 1.17122E 18 | 1.17122E 18 |
| 7. | -2.85664E 00 | -3.54406E 00 | -1.34830E 02 | -5.98049E-05 | 2.93428E-05 | -3.45287E-07 |
| 9. | 1.73771E-01 | 2.52785E-01 | 1.17122E 18 | 2.23517E-07 | 1.34110E-07 | 1.43410E-01 |
| 1. | 1.33732E 05 | 2.28866E 05 | 2.65072E-02 | 5.32351E-04 | 1.72496E-04 | 2.05393E-01 |

LTIPLE SUPPORT RESPONSE SPECTRUM MODAL REPORT

M-RZ M5 BREAK

L T I P L E S U P P O R T R E S P O N S E S P E C T R U M M O D A L R E P O R T

M-RZ MS BREAK

| | | | | | | |
|------|--------------|--------------|--------------|--------------|--------------|--------------|
| 3. | 1.17122E 18 | 1.17122E 18 | 4.68756E-02 | 7.45058E-09 | 1.75490E 03 | 8.65268E 03 |
| 4. | 1.17122E 18 | 2.23517E-07 | 0. | 1.43410E-01 | -5.14772E 00 | 1.49158E 04 |
| 5. | 1.17122E 18 | 4.68756E-02 | 9.68575E-08 | -1.24651E 02 | 2.01779E 02 | -5.96393E 03 |
| 6. | 2.23517E-07 | 0. | 1.43410E-01 | -4.15113E 02 | -2.91361E 04 | 1.42674E 04 |
| 7. | 4.68756E-02 | 5.21541E-08 | 1.21996E 02 | -1.08553E 02 | 7.43028E 03 | 2.40213E-03 |
| 8. | 7.37263E-01 | 1.56442E-07 | -3.59588E-09 | 3.29963E-09 | 0. | 1.17122E 18 |
| 9. | -5.98049E-05 | 2.93428E-05 | -3.45287E-07 | 0. | 0. | 1.39504E-01 |
| 1. | 2.21918E-04 | -1.79208E-06 | 2.95384E-06 | 0. | 1.17122E 18 | 1.17122E 18 |
| 1.01 | 4.68756E-02 | 2.23517E-08 | 9.69931E 02 | 1.05482E 03 | 9.6565E 04 | 1.31605E-02 |
| 2. | 2.13065E-04 | 4.78894E-01 | 4.62006E-01 | 1.39504E-01 | 1.17122E 18 | 2.16067E-07 |
| 4. | 1.43410E-01 | 5.62230E 02 | 5.28365E 04 | -1.09550E 04 | -1.76810E-03 | 3.10715E-05 |
| 5. | 1.17122E 18 | 1.17122E 18 | 4.68756E-02 | 1.49012E-08 | -1.97251E 00 | -2.44718E 00 |
| 7. | -4.97694E-05 | 5.46230E-05 | -3.47898E-07 | 0. | 0. | 2.52785E-01 |
| 9. | 2.08987E-01 | 3.72529E-08 | 1.43410E-01 | -7.35383E-01 | -2.09332E 01 | 5.14472E 01 |
| 1. | 8.64813E 01 | 3.66315E-05 | -2.34281E-05 | 1.65265E-07 | 0. | 0. |
| 2. | 1.17122E 18 | 2.23517E-07 | 2.98023E-08 | 1.43410E-01 | 2.25485E 03 | 1.05612E 05 |
| 3. | 2.23517E-07 | 2.23517E-08 | 1.43410E-01 | 6.27157E 02 | 3.40342E 04 | 3.85357E 04 |
| 4. | 0. | 1.17122E 18 | 1.17122E 18 | 1.17122E 18 | 4.68756E-02 | 1.49012E-08 |
| 5. | 8.51997E 02 | 9.49699E 04 | 1.31605E-02 | 1.27813E-02 | 6.50637E-05 | 1.65208E-01 |
| 6. | 3.72529E-08 | 1.43410E-01 | -1.42361E 00 | -7.36920E 01 | 3.56380E 01 | -1.13547E-05 |
| 7. | 1.16347E-07 | -1.63780E-07 | 0. | 1.17122E 18 | 1.17122E 18 | 1.17122E 18 |
| 9. | 4.68756E-02 | 2.23517E-08 | 2.40431E 00 | -1.06878E 01 | 6.29885E 02 | -4.97694E-05 |
| 9.01 | 5.46230E-05 | -3.47898E-07 | 0. | 0. | 1.39504E-01 | 1.17122E 18 |
| 0. | 2.16067E-07 | 5.96046E-08 | 1.43410E-01 | 8.21469E 00 | 6.79613E 02 | -1.54910E 02 |
| 2. | 9.65019E-05 | -7.79502E-07 | 1.28458E-06 | 0. | 1.17122E 18 | 1.17122E 18 |
| 2.01 | 1.17122E 18 | 4.68756E-02 | 1.49012E-08 | -1.83459E-01 | 1.03841E-01 | -2.59315E 02 |
| 3. | -4.12954E-05 | 2.02612E-05 | -2.38421E-07 | 0. | 0. | 1.39504E-01 |
| 5. | 1.17122E 18 | 2.16067E-07 | 5.96046E-08 | 1.43410E-01 | 1.05405E 02 | 2.27785E 03 |
| 6. | 6.76109E 02 | 1.27173E-04 | -3.29377E-06 | 2.78223E-06 | 0. | 1.17122E 18 |
| 8. | 1.17122E 18 | 1.17122E 18 | 4.68756E-02 | 7.45058E-09 | 4.04950E 03 | 1.02300E 03 |
| 0. | 1.07656E 06 | 0. | 0. | 0. | 2.61537E 00 | 2.66208E 00 |
| 2. | 1.39504E-01 | 1.17122E 18 | 2.16067E-07 | 2.53836E 03 | 0. | 0. |
| 3. | 0. | 0. | 0. | 4.93438E 02 | 0. | 0. |
| 4. | 2.03127E-01 | 0. | 1.43410E-01 | 4.18377E 03 | 2.33430E 05 | 3.24221E 05 |
| 5. | 2.53735E-02 | 4.37115E-04 | 2.84447E-04 | 1.19926E 00 | 1.17122E 18 | 1.17122E 18 |
| 6. | 1.17122E 18 | 4.68756E-02 | 2.23517E-08 | 8.75282E 03 | 5.65082E 03 | 5.79454E 05 |

XIMUM DISPLACEMENT, 1.17122E 18, OCCURED AT JOINT 096.
 XIMUM ROTATION, 1.17122E 18, OCCURED AT JOINT 095.

L T I P L E S U P P O R T R E S P O N S E S P E C T R U M M O D A L R E P O R T

M-RZ MS BREAK

L T I P L E S U P P O R T R E S P O N S E S P E C T R U M M O D A L R E P O R T

M-RZ HS BREAK

O M B I N E D M O D E A C C E L E R A T I O N S
O M B I N A T I O N M E T H O D 6 F O R A L S H A P E S , M O D E # 1 T O 3 0

AD CASE # 1 (FINAL)

| DINT ABEL | TRANSLATION | | | ROTATION | | |
|--------------|--------------|--------------|--------------|-----------------|-----------------|-----------------|
| | X (G5) | Y (G5) | Z (G5) | X (R/SEC**2) | Y (R/SEC**2) | Z (R/SEC**2) |
| 1. | 5.51536E-04 | 3.47436E-10 | 3.71528E-04 | 1.23024E-01 | 2.12474E 00 | 6.66582E-01 |
| 2. | 3.03425E 15 | 1.21439E-04 | 1.93020E-11 | -3.83160E 01 | 5.35980E 01 | -4.14219E 02 |
| 3. | 3.03425E 15 | 5.79061E-10 | 4.05342E-10 | 1.43410E-01 | 2.62871E 01 | 3.59736E 02 |
| 3.01 | 3.03425E 15 | 3.03425E 15 | 1.21439E-04 | 2.23517E-08 | -1.68521E 02 | 2.44624E 02 |
| 4. | 6.54883E-04 | 3.03425E 15 | 5.79061E-10 | 1.56462E-07 | 1.43410E-01 | -7.90196E 01 |
| 5. | 3.03425E 15 | 3.03425E 15 | 3.03425E 15 | 4.68756E-02 | 3.72529E-08 | 1.88879E 02 |
| 6. | 1.11948E 00 | -4.73696E 01 | 1.95723E 02 | 2.9805E-01 | 3.69667E-03 | 1.16899E-03 |
| 7. | -5.76046E-01 | 4.00984E 01 | 1.07639E-05 | 1.43389E-02 | 1.79119E-05 | 0. |
| 8. | 0. | 0. | 6.95362E-04 | 1.17122E 18 | 2.30968E-07 | 0. |
| 9. | 7.72081E-11 | -1.09807E 00 | 1.93020E-11 | 6.10049E 03 | -3.27639E 02 | 9.25512E 05 |
| 2. | 8.67691E 02 | 6.57344E-05 | 1.13242E-06 | 2.84447E-04 | 1.19926E 00 | 1.17122E 18 |
| 3. | -4.06793E 02 | 5.64001E 02 | 0. | 0. | 0. | 3.04755E 00 |
| 4. | 3.03425E 15 | 3.03425E 15 | 1.21439E-04 | 2.23517E-08 | 9.20681E 03 | 3.92490E 03 |
| 5. | 3.24694E-03 | 6.54883E-04 | 3.03425E 15 | 2.23517E-07 | 0. | 1.43410E-01 |
| 6. | 4.75909E-02 | 3.75790E-02 | 2.50325E 00 | 4.09272E-04 | -2.61738E-04 | 1.84560E-06 |
| 8. | 0. | 0. | 5.46476E-04 | 8.19564E-08 | 1.43410E-01 | -2.70691E 01 |
| 8.01 | 6.76584E-01 | -8.73518E 00 | 2.98113E-05 | 2.79382E-03 | -6.23577E 01 | -8.74453E 02 |
| 9. | 4.78034E 01 | 1.07639E-05 | 3.71475E-05 | 1.79119E-05 | 0. | 0. |
| 1. | 5.36356E-04 | 1.93020E-11 | 3.71528E-04 | 3.22016E 03 | 4.80063E 05 | 3.88745E 05 |
| 3. | -2.59780E-03 | 3.55270E-03 | 6.22541E-06 | 0. | 0. | 2.52785E-01 |
| 4. | 1.01308E 03 | 7.75501E-04 | 9.53067E-06 | 1.18182E-03 | 0. | 1.17122E 18 |
| 5. | -2.21862E 03 | -3.11772E-03 | 2.80780E-03 | 1.95218E-03 | 0. | 0. |
| 9. | -1.85966E 02 | 1.80831E 01 | 4.41677E-05 | -8.50209E-05 | 1.93450E-04 | 0. |
| 1. | 3.03425E 15 | 3.03425E 15 | 3.03425E 15 | 4.68756E-02 | 1.49012E-08 | -2.55169E 02 |
| 2. | 0. | 6.54883E-04 | 3.03425E 15 | 2.23517E-07 | 2.23517E-08 | 1.43410E-01 |
| 7. | 0. | 0. | 7.89522E-03 | 1.17122E 18 | 1.17122E 18 | 1.17122E 18 |
| 4. | 1.21439E-04 | 9.65101E-11 | 1.59268E 01 | 4.94851E 03 | 4.39963E 05 | 2.80431E-02 |
| 5. | 4.08125E 00 | 2.02476E 02 | 3.08203E 02 | 1.43284E-02 | 2.90103E-04 | 8.90032E-05 |
| 6. | 1.89885E 01 | 4.11206E 02 | -8.51763E-05 | -1.81668E-02 | 2.69772E-05 | 0. |
| 7. | 3.03425E 15 | 1.21439E-04 | 3.86040E-11 | -9.16517E 03 | 2.35002E 04 | -1.18197E 06 |
| 8. | 0. | 0. | 0. | 0. | 0. | 0. |
| 0. | 3.03425E 15 | 3.03425E 15 | 1.21439E-04 | 3.72529E-08 | 1.48954E 02 | -2.65314E 02 |
| 0.01 | 3.03425E 15 | 3.03425E 15 | 3.03425E 15 | 4.68756E-02 | 7.45058E-09 | -1.85174E 02 |
| 1. | 0. | 0. | 0. | 0. | 0. | 0. |
| 3. | 3.38445E-03 | 3.03425E 15 | 3.03425E 15 | 1.17122E 18 | 0. | 0. |
| 3.01 | 9.11521E 00 | 1.13224E 03 | 7.26506E-05 | 4.68756E-02 | 4.68756E-02 | 7.45058E-09 |
| 4. | 6.54883E-04 | 3.03425E 15 | 5.79061E-10 | 0. | 4.72868E-04 | 1.47645E 00 |
| 6. | 3.03425E 15 | 5.79061E-10 | 0. | 0. | 1.43410E-01 | 5.23182E 03 |
| 7. | 3.06171E-06 | 0. | 3.03425E 15 | 1.43410E-01 | 5.62847E 03 | 2.69414E 05 |
| 9. | -2.39905E 00 | 1.55522E-01 | -2.50381E 02 | 1.17122E 18 | 1.17122E 18 | 4.68756E-02 |
| | | | | -1.00275E 00 | 1.37134E 00 | 2.40301E-03 |

L T I P L E S U P P O R T R E S P O N S E S P E C T R U M M O D A L R E P O R T

M-RZ HS BREAK

L T I P L E S U P P O R T R E S P O N S E S P E C T R U M M O D A L R E P O R T

M-RZ MS BREAK

| | | | | | | |
|-------|--------------|--------------|--------------|--------------|--------------|--------------|
| 1. | 0. | 6.54883E-04 | 3.03425E 15 | 2.23517E-07 | 7.45058E-09 | 1.43410E-01 |
| 3. | -4.93278E 00 | 6.25259E 00 | -1.30395E-06 | 9.99584E-06 | -5.88483E-06 | 0. |
| 4. | -1.78340E 01 | 2.47916E-05 | 8.20782E-06 | 1.40423E-05 | 0. | 0. |
| 5. | 5.16607E 00 | -1.16859E-06 | 2.21174E-08 | -3.59381E-06 | 0. | 1.17122E 18 |
| 6. | 7.59013E-06 | 2.26015E-06 | -5.10740E-09 | 0. | 0. | 2.52785E-01 |
| 7. | 4.05291E-10 | -9.31575E-12 | 8.54827E-12 | 0. | 1.17122E 18 | 1.17122E 18 |
| 8. | 6.54883E-04 | 3.03425E 15 | 5.79061E-10 | 1.49012E-08 | 1.43410E-01 | 3.66832E 02 |
| 9. | 3.03425E 15 | 3.03425E 15 | 1.21439E-04 | 2.98023E-08 | -9.85652E 03 | 2.44236E 04 |
| 1. | 3.03425E 15 | 5.79061E-10 | 0. | 1.43410E-01 | 3.31175E 03 | 4.90931E 05 |
| 1.01 | 7.72152E-04 | 9.57687E-06 | 3.02848E-06 | 0. | 1.17122E 18 | 1.17122E 18 |
| 2. | 3.61408E-04 | 3.03425E 15 | 5.79061E-10 | 0. | 0. | 0. |
| 4. | 7.22189E 00 | -1.30395E-06 | 2.58960E-08 | -5.88483E-06 | 0. | 1.17122E 18 |
| 5. | -1.99622E 00 | 4.90608E 00 | -1.08280E-06 | 4.28267E-06 | -6.02865E-06 | 0. |
| 7. | 0. | 0. | 6.54883E-04 | 1.17122E 18 | 2.30968E-07 | 0. |
| 9. | 1.65462E 01 | 9.35938E 02 | 9.34771E 02 | 4.33261E-02 | 6.79121E-04 | 3.54975E-04 |
| 1. | 3.03425E 15 | 3.03425E 15 | 3.03425E 15 | 4.68756E-02 | 3.72529E-08 | 5.96669E 03 |
| 2. | 1.28399E 03 | 1.25502E-04 | 1.28160E-04 | 6.22482E-04 | 1.27888E 00 | 1.19923E 00 |
| 3. | 0. | 0. | 0. | 2.61537E 00 | 2.66208E 00 | 2.52785E-01 |
| 4. | 3.71528E-04 | 1.12002E 00 | -4.79013E 01 | 7.52895E 04 | 2.99343E-01 | 3.67884E-03 |
| 5. | 0. | 3.03425E 15 | 3.03425E 15 | 1.17122E 18 | 4.68756E-02 | 1.49012E-08 |
| 6. | 7.20373E-05 | 1.22505E-06 | 3.82500E-03 | 1.332E 00 | 1.39504E-01 | 1.17122E 18 |
| 7. | 5.59759E-10 | 0. | 3.71528E-04 | 4.391E 03 | 3.12806E 05 | 3.44240E 05 |
| 9. | 1.12244E-04 | 1.75938E-06 | 9.19625E-07 | 1.540E 00 | 1.17122E 18 | 1.17122E 18 |
| 9.01 | 3.03425E 15 | 1.21439E-04 | 1.93020E-11 | 1.71110E 00 | -4.09721E 00 | 2.51482E 03 |
| 10. | 1.06029E-06 | -6.78077E-07 | 4.78134E-09 | 0. | 0. | 1.39504E-01 |
| 12. | 3.03425E 15 | 5.59759E-10 | 2.12322E-10 | 1.43410E-01 | -5.24026E 01 | -2.71257E 03 |
| 12.01 | 3.39850E 00 | -1.08280E-06 | 1.10950E-08 | -6.02865E-06 | 0. | 1.17122E 18 |
| 13. | 3.03425E 15 | 3.03425E 15 | 1.21439E-04 | 7.45058E-09 | -1.32582E 02 | 3.57542E 02 |
| 15. | -1.53914E 01 | 2.98113E-05 | 7.23787E-06 | -8.27471E-06 | 0. | 0. |
| 16. | 3.61408E-04 | 3.03425E 15 | 5.59759E-10 | 0. | 1.43410E-01 | -3.00503E 02 |
| 18. | 3.63294E 00 | 9.57363E 01 | -1.16718E-05 | 9.16476E-05 | -2.81278E-05 | 0. |
| 18.01 | 3.03425E 15 | 3.03425E 15 | 3.03425E 15 | 4.68756E-02 | 5.21541E-08 | 8.58646E 01 |
| 18.02 | -1.12244E 00 | -1.12244E 00 | -1.12244E 00 | -1.12244E 00 | -1.12244E 00 | -1.12244E 00 |
| 5. | 0. | 3.03425E 15 | 3.03425E 15 | 1.17122E 18 | 4.68756E-02 | 9.68575E-08 |
| 16. | 1.55807E-01 | -9.73878E-01 | -4.61879E 01 | 4.65993E-02 | 3.02040E-02 | 1.53552E-04 |

MAXIMUM TRANSLATIONAL ACCEL., 3.03425E 15, OCCURED AT JOINT 095.
 MAXIMUM ROTATIONAL ACCEL., 1.17122E 18, OCCURED AT JOINT 095.

L T I P L E S U P P O R T R E S P O N S E S P E C T R U M M O D A L R E P O R T

M-RZ MS BREAK

IT 01 07-22-92 18.169 P15Y506 FEEDWATER LINE A
MULTIPLE SUPPORT RESPONSE SPECTRUM STRESS REPORT

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IT 01 07-22-92 18.169 P15Y506 FEEDWATER LINE A
MULTIPLE SUPPORT RESPONSE SPECTRUM STRESS REPORT

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MULTIPLE SUPPORT RESPONSE SPECTRUM STRESS REPORT

M-RZ 15 BREAK

RESPONSE SPECTRUM ANALYSIS --- STRESS REPORT

PISYS PAGE 1

ELEMENT TYPE 1 --- 3-D STRAIGHT OR CURVED PIPE ELEMENTS

COMBINED ELEMENT FORCES AND MOMENTS
COMBINED METHOD 6 MODE 1 TO MODE 30 --- INTERMEDIATE

| ELEM NO | LOAD CASE | END | AXIAL FORCE | Y-AXIS SHEAR | Z-AXIS SHEAR | TORSION MOMENT | Y-AXIS MOMENT | Z-AXIS MOMENT |
|---------|-----------|-----|-------------|--------------|--------------|----------------|---------------|---------------|
| 1T | 1 001. | | 5687.713 | 2084.661 | 2896.521 | 83658.482 | 25907.844 | 17635.609 |
| | 002. | | 5687.713 | 2084.661 | 2896.521 | 83658.482 | 205197.517 | 146311.781 |
| 2T | 1 002. | | 5615.369 | 2083.237 | 2895.249 | 83658.482 | 205197.517 | 146311.781 |
| | 003. | | 5615.369 | 2083.237 | 2895.249 | 83658.482 | 192670.613 | 137300.292 |
| 3T | 1 003. | | 5563.336 | 2080.045 | 2891.968 | 83658.432 | 192670.613 | 137300.292 |
| | 003.01 | | 5563.336 | 2080.045 | 2891.968 | 83658.482 | 23073.959 | 18006.030 |
| 4T | 1 003.01 | | 5436.574 | 1827.450 | 2612.393 | 83658.482 | 23073.959 | 18006.030 |
| | 004. | | 5436.574 | 1827.450 | 2612.393 | 83658.482 | 213660.017 | 150975.398 |
| 5T | 1 004. | | 5328.129 | 1628.385 | 2392.060 | 83658.482 | 213660.017 | 150975.398 |
| | 005. | | 5328.129 | 1628.385 | 2392.060 | 83658.482 | 246613.679 | 173271.339 |
| 6T | 1 005. | | 5308.020 | 1600.447 | 2361.144 | 83658.482 | 246613.679 | 173271.339 |
| | 006. | | 5308.020 | 1600.447 | 2361.144 | 83658.482 | 312698.526 | 217801.869 |
| 7T | 1 006. | | 1271.551 | 1064.679 | 2598.379 | 0.000 | 39895.506 | 16347.078 |
| | 007. | | 1271.551 | 1064.679 | 2598.379 | 0.000 | 0.000 | 0.000 |
| 8T | 1 006. | | 4600.922 | 1512.311 | 2848.059 | 61982.930 | 312698.526 | 214399.655 |
| | 008. | | 4600.922 | 1512.311 | 2848.059 | 61982.930 | 351262.451 | 239661.523 |
| 9T | 1 008. | | 4578.316 | 1519.172 | 2861.738 | 61982.930 | 351262.451 | 239661.523 |
| | 009. | | 4578.316 | 1519.172 | 2861.738 | 61982.930 | 381180.330 | 257392.014 |
| 10T | 1 009. | | 4534.214 | 3263.288 | 6139.753 | 61982.930 | 381180.330 | 257392.014 |
| | 012. | | 4534.214 | 3263.288 | 6139.753 | 61982.930 | 279364.655 | 202299.409 |
| 11T | 1 012. | | 4508.857 | 3240.502 | 6120.113 | 61982.930 | 279364.655 | 202299.409 |
| | 013. | | 4508.857 | 3240.502 | 6120.113 | 61982.930 | 142786.094 | 121216.540 |
| 12T | 1 013. | | 1841.803 | 2050.569 | 3222.955 | 0.000 | 96943.271 | 61679.053 |
| | 014. | | 1841.803 | 2050.569 | 3222.955 | 0.000 | 0.000 | 0.000 |

MULTIPLE SUPPORT RESPONSE SPECTRUM STRESS REPORT

M-RZ 15 BREAK

M U L T I P L E S U P P O R T R E S P O N S E S P E C T R U M S T R E S S R E P O R T M-RZ M5 BREAK

| | | | | | | | |
|-----|--------------------------|----------------------------------|----------------------------------|----------------------------------|-------------------------------------|-------------------------------------|----------------------------------------|
| 13T | 1 013. 015. | 3551.895 3551.895 | 1926.177 1926.177 | 4865.864 4865.864 | 75511.752 75511.752 | 142786.094 71869.348 | 107930.729 61465.360 |
| 14T | 1 015. 016. | 3534.583 3534.583 | 1856.402 1856.402 | 4761.342 4761.342 | 75511.752 75511.752 | 71869.348 140074.197 | 61465.360 41487.831 |
| 15B | 1 016. CENTER 018. | 3485.818 4923.448 5211.543 | 4395.165 2663.474 2029.073 | 1647.467 1647.467 1647.467 | 75511.535 62019.121 55721.448 | 41488.281 63477.348 81583.595 | 140074.197 211289.219 231369.471 |
| 16T | 1 018. 018.01 | 4592.293 4592.293 | 1402.580 1402.580 | 1748.889 1748.889 | 55720.587 55720.587 | 231369.471 202850.344 | 81584.151 152670.359 |
| 17T | 1 018.01 019. | 4366.371 4366.371 | 1146.878 1146.878 | 2480.583 2480.583 | 55720.586 55720.586 | 202850.344 205702.777 | 152670.360 137898.495 |
| 18T | 1 019. 021. | 4755.804 4755.804 | 1822.156 1822.156 | 6573.713 6573.713 | 55744.710 55744.710 | 205702.777 115929.945 | 137889.053 88557.784 |
| 19B | 1 021. CENTER 023. | 5153.504 7222.102 7352.811 | 5721.109 2578.492 2256.578 | 2039.435 2039.435 2039.435 | 55732.339 40032.570 49069.062 | 88565.217 63368.675 44618.603 | 115929.945 202445.555 209587.859 |
| 20T | 1 023. 024. | 6744.797 6744.797 | 2742.178 2742.178 | 2949.203 2949.203 | 49069.009 49069.009 | 209587.859 135407.789 | 44618.670 117018.254 |
| 21T | 1 024. 025. | 5917.626 5917.626 | 3225.393 3225.393 | 4602.987 4602.987 | 72785.414 72785.414 | 156344.446 123457.046 | 123681.373 199996.672 |
| 22T | 1 025. 029. | 5151.645 5151.645 | 2721.609 2721.609 | 3599.092 3599.092 | 72785.414 72785.414 | 123457.046 204995.867 | 199996.672 206181.120 |
| 23T | 1 029. 031. | 4405.776 4405.776 | 1514.207 1514.207 | 2098.851 2098.851 | 72785.414 72785.414 | 204995.867 269154.277 | 206181.120 216194.903 |
| 24T | 1 031. 032. | 3131.088 3131.088 | 1962.649 1962.649 | 2161.792 2161.792 | 65244.984 65244.984 | 256692.047 147996.872 | 214486.365 169096.985 |
| 25T | 1 032. 027. | 2514.271 2514.271 | 2140.839 2140.839 | 3250.754 3250.754 | 65244.984 65244.984 | 147996.872 153638.395 | 169096.985 160070.638 |
| 26T | 1 027. 034. | 2220.798 2220.798 | 3437.602 3437.602 | 3163.646 3163.646 | 65244.984 65244.984 | 153638.395 112676.745 | 160070.638 84292.192 |
| 27T | 1 034. 035. | 492.890 492.890 | 1727.926 1727.926 | 950.036 950.036 | 0.000 0.000 | 28229.384 5825.865 | 51037.122 10225.209 |
| 28T | 1 035. 036. | 147.882 147.882 | 577.141 577.141 | 328.829 328.829 | 0.000 0.000 | 5825.865 0.000 | 10225.209 0.000 |

M U L T I P L E S U P P O R T R E S P O N S E S P E C T R U M S T R E S S R E P O R T M-RZ M5 BREAK

MULTIPLE SUPPORT RESPONSE SPECTRUM STRESS REPORT

M-RZ MS BREAK

RESPONSE SPECTRUM ANALYSIS --- STRESS REPORT
 ELEMENT TYPE I --- 3-D STRAIGHT OR CURVED PIPE ELEMENTS PISYS PAGE 2

COMBINED ELEMENT FORCES AND MOMENTS
 COMBINED METHOD 6 MODE 1 TO MODE 30 --- INTERMEDIATE

| ELEM NO | LOAD CASE | END | AXIAL FORCE | Y-AXIS SHEAR | Z-AXIS SHEAR | TORSION MOMENT | Y-AXIS MOMENT | Z-AXIS MOMENT |
|---------|-----------|----------------|-------------|--------------|--------------|----------------|---------------|---------------|
| 29T | 1 024. | 037. | 1789.197 | 1491.829 | 1962.936 | 94577.503 | 119866.445 | 66900.622 |
| | | | 1789.197 | 1491.829 | 1962.936 | 94577.503 | 81305.739 | 48413.186 |
| 30T | 1 037. | 038. | 1745.437 | 1424.514 | 1967.852 | 94577.480 | 81305.766 | 48413.186 |
| | | | 1745.437 | 1424.514 | 1967.852 | 94577.480 | 59819.165 | 43966.111 |
| 31B | 1 038. | CENTER 040. | 1710.425 | 1361.620 | 1962.520 | 94566.402 | 59836.882 | 43966.111 |
| | | | 1896.248 | 1101.562 | 1962.520 | 73927.168 | 72663.344 | 42183.846 |
| | | | 1872.696 | 1095.391 | 1962.520 | 49067.681 | 79049.126 | 37574.298 |
| 32T | 1 040. | 040.01 | 1693.518 | 1082.574 | 1896.233 | 49111.417 | 79022.401 | 37574.298 |
| | | | 1693.518 | 1082.574 | 1896.233 | 49111.417 | 37670.529 | 29709.960 |
| 33T | 1 040.01 | 041. | 1440.550 | 746.263 | 1443.097 | 49111.417 | 37670.529 | 29709.960 |
| | | | 1440.550 | 746.263 | 1443.093 | 49111.417 | 81245.217 | 53536.327 |
| 34B | 1 041. | CENTER 043. | 1303.664 | 990.776 | 409.788 | 49111.969 | 53536.105 | 81245.217 |
| | | | 1369.048 | 889.691 | 409.788 | 48952.358 | 54862.742 | 84614.922 |
| | | | 1386.889 | 875.669 | 409.788 | 49862.801 | 55696.633 | 86936.456 |
| 35T | 1 043. | 043.01 | 1018.510 | 446.489 | 734.863 | 49862.232 | 86936.456 | 55696.968 |
| | | | 1018.510 | 446.489 | 734.863 | 49862.232 | 83037.532 | 42011.887 |
| 36T | 1 043.01 | 044. | 594.080 | 919.886 | 998.206 | 49862.232 | 83037.532 | 42011.887 |
| | | | 594.080 | 919.886 | 998.206 | 49862.232 | 37981.352 | 28717.649 |
| 37B | 1 044. | CENTER 046. | 659.478 | 1193.393 | 1551.046 | 49862.273 | 37981.352 | 28717.573 |
| | | | 1182.926 | 682.380 | 1551.046 | 20768.951 | 43435.107 | 35702.800 |
| | | | 1192.972 | 660.250 | 1551.046 | 20175.886 | 27097.936 | 34939.853 |
| 38T | 1 046. | 047. | 1610.469 | 2112.632 | 911.249 | 20156.661 | 25087.348 | 35178.843 |
| | | | 1610.469 | 2112.632 | 911.249 | 20156.661 | 23137.241 | 76579.518 |
| 39B | 1 047. | CENTER 049. | 1966.926 | 2199.957 | 1113.409 | 20161.256 | 26352.712 | 75440.951 |
| | | | 1863.664 | 2268.816 | 1113.409 | 22750.942 | 26944.134 | 85627.577 |
| | | | 1837.412 | 2293.929 | 1113.409 | 26014.396 | 27191.471 | 95172.122 |

MULTIPLE SUPPORT RESPONSE SPECTRUM STRESS REPORT

M-RZ MS BREAK

MULTIPLE SUPPORT RESPONSE SPECTRUM STRESS REPORT

M-RZ MS BREAK

RESPONSE SPECTRUM ANALYSIS --- STRESS REPORT PISYS PAGE 3
 ELEMENT TYPE 1 --- 3-D STRAIGHT OR CURVED PIPE ELEMENTS

COMBINED ELEMENT FORCES AND MOMENTS
 COMBINED METHOD 6 MODE 1 TO MODE 30 --- INTERMEDIATE

| ELEM NO | LOAD CASE | END | AXIAL FORCE | Y-AXIS SHEAR | Z-AXIS SHEAR | TORSION MOMENT | Y-AXIS MOMENT | Z-AXIS MOMENT |
|---------|--------------------------|-----|----------------------------------|----------------------------------|----------------------------------|-------------------------------------|-------------------------------------|----------------------------------------|
| 40B | 1 049. CENTER 051. | | 1926.190 1956.413 2039.736 | 2360.972 2354.975 2307.001 | 1181.736 1181.736 1181.736 | 26007.022 29657.658 33476.901 | 27210.716 27139.754 26697.345 | 95168.705 103765.629 110977.758 |
| 41B | 1 051. CENTER 053. | | 2073.079 2160.746 2244.809 | 2403.913 2331.235 2221.243 | 1240.416 1240.416 1240.416 | 33441.860 36891.979 40008.079 | 26706.213 26195.339 25947.898 | 110985.941 116696.768 120784.011 |
| 42T | 1 053. 054. | | 2308.333 2308.333 | 2478.792 2478.792 | 1373.413 1373.413 | 40002.912 40002.912 | 25957.459 79563.197 | 120783.544 183326.031 |
| 43T | 1 054. 055. | | 2431.278 2431.278 | 2517.632 2517.632 | 1418.508 1418.508 | 40000.587 40000.587 | 79563.197 104776.218 | 183326.556 221314.380 |
| 44T | 1 055. 056. | | 2564.757 2564.757 | 2518.428 2518.428 | 1454.440 1454.440 | 40012.971 40012.971 | 104776.218 113326.525 | 221312.054 234625.491 |
| 45T | 1 056. 057. | | 39.916 39.916 | 0.005 0.005 | 23.551 23.551 | 0.000 0.000 | 179.865 0.000 | 0.041 0.000 |
| 46T | 1 031. 058. | | 891.408 891.408 | 2053.927 2053.927 | 1639.481 1639.481 | 61140.338 61140.338 | 85959.786 54481.603 | 69679.524 32407.786 |
| 47T | 1 058. 059. | | 843.585 843.585 | 1858.550 1858.550 | 1617.699 1617.699 | 61140.319 61140.319 | 54481.624 37930.852 | 32407.786 21926.886 |
| 48B | 1 059. CENTER | | 813.148 1362.763 | 1681.178 1283.878 | 1592.701 1592.701 | 61132.136 46656.100 | 37944.054 46179.715 | 21926.886 23781.568 |
| 48B | 1 061. 061.01 | | 1227.383 1388.888 | 733.538 488.888 | 1592.701 1468.242 | 31675.882 31688.888 | 47862.141 23434.882 | 26760.112 88869.668 |
| 50T | 1 061.01 062. | | 948.480 948.480 | 504.906 504.906 | 767.795 767.795 | 31699.329 31699.329 | 23174.712 50595.660 | 33969.660 26909.360 |

MULTIPLE SUPPORT RESPONSE SPECTRUM STRESS REPORT

M-RZ MS BREAK

MULTIPLE SUPPORT RESPONSE SPECTRUM STRESS REPORT

M-RZ MS BREAK

| | | | | | | | |
|-----|----------|----------|----------|----------|-----------|------------|------------|
| | 082. | 1359.791 | 658.192 | 563.340 | 37836.859 | 52705.569 | 91814.699 |
| 66T | 1 082. | 1013.255 | 518.382 | 828.126 | 37837.261 | 91814.699 | 52704.862 |
| | 082.01 | 1013.255 | 518.382 | 828.126 | 37837.261 | 64687.304 | 45241.019 |
| 67T | 1 082.01 | 496.432 | 844.351 | 975.841 | 37837.261 | 64687.304 | 45241.020 |
| | 083. | 496.432 | 844.351 | 975.841 | 37837.261 | 28917.214 | 26058.693 |
| 68B | 1 083. | 460.696 | 1178.411 | 1183.741 | 37837.260 | 28917.214 | 26058.688 |
| | CENTER | .016.699 | 754.747 | 1183.741 | 17662.427 | 35515.466 | 30845.191 |
| | 085. | 1178.195 | 461.261 | 1183.741 | 20483.246 | 24976.981 | 31937.177 |
| 69T | 1 085. | 1587.524 | 1556.416 | 921.493 | 20463.776 | 27024.415 | 29329.427 |
| | 086. | 1587.524 | 1556.416 | 921.493 | 20463.776 | 20933.938 | 65209.199 |
| 70B | 1 086. | 1953.332 | 1780.218 | 871.959 | 20465.916 | 23446.993 | 64129.511 |
| | CENTER | 1905.845 | 1785.498 | 871.959 | 21507.310 | 23079.827 | 71875.812 |
| | 088. | 1875.187 | 1854.107 | 871.959 | 22622.047 | 23901.281 | 78676.638 |
| 71B | 1 088. | 1965.925 | 1930.567 | 950.211 | 22617.891 | 23913.764 | 78674.458 |
| | CENTER | 1910.297 | 2025.999 | 950.211 | 23884.205 | 25221.207 | 84385.701 |
| | 090. | 1852.130 | 2092.443 | 950.211 | 25436.760 | 27081.497 | 89203.982 |
| 72B | 1 090. | 1893.121 | 2198.876 | 1018.910 | 25413.786 | 27085.418 | 89209.346 |
| | CENTER | 1835.335 | 2235.533 | 1018.910 | 27346.497 | 29302.407 | 92890.977 |
| | 092. | 1832.725 | 2214.069 | 1018.910 | 29925.523 | 31026.993 | 95692.311 |
| 73T | 1 092. | 1910.898 | 2476.327 | 1170.268 | 29920.812 | 31040.418 | 95689.505 |
| | 093. | 1910.898 | 2476.327 | 1170.268 | 29920.812 | 76225.692 | 157977.631 |
| 74T | 1 093. | 2058.793 | 2515.634 | 1220.207 | 29919.418 | 76225.692 | 157977.903 |
| | 094. | 2058.793 | 2515.634 | 1220.207 | 29919.418 | 97841.407 | 197396.846 |
| 75T | 1 094. | 2215.757 | 2516.436 | 1260.526 | 29926.621 | 97841.407 | 197395.706 |
| | 095. | 2215.757 | 2516.436 | 1260.526 | 29926.621 | 105190.065 | 211143.531 |
| 76T | 1 095. | 39.916 | 0.005 | 23.581 | 0.000 | 180.096 | 0.041 |
| | 096. | 39.916 | 0.005 | 23.581 | 0.000 | 0.000 | 0.000 |

MAXIMUM AND/OR MINIMUM VALUES
CORRESPONDING ELEM/LOAD - CASE

| | | | | | | |
|--------------|----------|----------|----------|-----------|------------|------------|
| MAXIMUM TANG | 6744.797 | 3437.602 | 6573.713 | 94577.503 | 381180.332 | 257392.014 |
| MINIMUM | 20- 1 | 26- 1 | 18- 1 | 29- 1 | 9- 1 | 9- 1 |
| | 0.000 | 0.005 | 23.551 | 0.000 | 0.000 | 0.000 |
| | 59- 1 | 76- 1 | 45- 1 | 59- 1 | 45- 1 | 76- 1 |
| MAXIMUM BEND | 7352.811 | 5721.101 | 2039.435 | 94566.402 | 88565.217 | 231369.111 |

MULTIPLE SUPPORT RESPONSE SPECTRUM STRESS REPORT

M-RZ MS BREAK

HIT 01 07-22-92 18.169 P I S Y S 0 6 FEEDWATER LINE A

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M U L T I P L E S U P P O R T R E S P O N S E S P E C T R U M S T R E S S R E P O R T

M-RZ MS BREAK

| | | | | | | |
|---------|------------------|------------------|------------------|--------------------|--------------------|--------------------|
| MINIMUM | 19- 1 460.696 | 19- 1 276.520 | 19- 1 409.788 | 31- 1 16556.253 | 19- 1 14685.913 | 15- 1 20901.266 |
| | 68- 1 | 51- 1 | 34- 1 | 51- 1 | 55- 1 | 55- 1 |

HIT 01 07-22-92 18.169 P I S Y S 0 6 FEEDWATER LINE A

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M U L T I P L E S U P P O R T R E S P O N S E S P E C T R U M S T R E S S R E P O R T

M-RZ MS BREAK

MULTIPLE SUPPORT RESPONSE SPECTRUM STRESS REPORT

M-RZ MS BREAK

RESPONSE SPECTRUM ANALYSIS --- STRESS REPORT
 ELEMENT TYPE 2 --- RESTRAINT ELEMENT

P15YS PAGE 4

COMBINED ELEMENT FORCES AND MOMENTS
 COMBINED METHOD 6 MODE 1 TO NODE 30 --- INTERMEDIATE

| ELEM NO | LOAD CASE | RESTRAINT TYPE | PIPE JOINT | STRUCT. POINT | RESTRAINT FORCE | RESTRAINT MOMENT |
|---------|-----------|----------------|------------|---------------|-----------------|------------------|
| 1 | 1 | ANCHOR | 001. | ANC X | 2.897E 03 | 1.764E 04 |
| 2 | 1 | ANCHOR | 001. | ANC Y | 2.085E 03 | 2.591E 04 |
| 3 | 1 | ANCHOR | 001. | ANC Z | 5.743E 03 | 8.366E 04 |
| 4 | 1 | ANCHOR | 056. | RPUNIX | 1.385E 03 | 2.170E 05 |
| 5 | 1 | ANCHOR | 056. | RPUN1Y | 2.518E 03 | 1.133E 05 |
| 6 | 1 | ANCHOR | 056. | RPUN1Z | 2.759E 03 | 9.759E 04 |
| 7 | 1 | ANCHOR | 074. | RPUN2X | 7.214E 02 | 6.413E 04 |
| 8 | 1 | ANCHOR | 074. | RPUN2Y | 2.448E 03 | 1.249E 05 |
| 9 | 1 | ANCHOR | 074. | RPUN2Z | 2.244E 03 | 1.671E 05 |
| 10 | 1 | ANCHOR | 095. | RPUN3X | 1.470E 03 | 1.897E 05 |
| 11 | 1 | ANCHOR | 095. | RPUN3Y | 2.516E 03 | 1.052E 05 |
| 12 | 1 | ANCHOR | 095. | RPUN3Z | 2.271E 03 | 9.707E 04 |
| 13 | 1 | GLOBAL GUIDE | 009. | GUIDEX | 8.200E 03 | 0. |
| 14 | 1 | GLOBAL GUIDE | 009. | GUIDEY | 4.244E 03 | 0. |
| 15 | 1 | SNUBBER | 019. | AS003 | 9.910E 03 | 0. |
| 16 | 1 | SNUBBER | 025. | AS005 | 7.654E 03 | 0. |
| 17 | 1 | SNUBBER | 025. | AS004 | 4.739E 03 | 0. |
| 18 | 1 | SNUBBER | 027. | AS007 | 6.456E 03 | 0. |

HIT 01 07-22-92 18.169 P15Y506 FEEDWATER LINE A
MULTIPLE SUPPORT RESPONSE SPECTRUM STRESS REPORT
19 1 SNUBBER 032. A5006 3.865E 03 0.

PAGE 436

M-RZ MS BREAK

HIT 01 07-22-92 18.169 P15Y506 FEEDWATER LINE H
MULTIPLE SUPPORT RESPONSE SPECTRUM STRESS REPORT

PAGE 436

M-RZ MS BREAK

#IT 01 07-22-92 18.169 P I S Y S 0 6 FEEDWATER LINE A
I S E Z FILE GENERATION REPORT

PAGE 437
M-RZ HS BREAK

PISEZ FILE UPDATE HAS STARTED.
ANALYSIS CASE LABEL "M-RZ HS BREAK",
ANALYSIS CASE SEQUENCE NUMBER = 12 (PISEZ)
IS BEING ADDED.

PISEZ FILE UPDATE IS COMPLETE.

#IT 01 07-22-92 18.169 P I S Y S 0 6 FEEDWATER LINE A
I S E Z FILE GENERATION REPORT

PAGE 437
M-RZ HS BREAK

```
LLLLL
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LLLLLL

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LLLLLL

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L  L  LLL
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L  LLL
L  LLL
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LLLL  LL  LLL  LLLLL
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L  L  L  L  LLL  LLL
L  L  L  L  LLL  LLL
L  L  L  L  LLL  LLL
```

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L  LLL
LL  L
L  LLL
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```

ISYS MASTER CONTROL INFORMATION

UN LABEL = FEEDWATER LINE A
ODEL DATE = 11/91
ROJECT TITLE =
ROJECT NUMBER =
OB TITLE =
OB NUMBER =
UN NUMBER =

ANALYSIS CASE 13, OF 16

EBUG PARAMETER = 0
UNCH PARAMETER = 0
ATA CHECK FLAG = 0
ISEZ GENERATION = T

LOAD LABEL = M-RX 55E

A MULTIPLE SUPPORT EXCITATION RESPONSE SPECTRUM ANALYSIS WAS SELECTED.

COMBINATION METHOD, MC. = 6
DISPLACEMENT OUTPUT OPTION = 5
STRESS OUTPUT OPTION = 0
NUMBER OF SPECTRUM CASES = 1
INTERPOLATION INDICATOR = 1

** WORKING FILES RESTARTED FROM TAPE # 12529 ***

41T 01 07-22-92 18.169 P I S Y S 0 6 FEEDWATER LINE A
MULTIPLE SUPPORT RESPONSE SPECTRUM INPUT
CONTROL INFORMATION

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M-RX SSE

NUMBER OF SPECTRA = 4
MAXIMUM NUMBER OF SPECTRUM
TABLE ENTRIES (PAIRS) = 19
METHOD OF COMBINATION = 6
EQ. 1, METHOD I
EQ. 2, METHOD II
EQ. 3, METHOD III
EQ. 4, METHOD IV
EQ. 5, METHOD V
EQ. 6, METHOD VI, (METHOD I + H/F)

NUMBER OF SPECTRUM
ANALYSIS LOAD CASES = 1

OUTPUT TYPE FLAG (NPRINT) = 5
EQ.0, PRINT COMB. RESULTS (DISP. ,
ACCEL., STRESSES)
EQ.1, PRINT MODAL RESULTS AND
COMB. RESULTS
EQ.2, PRINT = 1 ,
SAVE MODAL & COMB. RESULTS
ON TAPE 10
EQ.3, PRINT = 0
SAVE = 2
EQ.4, RESULTS WITH 3 PEAK SHIFTS
EQ.5, RESULTS WITHOUT PEAK SHIFT
EQ.6, HI FREQ. RESP. USES MAX ZPA
EQ.N, RESULTS WITH (2*N-9) SHIFTS

OUTPUT FLAG NPRINT VALUE OF 4 OR MORE IS A
SUBSET OF COMBINATION METHOD VI AND CANNOT
BE USED WITH ANY OTHER COMBINATION OPTION
REFER TO USER'S MANUAL FOR DETAILS

FLAG FOR ELEMENT STRESS OUTPUT = 0
.EQ. 1 ELEMENT ORIENTED MODAL FORCES & MOMENTS
.EQ. 2 MODEL ORIENTED MODAL FORCES & MOMENTS

FLAG FOR SPECTRUM INTERPOLATION: 1
.EQ. 0 LINER INTERPOLATION
.EQ. 1 LOGARITHMIC INTERPOLATION

41T 01 07-22-92 18.169 P I S Y S 0 6 FEEDWATER LINE A
MULTIPLE SUPPORT RESPONSE SPECTRUM INPUT

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M-RX SSE

41T 01 07-22-92 18.169 P15Y506 FEEDWATER LINE A
MULTIPLE SUPPORT RESPONSE SPECTRUM INPUT

PAGE 441
M-RX 55E

41T 01 07-22-92 18.169 P15Y506 FEEDWATER LINE A
MULTIPLE SUPPORT RESPONSE SPECTRUM INPUT

PAGE 441
M-RX 55E

MIT 01 07-22-92 18.169 P15YS06 FEEDWATER LINE A
MULTIPLE SUPPORT RESPONSE SPECTRUM INPUT

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M-RX SSE

SPECTRAL RESPONSE LOAD CASE DEFINITION

SHOCK DIRECTION OF APPLICATION (GLOBAL)
NO. -X- -Y- -Z-

1 1 0 0

MIT 01 07-22-92 18.169 P15YS06 FEEDWATER LINE A
MULTIPLE SUPPORT RESPONSE SPECTRUM INPUT

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M-RX SSE

SPECTRUM TABLES

SPECTRUM TABLE NUMBER = 1
NUMBER OF ENTRIES = 17
SPECTRUM TYPE = PER000/ ACC
SCALE FACTOR = 386.0
DAMPING COEFFICIENT = 2.000E-02
DESCRIPTION = NOZZ N36

SPECTRAL PERIOD / DISPLACEMENT-OR-ACCELERATION

| | |
|--------------|------------|
| 1.0000E-05 / | 1.7900E 00 |
| 2.9050E-02 / | 1.7900E 00 |
| 3.0420E-02 / | 1.9500E 00 |
| 3.1870E-02 / | 2.8600E 00 |
| 3.6620E-02 / | 2.8600E 00 |
| 3.8360E-02 / | 3.1300E 00 |
| 4.0180E-02 / | 3.3100E 00 |
| 4.2090E-02 / | 5.1100E 00 |
| 4.4090E-02 / | 6.6100E 00 |
| 4.6180E-02 / | 7.7000E 00 |
| 4.8370E-02 / | 7.7000E 00 |
| 5.0660E-02 / | 9.0000E 00 |
| 8.8370E-02 / | 9.0000E 00 |
| 9.2570E-02 / | 8.7500E 00 |
| 9.6960E-02 / | 8.5700E 00 |
| 1.0155E-01 / | 8.5700E 00 |
| 1.4300E-01 / | 8.5700E 00 |

SPECTRUM TABLE NUMBER = 2
NUMBER OF ENTRIES = 16
SPECTRUM TYPE = PER000/ ACC
SCALE FACTOR = 386.0
DAMPING COEFFICIENT = 3.000E-02
DESCRIPTION = DEPSS N80

SPECTRAL PERIOD / DISPLACEMENT-OR-ACCELERATION

| | |
|--------------|------------|
| 1.0000E-05 / | 1.7400E 00 |
| 2.9050E-02 / | 1.7400E 00 |
| 3.0420E-02 / | 2.8200E 00 |
| 3.1870E-02 / | 3.4800E 00 |
| 4.8370E-02 / | 3.4800E 00 |
| 5.0660E-02 / | 3.4800E 00 |
| 5.3070E-02 / | 3.8300E 00 |
| 5.5590E-02 / | 3.8300E 00 |

U L T I P L E S U P P O R T R E S P O N S E S P E C T R U M I N P U T

M-RX SSE

| | | |
|------------|---|------------|
| 5.8220E-02 | / | 3.8300E 00 |
| 6.6910E-02 | / | 3.8300E 00 |
| 7.0090E-02 | / | 3.8300E 00 |
| 7.3410E-02 | / | 4.8600E 00 |
| 7.6900E-02 | / | 5.3200E 00 |
| 8.0550E-02 | / | 5.5000E 00 |
| 1.0155E-01 | / | 5.5000E 00 |
| 1.4300E-01 | / | 5.5000E 00 |

SPECTRUM TABLE NUMBER = 3
 NUMBER OF ENTRIES = 19
 SPECTRUM TYPE = PER000/ ACC
 SCALE FACTOR = 386.0
 DAMPING COEFFICIENT = 3.000E-02
 DESCRIPTION = GD N82 92

S P E C T R A L P E R I O D / D I S P L A C E M E N T - O R - A C C E L E R A T I O N

| | | |
|------------|---|------------|
| 1.0000E-05 | / | 9.0000E-01 |
| 2.9050E-02 | / | 9.0000E-01 |
| 3.3380E-02 | / | 9.0000E-01 |
| 3.4960E-02 | / | 9.8000E-01 |
| 4.0180E-02 | / | 1.1400E 00 |
| 4.2090E-02 | / | 1.4600E 00 |
| 4.4090E-02 | / | 1.5400E 00 |
| 5.0000E-02 | / | 1.5400E 00 |
| 5.0660E-02 | / | 1.5600E 00 |
| 5.3070E-02 | / | 1.6700E 00 |
| 6.3880E-02 | / | 1.6700E 00 |
| 6.6910E-02 | / | 1.6700E 00 |
| 7.0090E-02 | / | 2.4100E 00 |
| 7.3410E-02 | / | 3.3800E 00 |
| 7.6900E-02 | / | 3.8300E 00 |
| 8.0550E-02 | / | 4.1600E 00 |
| 8.4370E-02 | / | 4.1600E 00 |
| 1.0155E-01 | / | 3.8800E 00 |
| 1.4300E-01 | / | 3.8800E 00 |

SPECTRUM TABLE NUMBER = 4
 NUMBER OF ENTRIES = 19
 SPECTRUM TYPE = PER000/ ACC
 SCALE FACTOR = 386.0
 DAMPING COEFFICIENT = 3.000E-02
 DESCRIPTION = PENET N91 92

S P E C T R A L P E R I O D / D I S P L A C E M E N T - O R - A C C E L E R A T I O N

| | | |
|------------|---|------------|
| 1.0000E-05 | / | 1.0000E 00 |
| 2.9050E-02 | / | 1.0000E 00 |

U L T I P L E S U P P O R T R E S P O N S E S P E C T R U M I N P U T

M-RX SSE

U L T I P L E S U P P O R T R E S P O N S E S P E C T R U M I N P U T

| | |
|------------|------------|
| 3.6620E-02 | 1.0000E 00 |
| 3.8360E-02 | 1.0700E 00 |
| 4.0180E-02 | 1.1400E 00 |
| 4.2090E-02 | 1.2200E 00 |
| 4.4090E-02 | 1.3100E 00 |
| 4.6200E-02 | 1.4000E 00 |
| 4.8420E-02 | 1.5000E 00 |
| 5.0760E-02 | 1.6000E 00 |
| 5.3220E-02 | 1.7000E 00 |
| 5.5800E-02 | 1.8000E 00 |
| 5.8500E-02 | 1.9000E 00 |
| 6.1320E-02 | 2.0000E 00 |
| 6.4260E-02 | 2.1000E 00 |
| 6.7320E-02 | 2.2000E 00 |
| 7.0500E-02 | 2.3000E 00 |
| 7.3800E-02 | 2.4000E 00 |
| 7.7220E-02 | 2.5000E 00 |
| 8.0760E-02 | 2.6000E 00 |
| 8.4420E-02 | 2.7000E 00 |
| 8.8200E-02 | 2.8000E 00 |
| 9.2100E-02 | 2.9000E 00 |
| 9.6120E-02 | 3.0000E 00 |
| 1.0026E-01 | 3.1000E 00 |
| 1.4300E-01 | 4.1300E 00 |

SUPPORT EXCITATION INPUT INFORMATION

| RESTRAINT LABEL | X TRANSLATIONAL | Y TRANSLATIONAL | M U L T I P L I E R S Z TRANSLATIONAL | SPECTRUM NUMBER |
|-----------------|-----------------|-----------------|---------------------------------------|-----------------|
| RPUN1 | 1.00000E 00 | 0. | 0. | 1 |
| RPUN2 | 1.00000E 00 | 0. | 0. | 1 |
| RPUN3 | 1.00000E 00 | 0. | 0. | 1 |
| AS003 | 1.00000E 00 | 0. | 0. | 1 |
| AS005 | 1.00000E 00 | 0. | 0. | 1 |
| AS004 | 1.00000E 00 | 0. | 0. | 1 |
| AS007 | 1.00000E 00 | 0. | 0. | 1 |
| AS006 | 1.00000E 00 | 0. | 0. | 1 |
| GUIDE | 1.00000E 00 | 0. | 0. | 1 |
| ANC | 1.00000E 00 | 0. | 0. | 1 |

U L T I P L E S U P P O R T R E S P O N S E S P E C T R U M I N P U T

ULTIPLE SUPPORT RESPONSE SPECTRUM ANALYSIS

M-RX SSE

PREVIOUSLY SAVED PARTICIPATION FACTORS HAVE BEEN SUCCESSFULLY RETRIEVED FROM FILE CODE 23
MODAL PARTICIPATION FACTORS

| MODE NUMBER | FREQUENCY (HERTZ) | SUPPORT NUMBER AND FACTORS | | | | | | | | | |
|-------------|-------------------|----------------------------|--------------|----|--------------|----|--------------|----|--------------|----|--------------|
| 1 | 8.126 | 1 | -2.47121E 00 | 2 | -8.33189E-01 | 3 | 2.83760E 00 | 4 | 2.11920E-01 | 5 | 3.90609E-02 |
| | | 6 | 4.66300E-01 | 7 | -7.28889E-02 | 8 | 4.17094E-02 | 9 | 4.60421E-01 | 10 | -2.15295E-01 |
| | | 11 | 7.93844E-02 | 12 | 5.74998E-01 | 13 | 7.56524E 00 | 14 | 2.14310E 00 | 15 | -1.74536E 00 |
| | | 16 | -1.40429E 00 | 17 | 3.28341E 00 | 18 | 9.18522E-01 | 19 | 9.18552E-01 | 20 | -2.16636E 00 |
| | | 21 | 2.16373E 00 | 22 | -5.47649E-01 | 23 | -4.59772E-01 | 24 | 4.92717E-01 | 25 | -5.86890E-01 |
| 2 | 10.871 | 1 | 1.20032E 00 | 2 | -1.73186E 00 | 3 | -5.51535E-01 | 4 | -2.29063E-01 | 5 | 2.25932E-01 |
| | | 6 | 3.84387E-01 | 7 | 1.44198E-01 | 8 | 1.09624E-01 | 9 | -3.06140E-02 | 10 | 1.70547E-02 |
| | | 11 | 4.57423E-02 | 12 | -4.84575E-01 | 13 | -3.34059E 00 | 14 | 4.14417E 00 | 15 | 2.23215E-01 |
| | | 16 | 1.79545E-01 | 17 | -4.19917E-01 | 18 | 8.67347E-01 | 19 | 8.67376E-01 | 20 | -2.42355E 00 |
| | | 21 | 2.42061E 00 | 22 | 9.67769E-02 | 23 | 8.12480E-02 | 24 | 6.96325E-01 | 25 | -8.29414E-01 |
| 3 | 11.554 | 1 | -6.46668E 01 | 2 | 5.31906E-01 | 3 | 3.29275E-01 | 4 | 2.01890E-02 | 5 | -2.74524E-01 |
| | | 6 | 8.01196E-01 | 7 | 3.73147E-02 | 8 | -8.08778E-03 | 9 | 3.34001E-02 | 10 | -3.43092E-01 |
| | | 11 | -3.56886E-01 | 12 | -1.28909E 00 | 13 | 1.85174E 00 | 14 | -1.29654E 00 | 15 | -2.05889E-01 |
| | | 16 | -1.65655E-01 | 17 | 3.87322E-01 | 18 | 2.25550E-01 | 19 | 2.25558E-01 | 20 | 1.28283E 00 |
| | | 21 | -1.28127E 00 | 22 | -3.38250E-01 | 23 | -2.83974E-01 | 24 | -6.68390E-01 | 25 | 7.96140E-01 |
| 4 | 11.842 | 1 | 6.00221E-01 | 2 | 5.44366E-01 | 3 | -4.46262E-01 | 4 | -2.54188E-01 | 5 | -5.22341E-01 |
| | | 6 | 1.35285E 00 | 7 | 1.76461E-02 | 8 | -5.53318E-02 | 9 | -7.75584E-02 | 10 | 2.19431E-01 |
| | | 11 | 1.86903E-01 | 12 | 7.42028E-01 | 13 | -1.79554E 00 | 14 | -1.25791E 00 | 15 | -3.16647E-01 |
| | | 16 | -2.54769E-01 | 17 | 5.95683E-01 | 18 | -4.72073E-01 | 19 | -4.92089E-01 | 20 | 9.34800E-02 |
| | | 21 | -9.33666E-02 | 22 | 4.27743E-01 | 23 | 3.69181E-01 | 24 | 2.45898E-01 | 25 | -2.92897E-01 |
| 5 | 13.025 | 1 | -3.66546E-01 | 2 | -7.05655E-01 | 3 | -5.01030E-01 | 4 | 3.70877E-02 | 5 | 4.35788E-01 |
| | | 6 | 7.36382E-03 | 7 | -5.41073E-04 | 8 | 4.89478E-01 | 9 | -2.38921E-02 | 10 | -3.97476E-02 |
| | | 11 | 1.27252E 00 | 12 | 2.65602E-01 | 13 | 1.43531E 00 | 14 | 1.31039E 00 | 15 | 2.62247E-01 |
| | | 16 | 2.11000E-01 | 17 | -4.93346E-01 | 18 | -9.61373E-02 | 19 | -9.61405E-02 | 20 | 1.68235E 00 |
| | | 21 | -1.68031E 00 | 22 | 1.98823E 00 | 23 | 1.66919E 00 | 24 | -4.91990E-01 | 25 | 5.86025E-01 |
| 6 | 15.275 | 1 | 3.24656E-01 | 2 | 1.24210E 00 | 3 | 1.04385E 00 | 4 | 7.84291E-02 | 5 | -6.49649E-01 |
| | | 6 | -5.82303E-02 | 7 | 2.08878E-02 | 8 | -8.96499E-02 | 9 | 1.67002E-01 | 10 | -1.09051E-01 |
| | | 11 | 7.03582E-01 | 12 | -6.09131E-02 | 13 | -1.62016E 00 | 14 | -2.48899E 00 | 15 | -8.11394E-01 |
| | | 16 | -6.52834E-01 | 17 | 1.52641E 00 | 18 | -4.66183E-01 | 19 | -4.66199E-01 | 20 | -1.45964E 00 |
| | | 21 | 1.45787E 00 | 22 | 9.17860E-01 | 23 | 7.70579E-01 | 24 | 2.99487E-01 | 25 | -3.56727E-01 |
| 7 | 15.809 | 1 | 1.31258E-01 | 2 | 1.39885E 00 | 3 | 1.35978E 00 | 4 | -1.96674E-01 | 5 | 1.23788E 00 |
| | | 6 | -2.12795E-01 | 7 | 6.44740E-02 | 8 | 4.60681E-02 | 9 | 1.70967E-02 | 10 | 8.15989E-02 |
| | | 11 | -8.20362E-02 | 12 | -2.25314E-02 | 13 | -9.41577E-01 | 14 | -2.96517E 00 | 15 | -1.30894E-01 |

ULTIPLE SUPPORT RESPONSE SPECTRUM ANALYSIS

M-RX SSE

MULTIPLE SUPPORT RESPONSE SPECTRUM ANALYSIS

M-RX SSE

| | | | | | | | | | | | |
|----|--------------|----|--------------|----|--------------|----|--------------|----|--------------|----|--------------|
| 8 | 17.998 | 16 | -1.05315E-01 | 17 | 2.46240E-01 | 18 | 1.05810E 00 | 19 | 1.05814E 00 | 20 | -8.75106E-01 |
| | | 81 | 8.74044E-01 | 22 | 7.79779E-02 | 23 | 6.54654E-02 | 24 | 5.29598E-01 | 25 | -6.30820E-01 |
| | | 1 | 3.27171E-02 | 2 | -1.87328E-01 | 3 | -4.22821E-01 | 4 | -7.11660E-03 | 5 | -1.03090E-01 |
| | | 6 | 7.73104E-03 | 7 | 1.32906E-01 | 8 | 6.06063E-02 | 9 | 2.26804E-01 | 10 | 5.62685E-01 |
| | | 11 | -4.91030E-01 | 12 | -2.89594E-01 | 13 | 2.01215E-01 | 14 | 3.15807E-01 | 15 | -1.31501E-01 |
| 9 | 19.854 | 16 | -1.05804E-01 | 17 | 2.47382E-01 | 18 | -1.66525E-01 | 19 | -1.66530E-01 | 20 | 1.01962E-02 |
| | | 21 | -1.01838E-02 | 22 | 1.14561E 00 | 23 | 9.61787E-01 | 24 | 2.74787E 00 | 25 | -3.27307E 00 |
| | | 1 | -6.04652E-01 | 2 | 3.47558E-01 | 3 | 7.40943E-01 | 4 | 2.55926E-01 | 5 | -5.01076E-01 |
| | | 6 | 1.20278E-01 | 7 | 1.67752E-01 | 8 | -3.33576E-03 | 9 | -4.04569E-01 | 10 | 2.64572E-01 |
| | | 11 | 2.03562E-01 | 12 | 1.04399E-01 | 13 | 8.75003E-01 | 14 | -5.64848E-01 | 15 | 1.40250E 00 |
| 10 | 21.590 | 16 | 1.12843E 00 | 17 | -2.63842E 00 | 18 | 2.07164E 00 | 19 | 2.07171E 00 | 20 | 5.20267E-01 |
| | | 21 | -5.19636E-01 | 22 | 1.52875E-01 | 23 | 1.28344E-01 | 24 | 5.11784E-01 | 25 | -6.09601E-01 |
| | | 1 | -1.30819E-01 | 2 | 1.41096E-01 | 3 | 1.61103E-01 | 4 | -5.24979E-01 | 5 | -3.74654E-01 |
| | | 6 | 1.34603E-01 | 7 | -1.30493E-01 | 8 | 9.11101E-02 | 9 | -2.24901E-01 | 10 | -4.33150E-01 |
| | | 11 | -1.65785E-01 | 12 | -1.05746E-01 | 13 | 8.00977E-02 | 14 | -2.46184E-01 | 15 | 3.78554E-01 |
| 11 | 21.903 | 16 | 3.04578E-01 | 17 | -7.12144E-01 | 18 | 3.63038E-01 | 19 | 3.63050E-01 | 20 | -8.07315E-01 |
| | | 21 | 8.06335E-01 | 22 | -3.27871E-01 | 23 | -2.75260E-01 | 24 | -1.19970E-01 | 25 | 1.42900E-01 |
| | | 1 | -8.97462E-02 | 2 | 5.33538E-02 | 3 | 5.62848E-03 | 4 | -4.29309E-01 | 5 | -1.82088E-01 |
| | | 6 | 8.83878E-02 | 7 | -2.46543E-02 | 8 | -5.95694E-02 | 9 | 8.29876E-01 | 10 | 3.34419E-01 |
| | | 11 | 2.44623E-01 | 12 | 1.04010E-01 | 13 | 8.08824E-02 | 14 | -8.29538E-02 | 15 | 1.98938E-01 |
| 12 | 22.948 | 16 | 1.60062E-01 | 17 | -3.74246E-01 | 18 | 5.27745E-02 | 19 | 5.27762E-02 | 20 | -3.92174E-01 |
| | | 21 | 3.91698E-01 | 22 | 5.47506E-02 | 23 | 4.59653E-02 | 24 | -1.88042E-01 | 25 | 2.23982E-01 |
| | | 1 | -1.31235E-02 | 2 | 4.34438E-02 | 3 | 2.51818E-01 | 4 | 3.06332E-01 | 5 | -1.72857E-01 |
| | | 6 | -1.45745E-03 | 7 | 3.57920E-02 | 8 | 3.78481E-01 | 9 | 7.48086E-01 | 10 | -2.56487E-01 |
| | | 11 | -4.61861E-01 | 12 | -2.98470E-02 | 13 | 1.54236E-02 | 14 | -8.19220E-02 | 15 | 2.47635E-01 |
| 13 | 23.646 | 16 | 1.99243E-01 | 17 | -4.65857E-01 | 18 | 1.08673E 00 | 19 | 1.08676E 00 | 20 | 2.02489E-01 |
| | | 21 | -2.02243E-01 | 22 | 1.05631E 00 | 23 | 8.86812E-01 | 24 | -4.15774E-01 | 25 | 4.95241E-01 |
| | | 1 | 1.03513E-01 | 2 | 6.12122E-03 | 3 | 2.01237E-01 | 4 | -1.44009E-01 | 5 | -1.53150E-01 |
| | | 6 | -1.27489E-02 | 7 | -4.78375E-03 | 8 | 3.98423E-01 | 9 | -4.26482E-01 | 10 | 3.27447E-01 |
| | | 11 | -6.07306E-01 | 12 | -1.99569E-02 | 13 | -5.32195E-02 | 14 | -3.50851E-02 | 15 | -5.78572E-01 |
| 14 | 25.645 | 16 | -4.65510E-01 | 17 | 1.08842E 00 | 18 | 2.84433E-01 | 19 | 2.84442E-01 | 20 | -1.62491E-01 |
| | | 21 | 1.62294E-01 | 22 | 2.25957E 00 | 23 | 1.89700E 00 | 24 | -7.65428E-01 | 25 | 9.11725E-01 |
| | | 1 | 2.14401E-01 | 2 | -1.10049E-01 | 3 | 2.50268E-01 | 4 | 1.15693E-02 | 5 | -2.77656E-01 |
| | | 6 | -3.40458E-02 | 7 | 9.81769E-03 | 8 | 7.44911E-01 | 9 | -5.54737E-02 | 10 | -1.00700E-01 |
| | | 11 | 4.96218E-01 | 12 | 6.85672E-02 | 13 | 9.78428E-01 | 14 | 5.90768E-02 | 15 | -7.92523E-01 |
| 15 | 27.271 | 16 | -6.37651E-01 | 17 | 1.49091E 00 | 18 | 6.96416E-01 | 19 | 6.96439E-01 | 20 | -1.23850E-01 |
| | | 21 | 1.23699E-01 | 22 | -9.23687E-01 | 23 | -7.75471E-01 | 24 | 3.28474E-01 | 25 | -3.91255E-01 |
| | | 1 | 9.94608E-02 | 2 | -2.24455E-01 | 3 | -6.24734E-01 | 4 | -2.43517E-02 | 5 | 1.42304E-01 |
| | | 6 | -1.88016E-02 | 7 | -8.13451E-02 | 8 | -4.60575E-01 | 9 | 9.85066E-03 | 10 | 6.48079E-03 |
| | | 11 | 8.00290E-02 | 12 | -2.10897E-02 | 13 | 3.36997E 00 | 14 | 1.47474E-01 | 15 | -3.62079E-02 |
| 16 | -2.91323E-02 | 17 | 6.81152E-02 | 18 | 5.05399E-01 | 19 | 5.05399E-01 | 20 | -1.38133E 00 | | |

MULTIPLE SUPPORT RESPONSE SPECTRUM ANALYSIS

M-RX SSE

M U L T I P L E S U P P O R T R E S P O N S E S P E C T R U M A N A L Y S I S

M-RX SSE

| | | | | | | | | | | | |
|----|--------|----|--------------|----|--------------|----|--------------|----|--------------|----|--------------|
| 16 | 30.144 | 21 | 1.30016E 00 | 22 | 3.57989E-01 | 23 | 3.00545E-01 | 24 | -3.40369E-01 | 25 | 4.05424E-01 |
| | | 1 | 4.30132E-02 | 2 | -1.95152E-01 | 3 | -1.22213E 00 | 4 | 2.30605E-03 | 5 | 2.20860E-01 |
| | | 6 | -1.02747E-02 | 7 | -2.79736E-01 | 8 | 2.06983E-01 | 9 | -2.52312E-02 | 10 | 1.94945E-02 |
| | | 11 | 3.40851E-01 | 12 | -3.99359E-02 | 13 | -2.10067E 00 | 14 | 1.35834E-01 | 15 | 3.42049E-01 |
| | | 16 | 2.75207E-01 | 17 | -6.43470E-01 | 18 | 3.97023E-01 | 19 | 3.97036E-01 | 20 | -1.42486E 00 |
| | | 21 | 1.42313E 00 | 22 | 1.52207E-01 | 23 | 1.27784E-01 | 24 | -5.54984E-01 | 25 | 6.61058E-01 |
| 17 | 32.488 | 1 | 3.60086E-02 | 2 | 1.75351E-01 | 3 | -4.24779E-01 | 4 | -1.99841E-02 | 5 | 1.59585E-01 |
| | | 6 | 2.19861E-02 | 7 | -4.07051E-01 | 8 | 1.73568E 00 | 9 | 4.46901E-03 | 10 | 1.42633E-01 |
| | | 11 | -4.34714E-01 | 12 | 6.95124E-02 | 13 | 8.56100E-01 | 14 | -1.17212E-01 | 15 | 3.39926E-01 |
| | | 16 | 2.73418E-01 | 17 | -6.39288E-01 | 18 | -4.98297E-01 | 19 | -4.98313E-01 | 20 | -4.36723E-01 |
| | | 21 | 4.36193E-01 | 22 | -4.55634E-01 | 23 | -3.82523E-01 | 24 | -1.72810E-01 | 25 | 2.05840E-01 |
| 18 | 34.289 | 1 | -1.36581E-01 | 2 | 2.02740E-01 | 3 | 1.45240E 00 | 4 | 3.95864E-01 | 5 | -1.30524E 00 |
| | | 6 | -2.62692E-01 | 7 | -1.56914E-01 | 8 | -4.76817E-02 | 9 | 1.16293E-02 | 10 | 1.72446E-01 |
| | | 11 | -3.94680E-01 | 12 | 7.62528E-02 | 13 | -1.50262E-01 | 14 | 1.69380E-03 | 15 | -2.86914E-01 |
| | | 16 | -2.30847E-01 | 17 | 5.39750E-01 | 18 | -4.05365E-02 | 19 | -4.05379E-02 | 20 | -2.32882E-01 |
| | | 21 | 2.32599E-01 | 22 | -2.94697E-01 | 23 | -2.47409E-01 | 24 | -3.41254E-01 | 25 | 4.06477E-01 |
| 19 | 35.752 | 1 | -6.14533E-01 | 2 | 2.97217E-01 | 3 | 2.29453E 00 | 4 | -6.58103E-02 | 5 | 7.71128E-01 |
| | | 6 | 2.34444E-01 | 7 | -1.44258E-01 | 8 | 2.78188E-01 | 9 | 1.14263E-02 | 10 | -8.05167E-02 |
| | | 11 | 6.95680E-01 | 12 | -2.03512E-01 | 13 | -5.22684E-01 | 14 | 1.65181E-01 | 15 | -3.57734E-01 |
| | | 16 | -2.87827E-01 | 17 | 6.72977E-01 | 18 | -5.00416E-02 | 19 | -5.00432E-02 | 20 | 1.18593E-01 |
| | | 21 | -1.18449E-01 | 22 | 1.48821E-01 | 23 | 1.24773E-01 | 24 | -2.28624E-01 | 25 | 2.72321E-01 |
| 20 | 36.127 | 1 | -2.12367E-01 | 2 | 8.63089E-03 | 3 | 5.52804E-01 | 4 | -1.20712E-01 | 5 | 7.69783E-01 |
| | | 6 | 2.13815E-01 | 7 | 4.44070E-02 | 8 | -3.79308E-01 | 9 | 1.14168E-02 | 10 | 2.56316E-01 |
| | | 11 | -1.39328E 00 | 12 | 4.06129E-01 | 13 | -4.56826E-01 | 14 | 3.41663E-02 | 15 | -1.51036E-01 |
| | | 16 | -1.21521E-01 | 17 | 2.84132E-01 | 18 | 1.62995E-01 | 19 | 1.63001E-01 | 20 | -7.14056E-02 |
| | | 21 | 7.13189E-02 | 22 | -3.44929E-01 | 23 | -2.89581E-01 | 24 | -4.12671E-02 | 25 | 4.91545E-02 |
| 21 | 38.942 | 1 | 7.67296E-01 | 2 | 9.72044E-01 | 3 | 6.44488E-01 | 4 | 3.05086E-02 | 5 | 1.61219E-01 |
| | | 6 | 6.72778E-02 | 7 | 4.73289E-02 | 8 | -3.80664E-01 | 9 | -1.19166E-02 | 10 | 2.80740E-02 |
| | | 11 | 7.83509E-02 | 12 | -2.89640E-02 | 13 | 2.66240E 00 | 14 | 6.59399E-01 | 15 | 2.09884E-01 |
| | | 16 | 1.68869E-01 | 17 | -3.94839E-01 | 18 | -1.42439E-01 | 19 | -1.42444E-01 | 20 | 7.53509E-02 |
| | | 21 | -7.52594E-02 | 22 | 2.80877E-02 | 23 | 2.35807E-02 | 24 | -9.79784E-02 | 25 | 1.16705E-01 |
| 22 | 43.322 | 1 | 1.29903E 00 | 2 | -4.84699E-01 | 3 | 1.43627E 00 | 4 | 2.13976E-01 | 5 | 3.64096E-01 |
| | | 6 | 2.92792E-01 | 7 | -5.41529E-02 | 8 | 1.15820E-01 | 9 | 1.46783E-02 | 10 | 9.31923E-02 |
| | | 11 | 8.50111E-02 | 12 | -8.39944E-02 | 13 | 2.49446E 00 | 14 | -6.10834E-01 | 15 | -1.29970E-01 |
| | | 16 | -1.04572E-01 | 17 | 2.44503E-01 | 18 | 1.49104E-01 | 19 | 1.49109E-01 | 20 | 1.29898E-01 |
| | | 21 | -1.29741E-01 | 22 | -1.09230E-01 | 23 | -9.17032E-02 | 24 | -6.77898E-02 | 25 | 8.07465E-02 |
| 23 | 46.471 | 1 | 5.70113E-01 | 2 | 1.67067E-01 | 3 | 1.67845E 00 | 4 | -4.52065E-01 | 5 | -2.77632E-01 |
| | | 6 | -3.63702E-01 | 7 | -3.90691E-02 | 8 | 2.17543E-01 | 9 | -9.46433E-03 | 10 | -4.96940E-01 |
| | | 11 | -2.90667E-01 | 12 | 3.82141E-01 | 13 | 1.37917E 00 | 14 | 5.45171E-01 | 15 | -5.12375E-02 |
| | | 16 | -4.12248E-02 | 17 | 9.63891E-02 | 18 | 5.10252E-02 | 19 | 5.10269E-02 | 20 | 5.90134E-02 |
| | | 21 | -5.89417E-02 | 22 | 1.98343E-01 | 23 | 1.66516E-01 | 24 | 5.35959E-02 | 25 | -6.38398E-02 |

M U L T I P L E S U P P O R T R E S P O N S E S P E C T R U M A N A L Y S I S

M-RX SSE

ULTIPLE SUPPORT RESPONSE SPECTRUM ANALYSIS

M-RX SSE

| | | | | | | | | | | | |
|----|--------|----|--------------|----|--------------|----|--------------|----|--------------|----|--------------|
| 24 | 47.729 | 1 | 2.15162E-01 | 2 | -2.14475E-01 | 3 | 6.81612E-01 | 4 | -6.13658E-01 | 5 | -1.89103E-01 |
| | | 6 | -4.02258E-01 | 7 | 1.13006E-02 | 8 | -7.80485E-02 | 9 | 4.46438E-02 | 10 | 6.31332E-01 |
| | | 11 | 1.93232E-01 | 12 | -4.03363E-01 | 13 | 5.51999E-01 | 14 | -4.21783E-01 | 15 | 1.72522E-02 |
| | | 16 | 1.38808E-02 | 17 | -3.24552E-02 | 18 | 1.47142E-02 | 19 | 1.47147E-02 | 20 | 8.49401E-02 |
| | | 21 | -8.48370E-02 | 22 | -1.27192E-01 | 23 | -1.06783E-01 | 24 | -6.99012E-02 | 25 | 8.32614E-02 |
| 25 | 49.575 | 1 | 7.65267E-02 | 2 | 1.50696E 00 | 3 | -1.52166E-01 | 4 | 3.16759E-02 | 5 | 2.42985E-02 |
| | | 6 | 3.16798E-02 | 7 | 4.27303E-03 | 8 | 9.63754E-02 | 9 | 1.01303E-01 | 10 | 1.94183E-01 |
| | | 11 | 2.22175E-02 | 12 | -1.15609E-01 | 13 | -2.59725E-01 | 14 | 4.04172E 00 | 15 | -8.58932E-02 |
| | | 16 | -6.91083E-02 | 17 | 1.61584E-01 | 18 | 1.48720E-01 | 19 | 1.48725E-01 | 20 | -7.82199E-02 |
| | | 21 | 7.81249E-02 | 22 | -4.05329E-02 | 23 | -3.40289E-02 | 24 | 5.64491E-02 | 25 | -6.72382E-02 |
| 26 | 50.540 | 1 | -2.14697E-02 | 2 | -1.12427E-01 | 3 | -6.05878E-02 | 4 | -4.63795E-03 | 5 | 4.51672E-03 |
| | | 6 | 4.35301E-04 | 7 | -1.20911E-03 | 8 | -5.40663E-03 | 9 | 1.15363E 00 | 10 | -5.08296E-02 |
| | | 11 | -1.09225E-03 | 12 | 2.59934E-02 | 13 | -1.47363E-02 | 14 | -3.31014E-01 | 15 | -2.33215E-03 |
| | | 16 | -1.87641E-03 | 17 | 4.38730E-03 | 18 | -2.30910E-03 | 19 | -2.30917E-03 | 20 | 6.71914E-03 |
| | | 21 | -6.71098E-03 | 22 | -3.45190E-03 | 23 | -2.89800E-03 | 24 | -5.09006E-03 | 25 | 6.06293E-03 |
| 27 | 53.593 | 1 | -1.60693E-01 | 2 | 1.65860E-01 | 3 | -2.13603E 00 | 4 | -4.89865E-01 | 5 | 2.03374E-01 |
| | | 6 | -1.10112E-01 | 7 | -2.53958E-02 | 8 | -1.06297E-01 | 9 | -2.90131E-02 | 10 | -3.51754E-01 |
| | | 11 | 1.12861E-01 | 12 | 1.18590E-01 | 13 | -5.59327E-01 | 14 | 2.44804E-01 | 15 | -4.75990E-02 |
| | | 16 | -3.82974E-02 | 17 | 8.95443E-02 | 18 | 4.02166E-02 | 19 | 4.02179E-02 | 20 | 5.03423E-02 |
| | | 21 | -5.02812E-02 | 22 | -1.57139E-01 | 23 | -1.31924E-01 | 24 | -8.88979E-02 | 25 | 1.05889E-01 |
| 28 | 56.477 | 1 | -1.27592E-01 | 2 | -7.64194E-02 | 3 | -2.54981E 00 | 4 | -1.05012E-01 | 5 | 8.84458E-02 |
| | | 6 | 3.16076E-02 | 7 | -4.32751E-02 | 8 | 2.73510E-01 | 9 | 2.11158E-03 | 10 | 3.01026E-01 |
| | | 11 | -2.29003E-01 | 12 | -1.10060E-02 | 13 | -2.00821E-01 | 14 | -6.82500E-01 | 15 | -7.39427E-02 |
| | | 16 | -5.94931E-02 | 17 | 1.39103E-01 | 18 | 1.03470E-01 | 19 | 1.03474E-01 | 20 | 2.31574E-01 |
| | | 21 | -2.31292E-01 | 22 | 1.73536E-01 | 23 | 1.45690E-01 | 24 | -9.65282E-03 | 25 | 1.14978E-02 |
| 29 | 58.590 | 1 | -2.68508E-01 | 2 | -5.36916E-02 | 3 | 6.25965E 00 | 4 | -1.30052E-01 | 5 | 1.14533E-01 |
| | | 6 | 9.07052E-03 | 7 | 3.84781E-03 | 8 | 6.51186E-02 | 9 | -9.47381E-03 | 10 | 3.74007E-02 |
| | | 11 | -2.68213E-02 | 12 | -7.97425E-03 | 13 | -6.75376E-01 | 14 | 7.62561E-01 | 15 | 6.18322E-02 |
| | | 16 | 4.97492E-02 | 17 | -1.16320E-01 | 18 | 1.02214E-01 | 19 | 1.02218E-01 | 20 | -8.47182E-02 |
| | | 21 | 8.46153E-02 | 22 | -6.06731E-03 | 23 | -5.09374E-03 | 24 | 4.65879E-02 | 25 | -5.54923E-02 |
| | 65.799 | 1 | -3.41462E-02 | 2 | 2.00700E-01 | 3 | 1.35377E 00 | 4 | 4.78694E-02 | 5 | -1.03593E-02 |
| | | 6 | 6.50402E-02 | 7 | -1.89243E-02 | 8 | -1.39023E-01 | 9 | 1.90361E-02 | 10 | 3.47859E-03 |
| | | 11 | -1.78854E-01 | 12 | 2.11762E-01 | 13 | -1.78500E-01 | 14 | 1.27369E 00 | 15 | 8.85513E-02 |
| | | 16 | 7.12470E-02 | 17 | -1.66585E-01 | 18 | -1.78795E-01 | 19 | -1.78801E-01 | 20 | 1.84582E-01 |
| | | 21 | -1.84358E-01 | 22 | 6.15198E-02 | 23 | 5.16482E-02 | 24 | -1.26986E-01 | 25 | 1.51257E-01 |

ULTIP SUPPORT RESPONSE SPECTRUM ANALYSIS

M-RX SSE

MULTIPLE SUPPORT RESPONSE SPECTRUM ANALYSIS

M-RX 55E

TABLE OF MODAL AMPLITUDES

SPECTRUM ANALYSIS LOAD CASE : (1)

| MODE NUMBER | NATURAL FREQUENCY | SPECTRUM (1) | SPECTRUM (2) | SPECTRUM (3) | SPECTRUM (4) | SPECTRUM (0) | SPECTRUM (0) | SPECTRUM (0) | SPECTRUM (0) |
|-------------|-------------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|
| 1 | 8.13 | -9.6776E-02 | -2.4824E 00 | 4.3463E 00 | -1.5112E 00 | | | | |
| 2 | 10.87 | -4.9283E-02 | -2.4568E-01 | -1.1137E 00 | 4.1017E-01 | | | | |
| 3 | 11.55 | -1.8827E-01 | 1.1919E-01 | 5.5895E-01 | -1.9563E-01 | | | | |
| 4 | 11.84 | -1.0738E-02 | -1.135 E-02 | -5.2065E-01 | 1.7285E-01 | | | | |
| 5 | 13.02 | -1.6604E-03 | 1.0225E 00 | 3.1556E-01 | -8.4878E-02 | | | | |
| 6 | 15.27 | -3.6710E-03 | -2.4394E-01 | -1.1338E-01 | 2.6178E-02 | | | | |
| 7 | 15.81 | -1.7016E-02 | 9.8841E-02 | -6.1514E-02 | 8.7971E-03 | | | | |
| 8 | 18.00 | 1.8703E-01 | 4.1683E-01 | 1.0143E-02 | 1.5208E-03 | | | | |
| 9 | 19.85 | 1.5089E-01 | 4.0219E-01 | 3.3669E-02 | -2.3096E-02 | | | | |
| 10 | 21.59 | -1.7584E-01 | -3.7490E-02 | 2.5975E-03 | -4.2260E-03 | | | | |
| 11 | 21.90 | -1.8107E-02 | -1.9416E-02 | 2.5387E-03 | -2.8169E-03 | | | | |
| 12 | 22.95 | 9.9086E-03 | 1.4069E-01 | 4.3523E-04 | -3.7032E-04 | | | | |
| 13 | 23.65 | 1.6443E-02 | 6.3136E-02 | -1.3663E-03 | 2.6576E-03 | | | | |
| 14 | 25.64 | -3.7658E-03 | -4.2175E-02 | 1.6082E-02 | 3.4896E-03 | | | | |
| 15 | 27.27 | -3.7410E-03 | -4.0950E-02 | 4.5852E-02 | 1.3103E-03 | | | | |
| 16 | 30.14 | -7.6457E-03 | -4.0763E-02 | -2.0344E-02 | 6.7806E-04 | | | | |
| 17 | 32.49 | -5.7450E-03 | -3.3862E-02 | 7.1377E-03 | 3.3358E-04 | | | | |
| 18 | 34.29 | 6.1706E-03 | -1.8224E-02 | -1.1246E-03 | -1.1358E-03 | | | | |
| 19 | 35.75 | -3.9788E-03 | -4.9138E-03 | -3.5984E-03 | -4.7008E-03 | | | | |
| 20 | 36.13 | 2.4139E-03 | -5.8090E-03 | -3.0800E-03 | -1.5909E-03 | | | | |
| 21 | 38.94 | 1.2224E-03 | 8.1791E-04 | 1.5450E-02 | 4.9473E-03 | | | | |
| 22 | 43.32 | 2.3594E-03 | -2.5370E-04 | 1.1696E-02 | 6.367 E-03 | | | | |
| 23 | 46.47 | -8.078E-03 | 2.4480E-03 | 5.6199E-03 | 2.5 E-03 | | | | |
| 24 | 47.73 | 2.2260E-04 | -5.9884E-04 | 2.1322E-03 | 9.2 E-04 | | | | |
| 25 | 49.57 | 1.6388E-03 | 3.6241E-06 | -9.2996E-04 | 3.0445E-04 | | | | |
| 26 | 50.54 | -3.8834E-04 | -4.3054E-05 | -5.0768E-05 | -8.2184E-05 | | | | |
| 27 | 53.59 | -5.2832E-03 | -1.2029E-03 | -1.7136E-03 | -5.4703E-04 | | | | |
| 28 | 56.48 | 8.3809E-04 | 2.2668E-03 | -5.5404E-04 | -3.9112E-04 | | | | |
| 29 | 58.59 | -4.5275E-04 | 5.9396E-04 | -1.7313E-03 | -7.6477E-04 | | | | |
| 30 | 65.80 | 1.3107E-04 | 1.1345E-04 | -3.6281E-04 | -7.7115E-05 | | | | |

MULTIPLE SUPPORT RESPONSE SPECTRUM ANALYSIS

M-RX 55E

MULTIPLE SUPPORT RESPONSE SPECTRUM ANALYSIS

M-RX SSE

TABLE OF SELECTED SPECTRA
AND ZPA VALUES FOR HIGH FREQUENCY RESPONSE

| SUPPORT NUMBER | SPECTRUM SELECTED | SCALE FACTOR | ZPA VALUE USED |
|-------------------|----------------------|-----------------|-------------------|
| 1 | 4 | 1.00 | 1.0000 |
| 4 | 1 | 1.00 | 1.7900 |
| 7 | 1 | 1.00 | 1.7900 |
| 10 | 1 | 1.00 | 1.7900 |
| 13 | 3 | 1.00 | 0.9000 |
| 15 | 2 | 1.00 | 1.7400 |
| 18 | 2 | 1.00 | 1.7400 |
| 20 | 2 | 1.00 | 1.7400 |
| 22 | 2 | 1.00 | 1.7400 |
| 24 | 2 | 1.00 | 1.7400 |

MULTIPLE SUPPORT RESPONSE SPECTRUM MODAL REPORT

M-RX SSE

COMBINED NODE DISPLACEMENTS/ROTATIONS
COMBINATION METHOD 6 FOR MODAL SHAPES, MODE # 1 TO 30

LOAD CASE # 1 (FINAL)

| JOINT LABEL | TRANSLATION | | | ROTATION | | |
|-------------|-------------|-------------|-------------|-------------|-------------|-------------|
| | X= | Y= | Z= | X= | Y= | Z= |
| 101. | 3.58755E-08 | 1.80925E-08 | 4.02962E-08 | 1.77276E-07 | 4.30127E-07 | 5.43632E-07 |
| 102. | 7.10915E-04 | 1.41873E-04 | 5.05496E-04 | 5.61256E-05 | 1.10996E-04 | 5.38952E-05 |
| 103. | 6.54831E-04 | 1.35847E-04 | 5.13196E-04 | 5.82600E-05 | 1.15178E-04 | 5.50863E-05 |
| 103.01 | 4.73719E-07 | 4.0403E-08 | 1.79780E-03 | 1.81189E-04 | 7.94071E-04 | 4.64003E-04 |
| 104. | 6.21021E-02 | 5.10E-02 | 1.00069E-01 | 2.3538E-05 | 9.78719E-05 | 8.72219E-04 |
| 109. | 6.88949E-02 | 1.30E-01 | 1.83917E-01 | 1.7078E-04 | 8.4998E-04 | 8.60900E-04 |
| 106. | 6.88949E-02 | 1.30E-01 | 1.83917E-01 | 1.7078E-04 | 8.4998E-04 | 8.60900E-04 |
| 107. | 6.03920E-01 | 4.4E-01 | 2.88780E-01 | 6.6208E-04 | 2.03288E-03 | 1.04999E-03 |
| 108. | 6.03920E-01 | 4.4E-01 | 2.88780E-01 | 6.6208E-04 | 2.03288E-03 | 1.04999E-03 |
| 110. | 6.03920E-01 | 4.4E-01 | 2.88780E-01 | 6.6208E-04 | 2.03288E-03 | 1.04999E-03 |
| 112. | 4.94660E-02 | 2.42671E-02 | 4.33714E-01 | 4.9779E-04 | 2.24883E-03 | 1.21494E-03 |
| 113. | 1.41407E-01 | 7.02212E-02 | 4.59135E-03 | 1.45365E-03 | 2.91253E-03 | 1.30199E-03 |
| 114. | 1.28896E-01 | 7.02723E-02 | 4.88614E-02 | 1.68307E-03 | 3.30782E-03 | 1.38623E-03 |
| 115. | 2.40177E-01 | 1.20653E-01 | 4.84750E-03 | 1.69468E-03 | 3.30782E-03 | 1.39489E-03 |
| 116. | 3.19204E-01 | 1.62689E-01 | 5.22585E-03 | 1.79054E-03 | 3.41837E-03 | 1.45156E-03 |
| 118. | 4.04907E-01 | 2.48672E-01 | 3.11079E-02 | 1.83246E-03 | 3.25185E-03 | 1.54131E-03 |
| 118.01 | 3.64517E-01 | 3.72196E-01 | 8.08178E-02 | 1.53400E-03 | 5.61967E-04 | 1.65145E-03 |
| 119. | 2.33139E-01 | 3.79098E-01 | 3.35397E-01 | 9.08288E-04 | 2.09465E-03 | 1.50769E-03 |
| 121. | 1.64561E-01 | 3.38320E-01 | 4.80887E-01 | 1.56439E-03 | 3.57378E-03 | 1.37368E-03 |
| 123. | 8.94714E-02 | 2.40799E-01 | 5.49617E-01 | 2.02937E-03 | 3.56227E-03 | 1.47408E-03 |
| 124. | 5.74703E-02 | 1.45337E-01 | 5.50693E-01 | 2.46304E-03 | 1.46622E-03 | 1.71590E-03 |
| 125. | 4.51033E-02 | 7.97933E-02 | 5.51397E-01 | 2.25772E-03 | 9.62987E-04 | 1.81448E-03 |
| 129. | 4.82730E-02 | 2.49824E-02 | 5.52545E-01 | 1.80552E-03 | 6.83693E-04 | 1.84116E-03 |
| 131. | 4.96074E-02 | 3.42048E-02 | 5.53133E-01 | 8.62129E-04 | 3.31448E-04 | 1.90519E-03 |
| 132. | 5.63451E-02 | 5.74112E-02 | 5.54039E-01 | 5.13108E-04 | 3.69763E-04 | 1.95294E-03 |
| 127. | 6.74784E-02 | 6.88561E-02 | 5.54203E-01 | 6.47280E-04 | 8.55161E-04 | 2.27646E-03 |
| 134. | 9.32648E-02 | 9.14374E-02 | 5.54411E-01 | 7.32603E-04 | 9.80284E-04 | 2.36404E-03 |
| 135. | 1.14748E-01 | 1.09218E-01 | 5.54452E-01 | 7.91223E-04 | 1.10950E-03 | 2.50591E-03 |
| 136. | 1.32790E-01 | 1.22784E-01 | 5.54462E-01 | 8.02653E-04 | 1.11998E-03 | 2.50591E-03 |
| 137. | 6.57454E-02 | 1.50112E-01 | 5.71336E-01 | 8.04078E-04 | 1.12129E-03 | 2.50591E-03 |
| 138. | 7.57627E-02 | 1.55069E-01 | 5.84441E-01 | 2.15398E-03 | 1.23331E-03 | 2.02945E-03 |
| 140. | 8.39151E-02 | 1.66546E-01 | 5.92887E-01 | 2.06527E-03 | 1.52960E-03 | 2.09657E-03 |
| 140.01 | 9.41273E-02 | 2.21691E-01 | 6.05611E-01 | 1.85657E-03 | 2.29522E-03 | 2.21496E-03 |
| 141. | 8.42844E-02 | 2.75144E-01 | 6.20275E-01 | 1.76738E-03 | 2.67565E-03 | 2.00003E-03 |
| 143. | 8.44028E-02 | 2.77174E-01 | 6.19097E-01 | 2.40325E-03 | 2.47096E-03 | 1.36078E-03 |
| 143.01 | 1.15548E-01 | 2.01472E-01 | 5.67657E-01 | 2.68854E-03 | 2.31871E-03 | 8.89519E-04 |
| 144. | 1.82378E-01 | 9.66005E-02 | 4.74127E-01 | 3.81159E-03 | 2.56422E-03 | 1.22301E-03 |
| 146. | 1.72501E-01 | 1.11259E-01 | 3.44080E-01 | 4.84101E-03 | 2.83008E-03 | 1.80160E-03 |
| 147. | 1.02157E-01 | 1.11144E-01 | 1.17102E-01 | 5.48436E-03 | 2.76488E-03 | 1.96203E-03 |
| 149. | 8.57408E-02 | 1.01239E-01 | 7.30983E-02 | 5.07364E-03 | 2.48870E-03 | 1.84735E-03 |
| 151. | 6.68399E-02 | 7.88760E-02 | 4.35714E-02 | 4.19044E-03 | 2.33641E-03 | 1.56747E-03 |
| | | | | 3.18888E-03 | 1.98565E-03 | 1.27173E-03 |

MULTIPLE SUPPORT RESPONSE SPECTRUM MODAL REPORT

M-RX SSE

MULTIPLE SUPPORT RESPONSE SPECTRUM MODAL REPORT

M-RX SSE

| | | | | | | |
|--------|-------------|-------------|-------------|-------------|-------------|-------------|
| 353. | 5.05795E-02 | 5.65470E-02 | 2.96163E-02 | 2.17956E-03 | 1.53844E-03 | 1.06568E-03 |
| 354. | 8.21282E-03 | 4.90654E-03 | 4.84674E-03 | 4.77107E-04 | 5.89955E-04 | 2.51897E-04 |
| 355. | 1.19183E-03 | 9.92403E-05 | 6.94804E-04 | 2.13887E-05 | 2.29506E-04 | 1.15776E-05 |
| 356. | 5.20368E-09 | 7.22680E-09 | 1.00195E-08 | 6.93714E-07 | 2.11703E-04 | 3.55854E-07 |
| 357. | 1.40019E-03 | 5.40069E-06 | 8.08485E-04 | 6.93724E-07 | 2.11703E-04 | 3.55860E-07 |
| 358. | 6.22597E-02 | 4.84215E-02 | 5.54595E-01 | 3.71342E-04 | 6.91508E-04 | 1.59881E-03 |
| 359. | 7.11982E-02 | 5.82670E-02 | 5.51135E-01 | 3.58383E-04 | 9.44352E-04 | 1.39140E-03 |
| 361. | 7.59704E-02 | 6.84218E-02 | 5.35191E-01 | 6.30201E-04 | 1.91377E-03 | 5.34565E-04 |
| 361.01 | 7.60376E-02 | 7.24748E-02 | 4.54102E-01 | 1.34423E-03 | 2.55159E-03 | 3.32506E-04 |
| 362. | 7.60514E-02 | 5.58846E-02 | 3.57487E-01 | 2.10458E-03 | 2.74508E-03 | 5.94647E-04 |
| 364. | 6.05054E-02 | 4.32972E-02 | 2.64734E-01 | 2.86587E-03 | 2.70041E-03 | 9.58836E-04 |
| 365. | 1.82479E-02 | 4.31165E-02 | 1.41016E-01 | 2.76230E-03 | 2.44190E-03 | 1.00626E-03 |
| 367. | 8.86836E-03 | 4.07519E-02 | 1.10997E-01 | 2.28898E-03 | 2.30702E-03 | 9.72808E-04 |
| 369. | 2.27597E-03 | 3.44688E-02 | 8.19187E-02 | 1.81599E-03 | 1.98089E-03 | 8.93677E-04 |
| 371. | 1.94685E-04 | 2.65984E-02 | 6.07764E-02 | 1.46955E-03 | 1.56356E-03 | 7.46005E-04 |
| 372. | 5.57958E-05 | 2.81869E-03 | 1.00947E-02 | 2.88003E-04 | 6.18857E-04 | 2.33459E-04 |
| 373. | 4.00272E-06 | 6.51802E-05 | 1.46202E-03 | 1.20749E-05 | 2.42782E-04 | 1.16811E-05 |
| 374. | 4.18193E-09 | 5.31253E-09 | 8.00045E-09 | 3.11126E-07 | 2.23996E-04 | 4.03524E-07 |
| 375. | 8.29222E-07 | 3.07732E-06 | 1.71094E-03 | 3.11126E-07 | 2.23998E-04 | 4.03538E-07 |
| 376. | 1.17311E-01 | 1.13069E-01 | 5.67521E-01 | 7.37619E-04 | 1.60834E-03 | 2.99064E-03 |
| 377. | 1.36267E-01 | 1.32213E-01 | 5.75876E-01 | 7.97611E-04 | 1.90655E-03 | 3.12444E-03 |
| 379. | 1.50136E-01 | 1.69754E-01 | 5.85329E-01 | 8.85062E-04 | 2.56016E-03 | 3.24821E-03 |
| 379.01 | 1.50635E-01 | 3.02227E-01 | 6.41954E-01 | 1.82432E-03 | 2.80733E-03 | 2.75368E-03 |
| 380. | 1.51026E-01 | 3.99176E-01 | 6.85853E-01 | 2.90615E-03 | 2.43919E-03 | 1.63217E-03 |
| 382. | 1.51424E-01 | 4.03325E-01 | 6.88551E-01 | 3.26858E-03 | 2.25702E-03 | 7.83841E-04 |
| 382.01 | 1.68184E-01 | 3.02662E-01 | 6.47590E-01 | 4.53988E-03 | 2.62978E-03 | 1.86024E-03 |
| 383. | 2.13040E-01 | 1.59381E-01 | 5.54704E-01 | 5.61543E-03 | 3.00254E-03 | 2.78685E-03 |
| 385. | 1.89877E-01 | 1.56881E-01 | 4.07863E-01 | 6.41443E-03 | 2.90353E-03 | 2.53441E-03 |
| 386. | 1.08204E-01 | 1.56567E-01 | 1.39530E-01 | 6.03898E-03 | 2.65156E-03 | 2.34942E-03 |
| 388. | 9.28524E-02 | 1.43901E-01 | 8.62682E-02 | 5.10458E-03 | 2.51105E-03 | 2.05310E-03 |
| 390. | 7.47050E-02 | 1.14427E-01 | 5.02624E-02 | 4.01039E-03 | 2.17080E-03 | 1.73399E-03 |
| 392. | 5.76182E-02 | 8.35553E-02 | 3.37325E-02 | 2.82074E-03 | 1.72272E-03 | 1.43116E-03 |
| 393. | 9.50667E-03 | 7.62162E-03 | 5.50602E-03 | 6.64937E-04 | 6.78069E-04 | 3.58216E-04 |
| 394. | 1.38078E-03 | 1.56633E-04 | 8.04681E-04 | 3.06512E-05 | 2.65466E-04 | 1.67752E-05 |
| 395. | 6.35589E-09 | 1.10453E-08 | 1.15996E-08 | 1.01706E-06 | 2.44909E-04 | 5.41656E-07 |
| 396. | 1.61983E-03 | 8.37210E-06 | 9.35310E-04 | 1.01708E-06 | 2.44909E-04 | 5.41663E-07 |

MAXIMUM DISPLACEMENT, 6.88551E-01, OCCURED AT JOINT 082.
 MAXIMUM ROTATION, 6.41443E-03, OCCURED AT JOINT 085.

MULTIPLE SUPPORT RESPONSE SPECTRUM MODAL REPORT

M-RX SSE

ULTIPLE SUPPORT RESPONSE SPECTRUM MODAL REPORT

M-RX SSE

COMBINED NODE ACCELERATIONS
COMBINATION METHOD 6 FOR MODAL SH APES, MODE # 1 TO 30

LOAD CASE # 1 (FINAL)

| JOINT LABEL | TRANSLATION (GS) | | | ROTATION (R/SEC**2) | | |
|-------------|------------------|-------------|-------------|---------------------|-------------|-------------|
| | X | Y | Z | X | Y | Z |
| 001. | 4.81571E-07 | 3.50310E-07 | 1.22616E-06 | 9.33396E-04 | 1.21277E-03 | 5.56616E-03 |
| 002. | 8.53309E-03 | 5.47767E-03 | 1.53816E-02 | 3.62544E-01 | 4.81178E-01 | 5.51823E-01 |
| 003. | 1.23108E-02 | 8.06503E-03 | 1.56144E-02 | 3.77155E-01 | 5.00865E-01 | 5.64019E-01 |
| 003.01 | 5.59558E-01 | 4.17493E-01 | 5.30432E-02 | 2.39397E 00 | 3.15655E 00 | 4.75085E 00 |
| 004. | 9.27097E-01 | 7.03883E-01 | 8.93300E-02 | 5.99426E-01 | 8.60244E-01 | 8.93767E 00 |
| 005. | 8.82700E-01 | 6.72275E-01 | 9.60063E-02 | 1.56157E 00 | 2.10697E 00 | 9.73293E 00 |
| 006. | 6.70951E-01 | 5.13516E-01 | 1.03220E-01 | 2.97827E 00 | 3.91779E 00 | 1.07097E 01 |
| 007. | 9.08901E-01 | 5.14338E-01 | 1.68804E-01 | 2.99582E 00 | 3.91719E 00 | 1.07964E 01 |
| 008. | 3.06279E-01 | 2.38051E-01 | 1.09000E-01 | 4.45019E 00 | 5.71580E 00 | 1.12936E 01 |
| 009. | 2.47770E-05 | 1.16296E-05 | 1.15580E-01 | 6.00689E 00 | 7.53558E 00 | 1.19296E 01 |
| 012. | 4.17969E-01 | 3.30533E-01 | 1.22145E-01 | 7.50635E 00 | 9.34509E 00 | 1.26294E 01 |
| 013. | 1.17370E 00 | 9.38282E-01 | 1.27693E-01 | 8.52021E 00 | 1.04499E 01 | 1.33395E 01 |
| 014. | 1.55269E 00 | 9.39760E-01 | 7.10574E-01 | 8.65427E 00 | 1.04499E 01 | 1.38345E 01 |
| 015. | 1.97332E 00 | 1.58676E 00 | 1.30402E-01 | 8.89469E 00 | 1.07878E 01 | 1.28943E 01 |
| 016. | 2.61146E 00 | 2.11802E 00 | 1.34320E-01 | 9.07740E 00 | 1.03456E 01 | 1.24369E 01 |
| 018. | 3.33749E 00 | 2.78555E 00 | 3.78907E-01 | 8.58391E 00 | 4.15798E 00 | 1.17743E 01 |
| 018.01 | 3.18058E 00 | 3.45977E 00 | 1.09524E 00 | 7.57837E 00 | 5.61688E 00 | 1.13662E 01 |
| 019. | 2.46222E 00 | 3.80027E 00 | 2.33992E 00 | 9.20716E 00 | 1.04285E 01 | 1.16293E 01 |
| 021. | 2.26454E 00 | 3.86106E 00 | 3.32706E 00 | 1.04353E 01 | 1.09231E 01 | 1.18814E 01 |
| 023. | 2.06843E 00 | 3.14826E 00 | 3.82434E 00 | 1.16748E 01 | 6.05710E 00 | 1.27265E 01 |
| 024. | 1.76720E 00 | 2.11168E 00 | 3.83332E 00 | 1.08349E 01 | 5.57753E 00 | 1.36086E 01 |
| 025. | 1.58576E 00 | 1.53407E 00 | 3.83937E 00 | 8.92822E 00 | 5.02088E 00 | 1.38196E 01 |
| 029. | 1.69265E 00 | 1.40208E 00 | 3.84923E 00 | 4.84048E 00 | 3.87675E 00 | 1.44346E 01 |
| 031. | 1.72276E 00 | 1.42603E 00 | 3.85427E 00 | 4.37766E 00 | 4.75397E 00 | 1.49379E 01 |
| 032. | 1.84432E 00 | 1.57133E 00 | 3.86171E 00 | 9.10669E 00 | 9.62784E 00 | 1.69646E 01 |
| 027. | 2.14319E 00 | 1.93183E 00 | 3.86302E 00 | 1.02037E 01 | 1.07663E 01 | 1.75543E 01 |
| 034. | 2.83741E 00 | 2.69245E 00 | 3.86462E 00 | 1.10126E 01 | 1.16770E 01 | 1.85198E 01 |
| 035. | 3.41438E 00 | 3.31393E 00 | 3.86499E 00 | 1.11868E 01 | 1.18479E 01 | 1.85198E 01 |
| 036. | 3.90053E 00 | 3.79362E 00 | 3.86507E 00 | 1.12090E 01 | 1.18695E 01 | 1.85198E 01 |
| 037. | 1.79421E 00 | 1.92072E 00 | 3.96120E 00 | 1.13022E 01 | 8.01085E 00 | 1.59740E 01 |
| 038. | 1.89316E 00 | 1.86799E 00 | 4.06819E 00 | 1.17601E 01 | 1.00658E 01 | 1.67403E 01 |
| 040. | 1.97676E 00 | 1.88920E 00 | 4.17434E 00 | 1.27835E 01 | 1.56644E 01 | 1.95413E 01 |
| 040.01 | 1.98732E 00 | 3.06777E 00 | 4.83784E 00 | 1.58809E 01 | 1.67236E 01 | 1.97095E 01 |
| 041. | 1.99511E 00 | 4.75150E 00 | 5.72361E 00 | 2.04355E 01 | 1.30996E 01 | 1.46875E 01 |
| 043. | 1.98159E 00 | 4.88035E 00 | 5.81628E 00 | 2.24285E 01 | 1.28640E 01 | 9.50486E 00 |
| 043.01 | 2.22052E 00 | 3.71779E 00 | 5.66344E 00 | 2.72919E 01 | 1.83403E 01 | 7.94398E 00 |
| 044. | 3.17179E 00 | 2.33293E 00 | 5.64832E 00 | 2.98856E 01 | 1.94796E 01 | 1.21701E 01 |
| 046. | 3.07043E 00 | 2.38945E 00 | 4.36745E 00 | 3.00302E 01 | 1.66015E 01 | 1.44555E 01 |
| 047. | 2.08071E 00 | 2.38240E 00 | 1.45894E 00 | 2.77286E 01 | 1.54944E 01 | 1.40297E 01 |
| 049. | 1.86664E 00 | 2.24066E 00 | 1.09855E 00 | 2.35768E 01 | 1.53701E 01 | 1.17563E 01 |

ULTIPLE SUPPORT RESPONSE SPECTRUM MODAL REPORT

M-RX SSE

ULTIPLE SUPPORT RESPONSE SPECTRUM MODAL REPORT

M-RX SSE

| | | | | | | |
|--------|-------------|-------------|-------------|-------------|-------------|-------------|
| 051. | 1.56865E 00 | 1.88100E 00 | 8.94244E-01 | 1.94416E 01 | 1.48356E 01 | 9.55922E 00 |
| 053. | 1.25060E 00 | 1.45192E 00 | 7.20809E-01 | 1.52979E 01 | 1.33538E 01 | 7.81142E 00 |
| 054. | 2.21695E-01 | 1.57247E-01 | 1.27748E-01 | 4.54519E 00 | 5.87789E 00 | 2.38490E 00 |
| 055. | 3.22515E-02 | 3.75787E-03 | 1.86076E-02 | 2.26694E-01 | 2.37061E 00 | 1.20194E-01 |
| 056. | 2.29504E-07 | 3.24683E-07 | 1.77709E-07 | 7.75087E-03 | 2.18850E 00 | 4.15827E-03 |
| 057. | 3.75148E-02 | 1.71466E-04 | 2.16615E-02 | 7.75134E-03 | 2.18875E 00 | 4.15854E-03 |
| 058. | 1.89853E 00 | 1.50970E 00 | 3.88332E 00 | 4.21451E 00 | 9.33101E 00 | 1.37105E 01 |
| 059. | 2.05361E 00 | 1.65369E 00 | 3.88389E 00 | 4.57084E 00 | 1.21044E 01 | 1.27441E 01 |
| 061. | 2.15290E 00 | 1.83867E 00 | 3.87783E 00 | 4.62562E 00 | 1.87150E 01 | 9.16304E 00 |
| 061.01 | 2.15736E 00 | 2.12029E 00 | 4.54768E 00 | 8.93789E 00 | 2.05473E 01 | 8.01387E 00 |
| 062. | 2.15868E 00 | 2.11964E 00 | 5.78196E 00 | 1.43827E 01 | 1.63618E 01 | 7.52287E 00 |
| 064. | 1.77880E 00 | 2.03709E 00 | 5.10376E 00 | 2.31660E 01 | 7.80562E 00 | 1.07315E 01 |
| 065. | 6.17382E-01 | 2.02743E 00 | 2.49150E 00 | 2.25674E 01 | 8.28940E 00 | 1.15495E 01 |
| 067. | 3.30947E-01 | 1.96489E 00 | 1.92406E 00 | 1.91371E 01 | 8.85525E 00 | 1.25813E 01 |
| 069. | 9.31049E-02 | 1.74893E 00 | 1.44854E 00 | 1.61863E 01 | 8.91065E 00 | 1.36407E 01 |
| 071. | 8.31893E-03 | 1.40769E 00 | 1.12136E 00 | 1.36235E 01 | 9.19382E 00 | 1.36254E 01 |
| 072. | 2.09816E-03 | 1.64862E-01 | 2.13934E-01 | 2.66993E 00 | 4.78214E 00 | 5.02129E 00 |
| 073. | 1.32379E-04 | 4.08380E-03 | 3.12280E-02 | 1.11940E-01 | 1.97774E 00 | 2.60865E-01 |
| 074. | 1.23966E-07 | 3.62011E-07 | 2.32437E-07 | 2.88429E-03 | 1.82677E 00 | 9.07847E-03 |
| 075. | 1.23971E-07 | 1.79333E-04 | 3.61520E-02 | 2.88429E-03 | 1.82684E 00 | 9.07917E-03 |
| 076. | 3.16445E 00 | 2.85845E 00 | 4.03453E 00 | 1.09788E 01 | 1.21994E 01 | 2.17198E 01 |
| 077. | 3.43910E 00 | 3.05922E 00 | 4.18829E 00 | 1.15073E 01 | 1.32666E 01 | 2.24461E 01 |
| 079. | 3.63916E 00 | 3.52212E 00 | 4.43255E 00 | 1.24092E 01 | 1.72392E 01 | 2.29155E 01 |
| 079.01 | 3.65199E 00 | 5.52860E 00 | 5.45559E 00 | 1.63837E 01 | 1.77020E 01 | 2.02378E 01 |
| 080. | 3.66144E 00 | 7.17446E 00 | 6.41797E 00 | 2.17317E 01 | 1.44431E 01 | 1.34484E 01 |
| 082. | 3.64555E 00 | 7.23684E 00 | 6.47971E 00 | 2.38577E 01 | 1.61968E 01 | 8.89646E 00 |
| 082.01 | 3.76838E 00 | 5.49488E 00 | 6.15454E 00 | 2.96684E 01 | 2.39805E 01 | 1.35708E 01 |
| 083. | 4.69538E 00 | 3.25190E 00 | 6.52294E 00 | 3.29935E 01 | 2.45997E 01 | 1.94778E 01 |
| 085. | 4.28768E 00 | 3.05865E 00 | 5.19909E 00 | 3.51025E 01 | 1.96674E 01 | 2.07627E 01 |
| 086. | 2.49411E 00 | 3.04948E 00 | 1.69760E 00 | 3.31795E 01 | 1.77442E 01 | 2.02172E 01 |
| 088. | 2.12959E 00 | 2.85395E 00 | 1.23001E 00 | 2.89159E 01 | 1.74589E 01 | 1.75440E 01 |
| 090. | 1.73168E 00 | 2.36452E 00 | 9.79852E-01 | 2.44874E 01 | 1.65811E 01 | 1.44950E 01 |
| 092. | 1.36396E 00 | 1.79477E 00 | 7.84459E-01 | 1.90601E 01 | 1.46735E 01 | 1.15721E 01 |
| 093. | 2.40147E-01 | 1.83501E-01 | 1.37964E-01 | 5.38395E 00 | 6.38363E 00 | 3.10227E 00 |
| 094. | 3.49017E-02 | 4.16154E-03 | 2.01104E-02 | 2.63449E-01 | 2.56647E 00 | 1.49890E-01 |
| 095. | 2.51865E-07 | 3.34018E-07 | 1.82381E-07 | 8.98797E-03 | 2.36915E 00 | 5.06107E-03 |
| 096. | 4.06081E-02 | 2.00588E-04 | 2.34476E-02 | 8.98835E-03 | 2.36937E 00 | 5.06127E-03 |

MAXIMUM TRANSLATIONAL ACCEL., 7.23684E 00, OCCURED AT JOINT 082.
 MAXIMUM ROTATIONAL ACCEL., 3.51025E 01, OCCURED AT JOINT 085.

ULTIPLE SUPPORT RESPONSE SPECTRUM MODAL REPORT

M-RX SSE

COMBINED NODE DISPLACEMENTS/ROTATIONS
COMBINATION METHOD 6 FOR MODAL SHAPES, MODE # 1 TO 30

LOAD CASE # 1 (FINAL)

| JOINT LABEL | X-TRANSLATION | Y-TRANSLATION | Z-TRANSLATION | X-ROTATION | Y-ROTATION | Z-ROTATION |
|-------------|---------------|---------------|---------------|--------------|--------------|--------------|
| 001. | 9.16476E-05 | -2.81278E-05 | 0. | 1.17122E 18 | 1.17122E 18 | 1.17122E 18 |
| 002. | 1.15271E-02 | -1.04473E-05 | 0. | 0. | 2.52785E-01 | 1.17122E 18 |
| 003. | -5.18340E-03 | 1.07470E-04 | -4.32352E-05 | 0. | 1.17122E 18 | 1.17122E 18 |
| 003.01 | 4.65993E-02 | 3.02040E-02 | 1.53552E-04 | 0. | 0. | 2.52785E-01 |
| 004. | -1.53744E 04 | -1.76810E-03 | 3.10715E-05 | -9.21466E-05 | 0. | 1.17122E 18 |
| 005. | 8.59796E 04 | 1.99716E-01 | 1.95821E-01 | 2.13065E-04 | 4.78894E-01 | 4.62006E-01 |
| 006. | 1.17122E 18 | 1.17122E 18 | 1.17122E 18 | 4.68756E-02 | 2.23517E-08 | 9.18892E 02 |
| 007. | 2.52785E-01 | 1.17122E 18 | 2.23517E-07 | 1.19209E-07 | 1.43410E-01 | 4.58434E 03 |
| 008. | 5.12012E 00 | 5.18460E 02 | -6.92252E 02 | 2.21918E-04 | -1.79208E-06 | 2.95384E-06 |
| 009. | 0. | 0. | 3.70520E-01 | 3.68124E-01 | 2.52785E-01 | 1.17122E 18 |
| 012. | 1.17122E 18 | 4.68756E-02 | 7.45058E-09 | 2.28054E 03 | 7.64472E 02 | 4.00963E 05 |
| 013. | 1.17122E 18 | 1.17122E 18 | 4.68756E-02 | 7.45058E-09 | 1.64332E 00 | 1.29818E 00 |
| 014. | 6.94071E-02 | 7.39655E-02 | 2.00869E-04 | 6.34738E-01 | 8.50216E-01 | 2.52785E-01 |
| 015. | 0. | 0. | 0. | 0. | 0. | 0. |
| 016. | 1.17122E 18 | 4.68756E-02 | 2.23517E-08 | 1.51199E 00 | -7.90701E 00 | 7.02843E 02 |
| 018. | -3.00619E 02 | 9.65019E-05 | -7.79502E-07 | 1.28458E-06 | 0. | 1.17122E 18 |
| 018.01 | 2.52785E-01 | 1.17122E 18 | 2.23517E-07 | 5.96046E-08 | 2.05080E-01 | 0. |
| 019. | 7.45058E-09 | 4.50750E 03 | 1.01599E 04 | 4.97793E 05 | 1.99716E-01 | 1.95821E-01 |
| 021. | 5.32351E-04 | 1.72496E-04 | 2.05393E-01 | 1.17122E 18 | 1.17122E 18 | 1.17122E 18 |
| 023. | 2.16067E-07 | 1.34110E-07 | 1.43410E-01 | 1.88867E 01 | 1.56261E 03 | -3.57145E 02 |
| 024. | 1.17122E 18 | 4.68756E-02 | 1.49012E-08 | -2.65689E-01 | 1.50384E-01 | -3.75546E 02 |
| 025. | 1.17122E 18 | 2.16067E-07 | 1.34110E-07 | 1.43410E-01 | 1.28115E-01 | 2.54222E 00 |
| 029. | 1.17122E 18 | 1.17122E 18 | 4.68756E-02 | 7.45058E-09 | -2.37831E 01 | 6.46955E 01 |
| 031. | -1.16583E 03 | 2.92979E-03 | 8.72418E-04 | -1.97146E-06 | 0. | 0. |
| 032. | -4.67132E 02 | 1.88165E 03 | -4.51074E-04 | 8.53732E-06 | -3.59381E-06 | 0. |
| 027. | 7.45058E-09 | 1.52381E-01 | -3.66633E-01 | 2.25069E 02 | 3.66315E-05 | -2.34281E-05 |
| 034. | 1.65265E-07 | 0. | 0. | 1.39504E-01 | 1.17122E 18 | 2.16067E-07 |
| 035. | 1.17122E 18 | 1.17122E 18 | 1.17122E 18 | 4.68756E-02 | 2.23517E-08 | -1.37799E 02 |
| 036. | 1.39504E-01 | 1.17122E 18 | 2.16067E-07 | 1.56462E-07 | 1.43410E-01 | 1.38491E 01 |
| 037. | 1.27813E-02 | 6.50637E-05 | 1.65208E-01 | 1.73771E-01 | 1.39504E-01 | 1.17122E 18 |
| 038. | 1.19209E-07 | 1.43410E-01 | 2.85782E 03 | 2.60682E 05 | 1.62276E 05 | 2.65072E-02 |
| 040. | -9.21466E-05 | 0. | 1.17122E 18 | 1.17122E 18 | 1.17122E 18 | 4.68756E-02 |
| 040.01 | -9.31003E 01 | -4.12954E-05 | 2.02612E-05 | -2.38421E-07 | 0. | 0. |
| 041. | 1.17122E 18 | 2.23517E-07 | 5.96046E-08 | 1.43410E-01 | 2.22844E 00 | 2.25571E 02 |
| 043. | -1.13547E-05 | 1.16347E-07 | -1.63780E-07 | 0. | 1.17122E 18 | 1.17122E 18 |
| 043.01 | 2.52785E-01 | 1.17122E 18 | 2.30968E-07 | 1.68945E-02 | 0. | 0. |
| 044. | 9.85196E 04 | 1.32031E-02 | 2.41726E-04 | 1.35654E-04 | 1.84763E-01 | 1.17122E 18 |
| 046. | 5.59108E-03 | 3.36489E-05 | 7.24813E-05 | 2.32461E-01 | 1.17122E 18 | 1.17122E 18 |
| 047. | -2.85664E 00 | -2.54406E 00 | -1.34830E 02 | -5.98049E-05 | 2.93428E-05 | -3.45287E-07 |
| 049. | 1.73771E-01 | 2.52785E-01 | 1.17122E 18 | 2.23517E-07 | 1.34110E-07 | 1.43410E-01 |
| 051. | 1.33732E 05 | 2.28866E 05 | 2.65072E-02 | 5.22351E-04 | 1.72496E-04 | 2.05393E-01 |

ULTIPLE SUPPORT RESPONSE SPECTRUM MODAL REPORT

M-RX SSE

MULTIPLE SUPPORT RESPONSE SPECTRUM MODAL REPORT

M-RX SSE

| | | | | | | |
|--------|--------------|--------------|--------------|--------------|--------------|--------------|
| 053. | 1.17122E 18 | 1.17122E 18 | 4.68756E-02 | 7.45058E-09 | 1.75490E 03 | 8.65268E 03 |
| 054. | 1.17122E 18 | 2.23517E-07 | 0. | 1.43410E-01 | -5.14772E 00 | 1.49158E 04 |
| 055. | 1.17122E 18 | 4.68756E-02 | 9.68575E-08 | -1.24651E 02 | 2.01779E 02 | -5.96393E 03 |
| 056. | 2.23517E-07 | 0. | 1.43410E-01 | -4.15113E 02 | -2.91361E 04 | 1.42674E 04 |
| 057. | 4.68756E-02 | 5.21541E-08 | 1.21996E 02 | -1.08553E 02 | 7.43028E 03 | 2.40213E-03 |
| 058. | 7.37263E-01 | 1.56442E-07 | -3.59588E-09 | 3.29963E-09 | 0. | 1.17122E 18 |
| 059. | -5.98049E-05 | 2.93426E-05 | -3.45287E-07 | 0. | 0. | 1.39504E-01 |
| 061. | 2.21918E-04 | -1.79208E-06 | 2.95384E-06 | 0. | 1.17122E 18 | 1.17122E 18 |
| 061.01 | 4.68756E-02 | 2.23517E-08 | 9.69931E 02 | 1.05482E 03 | 9.65699E 04 | 1.31605E-02 |
| 062. | 2.13065E-04 | 4.78894E-01 | 4.62006E-01 | 1.39504E-01 | 1.17122E 18 | 2.16067E-07 |
| 064. | 1.43410E-01 | 5.62230E 02 | 5.28365E 04 | -1.09550E 04 | -1.76810E-03 | 3.10715E-05 |
| 065. | 1.17122E 18 | 1.17122E 18 | 4.68756E-02 | 1.49012E-08 | -1.97251E 00 | -2.44718E 00 |
| 067. | -4.97694E-05 | 5.46230E-05 | -3.47898E-07 | 0. | 0. | 2.52785E-01 |
| 069. | 2.08987E-01 | 3.72529E-08 | 1.43410E-01 | -7.35383E-01 | -2.09332E 01 | 5.14472E 01 |
| 071. | 8.64813E 01 | 3.66315E-05 | -2.34281E-05 | 1.65265E-07 | 0. | 0. |
| 072. | 1.17122E 18 | 2.23517E-07 | 2.98023E-08 | 1.43410E-01 | 2.25485E 03 | 1.05612E 05 |
| 073. | 2.23517E-07 | 2.23517E-08 | 1.43410E-01 | 6.27127E 02 | 3.40342E 04 | 3.85357E 04 |
| 074. | 0. | 1.17122E 18 | 1.17122E 18 | 1.17122E 18 | 4.68756E-02 | 1.49012E-08 |
| 075. | 8.51997E 02 | 9.49699E 04 | 1.31605E-02 | 1.27813E-02 | 6.50637E-05 | 1.65208E-01 |
| 076. | 3.72529E-08 | 1.43410E-01 | -1.42361E 00 | -7.36920E 01 | 3.56380E 01 | -1.13547E-05 |
| 077. | 1.16347E-07 | -1.63780E-07 | 0. | 1.17122E 18 | 1.17122E 18 | 1.17122E 18 |
| 079. | 4.68756E-02 | 2.23517E-08 | 2.40431E 00 | -1.06878E 01 | 6.29885E 02 | -4.97694E-05 |
| 079.01 | 5.46230E-05 | -3.47898E-07 | 0. | 0. | 1.39504E-01 | 1.17122E 18 |
| 080. | 2.16067E-07 | 5.96046E-08 | 1.43410E-01 | 8.21469E 00 | 6.79613E 02 | -1.54910E 02 |
| 082. | 9.65019E-05 | -7.79502E-07 | 1.28458E-06 | 0. | 1.17122E 18 | 1.17122E 18 |
| 082.01 | 1.17122E 18 | 4.68756E-02 | 1.49012E-08 | -1.83459E-01 | 1.03841E-01 | -2.59315E 02 |
| 083. | -4.12954E-05 | 2.02612E-05 | -2.38421E-07 | 0. | 0. | 1.39504E-01 |
| 085. | 1.17122E 18 | 2.16067E-07 | 5.96046E-08 | 1.43410E-01 | 1.05405E 02 | 2.27785E 03 |
| 086. | 6.76109E 02 | 1.27173E-04 | -3.29377E-06 | 2.78223E-06 | 0. | 1.17122E 18 |
| 088. | 1.17122E 18 | 1.17122E 18 | 4.68756E-02 | 7.45058E-09 | 4.04950E 03 | 1.02300E 03 |
| 090. | 1.07656E 06 | 0. | 0. | 0. | 2.61537E 00 | 2.66208E 00 |
| 092. | 1.39504E-01 | 1.17122E 18 | 2.16067E-07 | 2.53836E 03 | 0. | 0. |
| 093. | 0. | 0. | 0. | 4.93438E 02 | 0. | 0. |
| 094. | 2.03127E-01 | 0. | 1.43410E-01 | 4.18377E 03 | 2.33430E 05 | 3.24221E 05 |
| 095. | 2.53735E-02 | 4.37115E-04 | 2.84447E-04 | 1.19926E 00 | 1.17122E 18 | 1.17122E 18 |
| 096. | 1.17122E 18 | 4.68756E-02 | 2.23517E-08 | 8.75282E 03 | 5.65082E 03 | 5.79454E 05 |

MAXIMUM DISPLACEMENT, 1.17122E 18, OCCURED AT JOINT 096.
 MAXIMUM ROTATION, 1.17122E 18, OCCURED AT JOINT 095.

MULTIPLE SUPPORT RESPONSE SPECTRUM MODAL REPORT

M-RX SSE

MULTIPLE SUPPORT RESPONSE SPECTRUM MODAL REPORT

M-RX SSE

COMBINED NODE ACCELERATIONS
COMBINATION METHOD 6 FOR MODAL SHAPES, MODE # 1 TO 30

LOAD CASE # 1 (FINAL)

| JOINT LABEL | TRANSLATION (G) | | | ROTATION (R/SEC**2) | | |
|-------------|-----------------|--------------|--------------|---------------------|--------------|--------------|
| | X | Y | Z | X | Y | Z |
| 001. | 5.51536E-04 | 3.47436E-10 | 3.71520E-04 | 1.23024E-01 | 2.12474E 00 | 6.66582E-01 |
| 002. | 3.03425E 15 | 1.21439E-04 | 1.93020E-11 | -3.83160E 01 | 5.35980E 01 | -4.14219E 02 |
| 003. | 3.03425E 15 | 5.79061E-10 | 4.05342E-10 | 1.43410E-01 | 2.62871E 01 | 3.59736E 02 |
| 003.01 | 3.03425E 15 | 3.03425E 15 | 1.21439E-04 | 2.23517E-08 | -1.68521E 02 | 2.44624E 02 |
| 004. | 6.54883E-04 | 3.03425E 15 | 5.79061E-10 | 1.56462E-07 | 1.43410E-01 | -7.90196E 01 |
| 005. | 3.03425E 15 | 3.03425E 15 | 3.03425E 15 | 4.68756E-02 | 3.72529E-08 | 1.88879E 02 |
| 006. | 1.11948E 00 | -4.73696E 01 | 1.95723E 02 | 2.98050E-01 | 3.69667E-03 | 1.16899E-03 |
| 007. | -5.76046E-01 | 4.00984E 01 | 1.07639E-05 | 1.43389E-02 | 1.79119E-05 | 0. |
| 008. | 0. | 0. | 6.95362E-04 | 1.17122E 18 | 2.30968E-07 | 0. |
| 009. | 7.72081E-11 | -1.09807E 00 | 1.93020E-11 | 6.10049E 03 | -3.27639E 02 | 9.25512E 05 |
| 012. | 8.67691E 02 | 6.57344E-05 | 1.13242E-06 | 2.84447E-04 | 1.19926E 00 | 1.17122E 18 |
| 013. | -4.06793E 02 | 5.64001E 02 | 0. | 0. | 0. | 3.04755E 00 |
| 014. | 3.03425E 15 | 3.03425E 15 | 1.21439E-04 | 2.23517E-08 | 9.20681E 03 | 3.92490E 03 |
| 015. | 3.24694E-03 | 6.54883E-04 | 3.03425E 15 | 2.23517E-07 | 0. | 1.43410E-01 |
| 016. | 4.75909E-02 | 3.75790E-02 | 2.50325E 00 | 4.09272E-04 | -2.61738E-04 | 1.84560E-06 |
| 018. | 0. | 0. | 5.46476E-04 | 8.19564E-08 | 1.43410E-01 | -2.70691E 01 |
| 018.01 | 6.76584E-01 | -8.73518E 00 | 2.98113E-05 | 2.79382E-03 | -6.23577E 01 | -8.74453E 02 |
| 019. | 4.78034E 01 | 1.07639E-05 | 3.71475E-05 | 1.79119E-05 | 0. | 0. |
| 021. | 5.36356E-04 | 1.93020E-11 | 3.71520E-04 | 3.22016E 03 | 4.80063E 05 | 3.88745E 05 |
| 023. | -2.59780E-03 | 3.55270E-03 | 6.22541E-06 | 0. | 0. | 2.52785E-01 |
| 024. | 1.01308E 03 | 7.75501E-04 | 9.53067E-06 | 1.18182E-03 | 0. | 1.17122E 18 |
| 025. | -2.21862E 03 | -3.11772E-03 | 2.80780E-03 | 1.95218E-03 | 0. | 0. |
| 029. | -1.85966E 02 | 1.80831E 01 | 4.41677E-05 | -8.50209E-05 | 1.93450E-04 | 0. |
| 031. | 3.03425E 15 | 3.03425E 15 | 3.03425E 15 | 4.68756E-02 | 1.49012E-08 | -2.55169E 02 |
| 032. | 0. | 6.54883E-04 | 3.03425E 15 | 2.23517E-07 | 2.23517E-08 | 1.43410E-01 |
| 027. | 0. | 0. | 7.89522E-03 | 1.17122E 18 | 1.17122E 18 | 1.17122E 18 |
| 034. | 1.21439E-04 | 9.65101E-11 | 1.59268E 01 | 4.94051E 03 | 4.39963E 05 | 2.80431E-02 |
| 035. | 4.08125E 00 | 2.02476E 02 | 3.08203E 02 | 1.43284E-02 | 2.90103E-04 | 8.90032E-05 |
| 036. | 1.89885E 01 | 4.11206E 02 | -8.51763E-05 | -1.81668E-02 | 2.69772E-05 | 0. |
| 037. | 3.03425E 15 | 1.21439E-04 | 3.86040E-11 | -9.16517E 03 | 2.35002E 04 | -1.18197E 06 |
| 038. | 0. | 0. | 0. | 0. | 0. | 0. |
| 040. | 3.03425E 15 | 3.03425E 15 | 1.21439E-04 | 3.72529E-08 | 1.48954E 02 | -2.65314E 02 |
| 040.01 | 3.03425E 15 | 3.03425E 15 | 3.03425E 15 | 4.68756E-02 | 7.45058E-09 | -1.85174E 02 |
| 041. | 0. | 0. | 0. | 0. | 0. | 0. |
| 043. | 3.38445E-03 | 3.03425E 15 | 3.03425E 15 | 0. | 0. | 0. |
| 043.01 | 9.11521E 00 | 1.13224E 03 | 7.26506E-05 | 1.17122E 18 | 4.68756E-02 | 7.45058E-09 |
| 044. | 6.54883E-04 | 3.03425E 15 | 5.79061E-10 | 2.78064E-02 | 4.72868E-04 | 1.47645E 00 |
| 046. | 3.03425E 15 | 5.79061E-10 | 0. | 0. | 1.43410E-01 | 5.23182E 03 |
| 047. | 3.06171E-06 | 0. | 3.03425E 15 | 1.43410E-01 | 5.62847E 0. | 2.69414E 05 |
| 049. | -2.39905E 00 | 1.55522E-01 | -2.50381E 02 | 1.17122E 18 | 1.17122E 18 | 4.68756E-02 |
| | | | | -1.00275E 00 | 1.37134E 00 | 2.40301E-03 |

MULTIPLE SUPPORT RESPONSE SPECTRUM MODAL REPORT

M-RX SSE

MULTIPLE SUPPORT RESPONSE SPECTRUM MODAL REPORT

M-RX SSE

| | | | | | | |
|--------|--------------|--------------|--------------|--------------|--------------|--------------|
| 051. | 0. | 6.54883E-04 | 3.03425E 15 | 2.23517E-07 | 7.45058E-09 | 1.43410E-01 |
| 053. | -4.93278E 00 | 6.25259E 00 | -1.30395E-06 | 9.99584E-06 | -5.88483E-06 | 0. |
| 054. | -1.78340E 01 | 2.47916E-05 | 8.20782E-06 | 1.40423E-05 | 0. | 0. |
| 055. | 5.16607E 00 | -1.16859E-06 | 2.21174E-08 | -3.59381E-06 | 0. | 1.17122E 18 |
| 056. | 7.59013E-06 | 2.26015E-06 | -5.10740E-09 | 0. | 0. | 2.52785E-01 |
| 057. | 4.05291E-10 | -9.31575E-12 | 8.54827E-12 | 0. | 1.17122E 18 | 1.17122E 18 |
| 058. | 6.54883E-04 | 3.03425E 15 | 5.79061E-10 | 1.49012E-08 | 1.43410E-01 | 3.66832E 02 |
| 059. | 3.03425E 15 | 3.03425E 15 | 1.21439E-04 | 2.98023E-08 | -9.85652E 03 | 2.44236E 04 |
| 061. | 3.03425E 15 | 5.79061E-10 | 0. | 1.43410E-01 | 3.31175E 03 | 4.90931E 05 |
| 061.01 | 7.72152E-04 | 9.57687E-06 | 3.02848E-06 | 0. | 1.17122E 18 | 1.17122E 18 |
| 062. | 3.61408E-04 | 3.03425E 15 | 5.79061E-10 | 0. | 0. | 0. |
| 064. | 7.22189E 00 | -1.30395E-06 | 2.58960E-08 | -5.88483E-06 | 0. | 1.17122E 18 |
| 065. | -1.99622E 00 | 4.90608E 00 | -1.08280E-06 | 4.28267E-06 | -6.02865E-06 | 0. |
| 067. | 0. | 0. | 6.54883E-04 | 1.17122E 18 | 2.30968E-07 | 0. |
| 069. | 1.65462E 01 | 9.35938E 02 | 9.34771E 02 | 4.33261E-02 | 6.79121E-04 | 3.54975E-04 |
| 071. | 3.03425E 15 | 3.03425E 15 | 3.03425E 15 | 4.68756E-02 | 3.72529E-08 | 5.96669E 03 |
| 072. | 1.28399E 03 | 1.25502E-04 | 1.28160E-04 | 6.22482E-04 | 1.27888E 00 | 1.12923E 00 |
| 073. | 0. | 0. | 0. | 2.61537E 00 | 2.66208E 00 | 2.52785E-01 |
| 074. | 3.71528E-04 | 1.12002E 00 | -4.79013E 01 | 7.52895E 04 | 2.99343E-01 | 3.67884E-03 |
| 075. | 0. | 3.03425E 15 | 3.03425E 15 | 1.17122E 18 | 4.68756E-02 | 1.49012E-08 |
| 076. | 7.20373E-05 | 1.22505E-06 | 3.82500E-03 | 1.25332E 00 | 1.39504E-01 | 1.17122E 18 |
| 077. | 5.59755E-10 | 0. | 3.71528E-04 | 4.42091E 03 | 3.12806E 05 | 3.44240E 05 |
| 079. | 1.12244E-04 | 1.75938E-06 | 9.19625E-07 | 1.30640E 00 | 1.17122E 18 | 1.17122E 18 |
| 079.01 | 3.03425E 15 | 1.21439E-04 | 1.93020E-11 | 1.71110E 00 | -4.09721E 00 | 2.51482E 03 |
| 080. | 1.06029E-06 | -6.78077E-07 | 4.78134E-09 | 0. | 0. | 1.39504E-01 |
| 082. | 3.03425E 15 | 5.59759E-10 | 2.12322E-10 | 1.43410E-01 | -5.24026E 01 | -2.71257E 03 |
| 082.01 | 3.39850E 00 | -1.08280E-06 | 1.10950E-08 | -6.02865E-06 | 0. | 1.17122E 18 |
| 083. | 3.03425E 15 | 3.03425E 15 | 1.21439E-04 | 7.45058E-09 | -1.32582E 02 | 3.57542E 02 |
| 085. | -1.53914E 01 | 2.98113E-05 | 7.23787E-06 | -8.27471E-06 | 0. | 0. |
| 086. | 3.61408E-04 | 3.03425E 15 | 5.59759E-10 | 0. | 1.43410E-01 | -3.00503E 02 |
| 088. | 3.63294E 00 | 9.57363E 01 | -1.16718E-05 | 9.16476E-05 | -2.81278E-05 | 0. |
| 090. | 3.03425E 15 | 3.03425E 15 | 3.03425E 15 | 4.68756E-02 | 5.21541E-08 | 8.59646E 01 |
| 092. | -3.87884E-01 | 2.66651E 01 | 6.22313E-06 | 1.15271E-02 | -1.04473E-05 | 0. |
| 093. | 0. | 3.61408E-04 | 3.03425E 15 | 2.16067E-07 | 0. | 1.43410E-01 |
| 094. | -1.12171E 00 | -8.24327E 01 | 3.86199E 01 | -5.18340E-03 | 1.07470E-04 | -4.32352E-05 |
| 095. | 0. | 3.03425E 15 | 3.03425E 15 | 1.17122E 18 | 4.68756E-02 | 9.68575E-08 |
| 096. | 1.55807E-01 | -9.73878E-01 | -4.61879E 01 | 4.65993E-02 | 3.02040E-02 | 1.53552E-04 |

MAXIMUM TRANSLATIONAL ACCEL., 3.03425E 15, OCCURED AT JOINT 095.
 MAXIMUM ROTATIONAL ACCEL., 1.17122E 18, OCCURED AT JOINT 095.

MULTIPLE SUPPORT RESPONSE SPECTRUM MODAL REPORT

M-RX SSE

1341T 01 07-22-92 18.169 P15Y506 FEEDWATER LINE A
MULTIPLE SUPPORT RESPONSE SPECTRUM STRESS REPORT

PAGE 460
M-RX 55E

1341T 01 07-22-92 18.169 P15Y506 FEEDWATER LINE A
MULTIPLE SUPPORT RESPONSE SPECTRUM STRESS REPORT

PAGE 460
M-RX 55E

MULTIPLE SUPPORT RESPONSE SPECTRUM STRESS REPORT

M-RX SSE

RESPONSE SPECTRUM ANALYSIS --- STRESS REPORT PISYS PAGE 1
 ELEMENT TYPE 1 --- 3-D STRAIGHT OR CURVED PIPE ELEMENTS

COMBINED ELEMENT FORCES AND MOMENTS
 COMBINED METHOD 6 MODE 1 TO MODE 30 --- INTERMEDIATE

| ELEM NO | LOAD CASE | END | AXIAL FORCE | Y-AXIS SHEAR | Z-AXIS SHEAR | TORSION MOMENT | Y-AXIS MOMENT | Z-AXIS MOMENT |
|---------|-----------|-----|-------------|--------------|--------------|----------------|---------------|---------------|
| 1T | 1 001. | | 40296.223 | 18092.461 | 35635.498 | 543632.198 | 430127.061 | 177276.480 |
| | 002. | | 40296.223 | 18092.461 | 35635.498 | 543632.198 | 2565731.685 | 1305636.357 |
| 2T | 1 002. | | 40284.457 | 18094.772 | 35440.189 | 543632.198 | 2565731.685 | 1305636.357 |
| | 003. | | 40284.457 | 18094.772 | 35440.189 | 543632.198 | 2412474.047 | 1227275.951 |
| 3T | 1 003. | | 40273.774 | 18090.615 | 35354.394 | 543632.198 | 2412474.047 | 1227275.951 |
| | 003.01 | | 40273.774 | 18090.615 | 35354.394 | 543632.198 | 205679.653 | 11284.747 |
| 4T | 1 003.01 | | 40218.309 | 17238.255 | 34292.048 | 543632.198 | 205679.653 | 11284.747 |
| | 004. | | 40218.309 | 17238.255 | 34292.048 | 543632.198 | 2740104.128 | 1386323.476 |
| 5T | 1 004. | | 40162.674 | 16366.319 | 33195.389 | 543632.198 | 2740104.128 | 1386323.476 |
| | 005. | | 40162.674 | 16366.319 | 33195.389 | 543632.198 | 3206261.734 | 1615963.175 |
| 6T | 1 005. | | 40152.103 | 16220.452 | 33010.750 | 543632.198 | 3206261.734 | 1615963.175 |
| | 006. | | 40152.103 | 16220.452 | 33010.750 | 543632.198 | 4146492.238 | 2077618.435 |
| 7T | 1 006. | | 4268.395 | 1403.401 | 7592.976 | 0.000 | 116582.561 | 21547.823 |
| | 007. | | 4268.395 | 1403.401 | 7592.976 | 0.000 | 0.000 | 0.000 |
| 8T | 1 006. | | 39915.533 | 13294.138 | 29117.661 | 485414.536 | 4146492.238 | 2067091.246 |
| | 008. | | 39915.533 | 13294.138 | 29117.661 | 485414.536 | 4956723.602 | 2435462.460 |
| 9T | 1 008. | | 39901.579 | 13239.823 | 29042.508 | 485414.536 | 4956723.602 | 2435462.460 |
| | 009. | | 39901.579 | 13239.823 | 29042.508 | 485414.536 | 5457367.675 | 2662685.113 |
| 10T | 1 009. | | 39873.902 | 30055.859 | 78996.299 | 485414.536 | 5457367.675 | 2662685.113 |
| | 012. | | 39873.902 | 30055.859 | 78996.299 | 485414.536 | 4050429.239 | 2127759.587 |
| 11T | 1 012. | | 39857.734 | 29951.288 | 78857.327 | 485414.536 | 4050429.239 | 2127759.587 |
| | 013. | | 39857.734 | 29951.288 | 78857.327 | 485414.536 | 1825566.603 | 1281454.230 |
| 12T | 1 013. | | 8720.873 | 6593.942 | 14409.092 | 0.000 | 433411.062 | 198339.168 |
| | 014. | | 8720.873 | 6593.942 | 14409.092 | 0.000 | 0.000 | 0.000 |

MULTIPLE SUPPORT RESPONSE SPECTRUM STRESS REPORT

M-RX SSE

| MULTIPLE | | SUPPORT | RESPONSE | SPECTRUM | STRESS | REPORT | M-RX SSE |
|----------|----------------|------------------------|------------------------|------------------------|--------------------------|--------------------------|----------------------------|
| 13T | 1 013. | 40787.567 | 22685.252 | 69923.386 | 537077.855 | 1825566.603 | 1131758.641 |
| | 015. | 40787.567 | 22685.252 | 69923.386 | 537077.855 | 299172.487 | 506655.414 |
| 14I | 1 015. | 40769.376 | 22128.322 | 69132.136 | 537077.855 | 299172.487 | 506655.414 |
| | 016. | 40769.376 | 22128.322 | 69132.136 | 537077.855 | 1754530.253 | 201413.839 |
| 15B | 1 016. | 40713.654 | 66091.145 | 20037.135 | 537078.586 | 201411.785 | 1754530.253 |
| | CENTER 018. | 68657.324 77234.686 | 36194.196 7814.892 | 20037.135 20037.135 | 599365.100 739702.257 | 362185.778 554280.500 | 2992286.084 3375514.756 |
| 16T | 1 018. | 70459.361 | 14102.295 | 10179.457 | 739683.106 | 3375514.756 | 554305.625 |
| | 018.61 | 70459.361 | 14102.295 | 10179.457 | 739683.106 | 2515116.548 | 1854739.417 |
| 17T | 1 018.01 | 61646.737 | 5986.924 | 13201.928 | 739683.090 | 2515116.548 | 1854739.423 |
| | 019. | 61646.737 | 5986.924 | 13201.928 | 739683.090 | 1433652.160 | 2034234.353 |
| 18T | 1 019. | 55329.685 | 23849.820 | 60803.282 | 740164.279 | 1433652.160 | 2034060.070 |
| | 021. | 55329.685 | 23849.820 | 60803.282 | 740164.279 | 1448100.654 | 1030628.974 |
| 19B | 1 021. | 51971.562 | 56239.679 | 28557.794 | 739973.520 | 1030766.118 | 1448100.654 |
| | CENTER 023. | 72864.342 73491.181 | 23323.551 21405.513 | 28557.794 28557.794 | 407220.507 415707.142 | 643522.150 231752.306 | 2353784.280 2376453.049 |
| 20T | 1 023. | 67299.923 | 32264.892 | 22177.340 | 415706.732 | 2376453.049 | 231753.257 |
| | 024. | 67299.923 | 32264.892 | 22177.340 | 415706.732 | 1699455.848 | 1309980.294 |
| 21T | 1 024. | 55040.846 | 36219.802 | 25871.163 | 346045.951 | 1477623.559 | 1299006.831 |
| | 025. | 55040.846 | 36219.802 | 25871.163 | 346045.951 | 1151229.796 | 2406846.890 |
| 22T | 1 025. | 46905.293 | 14139.285 | 9555.453 | 346045.951 | 1151229.796 | 2406846.890 |
| | 029. | 46905.293 | 14139.285 | 9555.453 | 346045.951 | 888257.778 | 1667671.811 |
| 23T | 1 029. | 38899.795 | 13428.404 | 7779.364 | 346045.951 | 888257.778 | 1667671.811 |
| | 031. | 38899.795 | 13428.404 | 7779.364 | 346045.951 | 849143.253 | 1246151.460 |
| 24T | 1 031. | 28759.150 | 14128.888 | 8331.319 | 501482.326 | 1003646.195 | 1103256.919 |
| | 032. | 28759.150 | 14128.888 | 8331.319 | 501482.326 | 961130.092 | 701127.503 |
| 25T | 1 032. | 21449.666 | 17145.545 | 16082.594 | 501482.326 | 961130.092 | 701127.503 |
| | 027. | 21449.666 | 17145.545 | 16082.594 | 501482.326 | 792747.688 | 479617.399 |
| 26T | 1 027. | 17517.974 | 14167.581 | 18633.007 | 501482.326 | 792747.688 | 479617.399 |
| | 034. | 17517.974 | 14167.581 | 18633.007 | 501482.326 | 558749.676 | 198201.363 |
| 27T | 1 034. | 4316.524 | 3860.851 | 3965.011 | 0.000 | 116630.546 | 113711.719 |
| | 035. | 4316.524 | 3860.851 | 3965.011 | 0.000 | 23161.491 | 22518.926 |
| 28T | 1 035. | 1294.991 | 1271.035 | 1307.303 | 0.000 | 23161.491 | 22518.926 |
| | 036. | 1294.991 | 1271.035 | 1307.303 | 0.000 | 0.000 | 0.000 |

MULTIPLE SUPPORT RESPONSE SPECTRUM STRESS REPORT M-RX SSE

MULTIPLE SUPPORT RESPONSE SPECTRUM STRESS REPORT

M-RX 55E

RESPONSE SPECTRUM ANALYSIS --- STRESS REPORT
 ELEMENT TYPE 1 --- 3-D STRAIGHT OR CURVED PIPE ELEMENTS PISYS PAGE 2

COMBINED ELEMENT FORCES AND MOMENTS
 COMBINED METHOD 6 MODE 1 TO MODE 30 --- INTERMEDIATE

| ELEM NO | LOAD CASE | END | AXIAL FORCE | Y-AXIS SHEAR | Z-AXIS SHEAR | TORSION MOMENT | Y-AXIS MOMENT | Z-AXIS MOMENT |
|---------|--------------------------|-----|----------------------------------|----------------------------------|----------------------------------|----------------------------------------|----------------------------------------|----------------------------------------|
| 29T | 1 024. 037. | | 5096.689 5096.689 | 6792.778 6792.778 | 9589.943 9589.943 | 400951.654 400951.654 | 396784.032 231495.589 | 299255.253 192275.164 |
| 30T | 1 037. 038. | | 4911.616 4911.616 | 6561.804 6561.804 | 9003.096 9003.096 | 400951.590 400951.590 | 231495.701 178886.005 | 192275.164 154811.341 |
| 31B | 1 038. CENTEP 046 | | 4768.998 5586.228 6312.484 | 6320.072 5635.323 4834.121 | 8518.284 8518.284 8518.284 | 400931.046 353948.149 286171.873 | 178921.291 221224.528 264198.850 | 154811.341 142891.877 134918.777 |
| 32T | 1 040. 040.01 | | 5640.078 5640.078 | 4528.874 4528.874 | 7401.242 7401.242 | 286301.011 286301.011 | 264059.066 190443.950 | 134918.777 202861.725 |
| 33T | 1 040.01 041. | | 4685.822 4685.822 | 2899.064 2899.064 | 5125.300 5125.300 | 286201.011 286301.011 | 190443.950 343814.639 | 202861.725 303563.370 |
| 34B | 1 041. CENTER 043. | | 4162.112 4465.451 4656.129 | 3476.408 2979.791 2711.070 | 1423.837 1423.837 1423.837 | 286322.725 246005.241 217065.528 | 303547.128 333380.853 357259.806 | 343814.639 354995.757 364198.312 |
| 35T | 1 043. 043.01 | | 3702.797 3702.797 | 1590.677 1590.677 | 2145.671 2145.671 | 217076.666 217076.666 | 364198.312 338494.315 | 357251.390 286032.197 |
| 36T | 1 043.01 044. | | 3767.812 3767.812 | 4274.478 4274.478 | 4316.817 4316.817 | 217076.667 217076.667 | 338494.315 124539.925 | 286032.196 166665.569 |
| 37B | 1 044. CENTER 046. | | 4849.368 5416.040 5156.891 | 5157.776 4688.741 4850.307 | 6561.676 6561.676 6561.676 | 217076.971 143629.540 99674.161 | 124539.925 144658.885 119640.932 | 166665.147 172047.122 145780.878 |
| 38T | 1 046. 047. | | 5817.772 5817.772 | 9349.188 9349.188 | 3667.832 3667.832 | 99692.901 99692.901 | 92440.646 107221.012 | 162230.786 352380.686 |
| 39B | 1 047. CENTER 049. | | 6377.275 6086.833 6458.900 | 8490.266 8508.268 8240.497 | 6334.221 6334.221 6334.221 | 99640.376 86778.168 109766.548 | 217560.621 248818.091 266146.852 | 296454.935 334970.754 370116.138 |

MULTIPLE SUPPORT RESPONSE SPECTRUM STRESS REPORT

M-RX 55E

MULTIPLE SUPPORT RESPONSE SPECTRUM STRESS REPORT

M-RX SSE

RESPONSE SPECTRUM ANALYSIS --- STRESS REPORT
 ELEMENT TYPE 1 --- 3-C STRAIGHT OR CURVED PIPE ELEMENTS PISYS PAGE 3

COMBINED ELEMENT FORCES AND MOMENTS
 COMBINED METHOD 6 MODE 1 TO MODE 30 --- INTERMEDIATE

| ELEM NO | LOAD CASE | END | AXIAL FORCE | Y-AXIS SHEAR | Z-AXIS SHEAR | TORSION MOMENT | Y-AXIS MOMENT | Z-AXIS MOMENT |
|---------|--------------------------|-----|----------------------------------|----------------------------------|----------------------------------|----------------------------------------|----------------------------------------|----------------------------------------|
| 40B | 1 049. CENTER 051. | | 6511.069 7155.367 7809.484 | 8401.323 7932.506 7325.524 | 6495.957 6495.957 6495.957 | 109722.954 161652.897 220415.660 | 266223.977 268362.702 254620.107 | 370073.686 400718.867 424735.293 |
| 41B | 1 051. CENTER 053. | | 7797.361 8293.821 8562.320 | 7511.895 7153.757 6776.257 | 6625.083 6625.083 6625.083 | 220159.998 276017.670 13578.071 | 254741.544 227010.113 188780.249 | 424794.684 441804.762 450126.210 |
| 42T | 1 053. 054. | | 8583.822 8583.822 | 7169.964 7169.964 | 6903.305 6903.305 | 323483.508 323483.508 | 188892.568 466127.927 | 450146.145 584828.505 |
| 43T | 1 054. 055. | | 8625.557 8625.557 | 7225.718 7225.718 | 6988.203 6988.203 | 323478.047 323478.047 | 466127.927 591011.722 | 584831.460 675226.989 |
| 44T | 1 055. 056. | | 8672.484 8672.484 | 7226.807 7226.807 | 7060.111 7060.111 | 323503.114 323503.114 | 591011.722 632996.595 | 675215.147 707797.119 |
| 45T | 1 056. 057. | | 44.975 44.975 | 0.009 0.009 | 79.958 79.958 | 0.000 0.000 | 610.670 0.000 | 0.066 0.000 |
| 46T | 1 031. 058. | | 2840.430 2840.430 | 3372.480 3372.480 | 4237.725 4237.725 | 159408.771 159408.771 | 372994.452 351596.622 | 274650.278 264372.381 |
| 47T | 1 058. 059. | | 2795.707 2795.707 | 3021.063 3021.063 | 4055.910 4055.910 | 159408.680 159408.680 | 351596.663 339500.138 | 264372.381 264562.860 |
| 48B | 1 059. CENTER 061. | | 2774.813 3119.437 3240.134 | 2716.294 2317.138 2158.032 | 3994.968 3994.968 3994.968 | 159357.250 127350.877 196297.648 | 339524.479 341635.821 293060.957 | 264562.860 262114.613 253834.854 |
| 49T | 1 061. 061.01 | | 2609.871 2609.871 | 2295.847 2295.847 | 4065.771 4065.771 | 196144.875 196144.875 | 293164.357 196379.746 | 253834.854 177924.858 |
| 50T | 1 061.01 062. | | 1996.803 1996.803 | 2776.214 2776.214 | 4134.600 4134.600 | 196144.875 196144.875 | 196379.746 129002.687 | 177924.858 99509.793 |

MULTIPLE SUPPORT RESPONSE SPECTRUM STRESS REPORT

M-RX SSE

U L T I P L E S U P P O R T R E S P O N S E S P E C T R U M S T R E S S R E P O R T M-RX 55E

| | | | | | | | |
|-----|--------------------------|-----------------------------------|-----------------------------------|----------------------------------|----------------------------------------|----------------------------------------|----------------------------------------|
| 51B | 1 062. CENTER 064. | 1966.743 3303.115 3336.545 | 3337.618 2025.606 1968.620 | 5011.409 5011.409 5011.409 | 196144.875 142978.190 130166.791 | 129002.687 152401.954 105940.771 | 99509.793 80401.749 63675.900 |
| 52T | 1 064. 065. | 3962.905 3962.905 | 6556.351 6556.351 | 2271.426 2271.426 | 130166.044 130166.044 | 63675.900 56511.807 | 105941.912 173627.954 |
| 53B | 1 065. CENTER 067. | 4476.591 4496.637 4287.130 | 2380.191 2390.157 2807.706 | 7238.549 7238.549 7238.549 | 130152.303 131010.105 147830.530 | 173638.266 208050.679 231361.534 | 56511.807 63753.091 68916.339 |
| 54B | 1 067. CENTER 069. | 4445.249 4010.192 3433.867 | 2948.811 3521.739 4048.771 | 7444.848 7444.848 7444.848 | 147827.516 181101.011 224190.286 | 231363.458 241732.899 237371.759 | 60916.339 72768.314 77633.251 |
| 55B | 1 069. CENTER 071. | 3542.211 2916.488 2511.690 | 4215.619 4642.892 4860.155 | 7600.749 7600.749 7600.749 | 223983.046 269437.595 311191.098 | 237567.142 219208.399 188100.005 | 77633.251 85419.369 96113.403 |
| 56T | 1 071. 072. | 2783.741 2783.741 | 5252.132 5252.132 | 7917.229 7917.229 | 311126.188 311126.188 | 188207.457 481367.012 | 96113.403 278664.121 |
| 57T | 1 072. 073. | 3267.916 3267.916 | 5311.331 5311.331 | 7992.750 7992.750 | 311126.188 311126.188 | 481367.012 622202.186 | 278664.121 372006.315 |
| 58T | 1 073. 074. | 3747.959 3747.959 | 5312.536 5312.536 | 8001.924 8001.924 | 311126.188 311126.188 | 622202.186 669737.365 | 372006.315 403523.695 |
| 59T | 1 074. 075. | 89.950 89.950 | 0.009 0.009 | 1.817 1.817 | 0.000 0.000 | 13.876 0.000 | 0.070 0.000 |
| 60T | 1 034. 076. | 8712.937 8712.937 | 12371.542 12371.542 | 10289.598 10289.598 | 395563.884 395563.884 | 442116.876 270513.637 | 501482.326 270233.185 |
| 61T | 1 076. 077. | 8051.135 8051.135 | 11938.601 11938.601 | 9683.828 9683.828 | 395563.818 395563.818 | 270513.734 204874.402 | 270233.185 173549.602 |
| 62B | 1 077. CENTER 079. | 7518.549 9495.976 11229.212 | 11475.580 9931.324 8019.469 | 9179.586 9179.586 9179.586 | 395540.379 345395.719 282214.429 | 204920.460 247382.342 281576.191 | 173549.602 142250.774 136561.620 |
| 63T | 1 079. 079.01 | 9929.958 9929.958 | 6824.437 6824.437 | 8015.536 8015.536 | 282325.968 282325.968 | 281457.238 265246.293 | 136561.620 325883.171 |
| 64T | 1 079.01 080. | 8055.674 8055.674 | 3779.294 3779.294 | 5533.742 5533.742 | 282325.968 282325.968 | 265246.293 421466.779 | 325883.171 477821.122 |
| 65B | 1 080. CENTER | 6991.093 7352.679 | 3818.037 3148.300 | 1630.984 1630.984 | 282360.209 234708.257 | 477806.262 503233.434 | 421466.779 431244.774 |

U L T I P L E S U P P O R T R E S P O N S E S P E C T R U M S T R E S S R E P O R T M-RX 55E

U L T I P L E S U P P O R T R E S P O N S E S P E C T R U M S T R E S S R E P O R T M-RX SSE

| | | | | | | | |
|-----|--------------------------|----------------------------------|-------------------------------------|----------------------------------|----------------------------------------|----------------------------------------|----------------------------------------|
| | 082. | 7297.706 | 3404.625 | 1630.964 | 249891.719 | 507583.122 | 438760.058 |
| 66T | 1 088. 082.01 | 5877.783 5877.783 | 2743.068 2743.068 | 2820.028 2890.028 | 249868.849 249868.849 | 438760.058 383074.002 | 507591.317 375958.415 |
| 67T | 1 082.01 083. | 4941.177 4941.177 | 6846.218 6846.218 | 5021.324 5021.324 | 249868.846 249868.846 | 383074.002 150965.137 | 375958.416 218258.638 |
| 68B | 1 083. CENTER 085. | 5894.375 8448.641 8229.185 | 8231.867 5589.397 5898.072 | 7384.876 7384.876 7384.876 | 249869.228 153027.357 117039.197 | 150965.137 189911.217 151124.400 | 218258.194 258270.736 235523.767 |
| 69T | 1 085. 086. | 9191.605 9191.805 | 10820.008 10820.008 | 4588.730 4588.730 | 117010.035 117010.035 | 158212.038 117351.034 | 232506.462 403226.786 |
| 70B | 1 086. CENTER 088. | 9956.598 9130.478 8657.465 | 9701.470 10459.654 11043.750 | 7701.548 7701.548 7701.548 | 116971.319 114525.595 145219.670 | 242019.521 268528.410 281922.295 | 341010.065 383627.800 423824.517 |
| 71B | 1 089. CENTER 090. | 8774.598 8517.472 8611.793 | 11259.974 11567.638 11469.729 | 7906.155 7906.155 7906.155 | 145178.011 194073.882 252760.853 | 282016.557 280714.869 264465.928 | 423775.819 461003.552 498365.753 |
| 72B | 1 090. CENTER 092. | 8609.675 8998.130 9791.570 | 11707.493 11238.883 10480.412 | 8068.139 8068.139 8068.139 | 252502.236 306282.866 352804.552 | 264596.099 236624.131 200365.835 | 498426.488 531960.730 558158.875 |
| 73T | 1 092. 093. | 9809.640 9809.640 | 10977.616 10977.616 | 8410.050 8410.050 | 352714.339 352714.339 | 200446.849 529171.115 | 558184.320 867104.368 |
| 74T | 1 093. 094. | 9846.919 9846.919 | 11044.094 11044.094 | 8504.442 8504.442 | 352708.450 352708.450 | 529171.115 681132.940 | 867106.895 1038076.920 |
| 75T | 1 094. 095. | 9888.376 9888.376 | 11045.340 11045.340 | 8565.634 8565.634 | 352734.738 352734.738 | 681132.940 732276.121 | 1038067.170 1097420.359 |
| 76T | 1 095. 096. | 44.975 44.975 | 0.010 0.010 | 80.013 80.013 | 0.000 0.000 | 611.092 0.000 | 0.077 0.000 |

M A X I M U M A N D / O R M I N I M U M V A L U E S
C O R R E S P O N D I N G E L E M / L O A D - C A S E

| | | | | | | |
|--------------|---------------|---------------|---------------|----------------|-----------------|-------------|
| MAXIMUM TANG | 70- 59.361 | 36219.802 | 78996.299 | 740164.281 | 5457367.688 | 2662685.125 |
| MINIMUM | 16- 44.975 | 21- 0.009 | 10- 1.817 | 18- 0.000 | 9- 0.000 | 9- 0.000 |
| MAXIMUM BEND | 45- 77234.686 | 45- 66091.145 | 59- 28557.794 | 59- 739973.520 | 76- 3375514.756 | |

U L T I P L E S U P P O R T R E S P O N S E S P E C T R U M S T R E S S R E P O R T M-RX SSE

ULT: PLE SUPPORT RESPONSE SPECTRUM STRESS REPORT

M-RX SSE

| | | | | | | |
|---------|----------------------------|----------------------------|----------------------------|-----------------------------|------------------------------|-----------------------------|
| MINIMUM | 15- 1 1966.743 51- 1 | 15- 1 1968.620 51- 1 | 19- 1 1423.837 34- 1 | 19- 1 86778.168 39- 1 | 19- 1 105940.771 51- 1 | 15- 1 56511.807 53- 1 |
|---------|----------------------------|----------------------------|----------------------------|-----------------------------|------------------------------|-----------------------------|

MULTIPLE SUPPORT RESPONSE SPECTRUM STRESS REPORT

M-RX SSE

RESPONSE SPECTRUM ANALYSIS --- STRESS REPORT
 ELEMENT TYPE 2 --- RESTRAINT ELEMENT

P15Y5 PAGE 4

 COMBINED ELEMENT FORCES AND MOMENTS
 COMBINED METHOD 6 MODE 1 TO MODE 30 --- INTERMEDIATE

| ELEM NO | LOAD CASE | RESTRAINT TYPE | PIPE JOINT | STRUCT. POINT | RESTRAINT FORCE | RESTRAINT MOMENT |
|---------|-----------|----------------|------------|---------------|-----------------|------------------|
| 1 | 1 | ANCHOR | 001. | ANC X | 3.588E 04 | 1.773E 05 |
| 2 | 1 | ANCHOR | 001. | ANC Y | 1.869E 04 | 4.301E 05 |
| 3 | 1 | ANCHOR | 001. | ANC Z | 4.030E 04 | 5.436E 05 |
| 4 | 1 | ANCHOR | 056. | RPUN1X | 5.204E 03 | 6.937E 05 |
| 5 | 1 | ANCHOR | 056. | RPUN1Y | 7.227E 03 | 6.330E 05 |
| 6 | 1 | ANCHOR | 056. | RPUN1Z | 1.002E 04 | 3.559E 05 |
| 7 | 1 | ANCHOR | 074. | RPUN2X | 4.182E 03 | 3.111E 05 |
| 8 | 1 | ANCHOR | 074. | RPUN2Y | 5.313E 03 | 6.697E 05 |
| 9 | 1 | ANCHOR | 074. | RPUN2Z | 8.000E 03 | 4.035E 05 |
| 10 | 1 | ANCHOR | 095. | RPUN3X | 6.356E 03 | 1.017E 06 |
| 11 | 1 | ANCHOR | 095. | RPUN3Y | 1.105E 04 | 7.323E 05 |
| 12 | 1 | ANCHOR | 095. | RPUN3Z | 1.160E 04 | 5.417E 05 |
| 13 | 1 | GLOBAL GUIDE | 009. | GUIDEX | 1.077E 05 | 0. |
| 14 | 1 | GLOBAL GUIDE | 009. | GUIDEY | 4.298E 04 | 0. |
| 15 | 1 | SNUBBER | 019. | A5003 | 5.979E 04 | 0. |
| 16 | 1 | SNUBBER | 025. | A5005 | 2.967E 04 | 0. |
| 17 | 1 | SNUBBER | 025. | A5004 | 5.229E 04 | 0. |
| 18 | 1 | SNUBBER | 027. | A5007 | 2.573E 04 | 0. |

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MULTIPLE SUPPORT RESPONSE SPECTRUM STRESS REPORT

M-RX 55E

19 1 SNUBBER 032. A5006 3.147E 04 0.

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MULTIPLE SUPPORT RESPONSE SPECTRUM STRESS REPORT

M-RX 55E

UNIT 01 07-22-92 18.169 P I S Y S 0 6 FEEDWATER LINE A
I S E Z FILE GENERATION REPORT

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M-RX 55E

PISEZ FILE UPDATE HAS STARTED.
ANALYSIS CASE LABEL "M-RX 55E"
ANALYSIS CASE SEQUENCE NUMBER 13 (PISEZ)
IS BEING ADDED.

PISEZ FILE UPDATE IS COMPLETE.

UNIT 01 07-22-92 18.169 P I S Y S 0 6 FEEDWATER LINE A
I S E Z FILE GENERATION REPORT

PAGE 470

M-RX 55E

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PISYS MASTER CONTROL INFORMATION

RUN LABEL = FEEDWATER LINE A

MODEL DATE = 11/91

PROJECT TITLE =

PROJECT NUMBER =

JOB TITLE =

JOB NUMBER =

RUN NUMBER =

ANALYSIS CASE 14 OF 16

DEBUG PARAMETER = 0

PUNCH PARAMETER = 0

DATA CHECK FLAG = 0

PISEZ GENERATION = T

LOAD LABEL = M-RY SSE

A MULTIPLE SUPPORT EXCITATION RESPONSE SPECTRUM ANALYSIS WAS SELECTED.

| | | |
|----------------------------|---|---|
| COMBINATION METHOD, MC, | = | 6 |
| DISPLACEMENT OUTPUT OPTION | = | 5 |
| STRESS OUTPUT OPTION | = | 0 |
| NUMBER OF SPECTRUM CASES | = | 1 |
| INTERPOLATION INDICATOR | = | 1 |

*** WORKING FILES RESTARTED FROM TAPE # 12529 ***

MULTIPLE SUPPORT RESPONSE SPECTRUM INPUT

M-RY SSE

CONTROL INFORMATION

NUMBER OF SPECTRA = 4

MAXIMUM NUMBER OF SPECTRUM
TABLE ENTRIES (PAIRS) = 19

METHOD OF COMBINATION = 6

EQ. 1, METHOD I
EQ. 2, METHOD II
EQ. 3, METHOD III
EQ. 4, METHOD IV
EQ. 5, METHOD V
EQ. 6, METHOD VI, (METHOD I + H/F)NUMBER OF SPECTRUM
ANALYSIS LOAD CASES = 1OUTPUT TYPE FLAG (NPRINT) = 5
EQ.0, PRINT COMB. RESULTS (DISP. ,
ACCEL., STRESSES)EQ.1, PRINT MODAL RESULTS AND
COMB. RESULTSEQ.2, PRINT = 1,
SAVE MODAL & COMB. RESULTS
ON TAPE 10EQ.3, PRINT = 0
SAVE = 2

EQ.4, RESULTS WITH 3 PEAK SHIFTS

EQ.5, RESULTS WITHOUT PEAK SHIFT

EQ.6, HI FREQ. RESP. USES MAX ZPA

EQ.N, RESULTS WITH (2*N-9) SHIFTS

OUTPUT FLAG NPRINT VALUE OF 4 OR MORE IS A
SUBSET OF COMBINATION METHOD VI AND CANNOT
BE USED WITH ANY OTHER COMBINATION OPTION
- REFER TO USER'S MANUAL FOR DETAILS

FLAG FOR ELEMENT STRESS OUTPUT = 0

.EQ. 1 ELEMENT ORIENTED MODAL FORCES & MOMENTS
.EQ. 2 MODEL ORIENTED MODAL FORCES & MOMENTS

FLAG FOR SPECTRUM INTERPOLATION= 1

.EQ. 0 LINER INTERPOLATION
.EQ. 1 LOGARITHMIC INTERPOLATION

M-RY SSE

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MULTIPLE SUPPORT RESPONSE SPECTRUM INPUT

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H-RY SSE

34IT 01 07-22-92 18.169 P1SYS06 FEEDWATER LINE A
MULTIPLE SUPPORT RESPONSE SPECTRUM INPUT

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H-RY SSE

34IT 01 07-22-92 18.169 P15Y506 FEEDWATER LINE A
MULTIPLE SUPPORT RESPONSE SPECTRUM INPUT

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M-RY SSE

SPECTRAL RESPONSE LOAD CASE DEFINITION

SHOCK DIRECTION OF APPLICATION (GLOBAL)
NO. -X- -Y- -Z-

1 0 1 0

34IT 01 07-22-92 18.169 P15Y506 FEEDWATER LINE A
MULTIPLE SUPPORT RESPONSE SPECTRUM INPUT

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M-RY SSE

MULTIPLE SUPPORT RESPONSE SPECTRUM INPUT

M-RY SSE

SPECTRUM TABLES

SPECTRUM TABLE NUMBER = 1
 NUMBER OF ENTRIES = 18
 SPECTRUM TYPE = PER000/ ACC
 SCALE FACTOR = 386.0
 DAMPING COEFFICIENT = 2.000E-02
 DESCRIPTION = NOZ N36

SPECTRAL PERIOD / DISPLACEMENT-OR-ACCELERATION

| | |
|--------------|------------|
| 1.0000E-05 / | 4.000E-01 |
| 2.9700E-02 / | 4.000E-01 |
| 3.1870E-02 / | 5.5000E-01 |
| 3.3380E-02 / | 6.3000E-01 |
| 3.4960E-02 / | 7.6000E-01 |
| 3.6620E-02 / | 1.1300E 00 |
| 3.8360E-02 / | 1.5200E 00 |
| 4.0180E-02 / | 2.2000E 00 |
| 4.2090E-02 / | 3.2300E 00 |
| 6.0990E-02 / | 3.2300E 00 |
| 6.3880E-02 / | 2.5800E 00 |
| 6.6910E-02 / | 2.2400E 00 |
| 7.0090E-02 / | 1.7100E 00 |
| 7.3410E-02 / | 1.4900E 00 |
| 7.6900E-02 / | 1.3200E 00 |
| 1.0155E-01 / | 1.3200E 00 |
| 1.0640E-01 / | 1.3900E 00 |
| 1.4000E-01 / | 1.3900E 00 |

SPECTRUM TABLE NUMBER = 2
 NUMBER OF ENTRIES = 15
 SPECTRUM TYPE = PER000/ ACC
 SCALE FACTOR = 386.0
 DAMPING COEFFICIENT = 2.000E-02
 DESCRIPTION = DEP55 N80

SPECTRAL PERIOD / DISPLACEMENT-OR-ACCELERATION

| | |
|--------------|------------|
| 1.0000E-05 / | 5.5000E-01 |
| 2.9700E-02 / | 5.5000E-01 |
| 3.1870E-02 / | 5.7000E-01 |
| 3.3380E-02 / | 5.9000E-01 |
| 3.4960E-02 / | 6.9000E-01 |
| 3.6620E-02 / | 9.7000E-01 |
| 3.8360E-02 / | 1.1500E 00 |

M-RY SSE

M U L T I P L E S U P P O R T R E S P O N S E S P E C T R U M I N P U T

M-RY SSE

| | |
|--------------|------------|
| 4.0180E-02 / | 1.7400E 00 |
| 4.2090E-02 / | 2.4000E 00 |
| 6.0990E-02 / | 2.4000E 00 |
| 6.3880E-02 / | 2.0900E 00 |
| 6.6910E-02 / | 2.1900E 00 |
| 9.6960E-02 / | 2.1900E 00 |
| 1.0155E-01 / | 2.4500E 00 |
| 1.4000E-01 / | 2.4500E 00 |

SPECTRUM TABLE NUMBER = 3
 NUMBER OF ENTRIES = 14
 SPECTRUM TYPE = PER000/ ACC
 SCALE FACTOR = 386.0
 DAMPING COEFFICIENT = 3.000E-02
 DESCRIPTION = GD N82 92

SPECTRAL PERIOD / DISPLACEMENT-OR-ACCELERATION

| | |
|--------------|------------|
| 1.0000E-05 / | 5.2000E-01 |
| 2.9700E-02 / | 5.2000E-01 |
| 3.3380E-02 / | 5.2000E-01 |
| 3.4960E-02 / | 6.0000E-01 |
| 3.6620E-02 / | 6.0000E-01 |
| 3.8360E-02 / | 9.8000E-01 |
| 4.0180E-02 / | 1.4500E 00 |
| 4.2090E-02 / | 1.9900E 00 |
| 6.0990E-02 / | 1.9900E 00 |
| 6.3880E-02 / | 1.7700E 00 |
| 6.6910E-02 / | 1.9500E 00 |
| 9.6960E-02 / | 1.9500E 00 |
| 1.0155E-01 / | 2.1800E 00 |
| 1.4000E-01 / | 2.1800E 00 |

SPECTRUM TABLE NUMBER = 4
 NUMBER OF ENTRIES = 19
 SPECTRUM TYPE = PER000/ ACC
 SCALE FACTOR = 386.0
 DAMPING COEFFICIENT = 3.000E-02
 DESCRIPTION = PENET N91

SPECTRAL PERIOD / DISPLACEMENT-OR-ACCELERATION

| | |
|--------------|------------|
| 1.0000E-05 / | 5.6000E-01 |
| 2.9700E-02 / | 5.6000E-01 |
| 3.6620E-02 / | 5.6000E-01 |
| 3.8360E-02 / | 6.0000E-01 |
| 4.0180E-02 / | 6.6000E-01 |
| 4.2090E-02 / | 6.6000E-01 |
| 4.4090E-02 / | 7.1000E-01 |

M U L T I P L E S U P P O R T R E S P O N S E S P E C T R U M I N P U T

M-RY SSE

1341T 01 07-22-92 18.169 P15Y506 FEEDWATER LINE A
 MULTIPLE SUPPORT RESPONSE SPECTRUM INPUT
 4.6180E-02 / 8.2000E-01
 4.8370E-02 / 8.6000E-01
 5.0660E-02 / 9.0000E-01
 5.3070E-02 / 1.2400E 00
 5.5590E-02 / 1.3400E 00
 5.8220E-02 / 1.6800E 00
 6.0990E-02 / 1.8670E 00
 6.3860E-02 / 2.1000E 00
 6.6910E-02 / 2.2000E 00
 7.0960E-02 / 2.2000E 00
 1.0155E-01 / 2.4500E 00
 1.4000E-01 / 2.4500E 00

SUPPORT EXCITATION INPUT INFORMATION

| RESTRAINT LABEL | X TRANSLATION | Y TRANSLATION | Z TRANSLATION | MULTIPLIERS | SPECTRUM NUMBER |
|-----------------|---------------|---------------|---------------|-------------|-----------------|
| RPUN1 | 0. | 0. | 0. | 1.00000E 00 | 1 |
| RPUN2 | 0. | 0. | 0. | 1.00000E 00 | 1 |
| RPUN3 | 0. | 0. | 0. | 1.00000E 00 | 1 |
| AS003 | 0. | 0. | 0. | 1.00000E 00 | 2 |
| AS005 | 0. | 0. | 0. | 1.00000E 00 | 2 |
| AS004 | 0. | 0. | 0. | 1.00000E 00 | 2 |
| AS007 | 0. | 0. | 0. | 1.00000E 00 | 2 |
| AS006 | 0. | 0. | 0. | 1.00000E 00 | 2 |
| GUIDE | 0. | 0. | 0. | 1.00000E 00 | 2 |
| ANC | 0. | 0. | 0. | 1.00000E 00 | 2 |

1341T 01 07-22-92 18.169 P15Y506 FEEDWATER LINE A
 MULTIPLE SUPPORT RESPONSE SPECTRUM INPUT

MULTIPLE SUPPORT RESPONSE SPECTRUM ANALYSIS

M-RY SSE

PREVIOUSLY SAVED PARTICIPATION FACTORS HAVE BEEN SUCCESSFULLY RETRIEVED FROM FILE CODE 23 MODAL PARTICIPATION FACTORS

| MODE NUMBER | FREQUENCY (HERTZ) | SUPPORT NUMBER AND FACTORS | | | | | | | | | |
|-------------|-------------------|----------------------------|--------------|----|--------------|----|--------------|----|--------------|----|--------------|
| 1 | 8.126 | 1 | -2.47121E 00 | 2 | -8.33189E-01 | 3 | 2.83760E 00 | 4 | 2.11920E-01 | 5 | 3.90609E-02 |
| | | 6 | 4.66300E-01 | 7 | -7.28889E-02 | 8 | 4.17094E-02 | 9 | 4.60421E-01 | 10 | -2.15295E-01 |
| | | 11 | 7.93844E-02 | 12 | 5.74998E-01 | 13 | 7.56524E 00 | 14 | 2.14310E 00 | 15 | -1.74536E 00 |
| | | 16 | -1.40429E 00 | 17 | 3.28341E 00 | 18 | 9.18522E-01 | 19 | 9.18552E-01 | 20 | -2.16636E 00 |
| | | 21 | 2.16373E 00 | 22 | -5.47649E-01 | 23 | -4.59772E-01 | 24 | 4.92717E-01 | 25 | -5.86890E-01 |
| | | 1 | 1.20032E 00 | 2 | -1.73186E 00 | 3 | -5.51535E-01 | 4 | -2.29063E-01 | 5 | 2.25932E-01 |
| 2 | 10.871 | 6 | 3.84387E-01 | 7 | 1.44198E-01 | 8 | 1.09624E-01 | 9 | -3.06140E-02 | 10 | 1.70547E-02 |
| | | 11 | 4.57423E-02 | 12 | -4.84575E-01 | 13 | -3.34059E 00 | 14 | 4.14417E 00 | 15 | 2.23215E-01 |
| | | 16 | 1.79595E-01 | 17 | -4.19917E-01 | 18 | 8.67347E-01 | 19 | 8.67376E-01 | 20 | -2.42355E 00 |
| | | 21 | 2.42061E 00 | 22 | 9.67769E-02 | 23 | 8.12483E-02 | 24 | 6.96325E-01 | 25 | -8.29414E-01 |
| | | 1 | -6.46668E-01 | 2 | 5.31906E-01 | 3 | 3.29275E-01 | 4 | 2.01890E-02 | 5 | -2.74524E-01 |
| | | 6 | 8.01196E-01 | 7 | 3.73147E-02 | 8 | -8.08788E-03 | 9 | 3.34001E-02 | 10 | -3.43092E-01 |
| 3 | 11.554 | 11 | -3.56686E-01 | 12 | -1.28909E 00 | 13 | 1.85154E 00 | 14 | -1.29654E 00 | 15 | -2.05889E-01 |
| | | 16 | -1.65655E-01 | 17 | 3.87322E-01 | 18 | 2.25550E-01 | 19 | 2.25558E-01 | 20 | 1.28283E 00 |
| | | 21 | -1.28127E 00 | 22 | -3.38250E-01 | 23 | -2.83974E-01 | 24 | -6.68390E-01 | 25 | 7.96140E-01 |
| | | 1 | 6.00221E-01 | 2 | 5.44366E-01 | 3 | -4.46262E-01 | 4 | -2.54188E-01 | 5 | -5.22341E-01 |
| | | 6 | 1.35285E 00 | 7 | 1.76461E-02 | 8 | -5.53318E-02 | 9 | -7.75584E-02 | 10 | 2.19431E-01 |
| | | 11 | 1.86903E-01 | 12 | 7.42028E-01 | 13 | -1.79554E 00 | 14 | -1.25791E 00 | 15 | -3.16647E-01 |
| 4 | 11.842 | 15 | -2.54769E-01 | 16 | 5.95683E-01 | 17 | -4.92073E-01 | 18 | -4.92089E-01 | 19 | 9.34800E-02 |
| | | 21 | -9.33666E-02 | 22 | 4.39743E-01 | 23 | 3.69181E-01 | 24 | 2.45898E-01 | 25 | -2.92897E-01 |
| | | 1 | -3.66546E-01 | 2 | -7.05655E-01 | 3 | -5.01030E-01 | 4 | 3.70877E-02 | 5 | 4.35788E-01 |
| | | 6 | 7.36382E-03 | 7 | -5.41073E-04 | 8 | 4.89478E-01 | 9 | -2.38921E-02 | 10 | -3.97476E-02 |
| | | 11 | 1.27252E 00 | 12 | 2.65602E-01 | 13 | 1.43531E 00 | 14 | 1.31039E 00 | 15 | 2.62247E-01 |
| | | 16 | 2.11000E-01 | 17 | -4.93346E-01 | 18 | -9.61373E-02 | 19 | -9.61405E-02 | 20 | 1.68235E 00 |
| 5 | 13.025 | 21 | -1.68031E 00 | 22 | 1.98823E 00 | 23 | 1.66919E 00 | 24 | -4.91990E-01 | 25 | 5.86025E-01 |
| | | 1 | 3.24656E-01 | 2 | 1.24210E 00 | 3 | 1.04385E 00 | 4 | 7.84291E-02 | 5 | -6.49649E-01 |
| | | 6 | -5.82303E-02 | 7 | 2.08878E-02 | 8 | -8.96499E-02 | 9 | 1.67002E-01 | 10 | -1.09051E-01 |
| | | 11 | 7.03582E-01 | 12 | -5.09131E-02 | 13 | -1.62016E 00 | 14 | -2.48899E 00 | 15 | -8.11394E-01 |
| | | 16 | -6.52834E-01 | 17 | 1.52641E 00 | 18 | -4.66183E-01 | 19 | -4.66199E-01 | 20 | -1.45964E 00 |
| | | 21 | 1.45787E 00 | 22 | 9.17860E-01 | 23 | 7.70579E-01 | 24 | 2.99487E-01 | 25 | -3.56727E-01 |
| 6 | 15.275 | 1 | 1.31258E-01 | 2 | 1.39885E 00 | 3 | 1.35978E 00 | 4 | -1.96674E-01 | 5 | 1.23788E 00 |
| | | 6 | -2.12795E-01 | 7 | 6.44740E-02 | 8 | 4.60681E-02 | 9 | 1.70967E-02 | 10 | 8.15989E-02 |
| | | 11 | -8.20362E-02 | 12 | -2.25314E-02 | 13 | -9.41577E-01 | 14 | -2.96517E 00 | 15 | -1.30894E-01 |

MULTIPLE SUPPORT RESPONSE SPECTRUM ANALYSIS

M-RY SSE

MULTIPLE SUPPORT RESPONSE SPECTRUM ANALYSIS

M-RY SSE

| | | | | | | | | | | | |
|----|--------|----|--------------|----|--------------|----|--------------|----|--------------|----|--------------|
| 8 | 17.998 | 16 | -1.05315E-01 | 17 | 2.46240E-01 | 18 | 1.05810E 00 | 19 | 1.05814E 00 | 20 | -8.75106E-01 |
| | | 21 | 8.74044E-01 | 22 | 7.79779E-02 | 23 | 6.54654E-02 | 24 | 5.29598E-01 | 25 | -6.30820E-01 |
| 9 | 19.854 | 1 | 3.27171E-02 | 2 | -1.87328E-01 | 3 | -4.22821E-01 | 4 | -7.11660E-03 | 5 | -1.03090E-01 |
| | | 6 | 7.73104E-03 | 7 | 1.32906E-01 | 8 | 6.06063E-02 | 9 | 2.26804E-01 | 10 | 5.62685E-01 |
| | | 11 | -4.91030E-01 | 12 | -2.89594E-01 | 13 | 2.01215E-01 | 14 | 3.15807E-01 | 15 | -1.31501E-01 |
| | | 16 | -1.05804E-01 | 17 | 2.47382E-01 | 18 | -1.66525E-01 | 19 | -1.66530E-01 | 20 | 1.01962E-02 |
| | | 21 | -1.01838E-02 | 22 | 1.14561E 00 | 23 | 9.61787E-01 | 24 | 2.74787E 00 | 25 | -3.27307E 00 |
| 10 | 21.590 | 1 | -6.04652E-01 | 2 | 3.47558E-01 | 3 | 7.40943E-01 | 4 | 2.55926E-01 | 5 | -5.01076E-01 |
| | | 6 | 1.20278E-01 | 7 | 1.67752E-01 | 8 | -3.33576E-03 | 9 | -4.04569E-01 | 10 | 2.64572E-01 |
| | | 11 | 2.03562E-01 | 12 | 1.04399E-01 | 13 | 8.75003E-01 | 14 | -5.64848E-01 | 15 | 1.40250E 00 |
| | | 16 | 1.12843E 00 | 17 | -2.63842E 00 | 18 | 2.07164E 00 | 19 | 2.07171E 00 | 20 | 5.20267E-01 |
| | | 21 | -5.19636E-01 | 22 | 1.52875E-01 | 23 | 1.28344E-01 | 24 | 5.11784E-01 | 25 | -6.09601E-01 |
| 11 | 21.903 | 1 | -1.30819E-01 | 2 | 1.41096E-01 | 3 | 1.61103E-01 | 4 | -5.24979E-01 | 5 | -3.74654E-01 |
| | | 6 | 1.34683E-01 | 7 | -1.30493E-01 | 8 | 9.11101E-02 | 9 | -2.24901E-01 | 10 | -4.33150E-01 |
| | | 11 | -1.65785E-01 | 12 | -1.05746E-01 | 13 | 8.00977E-02 | 14 | -2.46184E-01 | 15 | 3.78554E-01 |
| | | 16 | 3.04578E-01 | 17 | -7.12144E-01 | 18 | 3.63038E-01 | 19 | 3.63050E-01 | 20 | -8.07315E-01 |
| | | 21 | 8.06335E-01 | 22 | -3.27871E-01 | 23 | -2.75260E-01 | 24 | -1.19970E-01 | 25 | 1.42900E-01 |
| 12 | 22.948 | 1 | -8.97462E-02 | 2 | 5.33538E-02 | 3 | 5.62848E-03 | 4 | -4.29309E-01 | 5 | -1.82088E-01 |
| | | 6 | 8.83878E-02 | 7 | -2.46543E-02 | 8 | -5.95694E-02 | 9 | 8.29876E-01 | 10 | 3.34419E-01 |
| | | 11 | 2.44623E-01 | 12 | 1.04010E-01 | 13 | 8.08824E-02 | 14 | -8.29538E-02 | 15 | 1.98938E-01 |
| | | 16 | 1.60062E-01 | 17 | -3.74246E-01 | 18 | 5.27745E-02 | 19 | 5.27762E-02 | 20 | -3.92174E-01 |
| | | 21 | 3.91698E-01 | 22 | 5.47506E-02 | 23 | 4.59653E-02 | 24 | -1.88042E-01 | 25 | 2.23982E-01 |
| 13 | 23.646 | 1 | -1.31235E-02 | 2 | 4.34438E-02 | 3 | 2.51818E-01 | 4 | 3.06332E-01 | 5 | -1.72857E-01 |
| | | 6 | -1.45745E-03 | 7 | 3.57920E-02 | 8 | 3.78481E-01 | 9 | 7.48086E-01 | 10 | -2.56487E-01 |
| | | 11 | -4.61861E-01 | 12 | -2.98470E-02 | 13 | 1.54236E-02 | 14 | -8.19220E-02 | 15 | 2.47635E-01 |
| | | 16 | 1.99243E-01 | 17 | -4.65857E-01 | 18 | 1.08673E 00 | 19 | 1.08676E 00 | 20 | 2.02489E-01 |
| | | 21 | -2.02243E-01 | 22 | 1.05631E 00 | 23 | 8.86812E-01 | 24 | -4.15774E-01 | 25 | 4.95241E-01 |
| 14 | 25.645 | 1 | 1.03513E-01 | 2 | 6.12122E-03 | 3 | 2.01237E-01 | 4 | -1.44009E-01 | 5 | -1.53150E-01 |
| | | 6 | -1.27489E-02 | 7 | -4.78375E-03 | 8 | 3.98423E-01 | 9 | -4.26482E-01 | 10 | 3.27447E-01 |
| | | 11 | -6.07306E-01 | 12 | -1.99569E-02 | 13 | -5.32195E-02 | 14 | -3.50851E-02 | 15 | -5.78572E-01 |
| | | 16 | -4.65518E-01 | 17 | 1.08842E 00 | 18 | 2.84433E-01 | 19 | 2.84442E-01 | 20 | -1.62491E-01 |
| | | 21 | 1.62294E-01 | 22 | 2.25957E 00 | 23 | 1.89700E 00 | 24 | -7.65428E-01 | 25 | 9.11725E-01 |
| 15 | 27.271 | 1 | 2.14401E-01 | 2 | -1.10049E-01 | 3 | 2.50268E-01 | 4 | 1.15693E-02 | 5 | -2.77656E-01 |
| | | 6 | -3.40458E-02 | 7 | 9.81769E-03 | 8 | 7.44911E-01 | 9 | -5.54737E-02 | 10 | -1.00700E-01 |
| | | 11 | 4.96218E-01 | 12 | 6.85672E-02 | 13 | 9.78428E-01 | 14 | 5.90768E-02 | 15 | -7.92523E-01 |
| | | 16 | -6.37651E-01 | 17 | 1.49091E 00 | 18 | 6.96416E-01 | 19 | 6.96439E-01 | 20 | -1.23850E-01 |
| | | 21 | 1.23699E-01 | 22 | -9.23687E-01 | 23 | -7.75471E-01 | 24 | 3.28474E-01 | 25 | -3.91255E-01 |
| | | 1 | 9.94608E-02 | 2 | -2.24455E-01 | 3 | -6.24734E-01 | 4 | -2.43517E-02 | 5 | 1.42304E-01 |
| | | 6 | -1.88016E-02 | 7 | -8.13451E-02 | 8 | -4.60575E-01 | 9 | 9.85066E-03 | 10 | 6.48079E-03 |
| | | 11 | 8.00290E-02 | 12 | -2.10897E-02 | 13 | 3.36997E 00 | 14 | 1.47404E-01 | 15 | -3.62079E-02 |
| | | 16 | -2.91323E-02 | 17 | 6.81152E-02 | 18 | 5.05399E-01 | 19 | 5.05416E-01 | 20 | -1.38183E 00 |

MULTIPLE SUPPORT RESPONSE SPECTRUM ANALYSIS

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MULTIPLE SUPPORT RESPONSE SPECTRUM ANALYSIS

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| | | | | | | | | | | | |
|----|--------|----|--------------|----|--------------|----|--------------|----|--------------|----|--------------|
| 16 | 30.144 | 21 | 1.38016E 00 | 22 | 3.57989E-01 | 23 | 3.00545E-01 | 24 | -3.40369E-01 | 25 | 4.05424E-01 |
| | | 1 | 6.30132E-02 | 2 | -1.95152E-01 | 3 | -1.22213E 00 | 4 | 2.30605E-03 | 5 | 2.20860E-01 |
| | | 6 | -1.02547E-02 | 7 | -2.70236E-01 | 8 | 2.06903E-01 | 9 | -2.52312E-02 | 10 | 1.94945E-02 |
| | | 11 | 3.40051E-01 | 12 | -3.99359E-02 | 13 | -2.10067E 00 | 14 | 1.35834E-01 | 15 | 3.42049E-01 |
| | | 16 | 2.75207E-01 | 17 | -6.43470E-01 | 18 | 3.97023E-01 | 19 | 3.97035E-01 | 20 | -1.42486E 00 |
| | | 21 | 1.42313E 00 | 22 | 1.52207E-01 | 23 | 1.27784E-01 | 24 | -5.54984E-01 | 25 | 6.61058E-01 |
| 17 | 32.488 | 1 | 3.60086E-02 | 2 | 1.75351E-01 | 3 | -4.24779E-01 | 4 | -1.99841E-02 | 5 | 1.59585E-01 |
| | | 6 | 2.19861E-02 | 7 | -4.07051E-01 | 8 | 1.73568E 00 | 9 | 4.46901E-03 | 10 | 1.42633E-01 |
| | | 11 | -4.34714E-01 | 12 | 6.95124E-02 | 13 | 8.56100E-01 | 14 | -1.17212E-01 | 15 | 3.39826E-01 |
| | | 16 | 2.73418E-01 | 17 | -6.39288E-01 | 18 | -4.98297E-01 | 19 | -4.98313E-01 | 20 | -4.36723E-01 |
| | | 21 | 4.36193E-01 | 22 | -4.55634E-01 | 23 | -3.82523E-01 | 24 | -1.72810E-01 | 25 | 2.05840E-01 |
| 18 | 34.289 | 1 | -1.36581E-01 | 2 | 2.02740E-01 | 3 | 1.45240E 00 | 4 | 3.95654E-01 | 5 | -1.30524E 00 |
| | | 6 | -2.62692E-01 | 7 | -1.56914E-01 | 8 | -4.76817E-02 | 9 | 1.16293E-02 | 10 | 1.72446E-01 |
| | | 11 | -3.94680E-01 | 12 | 7.62528E-02 | 13 | -1.50262E-01 | 14 | 1.69380E-03 | 15 | -2.86914E-01 |
| | | 16 | -2.30847E-01 | 17 | 5.39750E-01 | 18 | -4.05365E-02 | 19 | -4.05379E-02 | 20 | -2.32882E-01 |
| | | 21 | 2.32599E-01 | 22 | -2.94697E-01 | 23 | -2.47409E-01 | 24 | -3.41254E-01 | 25 | 4.06477E-01 |
| 19 | 35.752 | 1 | -6.14533E-01 | 2 | 2.97217E-01 | 3 | 2.29453E 00 | 4 | -6.58103E-02 | 5 | 7.71128E-01 |
| | | 6 | 2.34444E-01 | 7 | -1.44258E-01 | 8 | 2.78188E-01 | 9 | 1.14263E-02 | 10 | -8.05167E-02 |
| | | 11 | 6.95680E-01 | 12 | -2.03512E-01 | 13 | -5.22684E-01 | 14 | 1.65181E-01 | 15 | -3.57734E-01 |
| | | 16 | -2.87827E-01 | 17 | 6.72977E-01 | 18 | -5.00416E-02 | 19 | -5.00432E-02 | 20 | 1.18593E-01 |
| | | 21 | -1.18449E-01 | 22 | 1.48621E-01 | 23 | 1.24773E-01 | 24 | -2.28624E-01 | 25 | 2.72321E-01 |
| 20 | 36.127 | 1 | -2.12367E-01 | 2 | 8.63089E-03 | 3 | 5.52804E-01 | 4 | -1.20712E-01 | 5 | 7.69783E-01 |
| | | 6 | 2.13815E-01 | 7 | 4.44070E-02 | 8 | -3.79308E-01 | 9 | 1.44168E-02 | 10 | 2.56316E-01 |
| | | 11 | -1.39328E 00 | 12 | 4.06129E-01 | 13 | -4.56826E-01 | 14 | 3.41663E-02 | 15 | -1.51036E-01 |
| | | 16 | -1.21521E-01 | 17 | 2.84132E-01 | 18 | 1.62995E-01 | 19 | 1.63001E-01 | 20 | -7.14056E-02 |
| | | 21 | 7.13189E-02 | 22 | -3.44929E-01 | 23 | -2.89581E-01 | 24 | -4.12671E-02 | 25 | 4.91545E-02 |
| 21 | 38.942 | 1 | 7.67296E-01 | 2 | 9.72044E-01 | 3 | 6.44488E-01 | 4 | 3.05086E-02 | 5 | 1.61219E-01 |
| | | 6 | 6.72778E-02 | 7 | 4.73289E-02 | 8 | -3.80664E-01 | 9 | -1.19166E-02 | 10 | 2.80740E-02 |
| | | 11 | 7.83509E-02 | 12 | -2.89640E-02 | 13 | 2.66240E 00 | 14 | 6.59399E-01 | 15 | 2.09884E-01 |
| | | 16 | 1.68869E-01 | 17 | -3.94839E-01 | 18 | -1.42439E-01 | 19 | -1.42444E 01 | 20 | 7.53509E-02 |
| | | 21 | -7.52594E-02 | 22 | 2.80877E-02 | 23 | 2.35807E-02 | 24 | -9.79784E-02 | 25 | 1.16705E-01 |
| 22 | 43.322 | 1 | 1.29903E 00 | 2 | -4.84699E-01 | 3 | 1.43627E 00 | 4 | 2.13976E-01 | 5 | 3.64096E-01 |
| | | 6 | 2.92792E-01 | 7 | -5.41529E-02 | 8 | 1.15820E-01 | 9 | 1.46783E-02 | 10 | 9.31923E-02 |
| | | 11 | 8.50111E-02 | 12 | -8.39944E-02 | 13 | 2.49446E 00 | 14 | -6.10834E-01 | 15 | -1.29970E-01 |
| | | 16 | -1.04572E-01 | 17 | 2.44503E-01 | 18 | 1.49104E-01 | 19 | 1.49109E-01 | 20 | 1.29898E-01 |
| | | 21 | -1.29741E-01 | 22 | -1.09230E-01 | 23 | -9.17032E-02 | 24 | -6.77898E-02 | 25 | 8.07465E-02 |
| 23 | 46.471 | 1 | 5.20143E-01 | 2 | 1.67067E-01 | 3 | 1.67845E 00 | 4 | -8.52065E-01 | 5 | 1.872638E-01 |
| | | 6 | 1.22408E-02 | 7 | -9.83891E-02 | 8 | 1.18202E-02 | 9 | 1.10269E-02 | 10 | 5.88844E-02 |
| | | 11 | 1.22408E-02 | 12 | -9.83891E-02 | 13 | 1.18202E-02 | 14 | 1.10269E-02 | 15 | 5.88844E-02 |
| | | 16 | 1.22408E-02 | 17 | -9.83891E-02 | 18 | 1.18202E-02 | 19 | 1.10269E-02 | 20 | 5.88844E-02 |
| | | 21 | -5.89417E-02 | 22 | 1.98343E-01 | 23 | 1.66516E-01 | 24 | 5.35959E-02 | 25 | -6.38398E-02 |

MULTIPLE SUPPORT RESPONSE SPECTRUM ANALYSIS

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MULTIPLE SUPPORT RESPONSE SPECTRUM ANALYSIS

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| | | | | | | | | | | | |
|----|--------|----|--------------|----|--------------|----|--------------|----|--------------|----|--------------|
| 24 | 47.729 | 1 | 2.15162E-01 | 2 | -2.14475E-01 | 3 | 6.81612E-01 | 4 | -6.13658E-01 | 5 | -1.89103E-01 |
| | | 6 | -4.02258E-01 | 7 | 1.13006E-02 | 8 | -7.80489E-02 | 9 | 4.46438E-02 | 10 | 6.31332E-01 |
| | | 11 | 1.93232E-01 | 12 | -4.03363E-01 | 13 | 5.51999E-01 | 14 | -4.21783E-01 | 15 | 1.72522E-02 |
| | | 16 | 1.38808E-02 | 17 | -3.24892E-02 | 18 | 1.47142E-02 | 19 | 1.47142E-02 | 20 | 8.49401E-02 |
| | | 21 | -8.48370E-02 | 22 | -1.27192E-01 | 23 | -1.06783E-01 | 24 | -6.99012E-02 | 25 | 8.32614E-02 |
| 25 | 49.575 | 1 | 7.65267E-02 | 2 | 1.50696E 00 | 3 | -1.52166E-01 | 4 | 3.16759E-02 | 5 | 2.42985E-02 |
| | | 6 | 3.16798E-02 | 7 | 4.27303E-03 | 8 | -2.63754E-02 | 9 | 1.01302E-01 | 10 | 1.94183E-01 |
| | | 11 | 1.82179E-02 | 12 | -1.19609E-01 | 13 | 2.99729E-01 | 14 | 4.04172E-01 | 15 | -8.58932E-02 |
| | | 16 | -5.91083E-02 | 17 | 1.61584E-01 | 18 | -1.48720E-01 | 19 | 1.48720E-01 | 20 | -7.82197E-02 |
| | | 21 | 7.81849E-02 | 22 | -4.85339E-02 | 23 | -3.40289E-02 | 24 | 4.84491E-02 | 25 | -6.72362E-02 |
| 26 | 50.540 | 1 | -2.14697E-02 | 2 | -1.12427E-01 | 3 | -6.85878E-02 | 4 | -4.63788E-02 | 5 | 4.81672E-02 |
| | | 6 | 1.89301E-04 | 7 | -1.20911E-02 | 8 | -2.40443E-02 | 9 | 1.47443E-02 | 10 | -4.68949E-02 |
| | | 11 | -1.87641E-03 | 12 | 1.99934E-02 | 13 | -1.47323E-02 | 14 | -3.31014E-01 | 15 | -2.33215E-02 |
| | | 16 | -1.87641E-03 | 17 | 4.38730E-03 | 18 | -2.30910E-03 | 19 | -2.30917E-03 | 20 | 6.71914E-03 |
| | | 21 | -6.71098E-03 | 22 | -3.45190E-03 | 23 | -2.89800E-03 | 24 | -5.09006E-03 | 25 | 6.06293E-03 |
| 27 | 53.593 | 1 | -1.60693E-01 | 2 | 1.65860E-01 | 3 | -2.13603E 00 | 4 | -4.89865E-01 | 5 | 2.03374E-01 |
| | | 6 | -1.10112E-01 | 7 | -2.53958E-02 | 8 | -1.06297E-01 | 9 | -2.90131E-02 | 10 | -3.51754E-01 |
| | | 11 | 1.12861E-01 | 12 | 1.18590E-01 | 13 | -5.59327E-01 | 14 | 2.44804E-01 | 15 | -4.75990E-02 |
| | | 16 | -3.82974E-02 | 17 | 8.95443E-02 | 18 | 4.02166E-02 | 19 | 4.02179E-02 | 20 | 5.03423E-02 |
| | | 21 | -5.02812E-02 | 22 | -1.57139E-01 | 23 | -1.31924E-01 | 24 | -8.88979E-02 | 25 | 1.05889E-01 |
| 28 | 56.477 | 1 | -1.27592E-01 | 2 | -7.64194E-02 | 3 | -2.54981E 00 | 4 | -1.05012E-01 | 5 | 8.84458E-02 |
| | | 6 | 3.16076E-02 | 7 | -4.32751E-02 | 8 | 2.73510E-01 | 9 | 2.11158E-03 | 10 | 3.01026E-01 |
| | | 11 | -2.29003E-01 | 12 | -1.10060E-02 | 13 | -2.00821E-01 | 14 | -6.82500E-01 | 15 | -7.39427E-02 |
| | | 16 | -5.94931E-02 | 17 | 1.39103E-01 | 18 | 1.03470E-01 | 19 | 1.03474E-01 | 20 | 2.31574E-01 |
| | | 21 | -2.31292E-01 | 22 | 1.73536E-01 | 23 | 1.45690E-01 | 24 | -9.65282E-03 | 25 | 1.14978E-02 |
| 29 | 58.590 | 1 | -2.68508E-01 | 2 | -6.36916E-02 | 3 | 6.25965E 00 | 4 | -1.30052E-01 | 5 | 1.14533E-01 |
| | | 6 | 9.07052E-03 | 7 | 3.84781E-03 | 8 | 6.51186E-02 | 9 | -9.47381E-03 | 10 | 3.74007E-02 |
| | | 11 | -2.68213E-02 | 12 | -7.97425E-03 | 13 | -6.75376E-01 | 14 | 7.62561E-01 | 15 | 6.18322E-02 |
| | | 16 | 4.97492E-02 | 17 | -1.16320E-01 | 18 | 1.02214E-01 | 19 | 1.02218E-01 | 20 | -8.47182E-02 |
| | | 21 | 8.46153E-02 | 22 | -6.06731E-03 | 23 | -5.09374E-03 | 24 | 4.65879E-02 | 25 | -5.54923E-02 |
| 30 | 65.799 | 1 | -3.41462E-02 | 2 | 2.00700E-01 | 3 | 1.35377E 00 | 4 | 4.78694E-02 | 5 | -1.03593E-02 |
| | | 6 | 6.50402E-02 | 7 | -1.89243E-02 | 8 | -1.39023E-01 | 9 | 1.90361E-02 | 10 | 3.47859E-03 |
| | | 11 | -1.78854E-01 | 12 | 2.11762E-01 | 13 | -1.78500E-01 | 14 | 1.27369E 00 | 15 | 8.85513E-02 |
| | | 16 | 7.12470E-02 | 17 | -1.66585E-01 | 18 | -1.78795E-01 | 19 | -1.78801E-01 | 20 | 1.84582E-01 |
| | | 21 | -1.84358E-01 | 22 | 6.15198E-02 | 23 | 5.16482E-02 | 24 | -1.26986E-01 | 25 | 1.51257E-01 |

MULTIPLE SUPPORT RESPONSE SPECTRUM ANALYSIS

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MULTIPLE SUPPORT RESPONSE SPECTRUM ANALYSIS

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TABLE OF MODAL AMPLITUDES

SPECTRUM ANALYSIS LOAD CASE = (1)

| MODE NUMBER | NATURAL FREQUENCY | SPECTRUM (1) | SPECTRUM (2) | SPECTRUM (3) | SPECTRUM (4) | SPECTRUM (0) | SPECTRUM (0) | SPECTRUM (0) | SPECTRUM (0) |
|-------------|-------------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|
| 1 | 8.13 | 3.2963E-02 | 2.2903E-01 | 6.9178E-01 | -3.0226E-01 | | | | |
| 2 | 10.87 | 4.1644E-02 | 4.9276E-01 | 6.6863E-01 | -3.1524E-01 | | | | |
| 3 | 11.55 | -6.1813E-02 | -1.1377E-01 | -1.8519E-01 | 8.5715E-02 | | | | |
| 4 | 11.84 | -3.5967E-02 | -1.1666E-01 | -1.7104E-01 | 8.3507E-02 | | | | |
| 5 | 13.02 | 1.6795E-01 | 8.7066E-02 | 1.4728E-01 | -8.9477E-02 | | | | |
| 6 | 15.27 | -3.5921E-03 | 6.7592E-02 | -1.9456E-01 | 1.1206E-01 | | | | |
| 7 | 15.81 | 1.2781E-01 | 1.0640E-01 | -2.1075E-01 | 1.1244E-01 | | | | |
| 8 | 18.00 | -5.2015E-02 | -1.8790E-01 | 1.8969E-02 | -7.5706E-03 | | | | |
| 9 | 19.85 | -2.4105E-02 | 1.3093E-01 | -2.7885E-02 | 7.7163E-03 | | | | |
| 10 | 21.59 | -3.0444E-02 | 6.7542E-02 | -1.0277E-02 | 2.4347E-03 | | | | |
| 11 | 21.90 | 1.9522E-04 | 4.2775E-02 | -3.3645E-03 | 8.6223E-04 | | | | |
| 12 | 22.95 | -1.5367E-02 | 1.0988E-01 | -3.0269E-03 | 5.6253E-04 | | | | |
| 13 | 23.65 | -2.0448E-02 | 1.1709E-01 | -1.2209E-03 | 7.1194E-05 | | | | |
| 14 | 25.64 | 2.5218E-02 | -1.9882E-02 | 1.0068E-03 | -1.0164E-03 | | | | |
| 15 | 27.27 | -3.5751E-03 | 3.2855E-02 | 1.5606E-03 | -1.6560E-03 | | | | |
| 16 | 30.14 | 5.1229E-03 | 1.8228E-02 | 7.6007E-04 | -1.1760E-03 | | | | |
| 17 | 32.49 | 7.3750E-03 | 1.7962E-04 | -5.6464E-04 | 9.0968E-04 | | | | |
| 18 | 34.29 | -7.8480E-03 | 5.5016E-04 | 7.3247E-06 | 9.4417E-04 | | | | |
| 19 | 35.75 | 7.2080E-03 | -2.4917E-04 | 6.5704E-04 | 1.2732E-03 | | | | |
| 20 | 36.13 | -4.0567E-03 | -5.2586E-04 | 1.3310E-04 | 3.6208E-05 | | | | |
| 21 | 38.94 | -4.9125E-04 | 3.2431E-04 | 2.2108E-03 | 3.5097E-03 | | | | |
| 22 | 43.32 | 1.5892E-03 | -2.7553E-04 | -1.6547E-03 | -1.4141E-03 | | | | |
| 23 | 46.47 | -8.5757E-04 | 1.3332E-04 | 1.2835E-03 | 4.2359E-04 | | | | |
| 24 | 47.73 | -1.7132E-04 | -1.8829E-04 | -9.4134E-04 | -5.1549E-04 | | | | |
| 25 | 49.57 | 3.0698E-04 | 1.2357E-04 | 8.3613E-03 | 3.3573E-03 | | | | |
| 26 | 50.54 | -4.0972E-06 | -1.6278E-05 | -6.5889E-04 | -2.4100E-04 | | | | |
| 27 | 53.59 | 3.8592E-04 | -1.3929E-04 | 4.3335E-04 | 3.1619E-04 | | | | |
| 28 | 56.48 | 2.2008E-04 | -5.0788E-05 | -1.0879E-03 | -1.3119E-04 | | | | |
| 29 | 58.59 | 2.3506E-04 | 2.7570E-04 | 1.1294E-03 | -1.0159E-04 | | | | |
| 30 | 65.80 | -4.0029E-04 | -1.1055E-04 | 1.4958E-03 | 2.5382E-04 | | | | |

MULTIPLE SUPPORT RESPONSE SPECTRUM ANALYSIS

M-RY SSE

TABLE OF SELECTED SPECTRA
AND ZPA VALUES FOR HIGH FREQUENCY RESPONSE

| SUPPORT NUMBER | SPECTRUM SELECTED | SCALE FACTOR | ZPA VALUE USED |
|-------------------|----------------------|-----------------|-------------------|
| 2 | 4 | 1.00 | 0.5600 |
| 5 | 1 | 1.00 | 0.5400 |
| 8 | 1 | 1.00 | 0.5400 |
| 11 | 1 | 1.00 | 0.5400 |
| 14 | 3 | 1.00 | 0.5200 |
| 16 | N | 1.00 | 0.5500 |
| 19 | N | 1.00 | 0.5500 |
| 21 | N | 1.00 | 0.5500 |
| 23 | N | 1.00 | 0.5500 |
| 25 | N | 1.00 | 0.5500 |

MULTIPLE SUPPORT RESPONSE SPECTRUM ANALYSIS

M-RY SSE

ULTIPLE SUPPORT RESPONSE SPECTRUM MODAL REPORT

M-RY 55E

COMBINED NODE DISPLACEMENTS/ROTATIONS
COMBINATION METHOD 6 FOR MODAL SHAPES, MODE # 1 TO 30

DAD CASE # 1 (FINAL)

| JOINT LABEL | X-TRANSLATION | Y-TRANSLATION | Z-TRANSLATION | X-ROTATION | Y-ROTATION | Z-ROTATION |
|-------------|---------------|---------------|---------------|-------------|-------------|-------------|
| 01. | 7.98358E-09 | 1.08740E-08 | 9.45644E-09 | 1.53470E-07 | 7.89646E-08 | 2.52035E-07 |
| 02. | 6.39131E-05 | 3.47864E-04 | 1.18626E-04 | 3.21246E-05 | 2.48278E-05 | 2.49865E-05 |
| 03. | 5.78213E-05 | 3.35777E-04 | 1.20432E-04 | 3.33290E-05 | 2.57711E-05 | 2.55387E-05 |
| 03.01 | 1.06372E-02 | 1.36943E-02 | 4.12191E-04 | 2.15556E-04 | 1.68724E-04 | 2.15118E-04 |
| 04. | 1.92820E-02 | 2.46081E-02 | 7.02771E-04 | 3.20248E-05 | 2.27251E-05 | 4.04697E-04 |
| 05. | 1.86858E-02 | 2.38018E-02 | 7.57742E-04 | 1.24576E-04 | 9.56148E-05 | 4.40706E-04 |
| 06. | 1.46897E-02 | 1.86338E-02 | 8.17457E-04 | 2.61196E-04 | 2.05996E-04 | 4.84934E-04 |
| 07. | 1.44138E-02 | 1.86432E-02 | 4.52388E-03 | 2.84597E-04 | 2.05996E-04 | 4.85519E-04 |
| 08. | 7.13527E-03 | 8.98030E-03 | 8.72949E-04 | 4.31146E-04 | 3.41948E-04 | 5.26384E-04 |
| 09. | 4.28005E-07 | 4.30463E-07 | 9.36800E-04 | 6.20705E-04 | 4.99704E-04 | 5.68614E-04 |
| 12. | 1.09739E-02 | 1.34279E-02 | 1.00180E-03 | 8.00191E-04 | 6.46560E-04 | 6.11662E-04 |
| 13. | 3.13774E-02 | 3.86604E-02 | 1.05738E-03 | 9.20129E-04 | 7.34828E-04 | 6.53283E-04 |
| 14. | 4.29397E-02 | 3.87005E-02 | 2.85098E-02 | 9.29542E-04 | 7.34828E-04 | 6.66580E-04 |
| 15. | 5.32953E-02 | 6.60336E-02 | 1.09196E-03 | 9.68183E-04 | 7.65740E-04 | 6.62575E-04 |
| 16. | 7.10629E-02 | 8.86034E-02 | 1.14382E-03 | 9.81977E-04 | 7.49229E-04 | 6.75581E-04 |
| 18. | 9.41002E-02 | 1.24666E-01 | 1.13047E-02 | 7.82212E-04 | 3.47316E-04 | 7.01533E-04 |
| 18.01 | 9.72966E-02 | 1.50307E-01 | 3.03354E-02 | 4.15030E-04 | 3.22018E-04 | 6.84063E-04 |
| 19. | 7.95414E-02 | 1.33220E-01 | 5.31613E-02 | 4.74289E-04 | 6.54203E-04 | 6.97099E-04 |
| 21. | 6.80941E-02 | 1.14109E-01 | 7.42978E-02 | 6.12312E-04 | 7.12292E-04 | 6.93034E-04 |
| 23. | 4.68433E-02 | 8.01226E-02 | 8.64749E-02 | 7.82387E-04 | 5.67937E-04 | 7.04589E-04 |
| 24. | 2.81271E-02 | 5.00001E-02 | 8.66511E-02 | 7.24326E-04 | 5.03074E-04 | 7.14994E-04 |
| 25. | 1.88589E-02 | 2.99470E-02 | 8.67733E-02 | 5.85597E-04 | 3.95468E-04 | 6.99189E-04 |
| 29. | 2.16996E-02 | 1.78547E-02 | 8.69711E-02 | 2.91424E-04 | 1.98595E-04 | 6.77000E-04 |
| 31. | 2.39478E-02 | 1.96639E-02 | 8.70715E-02 | 1.98466E-04 | 1.63381E-04 | 6.69030E-04 |
| 32. | 2.69160E-02 | 2.72494E-02 | 8.72243E-02 | 3.18167E-04 | 3.39198E-04 | 7.33744E-04 |
| 27. | 3.08915E-02 | 3.28196E-02 | 8.72511E-02 | 3.61698E-04 | 3.87117E-04 | 7.56176E-04 |
| 34. | 4.03734E-02 | 4.40450E-02 | 8.72841E-02 | 3.99015E-04 | 4.38813E-04 | 7.93784E-04 |
| 35. | 4.84199E-02 | 5.30279E-02 | 8.72916E-02 | 4.05603E-04 | 4.43976E-04 | 7.93784E-04 |
| 36. | 5.54941E-02 | 5.98566E-02 | 8.72934E-02 | 4.06428E-04 | 4.44622E-04 | 7.93784E-04 |
| 37. | 2.81434E-02 | 5.53516E-02 | 8.82704E-02 | 6.86609E-04 | 7.31393E-04 | 9.35599E-04 |
| 38. | 3.17413E-02 | 5.96165E-02 | 9.11463E-02 | 6.68865E-04 | 8.85977E-04 | 1.03973E-03 |
| 40. | 3.59171E-02 | 7.04333E-02 | 9.45405E-02 | 6.26631E-04 | 1.23059E-03 | 1.35496E-03 |
| 40.01 | 3.60726E-02 | 1.19146E-01 | 1.21455E-01 | 7.76893E-04 | 1.35655E-03 | 1.31998E-03 |
| 41. | 3.62009E-02 | 1.63365E-01 | 1.60581E-01 | 1.19393E-03 | 1.11441E-03 | 8.76260E-04 |
| 43. | 3.63202E-02 | 1.66248E-01 | 1.67061E-01 | 1.36078E-03 | 9.04388E-04 | 4.66953E-04 |
| 43.01 | 4.68481E-02 | 1.27353E-01 | 1.81928E-01 | 1.85626E-03 | 8.14061E-04 | 6.64610E-04 |
| 44. | 6.35307E-02 | 6.07826E-02 | 1.76772E-01 | 2.17748E-03 | 8.41134E-04 | 1.02252E-03 |
| 46. | 5.47186E-02 | 5.62966E-02 | 1.31832E-01 | 2.25415E-03 | 7.64237E-04 | 8.18975E-04 |
| 47. | 2.87889E-02 | 5.61678E-02 | 3.92968E-02 | 2.07084E-03 | 6.77028E-04 | 7.77915E-04 |
| 49. | 2.44126E-02 | 5.18865E-02 | 2.27429E-02 | 1.71942E-03 | 6.41873E-04 | 7.01042E-04 |
| 51. | 1.97946E-02 | 4.18038E-02 | 1.30353E-02 | 1.32191E-03 | 5.66684E-04 | 5.99075E-04 |

ULTIPLE SUPPORT RESPONSE SPECTRUM MODAL REPORT

M-RY 55E

ULTIPLE SUPPORT RESPONSE SPECTRUM MODAL REPORT

H-RY SSE

| | | | | | | |
|-------|-------------|-------------|-------------|-------------|-------------|-------------|
| 53. | 1.54577E-02 | 3.10308E-02 | 9.00431E-03 | 9.27221E-04 | 4.59214E-04 | 4.94213E-04 |
| 54. | 2.56721E-03 | 3.02069E-03 | 1.50226E-03 | 2.35023E-04 | 1.82212E-04 | 1.40624E-04 |
| 55. | 3.72578E-04 | 6.74530E-05 | 2.16380E-04 | 1.12102E-05 | 7.15235E-05 | 6.83975E-06 |
| 56. | 2.44285E-09 | 5.45387E-09 | 3.79011E-09 | 3.81173E-07 | 6.59887E-05 | 2.27930E-07 |
| 57. | 4.36492E-04 | 3.64396E-06 | 2.52034E-04 | 3.83571E-07 | 6.59905E-05 | 2.29252E-07 |
| 58. | 3.00417E-02 | 2.30344E-02 | 8.69323E-02 | 1.83649E-04 | 3.43572E-04 | 5.68199E-04 |
| 59. | 3.37917E-02 | 2.59866E-02 | 8.63016E-02 | 1.88326E-04 | 4.70470E-04 | 5.06053E-04 |
| 61. | 3.58496E-02 | 2.95161E-02 | 8.43254E-02 | 1.99437E-04 | 7.91734E-04 | 2.34685E-04 |
| 61.01 | 3.59015E-02 | 3.24742E-02 | 8.47303E-02 | 3.61940E-04 | 9.05866E-04 | 1.17406E-04 |
| 62. | 3.59197E-02 | 2.69655E-02 | 9.63047E-02 | 5.92923E-04 | 7.58693E-04 | 2.21106E-04 |
| 64. | 2.90632E-02 | 2.16355E-02 | 8.36583E-02 | 9.59649E-04 | 4.40818E-04 | 4.43342E-04 |
| 65. | 9.00968E-03 | 2.15548E-02 | 4.17690E-02 | 9.39584E-04 | 4.24713E-04 | 4.85135E-04 |
| 67. | 4.42218E-03 | 2.03598E-02 | 3.24919E-02 | 7.97604E-04 | 4.34541E-04 | 4.79338E-04 |
| 69. | 1.14550E-03 | 1.72191E-02 | 2.45130E-02 | 6.73072E-04 | 4.19345E-04 | 4.45933E-04 |
| 71. | 6.66945E-05 | 1.32772E-02 | 1.89257E-02 | 5.65452E-04 | 4.11672E-04 | 3.72867E-04 |
| 72. | 1.68160E-05 | 1.40115E-03 | 3.56721E-03 | 1.10817E-04 | 2.07514E-04 | 1.16326E-04 |
| 73. | 1.06095E-06 | 3.23091E-05 | 5.20409E-04 | 4.64616E-06 | 8.54611E-07 | 5.81060E-06 |
| 74. | 9.93526E-10 | 2.65457E-09 | 3.81215E-09 | 1.19715E-07 | 7.89309E-05 | 2.00656E-07 |
| 75. | 9.93540E-10 | 2.15598E-06 | 6.02949E-04 | 1.19715E-07 | 7.89337E-05 | 2.06275E-07 |
| 76. | 4.74088E-02 | 4.57592E-02 | 6.95563E-02 | 4.28369E-04 | 6.69864E-04 | 9.35865E-04 |
| 77. | 5.27738E-02 | 4.87153E-02 | 9.13537E-02 | 4.70999E-04 | 8.26172E-04 | 9.84430E-04 |
| 79. | 5.66642E-02 | 5.59939E-02 | 9.59354E-02 | 5.40290E-04 | 1.20947E-03 | 1.09023E-03 |
| 79.01 | 5.68372E-02 | 9.25447E-02 | 1.29455E-01 | 8.89319E-04 | 1.36315E-03 | 1.01418E-03 |
| 80. | 5.69647E-02 | 1.26566E-01 | 1.72385E-01 | 1.30342E-03 | 1.15857E-03 | 7.17814E-04 |
| 82. | 5.67827E-02 | 1.28013E-01 | 1.79218E-01 | 1.44334E-03 | 9.69613E-04 | 4.54048E-04 |
| 82.01 | 5.99812E-02 | 9.40007E-02 | 1.97136E-01 | 1.92998E-03 | 8.82907E-04 | 5.62996E-04 |
| 83. | 7.29585E-02 | 5.67222E-02 | 1.95608E-01 | 2.29624E-03 | 9.08397E-04 | 8.42901E-04 |
| 85. | 6.48474E-02 | 6.03789E-02 | 1.47356E-01 | 2.48250E-03 | 8.31019E-04 | 8.36415E-04 |
| 86. | 3.0619E-02 | 6.02722E-02 | 4.54885E-02 | 2.29482E-03 | 7.66371E-04 | 8.07716E-04 |
| 88. | 2.98225E-02 | 5.53895E-02 | 2.68009E-02 | 1.91903E-03 | 7.37392E-04 | 7.07302E-04 |
| 90. | 2.40950E-02 | 4.40651E-02 | 1.56634E-02 | 1.50881E-03 | 6.60462E-04 | 5.87077E-04 |
| 92. | 1.87611E-02 | 3.22218E-02 | 1.09171E-02 | 1.06214E-03 | 5.46179E-04 | 4.70568E-04 |
| 93. | 3.17072E-03 | 2.96656E-03 | 1.85296E-03 | 2.54658E-04 | 2.23316E-04 | 1.23848E-04 |
| 94. | 4.60578E-04 | 6.19789E-05 | 2.67345E-04 | 1.18292E-05 | 8.82624E-05 | 5.92890E-06 |
| 95. | 2.82404E-09 | 4.58933E-09 | 4.18566E-09 | 3.94307E-07 | 8.14446E-05 | 1.97990E-07 |
| 96. | 5.38725E-04 | 3.59265E-06 | 3.11065E-04 | 3.96472E-07 | 8.14468E-05 | 1.59374E-07 |

MAXIMUM DISPLACEMENT, 1.97136E-01, OCCURED AT JOINT 082.01
 MAXIMUM ROTATION, 2.48250E-03, OCCURED AT JOINT 085.

ULTIPLE SUPPORT RESPONSE SPECTRUM MODAL REPORT

H-RY SSE

ULTIPLE SUPPORT RESPONSE SPECTRUM MODAL REPORT

M-RY SSE

COMBINED MODE ACCELERATIONS
COMBINATION METHOD 6 FOR MODAL SH APES, MODE # 1 TO 30

LOAD CASE # 1 (FINAL)

| JOINT LABEL | TRANSLATION (GS) | | | ROTATION (R/SEC**2) | | |
|-------------|------------------|-------------|-------------|---------------------|-------------|-------------|
| | X | Y | Z | X | Y | Z |
| 101. | 1.41009E-07 | 3.97257E-07 | 6.04519E-07 | 1.04508E-03 | 3.92986E-04 | 2.92616E-03 |
| 102. | 2.23801E-03 | 1.07090E-02 | 7.58339E-03 | 3.40202E-01 | 1.47079E-01 | 2.90097E-01 |
| 103. | 3.22103E-03 | 1.40016E-02 | 7.69808E-03 | 3.55134E-01 | 1.52983E-01 | 2.96508E-01 |
| 103.01 | 1.68992E-01 | 4.14850E-01 | 2.61134E-02 | 2.16790E 00 | 9.73469E-01 | 2.49755E 00 |
| 104. | 2.86493E-01 | 6.31846E-01 | 4.38740E-02 | 8.54717E-01 | 2.33853E-01 | 4.69859E 00 |
| 105. | 2.74043E-01 | 5.90982E-01 | 4.71238E-02 | 1.66829E 00 | 6.24642E-01 | 5.11666E 00 |
| 106. | 2.10170E-01 | 4.33054E-01 | 5.06314E-02 | 2.75704E 00 | 1.20312E 00 | 5.63015E 00 |
| 107. | 3.10118E-01 | 4.34430E-01 | 1.36352E-01 | 2.78969E 00 | 1.20312E 00 | 5.65733E 00 |
| 108. | 9.75165E-02 | 1.88423E-01 | 5.34709E-02 | 3.58017E 00 | 1.81545E 00 | 6.01578E 00 |
| 109. | 8.74782E-06 | 1.82863E-05 | 5.67216E-02 | 4.41475E 00 | 2.46470E 00 | 6.41423E 00 |
| 112. | 1.38477E-01 | 2.40671E-01 | 5.99767E-02 | 5.49349E 00 | 3.08171E 00 | 6.82697E 00 |
| 113. | 3.87804E-01 | 6.89015E-01 | 6.27380E-02 | 6.33415E 00 | 3.42961E 00 | 7.22988E 00 |
| 114. | 7.86882E-01 | 6.90084E-01 | 5.31348E-01 | 6.46241E 00 | 3.42961E 00 | 7.47948E 00 |
| 115. | 6.48418E-01 | 1.17236E 00 | 6.35430E-02 | 6.60213E 00 | 3.56449E 00 | 7.03987E 00 |
| 116. | 8.58351E-01 | 1.56748E 00 | 6.46743E-02 | 6.64591E 00 | 3.52675E 00 | 6.84223E 00 |
| 118. | 1.14562E 00 | 1.97939E 00 | 1.88656E-01 | 5.38208E 00 | 2.31135E 00 | 6.85966E 00 |
| 118.01 | 1.24652E 00 | 1.88547E 00 | 5.40167E-01 | 3.77332E 00 | 1.06178E 00 | 6.65987E 00 |
| 119. | 1.12514E 00 | 1.76227E 00 | 5.19099E-01 | 3.92590E 00 | 2.99967E 00 | 6.19565E 00 |
| 121. | 1.08754E 00 | 1.75227E 00 | 7.02421E-01 | 4.41104E 00 | 3.48876E 00 | 5.81591E 00 |
| 123. | 9.50364E-01 | 1.42907E 00 | 8.25945E-01 | 5.27388E 00 | 3.62999E 00 | 5.21218E 00 |
| 124. | 7.32900E-01 | 9.87283E-01 | 8.28986E-01 | 5.05309E 00 | 3.76284E 00 | 5.33941E 00 |
| 125. | 6.81166E-01 | 8.04099E-01 | 8.31373E-01 | 4.43730E 00 | 3.50514E 00 | 5.23076E 00 |
| 129. | 9.57010E-01 | 9.47755E-01 | 8.34788E-01 | 2.96400E 00 | 2.34460E 00 | 5.18115E 00 |
| 131. | 1.04216E 00 | 1.06148E 00 | 8.36196E-01 | 2.61508E 00 | 2.09850E 00 | 5.25485E 00 |
| 132. | 9.69741E-01 | 1.28549E 00 | 8.38607E-01 | 4.99033E 00 | 4.48722E 00 | 5.36900E 00 |
| 27. | 1.05220E 00 | 1.48925E 00 | 8.38849E-01 | 5.72127E 00 | 4.96684E 00 | 5.53130E 00 |
| 134. | 1.32685E 00 | 1.93135E 00 | 8.38915E-01 | 6.48095E 00 | 5.35951E 00 | 5.82153E 00 |
| 135. | 1.58704E 00 | 2.29566E 00 | 8.39157E-01 | 6.61134E 00 | 5.45035E 00 | 5.82153E 00 |
| 136. | 1.81577E 00 | 2.57432E 00 | 8.39212E-01 | 6.62784E 00 | 5.46185E 00 | 5.82153E 00 |
| 137. | 7.69780E-01 | 9.80650E-01 | 8.35882E-01 | 5.38398E 00 | 4.87368E 00 | 7.87147E 00 |
| 138. | 8.49735E-01 | 1.01653E 00 | 8.80068E-01 | 5.74277E 00 | 6.18852E 00 | 9.11170E 00 |
| 140. | 9.34039E-01 | 1.23176E 00 | 9.56449E-01 | 6.88576E 00 | 9.85778E 00 | 1.32572E 01 |
| 140.01 | 9.39570E-01 | 2.54062E 00 | 1.73563E 00 | 9.30904E 00 | 1.00585E 01 | 1.35948E 01 |
| 141. | 9.44023E-01 | 3.82250E 00 | 2.54838E 00 | 1.24497E 01 | 6.40582E 00 | 9.41707E 00 |
| 143. | 9.40402E-01 | 3.91740E 00 | 2.61686E 00 | 1.38426E 01 | 6.40196E 00 | 5.11382E 00 |
| 143.01 | 1.31638E 00 | 3.02022E 00 | 2.39333E 00 | 1.67920E 01 | 1.16588E 01 | 5.54157E 00 |
| 144. | 2.14369E 00 | 1.59638E 00 | 2.60645E 00 | 1.74309E 01 | 1.28264E 01 | 9.13295E 00 |
| 146. | 2.08024E 00 | 1.41043E 00 | 2.08788E 00 | 1.57594E 01 | 1.07035E 01 | 8.76919E 00 |
| 147. | 1.25273E 00 | 1.40586E 00 | 6.08686E-01 | 1.44573E 01 | 9.51305E 00 | 8.84497E 00 |
| 149. | 1.04939E 00 | 1.32140E 00 | 5.01661E-01 | 1.24110E 01 | 9.24354E 00 | 7.94072E 00 |

ULTIPLE SUPPORT RESPONSE SPECTRUM MODAL REPORT

M-RY SSE

U L T I P L E S U P P O R T R E S P O N S E S P E C T R U M M O D A L R E P O R T

M-RY SSE

| | | | | | | |
|--------|-------------|-------------|-------------|-------------|-------------|-------------|
| 151. | 8.27968E-01 | 1.10588E-00 | 4.47167E-01 | 1.02653E 01 | 8.57858E 00 | 6.70260E 00 |
| 153. | 6.38148E-01 | 8.53534E-01 | 3.65330E-01 | 8.07414E 00 | 7.20179E 00 | 5.42691E 00 |
| 154. | 1.07562E-01 | 9.23080E-02 | 6.13447E-02 | 2.52343E 00 | 2.91026E 00 | 1.57750E 00 |
| 155. | 1.55718E-02 | 2.18278E-03 | 8.94403E-03 | 1.27041E-01 | 1.14907E 00 | 7.76357E-02 |
| 156. | 1.12504E-07 | 1.83947E-07 | 6.79442E-08 | 4.39624E-03 | 1.06030E 00 | 2.64109E-03 |
| 157. | 1.81718E-02 | 1.00682E-04 | 1.04926E-02 | 4.39644E-03 | 1.06036E 00 | 2.64119E-03 |
| 158. | 1.17886E 00 | 1.13734E 00 | 8.08154E-01 | 2.60276E 00 | 6.14679E 00 | 5.77675E 00 |
| 159. | 1.27963E 00 | 1.20806E 00 | 7.91402E-01 | 2.81043E 00 | 8.78393E 00 | 5.60638E 00 |
| 161. | 1.34343E 00 | 1.30031E 00 | 8.72172E-01 | 2.74913E 00 | 1.49957E 01 | 3.72625E 00 |
| 161.01 | 1.34822E 00 | 1.40703E 00 | 2.41546E 00 | 5.59188E 00 | 1.68528E 01 | 3.01093E 00 |
| 162. | 1.35079E 00 | 1.24443E 00 | 4.09025E 00 | 9.84107E 00 | 1.31402E 01 | 3.89884E 00 |
| 164. | 1.11449E 00 | 1.08884E 00 | 3.80346E 00 | 1.71682E 01 | 3.35478E 00 | 6.18849E 00 |
| 165. | 3.80201E-01 | 1.08439E 00 | 1.87456E 00 | 1.69068E 01 | 4.04114E 00 | 7.20654E 00 |
| 167. | 1.97036E-01 | 1.03678E 00 | 1.46506E 00 | 1.44366E 01 | 5.13130E 00 | 7.77358E 00 |
| 169. | 5.34119E-02 | 8.99040E-01 | 1.12662E 00 | 1.23594E 01 | 5.97104E 00 | 7.92556E 00 |
| 171. | 2.76302E-03 | 7.07892E-01 | 8.86515E-01 | 1.04657E 01 | 6.95226E 00 | 7.26306E 00 |
| 172. | 6.96828E-04 | 7.85929E-02 | 1.73125E-01 | 2.05106E 00 | 3.83500E 00 | 2.45707E 00 |
| 173. | 4.39648E-05 | 1.87376E-03 | 2.53019E-02 | 9.59934E-02 | 1.59950E 00 | 1.25098E-01 |
| 174. | 4.11708E-08 | 1.57898E-07 | 1.95035E-07 | 2.21574E-03 | 1.47767E 00 | 4.33613E-03 |
| 175. | 4.11723E-08 | 8.56637E-05 | 2.92446E-02 | 2.21574E-03 | 1.47774E 00 | 4.33639E-03 |
| 176. | 1.41955E 00 | 1.88129E 00 | 8.76354E-01 | 7.48738E 00 | 5.90530E 00 | 7.19369E 00 |
| 177. | 1.48840E 00 | 1.84804E 00 | 9.51684E-01 | 8.03313E 00 | 6.87141E 00 | 7.88206E 00 |
| 179. | 1.53340E 00 | 1.76582E 00 | 1.11411E 00 | 9.40445E 00 | 1.01859E 01 | 1.09702E 00 |
| 179.01 | 1.53828E 00 | 1.92808E 00 | 2.03227E 00 | 1.17239E 01 | 1.01433E 01 | 1.23094E 00 |
| 180. | 1.54159E 00 | 2.79957E 00 | 2.81504E 00 | 1.44454E 01 | 7.00215E 00 | 1.04368E 01 |
| 182. | 1.52872E 00 | 2.85873E 00 | 2.85760E 00 | 1.55837E 01 | 7.88849E 00 | 7.95399E 00 |
| 182.01 | 1.63293E 00 | 2.26362E 00 | 2.52951E 00 | 1.84104E 01 | 1.38931E 01 | 5.08734E 00 |
| 183. | 2.40731E 00 | 1.66564E 00 | 2.95355E 00 | 1.93878E 01 | 1.50894E 01 | 6.59126E 00 |
| 185. | 2.38803E 00 | 1.64534E 00 | 2.38644E 00 | 1.84712E 01 | 1.25540E 01 | 9.07761E 00 |
| 186. | 1.48873E 00 | 1.63955E 00 | 7.37982E-01 | 1.65759E 01 | 1.11083E 01 | 9.48352E 00 |
| 188. | 1.26383E 00 | 1.54724E 00 | 6.17299E-01 | 1.39662E 01 | 1.08454E 01 | 8.20777E 00 |
| 190. | 1.01124E 00 | 1.30443E 00 | 5.51622E-01 | 1.23861E 01 | 1.01658E 01 | 6.67312E 00 |
| 192. | 7.86499E-01 | 1.00484E 00 | 4.50421E-01 | 1.01968E 01 | 8.70356E 00 | 5.50708E 00 |
| 193. | 1.35165E-01 | 1.06518E-01 | 7.71700E-02 | 3.06021E 00 | 3.62586E 00 | 1.65282E 00 |
| 194. | 1.95970E-02 | 2.47520E-03 | 1.12615E-02 | 1.52000E-01 | 1.44341E 00 | 8.25007E-02 |
| 195. | 1.42909E-07 | 2.03864E-07 | 8.26656E-08 | 5.20686E-03 | 1.33215E 00 | 2.84900E-03 |
| 196. | 2.28323E-02 | 1.16278E-04 | 1.31837E-02 | 5.20710E-03 | 1.33225E 00 | 2.84914E-03 |

MAXIMUM TRANSLATIONAL ACCEL., 4.09025E 00, OCCURED AT JOINT 062.
 MAXIMUM ROTATIONAL ACCEL., 1.93878E 01, OCCURED AT JOINT 083.

U L T I P L E S U P P O R T R E S P O N S E S P E C T R U M M O D A L R E P O R T

M-RY SSE

ULTIPLE SUPPORT RESPONSE SPECTRUM MODAL REPORT

M-RY SSE

COMBINED NODE DISPLACEMENTS / ROTATIONS
COMBINATION METHOD 6 FOR MODAL SHAPES, MODE # 1 TO 30

LOAD CASE # 1 (FINAL)

| JOINT LABEL | X-TRANSLATION | Y-TRANSLATION | Z-TRANSLATION | X-ROTATION | Y-ROTATION | Z-ROTATION |
|-------------|---------------|---------------|---------------|--------------|--------------|--------------|
| 101. | 9.16476E-05 | -2.81278E-05 | 0. | 1.17122E 18 | 1.17122E 18 | 1.17122E 18 |
| 102. | 1.15271E-02 | -1.04473E-05 | 0. | 0. | 2.52785E-01 | 1.17122E 18 |
| 103. | -5.18340E-03 | 1.07470E-04 | -4.32352E-05 | 0. | 1.17122E 18 | 1.17122E 18 |
| 103.01 | 4.65993E-02 | 3.02040E-02 | 1.53552E-04 | 0. | 0. | 2.52785E-01 |
| 104. | -1.53744E 04 | -1.76810E-03 | 3.10715E-05 | -9.21466E-05 | 0. | 1.17122E 18 |
| 105. | 8.59796E 04 | 1.99716E-01 | 1.95821E-01 | 2.13065E-04 | 4.78894E-01 | 4.62006E-01 |
| 106. | 1.17122E 18 | 1.17122E 18 | 1.17122E 18 | 4.68756E-02 | 2.23517E-08 | 9.18892E 02 |
| 107. | 2.52785E-01 | 1.17122E 18 | 2.23517E-07 | 1.19209E-07 | 1.43410E-01 | 4.58434E 03 |
| 108. | 5.12012E 00 | 5.18460E 02 | -6.92252E 02 | 2.21918E-04 | -1.79208E-06 | 2.95384E-06 |
| 109. | 0. | 0. | 3.70520E-01 | 3.68124E-01 | 2.52785E-01 | 1.17122E 18 |
| 112. | 1.17122E 18 | 4.68756E-02 | 7.45058E-09 | 2.23054E 03 | 7.64472E 02 | 4.00963E 05 |
| 113. | 1.17122E 18 | 1.17122E 18 | 4.68756E-02 | 7.45058E-09 | 1.64332E 00 | 1.29818E 00 |
| 114. | 6.94071E-02 | 7.39655E-02 | 2.00869E-04 | 6.34738E-01 | 8.50216E-01 | 2.52785E-01 |
| 115. | 0. | 0. | 0. | 0. | 0. | 0. |
| 116. | 1.17122E 18 | 4.68756E-02 | 2.23517E-08 | 1.51199E 00 | -7.90701E 00 | 7.02843E 02 |
| 118. | -3.00619E 02 | 9.65019E-05 | -7.79502E-07 | 1.28458E-06 | 0. | 1.17122E 18 |
| 118.01 | 2.52785E-01 | 1.17122E 18 | 2.23517E-07 | 5.94046E-08 | 2.05080E-01 | 0. |
| 119. | 7.45058E-09 | 4.50750E 03 | 1.01599E 04 | 4.97793E 05 | 1.99716E-01 | 1.95821E-01 |
| 121. | 5.32351E-04 | 1.72496E-04 | 2.05393E-01 | 1.17122E 18 | 1.17122E 18 | 1.17122E 18 |
| 123. | 2.16067E-07 | 1.34110E-07 | 1.43410E-01 | 1.88867E 01 | 1.56261E 03 | -3.57146E 02 |
| 124. | 1.17122E 18 | 4.68756E-02 | 1.49012E-08 | -2.61689E-01 | 1.50384E-01 | -3.75546E 02 |
| 125. | 1.17122E 18 | 2.16067E-07 | 1.34110E-07 | 1.43410E-01 | 1.28115E-01 | 2.54232E 00 |
| 129. | 1.17122E 18 | 1.17122E 18 | 4.68756E-02 | 7.45058E-09 | -2.37831E 01 | 6.46955E 01 |
| 131. | -1.16583E 03 | 2.92979E-03 | 8.72418E-04 | -1.97146E-06 | 0. | 0. |
| 132. | -4.67132E 02 | 1.88165E 03 | -4.51074E-04 | 8.53732E-06 | -3.59381E-06 | 0. |
| 127. | 7.45058E-09 | 1.52381E-01 | -3.66633E-01 | 2.25069E 02 | 3.66315E-05 | -2.34281E-05 |
| 134. | 1.65265E-07 | 0. | 0. | 1.39504E-01 | 1.17122E 18 | 2.16067E-07 |
| 135. | 1.17122E 18 | 1.17122E 18 | 1.17122E 18 | 4.68756E-02 | 2.23517E-08 | -1.37799E 02 |
| 136. | 1.39504E-01 | 1.17122E 18 | 2.16067E-07 | 1.56462E-07 | 1.43410E-01 | 1.38491E 01 |
| 137. | 1.27813E-02 | 6.50637E-05 | 1.65208E-01 | 1.73771E-01 | 1.39504E-01 | 1.17122E 18 |
| 138. | 1.19209E-07 | 1.43410E-01 | 2.85782E 03 | 2.60682E 05 | 1.62276E 05 | 2.65072E-02 |
| 140. | -9.21466E-05 | 0. | 1.17122E 18 | 1.17122E 18 | 1.17122E 18 | 4.68756E-02 |
| 140.01 | -9.31003E 01 | -4.12954E-05 | 2.02612E-05 | -2.38421E-07 | 0. | 0. |
| 141. | 1.17122E 18 | 2.23517E-07 | 5.96046E-08 | 1.43410E-01 | 2.22844E 00 | 2.25571E 02 |
| 143. | -1.13547E-05 | 1.16347E-07 | -1.63780E-07 | 0. | 1.17122E 18 | 1.17122E 18 |
| 143.01 | 2.52785E-01 | 1.17122E 18 | 2.30968E-07 | 1.68945E-02 | 0. | 0. |
| 144. | 9.85196E 04 | 1.32031E-02 | 2.41726E-04 | 1.35654E-04 | 1.84763E-01 | 1.17122E 18 |
| 146. | 5.59108E-03 | 3.36489E-05 | 7.24813E-05 | 2.32461E-01 | 1.17122E 18 | 1.17122E 18 |
| 147. | -2.85664E 00 | -3.54406E 00 | -1.34830E 02 | -5.96049E-05 | 2.93428E-05 | -3.45287E-07 |
| 149. | 1.73771E-01 | 2.52785E-01 | 1.17122E 18 | 2.23517E-07 | 1.34110E-07 | 1.43410E-01 |
| 151. | 1.33732E 05 | 2.28866E 05 | 2.65072E-02 | 5.32351E-04 | 1.72496E-04 | 2.05393E-01 |

ULTIPLE SUPPORT RESPONSE SPECTRUM MODAL REPORT

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ULTIPLE SUPPORT RESPONSE SPECTRUM MODAL REPORT

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| | | | | | | |
|--------|--------------|--------------|--------------|--------------|--------------|--------------|
| 153. | 1.17122E 18 | 1.17122E 18 | 4.68756E-02 | 7.45058E-09 | 1.75490E 03 | 8.65268E 03 |
| 154. | 1.17122E 18 | 2.23517E-07 | 0. | 1.43410E-01 | -5.14772E 00 | 1.49158E 04 |
| 155. | 1.17122E 18 | 4.68756E-02 | 9.68575E-08 | -1.24551E 02 | 2.01779E 02 | -5.96393E 03 |
| 156. | 2.23517E-07 | 0. | 1.43410E-01 | -4.15113E 02 | -2.91361E 04 | 1.42674E 04 |
| 157. | 4.68756E-02 | 5.21541E-08 | 1.21996E 02 | -1.08553E 02 | 7.43028E 03 | 2.40213E-03 |
| 158. | 7.37263E-01 | 1.56442E-07 | -3.59588E-09 | 3.29763E-09 | 0. | 1.17122E 18 |
| 159. | -5.98043E-05 | 2.93428E-05 | -3.45287E-07 | 0. | 0. | 1.39504E-01 |
| 161. | 2.21918E-04 | -1.79208E-06 | 2.95384E-06 | 0. | 1.17122E 18 | 1.17122E 18 |
| 161.01 | 4.68756E-02 | 2.23517E-08 | 9.69931E 02 | 1.05482E 03 | 9.65699E 04 | 1.31605E-02 |
| 162. | 2.13065E-04 | 4.78894E-01 | 4.62006E-01 | 1.39504E-01 | 1.17122E 18 | 2.16067E-07 |
| 164. | 1.43410E-01 | 5.62230E 02 | 5.28365E 04 | -1.09550E 04 | -1.76810E-03 | 3.10715E-05 |
| 165. | 1.17122E 18 | 1.17122E 18 | 4.68756E-02 | 1.49012E-08 | -1.97251E 00 | -2.44718E 00 |
| 167. | -4.97874E-05 | 5.46230E-05 | -3.47898E-07 | 0. | 0. | 2.52785E-01 |
| 169. | 2.08987E-01 | 3.72529E-08 | 1.43410E-01 | -7.35583E-01 | -2.09332E 01 | 5.14472E 01 |
| 171. | 8.64813E 01 | 3.66315E-05 | -2.34281E-05 | 1.65265E-07 | 0. | 0. |
| 172. | 1.17122E 18 | 2.23517E-07 | 2.98023E-08 | 1.43410E-01 | 2.25485E 03 | 1.05612E 05 |
| 173. | 2.23517E-07 | 2.23517E-08 | 1.43410E-01 | 6.27157E 02 | 3.40342E 04 | 3.85357E 04 |
| 174. | 0. | 1.17122E 18 | 1.17122E 18 | 1.17122E 18 | 4.68756E-02 | 1.49012E-08 |
| 175. | 8.51997E 02 | 9.49699E 04 | 1.31605E-02 | 1.27813E-02 | 6.50637E-05 | 1.65208E-01 |
| 176. | 3.72529E-08 | 1.43410E-01 | -1.42361E 00 | -7.36920E 01 | 3.56380E 01 | -1.13547E-05 |
| 177. | 1.16347E-07 | -1.63780E-07 | 0. | 1.17122E 18 | 1.17122E 18 | 1.17122E 18 |
| 179. | 4.68756E-02 | 2.23517E-08 | 2.40431E 00 | -1.06878E 01 | 6.29885E 02 | -4.97694E-05 |
| 179.01 | 5.46230E-05 | -3.47898E-07 | 0. | 0. | 1.39504E-01 | 1.17122E 18 |
| 180. | 2.16067E-07 | 5.96046E-08 | 1.43410E-01 | 8.21469E 00 | 6.79613E 02 | -1.54910E 02 |
| 182. | 9.65019E-05 | -7.79502E-07 | 1.28458E-06 | 0. | 1.17122E 18 | 1.17122E 18 |
| 182.01 | 1.17122E 18 | 4.68756E-02 | 1.49012E-08 | -1.83459E-01 | 1.03841E-01 | -2.59315E 02 |
| 183. | -4.12954E-05 | 2.02612E-05 | -2.38213E-07 | 0. | 0. | 1.39504E-01 |
| 185. | 1.17122E 18 | 2.16067E-07 | 5.96046E-08 | 1.43410E-01 | 1.05405E 02 | 2.27785E 03 |
| 186. | 6.76109E 02 | 1.27173E-04 | -3.29377E-06 | 2.78223E-06 | 0. | 1.17122E 18 |
| 188. | 1.17122E 18 | 1.17122E 18 | 4.68756E-02 | 7.45058E-09 | 4.04950E 03 | 1.02300E 03 |
| 190. | 1.07656E 06 | 0. | 0. | 0. | 2.61537E 00 | 2.66208E 00 |
| 192. | 1.39504E-01 | 1.17122E 18 | 2.16067E-07 | 2.53836E 03 | 0. | 0. |
| 193. | 0. | 0. | 0. | 4.93438E 02 | 0. | 0. |
| 194. | 2.03127E-01 | 0. | 1.43410E-01 | 4.18377E 03 | 2.33430E 05 | 3.24221E 05 |
| 195. | 2.53735E-02 | 4.37115E-04 | 2.84447E-04 | 1.19926E 00 | 1.17122E 18 | 1.17122E 18 |
| 196. | 1.17122E 18 | 4.68756E-02 | 2.23517E-08 | 8.75282E 03 | 5.65082E 03 | 5.79454E 05 |

MAXIMUM DISPLACEMENT, 1.17122E 18, OCCURED AT JOINT 096.
 MAXIMUM ROTATION, 1.17122E 18, OCCURED AT JOINT 095.

ULTIPLE SUPPORT RESPONSE SPECTRUM MODAL REPORT

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MULTIPLE SUPPORT RESPONSE SPECTRUM MODAL REPORT

M-RY SSE

COMBINED NODE ACCELERATIONS
COMBINATION METHOD 6 FOR MODAL SHAPES, MODE # 1 TO 30

LOAD CASE # 1 (FINAL)

| JOINT LABEL | TRANSLATION (GS) | | | ROTATION (R/SEC**2) | | |
|-------------|------------------|--------------|--------------|---------------------|--------------|--------------|
| | X | Y | Z | X | Y | Z |
| 001. | 5.51536E-04 | 3.47436E-10 | 3.71528E-04 | 1.23024E-01 | 2.12474E 00 | 6.66582E-01 |
| 002. | 3.03425E 15 | 1.21439E-04 | 1.93020E-11 | -3.83160E 01 | 5.35980E 01 | -5.14219E 02 |
| 003. | 3.03425E 15 | 5.79061E-10 | 4.05342E-10 | 1.43410E-01 | 2.62871E 01 | 3.59736E 02 |
| 003.01 | 3.03425E 15 | 3.03425E 15 | 1.21439E-04 | 2.23517E-08 | -1.68521E 02 | 2.44624E 02 |
| 004. | 6.54883E-04 | 3.03425E 15 | 5.79061E-10 | 1.56462E-07 | 1.43410E-01 | -7.90196E 01 |
| 005. | 3.03425E 15 | 3.03425E 15 | 3.03425E 15 | 4.68756E-02 | 3.72529E-08 | 1.88879E 02 |
| 006. | 1.11948E 00 | -4.73696E 01 | 1.95723E 02 | 2.98050E-01 | 3.69667E-03 | 1.16899E-03 |
| 007. | -5.76046E-01 | 4.00984E 01 | 1.07639E-05 | 1.43389E-02 | 1.79119E-05 | 0. |
| 008. | 0. | 0. | 6.95362E-04 | 1.17122E 18 | 2.30968E-07 | 0. |
| 009. | 7.72081E-11 | -1.09807E 00 | 1.93020E-11 | 6.10049E 03 | -3.27639E 02 | 9.25512E 05 |
| 012. | 8.67691E 02 | 6.57344E-05 | 1.13242E-06 | 2.84447E-04 | 1.19926E 00 | 1.17122E 18 |
| 013. | -4.06793E 02 | 5.64001E 02 | 0. | 0. | 0. | 3.04755E 00 |
| 014. | 3.03425E 15 | 3.03425E 15 | 1.21439E-04 | 2.23517E-08 | 9.20681E 03 | 3.92490E 03 |
| 015. | 3.24694E-03 | 6.54883E-04 | 3.03425E 15 | 2.23517E-07 | 0. | 1.43410E-01 |
| 016. | 4.75909E-02 | 3.75790E-02 | 2.50325E 00 | 4.09272E-04 | -2.61738E-04 | 1.84560E-06 |
| 018. | 0. | 0. | 5.46476E-04 | 8.19564E-08 | 1.43410E-01 | -2.70691E 01 |
| 018.01 | 6.76584E-01 | -8.73518E 00 | 2.98113E-05 | 2.79382E-03 | -6.23577E 01 | -8.74453E 02 |
| 019. | 4.78034E 01 | 1.07639E-05 | 3.71475E-05 | 1.79119E-05 | 0. | 0. |
| 021. | 5.36356E-04 | 1.93020E-11 | 3.71528E-04 | 3.22016E 03 | 4.80063E 05 | 3.88745E 05 |
| 023. | -2.59780E-03 | 3.55270E-03 | 6.22541E-06 | 0. | 0. | 2.52785E-01 |
| 024. | 1.01308E 03 | 7.75501E-04 | 9.53067E-06 | 1.18182E-03 | 0. | 1.17122E 18 |
| 025. | -2.21862E 03 | -3.11772E-03 | 2.80780E-03 | 1.95218E-03 | 0. | 0. |
| 029. | -1.85966E 02 | 1.80831E 01 | 4.41677E-05 | -8.50209E-05 | 1.93450E-04 | 0. |
| 031. | 3.03425E 15 | 3.03425E 15 | 3.03425E 15 | 4.68756E-02 | 1.45012E-08 | -2.55169E 02 |
| 032. | 0. | 6.54883E-04 | 3.03425E 15 | 2.23517E-07 | 2.23517E-08 | 1.43410E-01 |
| 032.01 | 0. | 0. | 7.89522E-03 | 1.17122E 18 | 1.17122E 18 | 1.17122E 18 |
| 034. | 1.21439E-04 | 9.65101E-11 | 1.59268E 01 | 4.94051E 03 | 4.39963E 05 | 2.80431E-02 |
| 035. | 4.08125E 00 | 2.02476E 02 | 3.08203E 02 | 1.43284E-02 | 2.90103E-04 | 8.90032E-05 |
| 036. | 1.89885E 01 | 4.11206E 02 | -8.51763E-05 | -1.81668E-02 | 2.69772E-05 | 0. |
| 037. | 3.03425E 15 | 1.21439E-04 | 3.86040E-11 | -9.16517E 03 | 2.35002E 04 | -1.18197E 06 |
| 038. | 0. | 0. | 0. | 0. | 0. | 0. |
| 040. | 3.03425E 15 | 3.03425E 15 | 1.21439E-04 | 3.72529E-08 | 1.48954E 02 | -2.65314E 02 |
| 040.01 | 3.03425E 15 | 3.03425E 15 | 3.03425E 15 | 4.68756E-02 | 7.45058E-09 | -1.85174E 02 |
| 041. | 0. | 0. | 0. | 0. | 0. | 0. |
| 043. | 3.38445E-03 | 3.03425E 15 | 3.03425E 15 | 1.17122E 18 | 4.68756E-02 | 7.45058E-09 |
| 043.01 | 9.11521E 00 | 1.13224E 03 | 7.26506E-05 | 2.78064E-02 | 4.72868E-04 | 1.47645E 00 |
| 044. | 6.54883E-04 | 3.03425E 15 | 5.79061E-10 | 0. | 1.43410E-01 | 5.23182E 03 |
| 046. | 3.03425E 15 | 5.79061E-10 | 0. | 1.43410E-01 | 5.62847E 03 | 2.69414E 05 |
| 047. | 3.06171E-06 | 0. | 3.03425E 15 | 1.17122E 18 | 1.17122E 18 | 4.68756E-02 |
| 049. | -2.39905E 00 | 1.55522E-01 | -2.50381E 02 | -1.00275E 00 | 1.37134E 00 | 2.40301E-03 |

MULTIPLE SUPPORT RESPONSE SPECTRUM MODAL REPORT

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MULTIPLE SUPPORT RESPONSE SPECTRUM MODAL REPORT

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| | | | | | | |
|--------|--------------|--------------|--------------|--------------|--------------|--------------|
| 051. | 0. | 6.54883E-04 | 3.03425E 15 | 2.23517E-07 | 7.45058E-09 | 1.43410E-01 |
| 053. | -4.93278E 00 | 6.25259E 00 | -1.30395E-06 | 9.99584E-06 | -5.88483E-06 | 0. |
| 054. | -1.78340E 01 | 2.47916E-05 | 8.20782E-06 | 1.40423E-05 | 0. | 0. |
| 055. | 5.16607E 00 | -1.16859E-06 | 2.21174E-08 | -3.59381E-06 | 0. | 1.17122E 18 |
| 056. | 7.59013E-06 | 2.26015E-06 | -5.10740E-09 | 0. | 0. | 2.52785E-01 |
| 057. | 4.05291E-10 | -9.31575E-12 | 8.54827E-12 | 0. | 1.17122E 18 | 1.17122E 18 |
| 058. | 6.54883E-04 | 3.03425E 15 | 5.79061E-10 | 1.49012E-08 | 1.43410E-01 | 3.66832E 02 |
| 059. | 3.03425E 15 | 3.03425E 15 | 1.21439E-04 | 2.98023E-08 | -9.85652E 03 | 2.44236E 04 |
| 061. | 3.03425E 15 | 5.79061E-10 | 0. | 1.43410E-01 | 3.31175E 03 | 4.90931E 05 |
| 061.01 | 7.72152E-04 | 9.57687E-06 | 3.02848E-06 | 0. | 1.17122E 18 | 1.17122E 18 |
| 062. | 3.61408E-04 | 3.03425E 15 | 5.79061E-10 | 0. | 0. | 0. |
| 064. | 2.2189E 00 | -1.30395E-06 | 2.58960E-08 | -5.88483E-06 | 0. | 1.17122E 18 |
| 065. | -1.99622E 00 | 4.90508E 00 | -1.08280E-06 | 4.28267E-06 | -6.02865E-06 | 0. |
| 067. | 0. | 0. | 6.54883E-04 | 1.17122E 18 | 2.30968E-07 | 0. |
| 069. | 1.65762E 01 | 9.35938E 02 | 9.34771E 02 | 4.33261E-02 | 6.79121E-04 | 3.54975E-04 |
| 071. | 3.03425E 15 | 3.03425E 15 | 3.03425E 15 | 4.68756E-02 | 3.72529E-08 | 5.96669E 03 |
| 072. | 1.28399E 03 | 1.25502E-04 | 1.28160E-04 | 6.22482E-04 | 1.27888E 00 | 1.19923E 00 |
| 073. | 0. | 0. | 0. | 2.61537E 00 | 2.66208E 00 | 2.52785E-01 |
| 074. | 3.71528E-04 | 1.12002E 00 | -4.79013E 01 | 7.52895E 04 | 2.99343E-01 | 3.67884E-03 |
| 075. | 0. | 3.03425E 15 | 3.03425E 15 | 1.17122E 18 | 4.68756E-02 | 1.49012E-08 |
| 076. | 7.20373E-05 | 1.22505E-06 | 3.82500E-03 | 1.25332E 00 | 1.39504E-01 | 1.17122E 18 |
| 077. | 5.59759E-10 | 0. | 3.71528E-04 | 4.42091E 03 | 3.12806E 05 | 3.44240E 05 |
| 079. | 1.12244E-04 | 1.75938E-06 | 9.19625E-07 | 1.30640E 00 | 1.17122E 18 | 1.17122E 18 |
| 079.01 | 3.03425E 15 | 1.21439E-04 | 1.93020E-11 | 1.71110E 00 | -4.09721E 00 | 2.51482E 03 |
| 080. | 1.06029E-06 | -6.78077E-07 | 4.78134E-09 | 0. | 0. | 1.39504E-01 |
| 082. | 3.03425E 15 | 5.59759E-10 | 2.12322E-10 | 1.43410E-01 | -5.24026E 01 | -2.71257E 03 |
| 082.01 | 3.39850E 00 | -1.08280E-06 | 1.10950E-08 | -6.02865E-06 | 0. | 1.17122E 18 |
| 083. | 3.03425E 15 | 3.03425E 15 | 1.21439E-04 | 7.45058E-09 | -1.32582E 02 | 3.57542E 02 |
| 085. | -1.53914E 01 | 2.98113E-05 | 7.23787E-06 | -8.27471E-06 | 0. | 0. |
| 086. | 3.61408E-04 | 3.03425E 15 | 5.59759E-10 | 0. | 1.43410E-01 | -3.00503E 02 |
| 088. | 3.63294E 00 | 9.57363E 01 | -1.16718E-05 | 9.16476E-05 | -2.81278E-05 | 0. |
| 090. | 3.03425E 15 | 3.03425E 15 | 3.03425E 15 | 4.68756E-02 | 5.21541E-08 | 8.59646E 01 |
| 092. | -3.87884E-01 | 2.66651E 01 | 6.22313E-06 | 1.15271E-02 | -1.04473E-05 | 0. |
| 093. | 0. | 3.61408E-04 | 3.03425E 15 | 2.16067E-07 | 0. | 1.43410E-01 |
| 094. | -1.12171E 00 | -8.24327E 01 | 3.86199E 01 | -5.18340E-03 | 1.07470E-04 | -4.32352E-05 |
| 095. | 0. | 3.03425E 15 | 3.03425E 15 | 1.17122E 18 | 4.68756E-02 | 9.68575E-08 |
| 096. | 1.55807E-01 | -9.73878E-01 | -4.61879E 01 | 4.65993E-02 | 3.02040E-02 | 1.53552E-04 |

MAXIMUM TRANSLATIONAL ACCEL., 3.03425E 15, OCCURED AT JOINT 095.
 MAXIMUM ROTATIONAL ACCEL., 1.17122E 18, OCCURED AT JOINT 095.

MULTIPLE SUPPORT RESPONSE SPECTRUM MODAL REPORT

M-RY SSE

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M-RY SSE

L T I P L E S U P P O R T R E S P O N S E S P E C T R U M S T R E S S R E P O R T

R E S P O N S E S P E C T R U M A N A L Y S I S --- S T R E S S R E P O R T P15YS PAGE 1
 E L E M E N T T Y P E 1 --- 3-D S T R A I G H T O R C U R V E D P I P E E L E M E N T S

C O M B I N E D E L E M E N T F O R C E S A N D M O M E N T S
 C O M B I N E D M E T H O D 6 M O D E 1 T O M O D E 30 --- I N T E R M E D I A T E

| ELEM NO | LOAD CASE | END | AXIAL FORCE | Y-AXIS SHEAR | Z-AXIS SHEAR | TORSION MOMENT | Y-AXIS MOMENT | Z-AXIS MOMENT |
|---------|-----------|--------|-------------|--------------|--------------|----------------|---------------|---------------|
| 1T | 1 001. | 002. | 9456.435 | 10648.470 | 7983.577 | 252035.048 | 78964.618 | 158470.300 |
| | | | 9456.435 | 10648.470 | 7983.577 | 252035.048 | 576945.516 | 745249.182 |
| 2T | 1 002. | 003. | 9448.294 | 10470.857 | 7984.621 | 252035.048 | 576945.516 | 745249.182 |
| | | | 9448.294 | 10470.857 | 7984.621 | 252035.048 | 542367.002 | 700104.550 |
| 3T | 1 003. | 003.01 | 9440.926 | 10405.221 | 7983.020 | 252035.048 | 542367.002 | 700104.550 |
| | | | 9440.926 | 10405.221 | 7983.020 | 252035.048 | 48876.186 | 72593.177 |
| 4T | 1 003.01 | 004. | 9403.116 | 9675.941 | 7635.468 | 252035.048 | 48876.186 | 72593.177 |
| | | | 9403.116 | 9675.941 | 7635.468 | 252035.048 | 63122.324 | 784492.468 |
| 5T | 1 004. | 005. | 9365.532 | 8986.486 | 7277.368 | 252035.048 | 613122.324 | 784492.468 |
| | | | 9365.532 | 8986.486 | 7277.368 | 252035.048 | 715264.500 | 910038.413 |
| 6T | 1 005. | 006. | 9358.941 | 8875.106 | 7217.264 | 252035.048 | 715264.500 | 910038.413 |
| | | | 9358.941 | 8875.106 | 7217.264 | 252035.048 | 920733.983 | 1161666.466 |
| 7T | 1 006. | 007. | 3837.065 | 1816.366 | 2573.748 | 0.000 | 39517.333 | 27888.479 |
| | | | 3837.065 | 1816.366 | 2573.748 | 0.000 | 0.000 | 0.000 |
| 8T | 1 006. | 008. | 8857.168 | 7047.096 | 6588.958 | 238764.711 | 920733.983 | 1151597.801 |
| | | | 8857.168 | 7047.096 | 6588.958 | 238764.711 | 1096643.610 | 1330381.901 |
| 9T | 1 008. | 009. | 8850.698 | 7043.734 | 6567.455 | 238764.711 | 1096643.610 | 1330381.901 |
| | | | 8850.698 | 7043.734 | 6567.455 | 238764.711 | 1206321.924 | 1442575.054 |
| 10T | 1 009. | 012. | 8837.790 | 17443.411 | 17562.237 | 238764.711 | 1206321.924 | 1442575.054 |
| | | | 8837.790 | 17443.411 | 17562.237 | 238764.711 | 898987.943 | 1135444.554 |
| 11T | 1 012. | 013. | 8830.214 | 17334.505 | 17517.710 | 238764.711 | 898987.943 | 1135444.554 |
| | | | 8830.214 | 17334.505 | 17517.710 | 238764.711 | 429536.119 | 656276.295 |
| 12T | 1 013. | 014. | 7120.725 | 5106.871 | 7301.487 | 0.000 | 219621.427 | 153609.573 |
| | | | 7120.725 | 5106.871 | 7301.487 | 0.000 | 0.000 | 0.000 |

L T I P L E S U P P O R T R E S P O N S E S P E C T R U M S T R E S S R E P O R T

| L T I P L E | | S U P P O R T | R E S P O N S E | S P E C T R U M | S T R E S S | R E P O R T | M-RY SSE |
|-------------|--------------------------|------------------------------------|-----------------------------------|----------------------------------|----------------------------------------|----------------------------------------|----------------------------------------|
| 13T | 1 013. 015. | 6628.502 6628.502 | 11299.135 11299.135 | 13272.127 13272.127 | 127552.500 127552.500 | 429536.119 130442.590 | 530611.116 216095.956 |
| 14T | 1 015. 016. | 6620.516 6620.516 | 10847.113 10847.113 | 13036.571 13036.571 | 127552.500 127552.500 | 130442.590 286153.240 | 216095.956 85889.977 |
| 15B | 1 016. CENTER 018. | 6597.249 11259.858 13300.019 | 12142.271 7990.243 3785.884 | 9142.641 9142.641 9142.641 | 127552.457 150949.953 272573.055 | 85889.774 244757.842 367982.331 | 286153.240 513215.297 615751.581 |
| 16T | 1 018. 018.01 | 11590.893 11590.893 | 5102.247 5102.247 | 2765.626 2765.626 | 272555.649 272555.649 | 615751.581 635709.285 | 367995.152 814288.079 |
| 17T | 1 018.01 019. | 10008.628 10008.628 | 3907.423 3907.423 | 3206.950 3206.950 | 272555.642 272555.642 | 635709.285 493759.473 | 814288.081 659398.001 |
| 18T | 1 019. 021. | 9616.843 9616.843 | 7063.669 7063.669 | 12110.870 12110.870 | 272672.264 272672.264 | 493759.473 305935.096 | 659350.212 411758.450 |
| 19B | 1 021. CENTER 023. | 9749.817 12884.647 13408.940 | 11230.210 7303.003 6368.769 | 9058.562 9058.562 9058.562 | 272630.014 237268.398 257565.231 | 411786.536 260443.032 114948.729 | 305935.096 405973.139 413776.419 |
| 20T | 1 023. 024. | 12207.498 12207.498 | 10672.016 10672.016 | 7319.039 7319.039 | 257565.222 257565.222 | 413776.419 414438.765 | 114949.175 418617.701 |
| 21T | 1 024. 025. | 10725.784 10725.784 | 13207.835 13207.835 | 8857.470 8857.470 | 163005.001 163005.001 | 472251.925 559887.120 | 405753.327 785298.969 |
| 22T | 1 025. 029. | 9352.244 9352.244 | 5454.564 5454.564 | 5068.412 5068.412 | 163005.001 163005.001 | 559887.180 462110.748 | 785298.969 548910.115 |
| 23T | 1 029. 031. | 8039.072 8039.072 | 4617.857 4617.857 | 3895.203 3895.203 | 163005.001 163005.001 | 462110.748 440877.948 | 548910.115 429249.933 |
| 24T | 1 031. 032. | 6138.393 6138.393 | 5329.711 5329.711 | 4795.372 4795.372 | 186602.501 186602.501 | 475214.468 380638.777 | 417034.529 345064.749 |
| 25T | 1 032. 027. | 5125.396 5125.396 | 7360.406 7360.406 | 8188.754 8188.754 | 186602.501 186602.501 | 380638.777 345906.541 | 345064.749 267475.955 |
| 26T | 1 027. 034. | 4645.783 4645.783 | 6718.044 6718.044 | 8057.475 8057.475 | 186602.501 186602.501 | 345906.541 266194.123 | 267475.955 137728.401 |
| 27T | 1 034. 035. | 937.194 937.194 | 2657.702 2657.702 | 1845.598 1845.598 | 0.000 0.000 | 54315.459 10785.243 | 76065.332 15289.065 |
| 28T | 1 035. 036. | 881.174 281.174 | 862.960 862.960 | 608.751 608.751 | 0.000 0.000 | 10785.243 0.000 | 15289.065 0.000 |

L T I P L E S U P P O R T R E S P O N S E S P E C T R U M S T R E S S R E P O R T M-RY SSE

L T I P L E S U P P O R T R E S P O N S E S P E C T R U M S T R E S S R E P O R T

M-RY 55E

ANALYSIS SPECTRUM ANALYSIS --- STRESS REPORT PISYS PAGE 2
 ELEMENT TYPE 1 --- 3-D STRAIGHT OR CURVED PIPE ELEMENTS

| ELEMENT | | ELEMENT FORCES AND MOMENTS | | | | | |
|-----------|--------------------------|------------------------------------|----------------------------------|----------------------------------|----------------------------------------|----------------------------------------|----------------------------------------|
| METHOD 6 | | MODE 1 TO MODE 30 --- INTERMEDIATE | | | | | |
| LOAD CASE | END CASE | AXIAL FORCE | Y-AXIS SHEAR | Z-AXIS SHEAR | TORSION MOMENT | Y-AXIS MOMENT | Z-AXIS MOMENT |
| 29T | 1 024. 037. | 2876.412 2876.412 | 5752.002 5752.002 | 3765.481 3765.481 | 180785.910 180785.910 | 192820.906 122938.667 | 326966.065 217083.927 |
| 30T | 1 037. 038. | 2785.255 2785.255 | 5611.436 5611.436 | 3757.952 3757.952 | 180785.883 180785.883 | 122938.709 95239.499 | 217083.927 161011.625 |
| 31B | 1 038. CENTER 040. | 2715.688 3312.015 4382.593 | 5458.521 5103.635 4218.315 | 3729.962 3729.962 3729.962 | 180776.356 158991.731 125978.500 | 95252.263 104543.780 120446.056 | 161011.625 129923.061 103587.283 |
| 32T | 1 040. 040.01 | 4060.810 4060.810 | 3865.161 3865.161 | 3565.424 3565.424 | 126041.877 126041.877 | 120379.894 92178.493 | 103587.283 112232.368 |
| 33T | 1 040.01 041. | 3590.806 3590.806 | 2429.742 2429.742 | 2688.105 2688.105 | 126041.877 126041.877 | 82178.493 174377.585 | 112232.368 206019.054 |
| 34B | 1 041. CENTER 043. | 3315.549 3530.752 3560.614 | 1859.364 1361.333 1287.613 | 1167.116 1167.116 1167.116 | 126058.753 100246.705 98492.439 | 206010.300 220880.300 225764.713 | 174377.585 180830.462 183867.805 |
| 35T | 1 043. 043.01 | 2822.932 2822.932 | 1065.238 1065.238 | 1322.552 1322.552 | 98485.468 98485.468 | 183867.805 151685.742 | 225767.199 169775.633 |
| 36T | 1 043.01 044. | 1835.829 1835.829 | 3344.126 3344.126 | 2000.490 2000.490 | 98485.466 98485.466 | 151685.742 59167.873 | 169775.633 61390.880 |
| 37B | 1 044. CENTER 046. | 1472.934 3758.886 4064.364 | 4065.619 2207.932 1476.390 | 2797.926 2797.926 2797.926 | 98485.526 53652.235 43273.083 | 59167.873 77426.225 69243.168 | 61390.764 99881.529 104304.564 |
| 38T | 1 046. 047. | 4521.592 4521.592 | 3549.872 3549.872 | 1791.565 1791.565 | 43249.481 43249.481 | 69145.901 29638.398 | 103021.292 162291.332 |
| 39B | 1 047. CENTER 049. | 4886.641 4700.131 4506.039 | 3779.622 3855.897 4058.183 | 1926.234 1926.234 1926.234 | 43242.503 41677.551 44798.364 | 79649.226 82020.955 80558.535 | 144087.527 159378.449 172065.342 |

L T I P L E S U P P O R T R E S P O N S E S P E C T R U M S T R E S S R E P O R T

M-RY 55E

L T I P L E S U P P O R T R E S P O N S E S P E C T R U M S T R E S S R E P O R T

M-RY SSE

RESPONSE SPECTRUM ANALYSIS --- STRESS REPORT PISYS FIGE 3
 ELEMENT TYPE 1 --- 3-D STRAIGHT OR CURVED PIPE ELEMENTS

COMBINED ELEMENT FORCES AND MOMENTS
 COMBINED METHOD 6 MODE 1 TO MODE 30 --- INTERMEDIATE

| ELEM NO | LOAD CASE | END | AXIAL FORCE | Y-AXIS SHEAR | Z-AXIS SHEAR | TORSION MOMENT | Y-AXIS MOMENT | Z-AXIS MOMENT |
|---------|--------------------------|-----|-------------|--------------|--------------|----------------|---------------|---------------|
| 40B | 1 049. CENTER 051. | | 4573.625 | 4158.774 | 2030.723 | 44784.141 | 80596.752 | 172051.590 |
| | | | 4329.113 | 4435.593 | 2030.723 | 55298.312 | 75670.588 | 182376.265 |
| | | | 4072.568 | 4705.867 | 2030.723 | 69444.954 | 67942.931 | 190306.330 |
| 41B | 1 051. CENTER 053. | | 4082.776 | 4819.451 | 2121.364 | 69364.671 | 67972.725 | 190324.372 |
| | | | 3873.036 | 5092.728 | 2121.364 | 81525.624 | 59253.184 | 197757.286 |
| | | | 3814.762 | 5140.157 | 2121.364 | 90750.418 | 53289.859 | 201920.883 |
| 42T | 1 053. 054. | | 3816.015 | 5387.554 | 2316.660 | 90734.960 | 53311.003 | 201921.454 |
| | | | 3816.015 | 5387.554 | 2316.660 | 90734.960 | 141444.149 | 322141.985 |
| 43T | 1 054. 055. | | 3816.498 | 5427.063 | 2360.570 | 90733.735 | 141444.149 | 323142.334 |
| | | | 3816.498 | 5427.063 | 2360.570 | 90733.735 | 183233.532 | 404976.697 |
| 44T | 1 055. 056. | | 3816.471 | 5439.090 | 2365.916 | 90736.854 | 183233.532 | 404975.929 |
| | | | 3816.471 | 5439.090 | 2365.916 | 90736.854 | 197299.648 | 433670.383 |
| 45T | 1 056. 057. | | 0.000 | 27.136 | 1.054 | 0.000 | 8.053 | 207.252 |
| | | | 0.000 | 27.136 | 1.054 | 0.000 | 0.000 | 0.000 |
| 46T | 1 031. 058. | | 1173.568 | 2698.015 | 2944.539 | 117941.369 | 164105.584 | 115823.824 |
| | | | 1173.568 | 2698.015 | 2944.539 | 117941.369 | 110024.291 | 87593.070 |
| 47T | 1 058. 059. | | 1156.539 | 2396.914 | 2954.120 | 117941.333 | 110024.330 | 87593.070 |
| | | | 1156.539 | 2396.914 | 2954.120 | 117941.333 | 82093.001 | 84138.424 |
| 48B | 1 059. CENTER 061. | | 1151.207 | 2130.239 | 2941.825 | 117924.825 | 82116.828 | 84138.424 |
| | | | 1782.937 | 1641.477 | 2941.825 | 89558.801 | 97235.514 | 85218.272 |
| | | | 2207.680 | 988.485 | 2941.825 | 62813.794 | 98813.362 | 85440.605 |
| 49T | 1 061. 061.01 | | 1761.316 | 737.957 | 2778.062 | 62852.846 | 98788.848 | 85440.605 |
| | | | 1761.316 | 737.957 | 2778.062 | 62852.846 | 45664.149 | 74385.960 |
| 50T | 1 061.01 062. | | 1191.337 | 999.579 | 1547.577 | 62852.846 | 45664.149 | 74385.960 |
| | | | 1191.337 | 899.579 | 1547.577 | 62852.846 | 94079.742 | 50478.672 |

M-RY SSE

L T I P L E S U P P O R T R E S P O N S E S P E C T R U M S T R E S S R E P O R T M-RY SSE

| | | | | | | | |
|-----|--------------------------|----------------------------------|----------------------------------|----------------------------------|----------------------------------------|----------------------------------------|-------------------------------------|
| 51B | 1 062. CENTER 064. | 908.444 1377.461 1336.153 | 1336.619 844.572 909.158 | 961.873 961.873 961.873 | 62852.846 32641.634 84576.929 | 94079.742 99518.517 47779.128 | 50178.672 39793.185 31926.773 |
| 52T | 1 064. 065. | 1769.107 1769.107 | 2506.855 2506.855 | 941.769 941.769 | 84531.024 84531.024 | 31926.773 24094.189 | 47860.727 59580.944 |
| 53B | 1 065. CENTER 067. | 2100.507 2031.990 1854.389 | 982.890 1166.785 1452.695 | 3123.200 3123.200 3123.200 | 84571.347 96914.337 107190.248 | 59523.689 54847.677 48527.321 | 24094.189 26230.240 27616.214 |
| 54B | 1 067. CENTER 069. | 1946.147 1667.246 1344.624 | 1526.551 1819.162 2044.200 | 3305.396 3305.396 3305.396 | 107189.192 114887.314 119636.849 | 48529.652 42440.570 37572.201 | 27616.214 29013.720 32125.995 |
| 55B | 1 069. CENTER 071. | 1384.297 1077.503 992.669 | 2138.541 2296.594 2330.322 | 3444.739 3444.739 3444.739 | 119622.334 121251.199 119709.514 | 37616.477 35627.103 37219.932 | 32125.995 37943.084 45238.026 |
| 56T | 1 071. 072. | 993.281 993.281 | 2553.444 2553.444 | 3732.327 3732.327 | 119714.789 119714.789 | 37203.333 145162.070 | 45238.026 139047.640 |
| 57T | 1 072. 073. | 993.513 993.513 | 2596.458 2596.458 | 3804.751 3804.751 | 119714.789 119714.789 | 145162.070 213079.947 | 139047.640 185116.999 |
| 58T | 1 073. 074. | 993.526 993.526 | 2622.535 2622.535 | 3813.561 3813.561 | 119714.789 119714.789 | 213079.947 235993.143 | 185116.999 200663.665 |
| 59T | 1 074. 075. | 0.000 0.000 | 27.138 27.138 | 1.470 1.470 | 0.000 0.000 | 11.225 0.000 | 207.283 0.000 |
| 60T | 1 034. 076. | 3984.749 3984.749 | 4162.056 4162.056 | 4107.215 4107.215 | 182595.809 182595.809 | 225923.616 148043.203 | 186602.501 119349.781 |
| 61T | 1 076. 077. | 3764.999 3764.999 | 3982.113 3982.113 | 4059.015 4059.015 | 182595.773 182595.773 | 148043.247 107328.685 | 119349.781 93273.520 |
| 62B | 1 077. CENTER 079. | 3597.139 4225.922 4508.047 | 3812.201 3220.391 2867.076 | 3994.332 3994.332 3994.332 | 182580.454 152028.404 114057.071 | 107355.695 124931.921 137409.511 | 93273.520 81875.682 73974.605 |
| 63T | 1 079. 079.01 | 3995.072 3995.072 | 2580.099 2580.099 | 3748.927 3748.927 | 114124.477 114124.477 | 137351.780 90065.492 | 73974.605 95368.961 |
| 64T | 1 079.01 080. | 3271.200 3271.200 | 1687.357 1687.357 | 2743.570 2743.570 | 114124.477 114124.477 | 90065.492 178090.268 | 95368.961 151612.081 |
| 65B | 1 080. CENTER | 2876.403 3116.615 | 1874.637 1483.389 | 923.818 923.818 | 114137.488 91999.736 | 151606.076 165155.328 | 178090.268 183944.733 |

L T I P L E S U P P O R T R E S P O N S E S P E C T R U M S T R E S S R E P O R T M-RY SSE

MULTIPLE SUPPORT RESPONSE SPECTRUM STRESS REPORT M-RY SSE

| | | | | | | | |
|-----|--------|----------|----------|----------|------------|------------|------------|
| | 082. | 3182.489 | 1385.438 | 923.818 | 87692.833 | 173947.130 | 187327.648 |
| 66. | 082. | 2333.471 | 1010.738 | 1395.363 | 87691.238 | 187323.648 | 173946.095 |
| | 082.01 | 2333.471 | 1010.738 | 1395.363 | 87691.238 | 157569.441 | 130741.640 |
| 67T | 082.01 | 1303.385 | 2433.686 | 2047.929 | 87691.237 | 157569.441 | 130741.640 |
| | 083. | 1303.385 | 2433.686 | 2047.929 | 87691.237 | 70880.318 | 65760.492 |
| 68B | 083. | 1576.394 | 2999.195 | 2845.691 | 87691.296 | 70880.318 | 65760.396 |
| | CENTER | 2837.214 | 1849.612 | 2845.691 | 48767.595 | 78229.850 | 85499.084 |
| | 085. | 2998.320 | 1578.016 | 2845.691 | 49277.604 | 53017.259 | 85136.058 |
| 69T | 085. | 3479.914 | 3902.103 | 1918.422 | 49250.567 | 64583.949 | 76342.331 |
| | 086. | 3479.914 | 3902.103 | 1918.422 | 49250.567 | 40091.640 | 161555.802 |
| 70B | 086. | 3911.938 | 3941.071 | 2519.685 | 49257.739 | 80058.282 | 144523.100 |
| | CENTER | 3721.247 | 4025.542 | 2519.685 | 56209.751 | 81418.460 | 162140.232 |
| | 088. | 3707.090 | 4159.758 | 2519.685 | 67555.397 | 80020.563 | 177988.776 |
| 71B | 088. | 3775.761 | 4270.022 | 2649.638 | 67540.362 | 80061.371 | 177976.743 |
| | CENTER | 3769.344 | 4364.976 | 2649.638 | 80441.971 | 75546.739 | 191693.283 |
| | 090. | 3778.117 | 4353.735 | 2649.638 | 92804.027 | 69142.861 | 204623.037 |
| 72B | 090. | 3785.023 | 4487.109 | 2757.737 | 92729.511 | 69179.817 | 204643.742 |
| | CENTER | 3821.687 | 4385.042 | 2757.737 | 103066.605 | 63158.881 | 215171.008 |
| | 092. | 3980.968 | 4213.989 | 2757.737 | 111047.728 | 58753.792 | 222201.208 |
| 73T | 092. | 3982.099 | 4506.887 | 2989.154 | 111036.629 | 58772.527 | 222201.186 |
| | 093. | 3982.099 | 4506.887 | 2989.154 | 111036.629 | 170981.705 | 334438.290 |
| 74T | 093. | 3982.631 | 4554.603 | 3042.088 | 111033.924 | 170981.705 | 334439.252 |
| | 094. | 3982.631 | 4554.603 | 3042.088 | 111033.924 | 225232.307 | 402928.485 |
| 75T | 094. | 3982.582 | 4570.452 | 3048.621 | 111046.579 | 225232.307 | 402924.593 |
| | 095. | 3982.582 | 4570.452 | 3048.621 | 111046.579 | 243511.450 | 426934.386 |
| 76T | 095. | 0.000 | 27.136 | 1.325 | 0.000 | 10.120 | 207.250 |
| | 096. | 0.000 | 27.136 | 1.325 | 0.000 | 0.000 | 0.000 |

MAXIMUM AND/OR MINIMUM VALUES
CORRESPONDING ELEMENT/LOAD-CASE

| | | | | | | |
|--------------|-----------|-----------|-----------|------------|-------------|-------------|
| MAXIMUM TANG | 12207.498 | 17443.411 | 17562.237 | 272672.266 | 1206321.922 | 1442575.047 |
| | 20-1 | 10-1 | 10-1 | 18-1 | 9-1 | 9-1 |
| MINIMUM | 0.000 | 27.136 | 1.054 | 0.000 | 0.000 | 0.000 |
| | 59-1 | 76-1 | 45-1 | 59-1 | 45-1 | 76-1 |
| MAXIMUM BEND | 13408.940 | 12142.271 | 9142.641 | 272630.014 | 411786.536 | 615751.581 |

MULTIPLE SUPPORT RESPONSE SPECTRUM STRESS REPORT M-RY SSE

MULTIPLE SUPPORT RESPONSE SPECTRUM STRESS REPORT

M-RY SSE

| | | | | | | |
|---------|-------------------------|-------------------------|-------------------------|---------------------------|----------------------|---------------------------|
| MINIMUM | 19- 908.444 51- | 15- 844.572 51- | 15- 923.818 65- | 19- 32641.634 51- | 1- 627.103 - | 15- 24094.189 53- |
|---------|-------------------------|-------------------------|-------------------------|---------------------------|----------------------|---------------------------|

MULTIPLE SUPPORT RESPONSE SPECTRUM STRESS REPORT

M-RY SSE

MULTIPLE SUPPORT RESPONSE SPECTRUM STRESS REPORT

M-RY SSE

RESPONSE SPECTRUM ANALYSIS --- STRESS REPORT
 ELEMENT TYPE 2 --- RESTRAINT ELEMENT

P15YS PAGE 4

COMBINED ELEMENT FORCES AND MOMENTS
 COMBINED METHOD 6 MODE 1 TO MODE 30 --- INTERMEDIATE

| ELEM NO | LOAD CASE | RESTRAINT TYPE | PIPE JOINT | STRUCT. POINT | RESTRAINT FORCE | RESTRAINT MOMENT |
|---------|-----------|----------------|------------|---------------|-----------------|------------------|
| 1 | 1 | ANCHOR | 001. | ANC X | 7.984E 03 | 1.585E 05 |
| 2 | 1 | ANCHOR | 001. | ANC Y | 1.087E 04 | 7.896E 04 |
| 3 | 1 | ANCHOR | 001. | ANC Z | 9.456E 03 | 2.520E 05 |
| 4 | 1 | ANCHOR | 056. | RPUNIX | 2.443E 03 | 3.812E 05 |
| 5 | 1 | ANCHOR | 056. | RPUN1Y | 5.454E 03 | 1.973E 05 |
| 6 | 1 | ANCHOR | 056. | RPUN1Z | 3.790E 03 | 2.279E 05 |
| 7 | 1 | ANCHOR | 074. | RPUN2X | 9.935E 02 | 1.197E 05 |
| 8 | 1 | ANCHOR | 074. | RPUN2Y | 2.655E 03 | 2.360E 05 |
| 9 | 1 | ANCHOR | 074. | RPUN2Z | 3.812E 03 | 2.007E 05 |
| 10 | 1 | ANCHOR | 095. | RPUN3X | 2.824E 03 | 3.943E 05 |
| 11 | 1 | ANCHOR | 095. | RPUN3Y | 4.589E 03 | 2.435E 05 |
| 12 | 1 | ANCHOR | 095. | RPUN3Z | 4.186E 03 | 1.980E 05 |
| 13 | 1 | GLOBAL GUIDE | 009. | GUIDEX | 2.397E 04 | 0. |
| 14 | 1 | GLOBAL GUIDE | 009. | GUIDEY | 2.411E 04 | 0. |
| 15 | 1 | SNUBBER | 019. | AS003 | 1.407E 04 | 0. |
| 16 | 1 | SNUBBER | 025. | AS005 | 1.215E 04 | 0. |
| 17 | 1 | SNUBBER | 025. | AS004 | 1.944E 04 | 0. |
| 18 | 1 | SNUBBER | 027. | AS007 | 1.328E 04 | 0. |

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MULTIPLE SUPPORT RESPONSE SPECTRUM STRESS REPORT M-RY SSE
19 1 SMUBBER 032. AS006 1.428E 04 0.

HIT 01 07-22-92 18.169 P15Y506 FEEDWATER LINE A PAGE 502
MULTIPLE SUPPORT RESPONSE SPECTRUM STRESS REPORT M-RY SSE

#IT 01 07-22-92 18.169 P I S Y S 0 6 FEEDWATER LINE A

PAGE 503

I S E Z FILE GENERATION REPORT

M-RY SSE

PISEZ FILE UPDATE HAS STARTED.
ANALYSIS CASE LABEL "M-RY SSE"
ANALYSIS CASE SEQUENCE NUMBER = 14 (PISEZ)
IS BEING ADDED.

PISEZ FILE UPDATE IS COMPLETE.

#IT 01 07-22-92 18.169 P I S Y S 0 6 FEEDWATER LINE A

PAGE 503

I S E Z FILE GENERATION REPORT

M-RY SSE

| | | | | |
|-------|-----|-----|-----|------|
| LLLLL | LLL | LLL | L L | LLLL |
| L L | L | L | L L | L |
| L L | L | LLL | L L | LLLL |
| LLLLL | L | L | L | L |
| L | L | L | L | L |
| L | LLL | L | L | LLLL |

LLLLLL LLLLLL LLLLLL

| | | | | | | | | | | | | | |
|--------|-----|-----|-------------|-----|-----|-------------|-----|-----|---------|---------|------|---------|---------|
| L L | L | L L | L | L L | L | L | L L | LLL | LLL | LLLL | LLLL | LLLL | LLLLL |
| L L | L L | L L | L L | L L | L L | L L | L L | L L | L L | L L | L L | L L | L L |
| LLLLLL | L | L | L L L L L L | L | L | L L L L L L | L | L | L | L L L L | L | L | L L L L |
| L | L | L | L L | L | L | L L L L | L | L | L L L L | L | L | L L L L | L L L L |

| | |
|-----|---------|
| L | LLLLL |
| LL | L |
| L | LLLL |
| L | L |
| LLL | L L L L |

ISYS MASTER CONTROL INFORMATION

UN LABEL = FEEDWATER LINE A

ODEL DATE = 11/91

PROJECT TITLE =

PROJECT NUMBER =

OB TITLE =

OB NUMBER =

UN NUMBER =

ANALYSIS CASE 15, OF 16

EBUG PARAMETER = 0

UNCH PARAMETER = 0

ATA CHECK FLAG = 0

ISEZ GENERATION= T

LOAD LABEL = M-RZ SSE

A MULTIPLE SUPPORT EXCITATION RESPONSE SPECTRUM ANALYSIS WAS SELECTED.

COMBINATION METHOD, MC, = 6
DISPLACEMENT OUTPUT OPTION = 5
STRESS OUTPUT OPTION = 0
NUMBER OF SPECTRUM CASES = 1
INTERPOLATION INDICATOR = 1

** WORKING FILES RESTARTED FROM TAPE # 12529 ***

MULTIPLE SUPPORT RESPONSE SPECTRUM INPUT

M-RZ SSE

CONTROL INFORMATION

NUMBER OF SPECTRA = 4

MAXIMUM NUMBER OF SPECTRUM
TABLE ENTRIES (PAIRS) = 19

METHOD OF COMBINATION = 6

EQ. 1, METHOD I
EQ. 2, METHOD II
EQ. 3, METHOD III
EQ. 4, METHOD IV
EQ. 5, METHOD V
EQ. 6, METHOD VI, (METHOD I + H/F)

NUMBER OF SPECTRUM
ANALYSIS LOAD CASES = 1

OUTPUT TYPE FLAG (NPRINT) = 5

EQ.0, PRINT COMB. RESULTS (DISP. ,
ACCEL., STRESSES)

EQ.1, PRINT MODAL RESULTS AND
COMB. RESULTS

EQ.2, PRINT = 1 ,
SAVE MODAL & COMB. RESULTS
ON TAPE 10

EQ.3, PRINT = 0
SAVE = 2

EQ.4, RESULTS WITH 3 PEAK SHIFTS

EQ.5, RESULTS WITHOUT PEAK SHIFT

EQ.6, HI FREQ. RESP. USES MAX ZPA

EQ.N, RESULTS WITH (2*N-9) SHIFTS

OUTPUT FLAG NPRINT VALUE OF 4 OR MORE IS A
SUBSET OF COMBINATION METHOD VI AND CANNOT
BE USED WITH ANY OTHER COMBINATION OPTION
REFER TO USER'S MANUAL FOR DETAILS

FLAG FOR ELEMENT STRESS OUTPUT = 0

.EQ. 1 ELEMENT ORIENTED MODAL FORCES & MOMENTS
.EQ. 2 MODEL ORIENTED MODAL FORCES & MOMENTS

FLAG FOR SPECTRUM INTERPOLATION= 1

.EQ. 0 LINEAR INTERPOLATION
.EQ. 1 LOGARITHMIC INTERPOLATION

M-RZ SSE

4IT 01 07-22-92 18.169 P I S Y S 0 6 FEEDWATER LINE A
MULTIPLE SUPPORT RESPONSE SPECTRUM INPUT

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M-RZ SSE

4IT 01 07-22-92 18.169 P I S Y S 0 6 FEEDWATER LINE A
MULTIPLE SUPPORT RESPONSE SPECTRUM INPUT

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MIT 01 07-22-92 18.169 P15Y506 FEEDWATER LINE A
MULTIPLE SUPPORT RESPONSE SPECTRUM INPUT

PAGE 508
M-RZ SSE

SPECTRAL RESPONSE LOAD CASE DEFINITION

SHOCK DIRECTION OF APPLICATION (GLOBAL)
NO. -X- -Y- -Z-

1 0 0 1

MIT 01 07-22-92 18.169 P15Y506 FEEDWATER LINE A
MULTIPLE SUPPORT RESPONSE SPECTRUM INPUT

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M-RZ SSE

SPECTRUM TABLES

SPECTRUM TABLE NUMBER = 1
NUMBER OF ENTRIES = 17
SPECTRUM TYPE = PER000/ ACC
SCALE FACTOR = 386.0
DAMPING COEFFICIENT = 2.000E-02
DESCRIPTION = NOZZ N36

| SPECTRAL PERIOD / | DISPLACEMENT-OR-ACCELERATION |
|-------------------|------------------------------|
| 1.0000E-05 / | 1.7900E 00 |
| 2.9050E-02 / | 1.7900E 00 |
| 3.0420E-02 / | 1.9500E 00 |
| 3.1870E-02 / | 2.0600E 00 |
| 3.6620E-02 / | 2.0600E 00 |
| 3.8360E-02 / | 3.1300E 00 |
| 4.0180E-02 / | 3.3100E 00 |
| 4.2090E-02 / | 5.1100E 00 |
| 4.4090E-02 / | 6.6100E 00 |
| 4.6180E-02 / | 7.7000E 00 |
| 4.8370E-02 / | 7.7000E 00 |
| 5.0660E-02 / | 9.0000E 00 |
| 8.8370E-02 / | 9.0000E 00 |
| 9.2570E-02 / | 8.7500E 00 |
| 9.6960E-02 / | 8.5700E 00 |
| 1.0155E-01 / | 8.5700E 00 |
| 1.4300E-01 / | 8.5700E 00 |

SPECTRUM TABLE NUMBER = 2
NUMBER OF ENTRIES = 16
SPECTRUM TYPE = PER000/ ACC
SCALE FACTOR = 386.0
DAMPING COEFFICIENT = 3.000E-02
DESCRIPTION = DEPSS N80

| SPECTRAL PERIOD / | DISPLACEMENT-OR-ACCELERATION |
|-------------------|------------------------------|
| 1.0000E-05 / | 1.7400E 00 |
| 2.9050E-02 / | 1.7400E 00 |
| 3.0420E-02 / | 2.8200E 00 |
| 3.1870E-02 / | 3.4800E 00 |
| 4.8370E-02 / | 3.4800E 00 |
| 5.0660E-02 / | 3.4800E 00 |
| 5.3070E-02 / | 3.8300E 00 |
| 5.5590E-02 / | 3.8300E 00 |

M U L T I P L E S U P P O R T R E S P O N S E S P E C T R U M I N P U T

M-RZ 55E

| | | |
|------------|---|------------|
| 5.8220E-02 | / | 3.8300E 00 |
| 6.6910E-02 | / | 3.8300E 00 |
| 7.0090E-02 | / | 3.8300E 00 |
| 7.3410E-02 | / | 4.8600E 00 |
| 7.6900E-02 | / | 5.3200E 00 |
| 8.0550E-02 | / | 5.5000E 00 |
| 1.0155E-01 | / | 5.5000E 00 |
| 1.4300E-01 | / | 5.5000E 00 |

SPECTRUM TABLE NUMBER = 3
 NUMBER OF ENTRIES = 19
 SPECTRUM TYPE = PER000/ ACC
 SCALE FACTOR = 386.0
 DAMPING COEFFICIENT = 3.000E-02
 DESCRIPTION = GD NB2 92

SPECTRAL PERIOD / DISPLACEMENT-OR-ACCELERATION

| | | |
|------------|---|------------|
| 1.0000E-05 | / | 9.0000E-01 |
| 2.9050E-02 | / | 9.0000E-01 |
| 3.3380E-02 | / | 9.0000E-01 |
| 3.4960E-02 | / | 9.8000E-01 |
| 4.0180E-02 | / | 1.1400E 00 |
| 4.2090E-02 | / | 1.4600E 00 |
| 4.4090E-02 | / | 1.5400E 00 |
| 5.0000E-02 | / | 1.5400E 00 |
| 5.0660E-02 | / | 1.5600E 00 |
| 5.3070E-02 | / | 1.6700E 00 |
| 6.3880E-02 | / | 1.6700E 00 |
| 6.6910E-02 | / | 1.6700E 00 |
| 7.0090E-02 | / | 2.4100E 00 |
| 7.3410E-02 | / | 3.3800E 00 |
| 7.6900E-02 | / | 3.8300E 00 |
| 8.0550E-02 | / | 4.1600E 00 |
| 8.4370E-02 | / | 4.1600E 00 |
| 1.0155E-01 | / | 3.8800E 00 |
| 1.4300E-01 | / | 3.8800E 00 |

SPECTRUM TABLE NUMBER = 4
 NUMBER OF ENTRIES = 19
 SPECTRUM TYPE = PER000/ ACC
 SCALE FACTOR = 386.0
 DAMPING COEFFICIENT = 3.000E-02
 DESCRIPTION = PENET M91 92

SPECTRAL PERIOD / DISPLACEMENT-OR-ACCELERATION

| | | |
|------------|---|------------|
| 1.0000E-05 | / | 1.0000E 00 |
| 2.9050E-02 | / | 1.0000E 00 |

M U L T I P L E S U P P O R T R E S P O N S E S P E C T R U M I N P U T

M-RZ 55E

| RESTRAINT LABEL | X | Y | Z | MULTIPLIERS | SPECTRUM NUMBER |
|-----------------|---|------------|---|-------------|-----------------|
| 3.6620E-02 | / | 1.0000E 00 | | | |
| 3.8360E-02 | / | 1.0700E 00 | | | |
| 4.0180E-02 | / | 1.1400E 00 | | | |
| 4.2090E-02 | / | 1.4600E 00 | | | |
| 4.4090E-02 | / | 1.5400E 00 | | | |
| 5.0000E-02 | / | 1.5400E 00 | | | |
| 5.8220E-02 | / | 1.5400E 00 | | | |
| 6.0990E-02 | / | 1.5400E 00 | | | |
| 6.3880E-02 | / | 1.7600E 00 | | | |
| 6.6810E-02 | / | 2.0700E 00 | | | |
| 7.0090E-02 | / | 2.7500E 00 | | | |
| 7.3410E-02 | / | 3.6700E 00 | | | |
| 7.6900E-02 | / | 4.0300E 00 | | | |
| 8.0550E-02 | / | 4.1300E 00 | | | |
| 1.0155E-01 | / | 4.1300E 00 | | | |
| 1.4300E-01 | / | 4.1300E 00 | | | |

SUPPORT EXCITATION INPUT INFORMATION

| RESTRAINT LABEL | X | Y | Z | MULTIPLIERS | SPECTRUM NUMBER |
|-----------------|----|----|-------------|-------------|-----------------|
| RPV#1 | 0. | 0. | 1.00000E 00 | | 1 |
| RPV#2 | 0. | 0. | 1.00000E 00 | | 1 |
| RPV#3 | 0. | 0. | 1.00000E 00 | | 1 |
| AS003 | 0. | 0. | 1.00000E 00 | | 2 |
| ANC | 0. | 0. | 1.00000E 00 | | 4 |

M U L T I P L E S U P P O R T R E S P O N S E S P E C T R U M A N A L Y S I S

M-RZ SSE

PREVIOUSLY SAVED PARTICIPATION FACTORS HAVE BEEN
 SUCCESSFULLY RETRIEVED FROM FILE CODE 23
 M O D A L P A R T I C I P A T I O N F A C T O R S

| MODE NUMBER | FREQUENCY (HERTZ) | SUPPORT NUMBER AND FACTORS | | | | | | | | | |
|-------------|-------------------|----------------------------|--------------|----|--------------|----|--------------|----|--------------|----|--------------|
| 1 | 8.126 | 1 | -2.47121E 00 | 2 | -8.33189E-01 | 3 | 2.83760E 00 | 4 | 2.11920E-01 | 5 | 3.90609E-02 |
| | | 6 | 4.66300E-01 | 7 | -7.28889E-02 | 8 | 4.17094E-01 | 9 | 4.60421E-01 | 10 | -2.15295E-01 |
| | | 11 | 7.93844E-02 | 12 | 5.74998E-01 | 13 | 7.56524E 00 | 14 | 2.14310E 00 | 15 | -1.74536E 00 |
| | | 16 | -1.40429E 00 | 17 | 3.28341E 00 | 18 | 9.18522E 00 | 19 | 9.18552E-01 | 20 | -2.16636E 00 |
| | | 21 | 2.16373E 00 | 22 | -5.47649E-01 | 23 | -4.59772E- 1 | 24 | 4.92717E-01 | 25 | -5.86890E-01 |
| 2 | 10.871 | 1 | 1.5 42E 00 | 2 | -1.73186E 00 | 3 | -5.51535E-01 | 4 | -2.29063E-01 | 5 | 2.25932E-01 |
| | | 6 | 3.6 4367E-01 | 7 | 1.44198E-01 | 8 | 1.09624E-01 | 9 | -3.06140E-02 | 10 | 1.70547E-02 |
| | | 11 | 4.57423E-02 | 12 | -4.84575E-01 | 13 | -3.34059E 00 | 14 | 4.14417E 00 | 15 | 2.23215E-01 |
| | | 16 | 1.79595E-01 | 17 | -4.19917E-01 | 18 | 8.67347E-01 | 19 | 8.67376E-01 | 20 | -2.42355E 00 |
| | | 21 | 2.42061E 00 | 22 | 9.67769E-02 | 23 | 8.12480E-02 | 24 | 6.96325E-01 | 25 | -8.29414E-01 |
| 3 | 11.554 | 1 | -6.46668E-01 | 2 | 5.31906E-01 | 3 | 3.29275E-01 | 4 | 2.01890E-02 | 5 | -2.74524E-01 |
| | | 6 | 8.01196E-01 | 7 | 3.73147E-02 | 8 | -8.08778E-03 | 9 | 3.34001E-02 | 10 | -3.43092E-01 |
| | | 11 | -3.56686E-01 | 12 | -1.28909E 00 | 13 | 1.85154E 00 | 14 | -1.29654E 00 | 15 | -2.05889E-01 |
| | | 16 | -1.65655E-01 | 17 | 3.87322E-01 | 18 | 2.25550E-01 | 19 | 2.25558E-01 | 20 | 1.28283E 00 |
| | | 21 | -1.28127E 00 | 22 | -3.38250E-01 | 23 | -2.83974E-01 | 24 | -6.68390E-01 | 25 | 7.96140E-01 |
| 4 | 11.842 | 1 | 6.00221E-01 | 2 | 5.44366E-01 | 3 | -4.46262E-01 | 4 | -2.54188E-01 | 5 | -5.22341E-01 |
| | | 6 | 1.35285E 00 | 7 | 1.76461E-02 | 8 | -5.53318E-02 | 9 | -7.75584E-02 | 10 | 2.19431E-01 |
| | | 11 | 1.86903E-01 | 12 | 7.42028E-01 | 13 | -1.79554E 00 | 14 | -1.25791E 00 | 15 | -3.16647E-01 |
| | | 16 | -2.54769E-01 | 17 | 5.95683E-01 | 18 | -4.92073E-01 | 19 | -4.92089E-01 | 20 | 9.34800E-02 |
| | | 21 | -9.33666E-02 | 22 | 4.39743E-01 | 23 | 3.69181E-01 | 24 | 2.45898E-01 | 25 | -2.52897E-01 |
| 5 | 13.025 | 1 | -3.66546E-01 | 2 | -7.05655E-01 | 3 | -5.01030E-01 | 4 | 3.70877E-02 | 5 | 4.35788E-01 |
| | | 6 | 7.36382E-03 | 7 | -5.41073E-04 | 8 | 4.89478E-01 | 9 | -2.38921E-02 | 10 | -3.97476E-02 |
| | | 11 | 1.27252E 00 | 12 | 2.65602E-01 | 13 | 1.43531E 00 | 14 | 1.31039E 00 | 15 | 2.62247E-01 |
| | | 16 | 2.11000E-01 | 17 | -4.93346E-01 | 18 | -9.61373E-02 | 19 | -9.61405E-02 | 20 | 1.68235E 00 |
| | | 21 | -1.68031E 00 | 22 | 1.98823E 00 | 23 | 1.66919E 00 | 24 | -4.91990E-01 | 25 | 5.86025E-01 |
| 6 | 15.275 | 1 | 3.24656E-01 | 2 | 1.24210E 00 | 3 | 1.04385E 00 | 4 | 7.84291E-02 | 5 | -6.49649E-01 |
| | | 6 | -5.82303E-02 | 7 | 2.08878E-02 | 8 | -8.96499E-02 | 9 | 1.67002E-01 | 10 | -1.09051E-01 |
| | | 11 | 7.03582E-01 | 12 | -6.09131E-02 | 13 | -1.62016E 00 | 14 | -2.48899E 00 | 15 | -8.11394E-01 |
| | | 16 | -6.52834E-01 | 17 | 1.52641E 00 | 18 | -4.66183E-01 | 19 | -4.66199E-01 | 20 | -1.45964E 00 |
| | | 21 | 1.45787E 00 | 22 | 9.17860E-01 | 23 | 7.70579E-01 | 24 | 2.99487E-01 | 25 | -3.56727E-01 |
| 7 | 15.809 | 1 | 1.31258E-01 | 2 | 1.39885E 00 | 3 | 1.35978E 00 | 4 | -1.96674E-01 | 5 | 1.23788E 00 |
| | | 6 | -2.12795E-01 | 7 | 6.44740E-02 | 8 | 4.60681E-02 | 9 | 1.70967E-02 | 10 | 8.15989E-02 |
| | | 11 | -8.20362E-02 | 12 | -2.25314E-02 | 13 | -9.41577E-01 | 14 | -2.96517E 00 | 15 | -1.30894E-01 |

M U L T I P L E S U P P O R T R E S P O N S E S P E C T R U M A N A L Y S I S

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MULTIPLE SUPPORT RESPONSE SPECTRUM ANALYSIS

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| | | | | | | | | | | | |
|----|--------|----|--------------|----|--------------|----|--------------|----|--------------|----|--------------|
| 8 | 17.998 | 16 | -1.05315E-01 | 17 | 2.46240E-01 | 18 | 1.05810E 00 | 19 | 1.05814E 00 | 20 | -8.75106E-01 |
| | | 21 | 8.74044E-01 | 22 | 7.79779E-02 | 23 | 6.54654E-02 | 24 | 5.29598E-01 | 25 | -6.30820E-01 |
| 9 | 19.854 | 1 | 3.27171E-02 | 2 | -1.87328E-01 | 3 | -4.22821E-01 | 4 | -7.11660E-03 | 5 | -1.03090E-01 |
| | | 6 | 7.73104E-03 | 7 | 1.32906E-01 | 8 | 6.06063E-02 | 9 | 2.26804E-01 | 10 | 5.62685E-01 |
| | | 11 | -4.91030E-01 | 12 | -2.89594E-01 | 13 | 2.01215E-01 | 14 | 3.15807E-01 | 15 | -1.31501E-01 |
| | | 16 | -1.05804E-01 | 17 | 2.47382E-01 | 18 | -1.66525E-01 | 19 | -1.66530E-01 | 20 | 1.01962E-02 |
| | | 21 | -1.01838E-02 | 22 | 1.14561E 00 | 23 | 9.61787E-01 | 24 | 2.74787E 00 | 25 | -3.27307E 00 |
| 10 | 21.590 | 1 | -6.04652E-01 | 2 | 3.47558E-01 | 3 | 7.40943E-01 | 4 | 2.55926E-01 | 5 | -5.01076E-01 |
| | | 6 | 1.20278E-01 | 7 | 1.67752E-01 | 8 | -3.33576E-03 | 9 | -4.04569E-01 | 10 | 2.64572E-01 |
| | | 11 | 2.03562E-01 | 12 | 1.04399E-01 | 13 | 8.75003E-01 | 14 | -5.64848E-01 | 15 | 1.40250E 00 |
| | | 16 | 1.12843E 00 | 17 | -2.63842E 00 | 18 | 2.07164E 00 | 19 | 2.07171E 00 | 20 | 5.20267E-01 |
| | | 21 | -5.19636E-01 | 22 | 1.52875E-01 | 23 | 1.28344E-01 | 24 | 5.11784E-01 | 25 | -6.09601E-01 |
| 11 | 21.903 | 1 | -1.30819E-01 | 2 | 1.41096E-01 | 3 | 1.61103E-01 | 4 | -5.24975E-01 | 5 | -3.74654E-01 |
| | | 6 | 1.34683E-01 | 7 | -1.30493E-01 | 8 | 9.11101E-02 | 9 | -2.24901E-01 | 10 | -4.33150E-01 |
| | | 11 | -1.65785E-01 | 12 | -1.05746E-01 | 13 | 8.00977E-02 | 14 | -2.46184E-01 | 15 | 3.78554E-01 |
| | | 16 | 3.04578E-01 | 17 | -7.12144E-01 | 18 | 3.63038E-01 | 19 | 3.63050E-01 | 20 | -8.07315E-01 |
| | | 21 | 8.06335E-01 | 22 | -3.27871E-01 | 23 | -2.75260E-01 | 24 | -1.19970E-01 | 25 | 1.42900E-01 |
| 12 | 22.948 | 1 | -8.97462E-02 | 2 | 5.33538E-02 | 3 | 5.62848E-03 | 4 | -4.29309E-01 | 5 | -1.82088E-01 |
| | | 6 | 8.83878E-02 | 7 | -2.46543E-02 | 8 | -5.95694E-02 | 9 | 8.29876E-01 | 10 | 3.34419E-01 |
| | | 11 | 2.44623E-01 | 12 | 1.04010E-01 | 13 | 8.08824E-02 | 14 | -8.29538E-02 | 15 | 1.98938E-01 |
| | | 16 | 1.60062E-01 | 17 | -3.74246E-01 | 18 | 5.27745E-02 | 19 | 5.27762E-02 | 20 | -3.92174E-01 |
| | | 21 | 3.91698E-01 | 22 | 5.47506E-02 | 23 | 4.59653E-02 | 24 | -1.88042E-01 | 25 | 2.23982E-01 |
| 13 | 23.646 | 1 | -1.31235E-02 | 2 | 4.34438E-02 | 3 | 2.51818E-01 | 4 | 3.06332E-01 | 5 | -1.72857E-01 |
| | | 6 | -1.45745E-03 | 7 | 3.57920E-02 | 8 | 3.78481E-01 | 9 | 7.48086E-01 | 10 | -2.56487E-01 |
| | | 11 | -4.61861E-01 | 12 | -2.98470E-02 | 13 | 1.54236E-02 | 14 | -8.19220E-02 | 15 | 2.47635E-01 |
| | | 16 | 1.99243E-01 | 17 | -4.65857E-01 | 18 | 1.08673E 00 | 19 | 1.08676E 00 | 20 | 2.02489E-01 |
| | | 21 | -2.02243E-01 | 22 | 1.05631E 00 | 23 | 8.86812E-01 | 24 | -4.15774E-01 | 25 | 4.95241E-01 |
| 14 | 25.645 | 1 | 1.03513E-01 | 2 | 6.12122E-03 | 3 | 2.01237E-01 | 4 | -1.44009E-01 | 5 | -1.53150E-01 |
| | | 6 | -1.27489E-02 | 7 | -4.78375E-03 | 8 | 3.98423E-01 | 9 | -4.26482E-01 | 10 | 3.27447E-01 |
| | | 11 | -6.07306E-01 | 12 | -1.99569E-02 | 13 | -5.32195E-02 | 14 | -3.50851E-02 | 15 | -5.78572E-01 |
| | | 16 | -4.65510E-01 | 17 | 1.08842E 00 | 18 | 2.84433E-01 | 19 | 2.84442E-01 | 20 | -1.62491E-01 |
| | | 21 | 1.62294E-01 | 22 | 2.25957E 00 | 23 | 1.89700E 00 | 24 | -7.65428E-01 | 25 | 9.11725E-01 |
| 15 | 27.271 | 1 | 2.14401E-01 | 2 | -1.10049E-01 | 3 | 2.50268E-01 | 4 | 1.15693E-02 | 5 | -2.77656E-01 |
| | | 6 | -3.40458E-02 | 7 | 9.81769E-03 | 8 | 7.44911E-01 | 9 | -5.54737E-02 | 10 | -1.00700E-01 |
| | | 11 | 4.96218E-01 | 12 | 6.85672E-02 | 13 | 9.78428E-01 | 14 | 5.90768E-02 | 15 | -7.92523E-01 |
| | | 16 | -6.37651E-01 | 17 | 1.49091E 00 | 18 | 6.96416E-01 | 19 | 6.96439E-01 | 20 | -1.23850E-01 |
| | | 21 | 1.23699E-01 | 22 | -9.23687E-01 | 23 | -7.75471E-01 | 24 | 3.28474E-01 | 25 | -3.91255E-01 |
| | | 1 | 9.94608E-02 | 2 | -2.24455E-01 | 3 | -6.24734E-01 | 4 | -2.43517E-02 | 5 | 1.42304E-01 |
| | | 6 | -1.88016E-02 | 7 | -8.13451E-02 | 8 | -4.60575E-01 | 9 | 9.85066E-03 | 10 | 6.48079E-03 |
| | | 11 | 8.00290E-02 | 12 | -2.10897E-02 | 13 | 3.36997E 00 | 14 | 1.47404E-01 | 15 | -3.62079E-02 |
| | | 16 | -2.91323E-02 | 17 | 6.81152E-02 | 18 | 5.05399E-01 | 19 | 5.05416E-01 | 20 | -1.38183E 00 |

MULTIPLE SUPPORT RESPONSE SPECTRUM ANALYSIS

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MULTIPLE SUPPORT RESPONSE SPECTRUM ANALYSIS

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| | | | | | | | | | | | |
|----|--------|----|--------------|----|--------------|----|--------------|----|--------------|----|--------------|
| 16 | 30.144 | 21 | 1.38016E 00 | 22 | 3.57989E-01 | 23 | 3.00545E-01 | 24 | -3.40369E-01 | 25 | 4.05424E-01 |
| | | 1 | 6.30132E-02 | 2 | -1.95152E-01 | 3 | -1.22213E 00 | 4 | 2.30605E-03 | 5 | 2.20860E-01 |
| | | 6 | -1.02547E-02 | 7 | -2.70236E-01 | 8 | 2.06983E-01 | 9 | -2.52312E-02 | 10 | 1.94945E-02 |
| | | 11 | 3.40851E-01 | 12 | -3.99359E-02 | 13 | -2.10067E 00 | 14 | 1.35834E-01 | 15 | 3.42049E-01 |
| | | 16 | 2.75207E-01 | 17 | -6.43470E-01 | 18 | 3.97023E-01 | 19 | -3.97036E-01 | 20 | -1.42486E 00 |
| | | 21 | 1.42313E 00 | 22 | 1.52207E-01 | 23 | 1.27784E-01 | 24 | -5.54984E-01 | 25 | 6.61058E-01 |
| 17 | 32.488 | 1 | 3.60086E-02 | 2 | 1.75351E-01 | 3 | -4.24779E-01 | 4 | -1.99841E-02 | 5 | 1.59585E-01 |
| | | 6 | 2.19861E-02 | 7 | -4.07051E-01 | 8 | 1.73568E 00 | 9 | 4.46901E-03 | 10 | 1.42633E-01 |
| | | 11 | -4.34714E-01 | 12 | 6.95124E-02 | 13 | 8.56100E-01 | 14 | -1.17212E-01 | 15 | 3.39826E-01 |
| | | 16 | 2.73418E-01 | 17 | -6.39288E-01 | 18 | -4.98297E-01 | 19 | -4.98313E-01 | 20 | -4.36723E-01 |
| | | 21 | 4.36193E-01 | 22 | -4.55634E-01 | 23 | -3.82523E-01 | 24 | -1.72810E-01 | 25 | 2.05840E-01 |
| 18 | 34.289 | 1 | -1.36581E-01 | 2 | 2.02740E-01 | 3 | 1.45240E 00 | 4 | 3.95864E-01 | 5 | -1.30524E 00 |
| | | 6 | -2.62692E-01 | 7 | -1.56914E-01 | 8 | -4.76817E-02 | 9 | 1.16293E-02 | 10 | 1.72446E-01 |
| | | 11 | -3.94680E-01 | 12 | 7.62528E-02 | 13 | -1.50262E-01 | 14 | 1.69380E-03 | 15 | -2.86914E-01 |
| | | 16 | -2.30847E-01 | 17 | 5.39750E-01 | 18 | -4.05365E-02 | 19 | -4.05379E-02 | 20 | -2.32882E-01 |
| | | 21 | 2.32599E-01 | 22 | -2.94697E-01 | 23 | -2.47409E-01 | 24 | -3.41254E-01 | 25 | 4.06477E-01 |
| 19 | 35.752 | 1 | -6.14533E-01 | 2 | 2.97217E-01 | 3 | 2.29453E 00 | 4 | -6.58103E-02 | 5 | 7.71128E-01 |
| | | 6 | 2.34444E-01 | 7 | -1.44258E-01 | 8 | 2.78188E-01 | 9 | 1.14263E-02 | 10 | -8.05167E-02 |
| | | 11 | 6.95680E-01 | 12 | -2.03512E-01 | 13 | -5.22684E-01 | 14 | 1.65181E-01 | 15 | -3.57734E-01 |
| | | 16 | -2.87827E-01 | 17 | 6.72977E-01 | 18 | -5.00416E-02 | 19 | -5.00432E-02 | 20 | 1.18593E-01 |
| | | 21 | -1.18449E-01 | 22 | 1.48621E-01 | 23 | 1.24773E-01 | 24 | -2.28624E-01 | 25 | 2.72321E-01 |
| 20 | 36.127 | 1 | -2.12367E-01 | 2 | 8.63089E-03 | 3 | 5.52804E-01 | 4 | -1.70712E-01 | 5 | 7.69783E-01 |
| | | 6 | 2.13815E-01 | 7 | 4.44070E-02 | 8 | -3.79308E-01 | 9 | 1.14168E-02 | 10 | 2.56316E-01 |
| | | 11 | -1.39328E 00 | 12 | 4.06129E-01 | 13 | -4.56826E-01 | 14 | 3.41663E-02 | 15 | -1.51036E-01 |
| | | 16 | -1.21521E-01 | 17 | 2.84132E-01 | 18 | 1.62995E-01 | 19 | 1.63001E-01 | 20 | -7.14056E-02 |
| | | 21 | 7.13189E-02 | 22 | -3.44929E-01 | 23 | -2.89581E-01 | 24 | -4.12671E-02 | 25 | 4.91545E-02 |
| 21 | 38.942 | 1 | 7.67296E-01 | 2 | 9.72044E-01 | 3 | 6.44488E-01 | 4 | 3.05086E-02 | 5 | 1.61219E-01 |
| | | 6 | 6.72778E-02 | 7 | 4.73289E-02 | 8 | -3.80664E-01 | 9 | -1.19166E-02 | 10 | 2.80740E-02 |
| | | 11 | 7.83509E-02 | 12 | -2.89640E-02 | 13 | 2.66240E 00 | 14 | 6.59399E-01 | 15 | 2.09884E-01 |
| | | 16 | 1.68869E-01 | 17 | -3.94839E-01 | 18 | -1.42439E-01 | 19 | -1.42444E-01 | 20 | 7.53509E-02 |
| | | 21 | -7.52594E-02 | 22 | 2.80877E-02 | 23 | 2.35807E-02 | 24 | -9.79784E-02 | 25 | 1.16705E-01 |
| 22 | 43.322 | 1 | 1.29903E 00 | 2 | -4.84699E-01 | 3 | 1.43627E 00 | 4 | 2.13976E-01 | 5 | 3.64096E-01 |
| | | 6 | 2.92792E-01 | 7 | -5.41529E-02 | 8 | 1.15820E-01 | 9 | 1.46783E-02 | 10 | 9.31923E-02 |
| | | 11 | 8.50111E-02 | 12 | -8.39944E-02 | 13 | 2.49446E 00 | 14 | -6.10834E-01 | 15 | -1.29970E-01 |
| | | 16 | -1.04572E-01 | 17 | 2.44503E-01 | 18 | 1.49104E-01 | 19 | 1.49109E-01 | 20 | 1.29898E-01 |
| | | 21 | -1.29741E-01 | 22 | -1.09230E-01 | 23 | -9.17032E-02 | 24 | -6.77898E-02 | 25 | 8.07465E-02 |
| 23 | 46.471 | 1 | 5.70113E-01 | 2 | 1.67067E-01 | 3 | 1.67845E 00 | 4 | -4.52065E-01 | 5 | -2.77632E-01 |
| | | 6 | -3.63702E-01 | 7 | -3.90691E-02 | 8 | 2.17543E-01 | 9 | -9.46433E-03 | 10 | -4.96940E-01 |
| | | 11 | -2.90667E-01 | 12 | 3.82141E-01 | 13 | 1.37917E 00 | 14 | 5.45171E-01 | 15 | -5.12375E-02 |
| | | 16 | -4.12248E-02 | 17 | 9.63891E-02 | 18 | 5.10252E-02 | 19 | 5.10269E-02 | 20 | 5.90134E-02 |
| | | 21 | -5.89417E-02 | 22 | 1.98343E-01 | 23 | 1.66516E-01 | 24 | 5.35959E-02 | 25 | -6.38398E-02 |

MULTIPLE SUPPORT RESPONSE SPECTRUM ANALYSIS

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| | | | | | | | | | | | |
|----|--------|----|--------------|----|--------------|----|--------------|----|--------------|----|--------------|
| 24 | 47.729 | 1 | 2.15162E-01 | 2 | -2.14475E-01 | 3 | 6.81612E-01 | 4 | -6.13658E-01 | 5 | -1.89103E-01 |
| | | 6 | -4.02258E-01 | 7 | 1.13006E-02 | 8 | -7.80485E-02 | 9 | 4.46438E-02 | 10 | 6.31332E-01 |
| | | 11 | 1.93232E-01 | 12 | -4.03363E-01 | 13 | 5.51999E-01 | 14 | -4.21783E-01 | 15 | 1.72 |
| | | 16 | 1.38808E-02 | 17 | -3.24552E-02 | 18 | 1.47142E-02 | 19 | 1.47147E-02 | 20 | 8.4 |
| | | 21 | -8.48370E-02 | 22 | -1.27192E-01 | 23 | -1.06783E-01 | 24 | -6.99012E-02 | 25 | 8.3c |
| 25 | 49.575 | 1 | 7.65267E-02 | 2 | 1.50696E 00 | 3 | -1.52166E-01 | 4 | 3.16759E-02 | 5 | 2.42985E-02 |
| | | 6 | 3.16798E-02 | 7 | 4.27303E-03 | 8 | 9.63754E-02 | 9 | 1.01303E-01 | 10 | 1.94183E-01 |
| | | 11 | 2.22175E-02 | 12 | -1.15609E-01 | 13 | -2.59725E-01 | 14 | 4.04172E 00 | 15 | -8.58932E-02 |
| | | 16 | -6.91083E-02 | 17 | 1.61584E-01 | 18 | 1.48720E-01 | 19 | 1.48725E-01 | 20 | -7.82199E-02 |
| | | 21 | 7.81249E-02 | 22 | -4.05329E-02 | 23 | -3.40289E-02 | 24 | 5.64491E-02 | 25 | -6.72382E-02 |
| 26 | 50.540 | 1 | -2.14697E-02 | 2 | -1.12427E-01 | 3 | -6.05878E-02 | 4 | -4.63795E-03 | 5 | 4.51672E-03 |
| | | 6 | 4.35301E-04 | 7 | -1.20911E-03 | 8 | -5.40663E-03 | 9 | 1.15363E 00 | 10 | -5.08296E-02 |
| | | 11 | -1.09225E-03 | 12 | 2.59934E-02 | 13 | -1.47363E-02 | 14 | -3.31014E-01 | 15 | -2.33215E-03 |
| | | 16 | -1.87641E-03 | 17 | 4.38730E-03 | 18 | -2.30910E-03 | 19 | -2.30917E-03 | 20 | 6.71914E-03 |
| | | 21 | -6.71098E-03 | 22 | -3.45190E-03 | 23 | -2.89800E-03 | 24 | -5.09006E-03 | 25 | 6.06293E-03 |
| 27 | 53.593 | 1 | -1.60693E-01 | 2 | 1.65860E-01 | 3 | -2.13603E 00 | 4 | -4.89865E-01 | 5 | 2.03374E-01 |
| | | 6 | -1.10112E-01 | 7 | -2.53958E-02 | 8 | -1.06297E-01 | 9 | -2.90131E-02 | 10 | -3.51754E-01 |
| | | 11 | 1.12861E-01 | 12 | 1.18597E-01 | 13 | -5.59327E-01 | 14 | 2.44804E-01 | 15 | -4.75990E-02 |
| | | 16 | -3.82974E-02 | 17 | 8.954 E-02 | 18 | 4.02166E-02 | 19 | 4.02179E-02 | 20 | 5.03423E-02 |
| | | 21 | -5.02812E-02 | 22 | -1.57 E-01 | 23 | -1.31924E-01 | 24 | -8.88979E-02 | 25 | 1.05889E-01 |
| 28 | 56.477 | 1 | -1.27592E-01 | 2 | -7.64174E-02 | 3 | -2.54981E 00 | 4 | -1.05012E-01 | 5 | 8.84458E-02 |
| | | 6 | 3.16076E-02 | 7 | -4.32751E-02 | 8 | 2.73510E-01 | 9 | 2.11158E-03 | 10 | 3.01026E-01 |
| | | 11 | -2.29003E-01 | 12 | -1.10060E-02 | 13 | -2.00821E-01 | 14 | -6.82500E-01 | 15 | -7.39427E-02 |
| | | 16 | -5.94931E-02 | 17 | 1.39103E-01 | 18 | 1.03470E-01 | 19 | 1.03474E-01 | 20 | 2.31574E-01 |
| | | 21 | -2.31292E-01 | 22 | 1.73536E-01 | 23 | 1.45690E-01 | 24 | -9.65282E-03 | 25 | 1.14978E-02 |
| 29 | 58.590 | 1 | -2.68508E-01 | 2 | -6.36916E-02 | 3 | 6.25965E 00 | 4 | -1.30052E-01 | 5 | 1.14533E-01 |
| | | 6 | 9.07052E-03 | 7 | 3.84781E-03 | 8 | 6.51186E-02 | 9 | -9.47381E-03 | 10 | 3.74007E-02 |
| | | 11 | -2.68213E-02 | 12 | -7.97425E-03 | 13 | -6.75376E-01 | 14 | 7.62561E-01 | 15 | 6.18322E-02 |
| | | 16 | 4.97492E-02 | 17 | -1.16320E-01 | 18 | 1.02214E-01 | 19 | 1.02218E-01 | 20 | -8.47182E-02 |
| | | 21 | 8.46153E-02 | 22 | -6.06731E-03 | 23 | -5.09374E-03 | 24 | 4.65879E-02 | 25 | -5.54923E-02 |
| 30 | 65.799 | 1 | -3.41462E-02 | 2 | 2.00700E-01 | 3 | 1.35377E 00 | 4 | 4.78694E-02 | 5 | -1.03593E-02 |
| | | 6 | 6.50402E-02 | 7 | -1.89243E-02 | 8 | -1.39023E-01 | 9 | 1.90361E-02 | 10 | 3.47859E-03 |
| | | 11 | -1.78854E-01 | 12 | 2.11762E-01 | 13 | -1.78500E-01 | 14 | 1.27369E 00 | 15 | 8.85513E-02 |
| | | 16 | 7.12470E-02 | 17 | -1.66585E-01 | 18 | -1.78795E-01 | 19 | -1.78801E-01 | 20 | 1.84582E-01 |
| | | 21 | -1.84358E-01 | 22 | 6.15198E-02 | 23 | 5.16482E-02 | 24 | -1.26986E-01 | 25 | 1.51257E-01 |

MULTIPLE SUPPORT RESPONSE SPECTRUM ANALYSIS

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MULTIPLE SUPPORT RESPONSE SPECTRUM ANALYSIS

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TABLE OF MODAL AMPLITUDES

SPECTRUM ANALYSIS LOAD CASE = (1)

| MODE NUMBER | NATURAL FREQUENCY | SPECTRUM (1) | SPECTRUM (2) | SPECTRUM (3) | SPECTRUM (4) | SPECTRUM (0) | SPECTRUM (0) | SPECTRUM (0) | SPECTRUM (0) |
|----------------|----------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|
| 1 | 8.13 | 1.9056E 00 | 2.6740E 00 | 0. | 1.7353E 00 | | | | |
| 2 | 10.87 | -9.5063E-02 | -1.9109E-01 | 0. | -1.8847E-01 | | | | |
| 3 | 11.55 | -2.9962E-01 | 1.5604E-01 | 0. | 9.9611E-02 | | | | |
| 4 | 11.84 | 1.2660E 00 | 2.2845E-01 | 0. | -1.2851E-01 | | | | |
| 5 | 13.02 | 1.2920E-01 | -1.5082E-01 | 0. | -1.1602E-01 | | | | |
| 6 | 15.27 | 1.8050E-02 | 2.4499E-01 | 0. | 8.4168E-02 | | | | |
| 7 | 15.81 | -7.6835E-02 | 3.6895E-02 | 0. | 9.1135E-02 | | | | |
| 8 | 18.00 | -1.4957E-02 | 2.8599E-02 | 0. | -1.9654E-02 | | | | |
| 9 | 19.85 | -3.9477E-02 | -2.2776E-01 | 0. | 2.8304E-02 | | | | |
| 10 | 21.59 | -5.52E-02 | -5.1986E-02 | 0. | 5.2043E-03 | | | | |
| 11 | 22.90 | 1.5484E-01 | -2.6544E-02 | 0. | 1.7666E-04 | | | | |
| 12 | 22.75 | 8.2934E-02 | -3.0100E-02 | 0. | 7.1059E-03 | | | | |
| 13 | 23.65 | -4.2263E-02 | 6.6235E-02 | 0. | 5.1665E-03 | | | | |
| 14 | 25.64 | -9.9482E-04 | 7.7136E-02 | 0. | 4.0734E-03 | | | | |
| 15 | 27.27 | -1.1327E-03 | 3.1165E-03 | 0. | -8.2304E-03 | | | | |
| 16 | 30.14 | -2.3211E-03 | -2.4096E-02 | 0. | -1.3151E-02 | | | | |
| 17 | 32.49 | 1.9386E-03 | -1.7691E-02 | 0. | -3.9351E-03 | | | | |
| 18 | 34.29 | -2.6220E-03 | 8.2226E-03 | 0. | 1.2078E-02 | | | | |
| 19 | 35.75 | 5.7998E-04 | 8.9573E-03 | 0. | 1.7552E-02 | | | | |
| 20 | 36.13 | 8.4663E-03 | 3.7037E-03 | 0. | 4.1413E-03 | | | | |
| 21 | 38.94 | 3.0466E-04 | -4.4297E-03 | 0. | 4.1554E-03 | | | | |
| 22 | 43.32 | 2.0840E-03 | 2.2163E-03 | 0. | 7.4824E-03 | | | | |
| 23 | 46.47 | 7.2737E-05 | 7.5936E-04 | 0. | 7.5994E-03 | | | | |
| 24 | 47.73 | -5.8463E-03 | -2.4238E-04 | 0. | 2.9255E-03 | | | | |
| 25 | 49.57 | 1.2372E-04 | 1.1185E-03 | 0. | -6.0538E-04 | | | | |
| 26 | 50.54 | 8.0857E-03 | 2.9222E-05 | 0. | -2.3192E-04 | | | | |
| 27 | 53.59 | -1.2513E-04 | 5.3040E-04 | 0. | -7.2714E-03 | | | | |
| 28 | 56.48 | 1.2463E-04 | 7.4195E-04 | 0. | -7.8162E-03 | | | | |
| 29 | 58.59 | -4.2711E-05 | -5.7647E-04 | 0. | 1.7829E-02 | | | | |
| 30 | 65.80 | 1.1959E-03 | -6.5461E-04 | 0. | 3.0573E-03 | | | | |

MULTIPLE SUPPORT RESPONSE SPECTRUM ANALYSIS

M-RZ SSE

M U L T I P L E S U P P O R T R E S P O N S E S P E C T R U M A N A L Y S I S

M-RZ SSE

T A B L E O F S E L E C T E D S P E C T R A
A N D Z P A V A L U E S F O R H I G H F R E Q U E N C Y R E S P O N S E

| SUPPORT NUMBER | SPECTRUM SELECTED | SCALE FACTOR | ZPA VALUE USED |
|-------------------|----------------------|-----------------|-------------------|
| 3 | 4 | 1.00 | 1.0000 |
| 6 | 1 | 1.00 | 1.7900 |
| 9 | 1 | 1.00 | 1.7900 |
| 12 | 1 | 1.00 | 1.7900 |
| 17 | 2 | 1.00 | 1.7400 |

M U L T I P L E S U P P O R T R E S P O N S E S P E C T R U M A N A L Y S I S

M-RZ SSE

MULTIPLE SUPPORT RESPONSE SPECTRUM MODAL REPORT

M-RZ SSE

COMBINED NODE DISPLACEMENTS/ROTATIONS
COMBINATION METHOD 6 FOR MODAL SHAPES, MODE # 1 TO 30

LOAD CASE # 1 (FINAL)

| JOINT LABEL | X-TRANSLATION | Y-TRANSLATION | Z-TRANSLATION | X-ROTATION | Y-ROTATION | Z-ROTATION |
|-------------|---------------|---------------|---------------|-------------|-------------|-------------|
| 001. | 2.48014E-08 | 1.08499E-08 | 3.46191E-08 | 1.06675E-07 | 2.52981E-07 | 3.01415E-07 |
| 002. | 2.17145E-04 | 8.74967E-05 | 4.29994E-04 | 3.36672E-05 | 7.77097E-05 | 2.98819E-05 |
| 003. | 1.65495E-04 | 8.31897E-05 | 4.36462E-04 | 3.49473E-05 | 8.06527E-05 | 3.05424E-05 |
| 003.01 | 3.32356E-02 | 1.44315E-02 | 1.47382E-03 | 2.28694E-04 | 5.29137E-04 | 2.57264E-04 |
| 004. | 6.04952E-02 | 2.61303E-02 | 2.49397E-03 | 3.13638E-05 | 6.85917E-05 | 4.83986E-04 |
| 005. | 5.86760E-02 | 2.53150E-02 | 2.68515E-03 | 1.30087E-04 | 2.97591E-04 | 5.27051E-04 |
| 006. | 4.62024E-02 | 1.98853E-02 | 2.89249E-03 | 2.79628E-04 | 6.45799E-04 | 5.79944E-04 |
| 007. | 5.31146E-02 | 1.98921E-02 | 3.53899E-03 | 2.79879E-04 | 6.45799E-04 | 5.81747E-04 |
| 008. | 2.24837E-02 | 9.63976E-03 | 3.08312E-03 | 4.62142E-04 | 1.07679E-03 | 6.24237E-04 |
| 009. | 1.35030E-06 | 4.70105E-07 | 3.30194E-03 | 6.72557E-04 | 1.57817E-03 | 6.69444E-04 |
| 012. | 3.47245E-02 | 1.45961E-02 | 3.52366E-03 | 8.73564E-04 | 2.04388E-03 | 7.15600E-04 |
| 013. | 9.92418E-02 | 4.22120E-02 | 3.71285E-03 | 1.01069E-03 | 2.32037E-03 | 7.60280E-04 |
| 014. | 8.52035E-02 | 4.22417E-02 | 2.84771E-02 | 1.01746E-03 | 2.32037E-03 | 7.58454E-04 |
| 015. | 1.68519E-01 | 7.24978E-02 | 3.88273E-03 | 1.07401E-03 | 2.39517E-03 | 8.10864E-04 |
| 016. | 2.23859E-01 | 9.76996E-02 | 4.13479E-03 | 1.09542E-03 | 2.27127E-03 | 8.79277E-04 |
| 018. | 2.82637E-01 | 1.51516E-01 | 2.00493E-02 | 8.93697E-04 | 2.26223E-04 | 9.77858E-04 |
| 018.01 | 2.50074E-01 | 2.35710E-01 | 5.11833E-02 | 3.79318E-04 | 1.49813E-03 | 8.42098E-04 |
| 019. | 1.53078E-01 | 2.44500E-01 | 2.39092E-01 | 8.88646E-04 | 2.52117E-03 | 5.77810E-04 |
| 021. | 1.02303E-01 | 2.17209E-01 | 3.42918E-01 | 1.22356E-03 | 2.49431E-03 | 5.99201E-04 |
| 023. | 4.86090E-02 | 1.52910E-01 | 3.91517E-01 | 1.55670E-03 | 9.45541E-04 | 6.72184E-04 |
| 024. | 3.04105E-02 | 9.23608E-02 | 3.92271E-01 | 1.43386E-03 | 5.87638E-04 | 6.63638E-04 |
| 025. | 2.55759E-02 | 5.06511E-02 | 3.92769E-01 | 1.14952E-03 | 3.93809E-04 | 6.31891E-04 |
| 029. | 2.92412E-02 | 1.59791E-02 | 3.93579E-01 | 5.42374E-04 | 1.56051E-04 | 5.84174E-04 |
| 031. | 2.85424E-02 | 2.13276E-02 | 3.93993E-01 | 2.89563E-04 | 1.49539E-04 | 5.65011E-04 |
| 032. | 1.82645E-02 | 2.89304E-02 | 3.94627E-01 | 2.58034E-04 | 4.45597E-04 | 6.04976E-04 |
| 027. | 2.16675E-02 | 3.24721E-02 | 3.94740E-01 | 2.92211E-04 | 5.25005E-04 | 6.23105E-04 |
| 034. | 3.59045E-02 | 4.04663E-02 | 3.94882E-01 | 3.28066E-04 | 6.36197E-04 | 6.55577E-04 |
| 035. | 4.95447E-02 | 4.72293E-02 | 3.94912E-01 | 3.34022E-04 | 6.39403E-04 | 6.55577E-04 |
| 036. | 6.04288E-02 | 5.25010E-02 | 3.94919E-01 | 3.34776E-04 | 6.39816E-04 | 6.55577E-04 |
| 037. | 3.45195E-02 | 9.71884E-02 | 4.06628E-01 | 1.40578E-03 | 1.26384E-03 | 8.04933E-04 |
| 038. | 3.84535E-02 | 1.00376E-01 | 4.15210E-01 | 1.40625E-03 | 1.73716E-03 | 8.66123E-04 |
| 040. | 4.16188E-02 | 1.06638E-01 | 4.20035E-01 | 1.30109E-03 | 2.92573E-03 | 1.06040E-03 |
| 040.01 | 4.17335E-02 | 1.33262E-01 | 4.47982E-01 | 1.77592E-03 | 3.56449E-03 | 1.05668E-03 |
| 041. | 4.18187E-02 | 1.58699E-01 | 5.12318E-01 | 2.64680E-03 | 3.31358E-03 | 8.50495E-04 |
| 043. | 4.56567E-02 | 1.59638E-01 | 5.24702E-01 | 2.88096E-03 | 2.86814E-03 | 7.31181E-04 |
| 043.01 | 1.07482E-01 | 1.29235E-01 | 5.57697E-01 | 4.19736E-03 | 2.17660E-03 | 1.28135E-03 |
| 044. | 1.59614E-01 | 1.28980E-01 | 5.36234E-01 | 5.51804E-03 | 2.04002E-03 | 1.88744E-03 |
| 046. | 1.38242E-01 | 1.52588E-01 | 4.02875E-01 | 6.56151E-03 | 2.05451E-03 | 2.10603E-03 |
| 047. | 7.37872E-02 | 1.52441E-01 | 1.26763E-01 | 6.17813E-03 | 1.90504E-03 | 1.99470E-03 |
| 049. | 6.40707E-02 | 1.38603E-01 | 7.25106E-02 | 5.19976E-03 | 1.80283E-03 | 1.71078E-03 |
| 051. | 5.25937E-02 | 1.07346E-01 | 3.79613E-02 | 4.02464E-03 | 1.54893E-03 | 1.31871E-03 |

MULTIPLE SUPPORT RESPONSE SPECTRUM MODAL REPORT

M-RZ SSE

M U L T I P L E S U P P O R T R E S P O N S E S P E C T R U M M O D A L R E P O R T

M-RZ SSE

| | | | | | | |
|--------|-------------|-------------|-------------|-------------|-------------|-------------|
| 053. | 4.09036E-02 | 7.62818E-02 | 2.41795E-02 | 2.73919E-03 | 1.22459E-03 | 8.88486E-04 |
| 054. | 6.74130E-03 | 6.28798E-03 | 4.03968E-03 | 6.04869E-04 | 4.82675E-04 | 2.14485E-04 |
| 055. | 9.81368E-04 | 1.13864E-04 | 5.75989E-04 | 2.69824E-05 | 1.89005E-04 | 9.94468E-06 |
| 056. | 3.91237E-09 | 5.94489E-09 | 1.22017E-08 | 8.80502E-07 | 1.74369E-04 | 3.47255E-07 |
| 057. | 1.15329E-03 | 6.94369E-06 | 6.65901E-04 | 8.80513E-07 | 1.74370E-04 | 3.47262E-07 |
| 058. | 2.89862E-02 | 2.26727E-02 | 3.95000E-01 | 1.65103E-04 | 4.67030E-04 | 4.85090E-04 |
| 059. | 3.02912E-02 | 2.45811E-02 | 3.92493E-01 | 1.62841E-04 | 6.87251E-04 | 4.33331E-04 |
| 061. | 3.12180E-02 | 2.70463E-02 | 3.81070E-01 | 4.15070E-04 | 1.44077E-03 | 2.09198E-04 |
| 061.01 | 3.12656E-02 | 2.81623E-02 | 3.24228E-01 | 9.62427E-04 | 1.90244E-03 | 1.47782E-04 |
| 062. | 3.12800E-02 | 2.45566E-02 | 2.58961E-01 | 1.52477E-03 | 2.00623E-03 | 2.12064E-04 |
| 064. | 2.53849E-02 | 2.05565E-02 | 1.93907E-01 | 2.10847E-03 | 1.92630E-03 | 3.91563E-04 |
| 065. | 7.90888E-03 | 2.04724E-02 | 1.02997E-01 | 2.03611E-03 | 1.74238E-03 | 4.24590E-04 |
| 067. | 3.93580E-03 | 1.95205E-02 | 8.11264E-02 | 1.69101E-03 | 1.64997E-03 | 4.20176E-04 |
| 069. | 1.03946E-03 | 1.68470E-02 | 6.00865E-02 | 1.34995E-03 | 1.42356E-03 | 4.01835E-04 |
| 071. | 8.14282E-05 | 1.32296E-02 | 4.47758E-02 | 1.09696E-03 | 1.13718E-03 | 3.54965E-04 |
| 072. | 2.05324E-05 | 1.46586E-03 | 7.53604E-03 | 2.14982E-04 | 4.59229E-04 | 1.18751E-04 |
| 073. | 1.29543E-06 | 3.50366E-05 | 1.09257E-03 | 9.01337E-06 | 1.81170E-04 | 6.04413E-06 |
| 074. | 1.21311E-09 | 2.98294E-09 | 6.49385E-09 | 2.32242E-07 | 1.67173E-04 | 2.09512E-07 |
| 075. | 1.21313E-09 | 1.59765E-06 | 1.27682E-03 | 2.32242E-07 | 1.67172E-04 | 2.09523E-07 |
| 076. | 3.88912E-02 | 4.32323E-02 | 4.03154E-01 | 3.96492E-04 | 1.27027E-03 | 7.96854E-04 |
| 077. | 4.18714E-02 | 4.66535E-02 | 4.08342E-01 | 5.06480E-04 | 1.59376E-03 | 8.55589E-04 |
| 079. | 4.42416E-02 | 5.50733E-02 | 4.16641E-01 | 6.55520E-04 | 2.31232E-03 | 1.04086E-03 |
| 079.01 | 4.43637E-02 | 9.58802E-02 | 4.56180E-01 | 1.44125E-03 | 2.62367E-03 | 1.04012E-03 |
| 080. | 4.44590E-02 | 1.34767E-01 | 5.01311E-01 | 2.29131E-03 | 2.31897E-03 | 8.19685E-04 |
| 082. | 4.69117E-02 | 1.35870E-01 | 5.06946E-01 | 2.52335E-03 | 2.01549E-03 | 5.82447E-04 |
| 082.01 | 8.41795E-02 | 9.21832E-02 | 4.97867E-01 | 3.60786E-03 | 1.90953E-03 | 7.94565E-04 |
| 083. | 1.26840E-01 | 9.40201E-02 | 4.44818E-01 | 4.61471E-03 | 2.10566E-03 | 1.22372E-03 |
| 085. | 1.18718E-01 | 1.17610E-01 | 3.28027E-01 | 5.31529E-03 | 2.07906E-03 | 1.52375E-03 |
| 086. | 7.21895E-02 | 1.17512E-01 | 1.06179E-01 | 4.96696E-03 | 1.88503E-03 | 1.49248E-03 |
| 088. | 6.30032E-02 | 1.06727E-01 | 6.28584E-02 | 4.15327E-03 | 1.77820E-03 | 1.28635E-03 |
| 090. | 5.09974E-02 | 8.24785E-02 | 3.49281E-02 | 3.19649E-03 | 1.52549E-03 | 9.99384E-04 |
| 092. | 3.92042E-02 | 5.85003E-02 | 2.30233E-02 | 2.16764E-03 | 1.19092E-03 | 7.03978E-04 |
| 093. | 6.35991E-03 | 4.80493E-03 | 3.77854E-03 | 4.73053E-04 | 4.57939E-04 | 1.67405E-04 |
| 094. | 9.23055E-04 | 8.71710E-05 | 5.40523E-04 | 2.10262E-05 | 1.78223E-04 | 7.73524E-06 |
| 095. | 3.93253E-09 | 4.79772E-09 | 9.79176E-09 | 6.82800E-07 | 1.64400E-04 | 2.63179E-07 |
| 096. | 1.08735E-03 | 5.30625E-06 | 6.27832E-04 | 6.82809E-07 | 1.64400E-04 | 2.63186E-07 |

MAXIMUM DISPLACEMENT, 5.57697E-01, OCCURED AT JOINT 043.01
 MAXIMUM ROTATION, 6.56151E-03, OCCURED AT JOINT 046.

M U L T I P L E S U P P O R T R E S P O N S E S P E C T R U M M O D A L R E P O R T

M-RZ SSE

MULTIPLE SUPPORT RESPONSE SPECTRUM MODAL REPORT

M-RZ 55E

COMBINED NODE ACCELERATIONS
COMBINATION METHOD 6 FOR MODAL SH APES, MODE # 1 TO 30

LOAD CASE # 1 (FINAL)

| JOINT LABEL | TRANSLATION (G) X | TRANSLATION (G) Y | TRANSLATION (G) Z | ROTATION (R/SEC**2) X | ROTATION (R/SEC**2) Y | ROTATION (R/SEC**2) Z |
|-------------|-------------------|-------------------|-------------------|-----------------------|-----------------------|-----------------------|
| 001. | 4.27073E-07 | 2.45677E-07 | 6.25355E-06 | 7.20070E-04 | 1.40177E-03 | 2.77982E-03 |
| 002. | 1.29378E-02 | 5.87203E-03 | 7.84476E-02 | 2.32433E-01 | 3.64505E-01 | 2.75589E-01 |
| 003. | 1.60511E-02 | 7.63865E-03 | 7.96323E-02 | 2.42133E-01 | 3.80417E-01 | 2.81679E-01 |
| 003.01 | 4.44259E-01 | 2.74455E-01 | 2.69621E-01 | 1.51830E 00 | 2.34223E 00 | 2.37264E 00 |
| 004. | 6.84750E-01 | 4.47174E-01 | 4.51562E-01 | 4.69010E-01 | 8.88869E-01 | 4.46360E 00 |
| 005. | 6.43724E-01 | 4.25823E-01 | 4.84598E-01 | 1.02049E 00 | 1.74038E 00 | 4.86077E 00 |
| 006. | 4.78486E-01 | 3.28017E-01 | 5.20197E-01 | 1.86128E 00 | 2.92734E 00 | 5.34858E 00 |
| 007. | 5.99006E-01 | 3.28884E-01 | 5.72575E-01 | 1.96552E 00 | 2.92734E 00 | 5.39532E 00 |
| 008. | 2.12568E-01 | 1.55314E-01 | 5.45352E-01 | 2.78719E 00 | 3.99568E 00 | 5.65377E 00 |
| 009. | 1.93435E-05 | 1.88029E-05 | 5.73764E-01 | 3.82066E 00 | 5.10027E 00 | 6.03190E 00 |
| 012. | 2.83566E-01 | 2.25704E-01 | 6.01698E-01 | 4.63397E 00 | 6.38612E 00 | 6.47527E 00 |
| 013. | 8.04018E-01 | 5.91615E-01 | 6.25094E-01 | 5.14069E 00 | 7.28556E 00 | 6.94684E 00 |
| 014. | 8.56198E-01 | 5.93920E-01 | 6.95388E-01 | 5.91035E 00 | 7.28556E 00 | 7.22235E 00 |
| 015. | 1.36698E 00 | 9.76391E-01 | 6.30416E-01 | 5.38509E 00 | 7.59150E 00 | 6.78795E 00 |
| 016. | 1.81856E 00 | 1.30979E 00 | 6.37350E-01 | 5.73903E 00 | 7.19859E 00 | 6.63847E 00 |
| 018. | 2.27827E 00 | 1.72757E 00 | 6.72186E-01 | 5.50605E 00 | 4.29132E 00 | 7.01277E 00 |
| 018.01 | 2.06125E 00 | 1.98911E 00 | 9.94494E-01 | 4.45866E 00 | 4.83846E 00 | 7.03643E 00 |
| 019. | 1.90888E 00 | 2.11989E 00 | 1.73638E 00 | 6.00437E 00 | 7.76473E 00 | 6.02391E 00 |
| 021. | 35425E 00 | 2.12590E 00 | 2.40764E 00 | 6.90100E 00 | 7.68674E 00 | 5.81276E 00 |
| 023. | 1.17918E 00 | 1.70609E 00 | 2.74691E 00 | 6.85164E 00 | 5.00177E 00 | 6.05957E 00 |
| 024. | 9.78591E-01 | 1.20492E 00 | 2.75289E 00 | 6.19523E 00 | 4.54364E 00 | 6.81118E 00 |
| 025. | 9.22703E-01 | 9.36092E-01 | 2.75712E 00 | 5.43193E 00 | 3.86997E 00 | 6.88604E 00 |
| 029. | 1.09875E 00 | 9.38403E-01 | 2.76395E 00 | 3.71973E 00 | 2.59879E 00 | 8.15011E 00 |
| 031. | 1.10306E 00 | 1.00158E 00 | 2.76739E 00 | 2.95767E 00 | 2.05244E 00 | 9.55997E 00 |
| 032. | 6.91096E-01 | 9.49772E-01 | 2.77227E 00 | 5.49373E 00 | 4.77773E 00 | 1.06265E 01 |
| 027. | 6.91067E-01 | 1.09991E 00 | 2.77308E 00 | 6.35802E 00 | 5.42371E 00 | 1.09638E 01 |
| 034. | 9.36494E-01 | 1.52217E 00 | 2.77401E 00 | 7.31212E 00 | 6.24165E 00 | 1.15454E 01 |
| 035. | 1.23943E 00 | 1.90885E 00 | 2.77429E 00 | 7.49734E 00 | 6.40734E 00 | 1.15454E 01 |
| 036. | 1.50222E 00 | 2.21621E 00 | 2.77435E 00 | 7.52105E 00 | 6.42934E 00 | 1.15454E 01 |
| 037. | 1.06256E 00 | 1.23695E 00 | 2.84204E 00 | 7.11082E 00 | 8.30252E 00 | 1.06879E 01 |
| 038. | 1.18951E 00 | 1.30096E 00 | 2.90610E 00 | 7.95807E 00 | 1.10346E 01 | 1.12523E 01 |
| 040. | 1.27276E 00 | 1.43448E 00 | 2.96645E 00 | 9.22037E 00 | 1.83199E 01 | 1.14067E 01 |
| 040.01 | 1.29560E 00 | 1.99163E 00 | 3.98595E 00 | 1.38075E 01 | 2.12061E 01 | 1.37776E 01 |
| 041. | 1.31293E 00 | 3.02641E 00 | 5.69147E 00 | 1.92760E 01 | 1.85555E 01 | 1.17207E 01 |
| 043. | 1.34608E 00 | 3.11161E 00 | 5.98028E 00 | 2.10497E 01 | 1.65337E 01 | 8.13747E 00 |
| 043.01 | 2.05682E 00 | 2.40645E 00 | 6.90271E 00 | 2.75567E 01 | 1.65908E 01 | 9.10536E 00 |
| 044. | 2.87844E 00 | 2.40501E 00 | 7.30844E 00 | 3.31803E 01 | 1.83198E 01 | 1.24348E 01 |
| 046. | 2.66257E 00 | 2.67471E 00 | 5.64894E 00 | 3.82583E 01 | 1.61395E 01 | 1.62436E 01 |
| 047. | 1.98904E 00 | 2.66932E 00 | 1.78609E 00 | 3.59754E 01 | 1.53636E 01 | 1.58764E 01 |
| 049. | 1.91701E 00 | 2.48192E 00 | 1.26184E 00 | 3.01059E 01 | 1.54831E 01 | 1.33220E 01 |

MULTIPLE SUPPORT RESPONSE SPECTRUM MODAL REPORT

M-RZ 55E

MULTIPLE SUPPORT RESPONSE SPECTRUM MODAL REPORT

M-RZ 55E

| | | | | | | |
|--------|-------------|-------------|-------------|-------------|-------------|-------------|
| 051. | 1.70876E 00 | 2.03540E 00 | 9.98167E-01 | 2.37122E 01 | 1.55584E 01 | 1.08141E 01 |
| 053. | 1.39984E 00 | 1.54053E 00 | 8.04739E-01 | 1.72258E 01 | 1.46167E 01 | 8.81819E 00 |
| 054. | 2.52948E-01 | 1.59887E-01 | 1.45183E-01 | 4.67700E 00 | 6.64080E 00 | 2.61362E 00 |
| 055. | 3.68304E-02 | 3.74340E-03 | 2.12127E-02 | 2.29129E-01 | 2.70076E 00 | 1.30097E-01 |
| 056. | 2.92975E-07 | 3.21681E-07 | 2.07307E-07 | 7.82343E-03 | 2.49376E 00 | 4.41507E-03 |
| 057. | 4.27565E-02 | 1.74593E-04 | 2.46881E-02 | 7.82400E-03 | 2.49418E 00 | 4.41548E-03 |
| 058. | 1.21349E 00 | 1.14025E 00 | 2.78133E 00 | 3.44588E 00 | 7.29148E 00 | 1.19658E 01 |
| 059. | 1.35277E 00 | 1.32668E 00 | 2.77740E 00 | 4.07884E 00 | 1.02456E 01 | 1.15213E 01 |
| 061. | 1.45105E 00 | 1.55305E 00 | 2.77498E 00 | 4.79798E 00 | 1.70376E 01 | 5.50017E 00 |
| 061.01 | 1.46114E 00 | 1.59985E 00 | 3.59585E 00 | 9.85943E 00 | 1.90793E 01 | 7.01243E 00 |
| 062. | 1.46634E 00 | 1.41896E 00 | 4.99812E 00 | 1.57092E 01 | 1.52292E 01 | 9.83760E 00 |
| 064. | 1.14703E 00 | 1.45823E 00 | 4.48116E 00 | 2.35706E 01 | 6.94259E 00 | 7.70619E 00 |
| 065. | 3.97548E-01 | 1.45303E 00 | 2.51935E 00 | 2.24661E 01 | 8.75688E 00 | 7.39899E 00 |
| 067. | 2.19841E-01 | 1.41492E 00 | 2.21266E 00 | 1.84914E 01 | 1.00603E 01 | 8.09698E 00 |
| 069. | 6.40591E-02 | 1.27178E 00 | 1.89120E 00 | 1.53141E 01 | 1.15877E 01 | 9.25752E 00 |
| 071. | 5.06738E-03 | 1.03231E 00 | 1.54772E 00 | 1.28372E 01 | 1.27425E 01 | 3.04302E 00 |
| 072. | 1.27828E-03 | 1.23388E-01 | 2.96210E-01 | 2.51583E 00 | 6.59841E 00 | 3.71965E 00 |
| 073. | 8.06517E-05 | 3.09972E-03 | 4.32771E-02 | 1.05479E-01 | 2.73844E 00 | 1.94797E-01 |
| 074. | 7.55263E-08 | 2.79395E-07 | 3.26801E-07 | 2.71782E-03 | 2.52964E 00 | 6.78978E-03 |
| 075. | 7.55305E-08 | 1.34137E-04 | 5.00802E-02 | 2.71782E-03 | 2.52999E 00 | 6.79061E-03 |
| 076. | 8.86060E-01 | 1.52019E 00 | 2.82740E 00 | 8.54215E 00 | 9.02820E 00 | 1.29793E 01 |
| 077. | 9.80146E-01 | 1.57617E 00 | 2.88556E 00 | 9.21825E 00 | 1.08451E 01 | 1.25301E 01 |
| 079. | 1.05855E 00 | 1.62611E 00 | 3.01104E 00 | 1.06807E 01 | 1.57215E 01 | 1.07253E 01 |
| 079.01 | 1.06753E 00 | 1.89563E 00 | 3.93299E 00 | 1.39612E 01 | 1.64324E 01 | 1.28837E 01 |
| 080. | 1.07391E 00 | 2.73981E 00 | 5.04397E 00 | 1.81737E 01 | 1.34473E 01 | 1.16933E 01 |
| 082. | 1.09850E 00 | 2.79636E 00 | 5.17311E 00 | 1.96874E 01 | 1.32600E 01 | 8.77126E 00 |
| 082.01 | 1.70378E 00 | 2.07988E 00 | 5.25170E 00 | 2.46347E 01 | 1.77295E 01 | 7.29963E 00 |
| 083. | 2.79123E 00 | 2.12686E 00 | 5.49922E 00 | 2.81543E 01 | 1.96978E 01 | 9.72085E 00 |
| 085. | 2.71380E 00 | 2.33610E 00 | 4.27209E 00 | 3.06402E 01 | 1.66464E 01 | 1.46337E 01 |
| 086. | 1.96545E 00 | 2.33050E 00 | 1.35670E 00 | 2.84273E 01 | 1.50339E 01 | 1.45487E 01 |
| 088. | 1.84426E 00 | 2.18184E 00 | 1.05366E 00 | 2.37546E 01 | 1.49508E 01 | 1.22289E 01 |
| 090. | 1.61212E 00 | 1.81520E 00 | 9.11391E-01 | 1.92402E 01 | 1.47902E 01 | 9.83160E 00 |
| 092. | 1.31155E 00 | 1.38820E 00 | 7.53657E-01 | 1.45710E 01 | 1.37198E 01 | 8.03328E 00 |
| 093. | 2.37192E-01 | 1.46897E-01 | 1.36102E-01 | 4.17550E 00 | 6.22307E 00 | 2.41236E 00 |
| 094. | 3.45391E-02 | 3.46619E-03 | 1.98911E-02 | 2.07165E-01 | 2.53226E 00 | 1.20444E-01 |
| 095. | 2.69953E-07 | 2.97751E-07 | 1.75795E-07 | 7.11342E-03 | 2.33821E 00 | 4.09689E-03 |
| 096. | 4.00895E-02 | 1.60310E-04 | 2.31482E-02 | 7.11395E-03 | 2.33861E 00 | 4.09725E-03 |

MAXIMUM TRANSLATIONAL ACCEL., 7.30844E 00, OCCURED AT JOINT 044.
 MAXIMUM ROTATIONAL ACCEL., 3.82583E 01, OCCUPED AT JOINT 046.

MULTIPLE SUPPORT RESPONSE SPECTRUM MODAL REPORT

M-RZ 55E

MULTIPLE SUPPORT RESPONSE SPECTRUM MODAL REPORT

M-RZ SSE

COMBINED NODE DISPLACEMENTS/ROTATIONS
COMBINATION METHOD 6 FOR MODAL SHAPES, MODE # 1 TO 30

LOAD CASE # 1 (FINAL)

| JOINT LABEL | X-TRANSLATION | Y-TRANSLATION | Z-TRANSLATION | X-ROTATION | Y-ROTATION | Z-ROTATION |
|-------------|---------------|---------------|---------------|--------------|--------------|--------------|
| 001. | 9.16476E-05 | -2.81278E-05 | 0. | 1.17122E 18 | 1.17122E 18 | 1.17122E 18 |
| 002. | 1.15271E-02 | -1.04473E-05 | 0. | 0. | 2.52785E-01 | 1.17122E 18 |
| 003. | -5.18340E-03 | 1.07470E-04 | -4.32352E-05 | 0. | 1.17122E 18 | 1.17122E 18 |
| 003.01 | 4.65993E-02 | 3.02040E-02 | 1.53552E-04 | 0. | 0. | 2.52785E-01 |
| 004. | -1.53744E 04 | -1.76810E-03 | 3.10715E-05 | -9.21466E-05 | 0. | 1.17122E 18 |
| 005. | 8.59796E 04 | 1.99716E-01 | 1.95821E-01 | 2.13065E-04 | 4.78894E-01 | 4.62006E-01 |
| 006. | 1.17122E 18 | 1.17122E 18 | 1.17122E 18 | 4.68756E-02 | 2.23517E-08 | 9.18892E 02 |
| 007. | 2.52785E-01 | 1.17122E 18 | 2.23517E-07 | 1.19209E-07 | 1.43410E-01 | 4.58434E 03 |
| 008. | 5.12012E 00 | 5.18460E 02 | -6.92252E 02 | 2.21918E-04 | -1.79208E-06 | 2.95384E-06 |
| 009. | 0. | 0. | 3.70520E-01 | 3.58124E-01 | 2.52785E-01 | 1.17122E 18 |
| 012. | 1.17122E 18 | 4.68756E-02 | 7.45058E-09 | 7.28054E 03 | 7.64472E 02 | 4.00963E 05 |
| 013. | 1.17122E 18 | 1.17122E 18 | 4.68756E-02 | 7.45058E-09 | 1.64332E 00 | 1.29818E 00 |
| 014. | 6.94071E-02 | 7.39655E-02 | 2.00869E-04 | 6.34738E-01 | 8.50216E-01 | 2.52785E-01 |
| 015. | 0. | 0. | 0. | 0. | 0. | 0. |
| 016. | 1.17122E 18 | 4.68756E-02 | 2.23517E-08 | 1.51199E 00 | -7.90701E 00 | 7.02843E 02 |
| 018. | -3.00619E 02 | 9.65019E-05 | -7.79502E-07 | 1.28458E-06 | 0. | 1.17122E 18 |
| 018.01 | 2.52785E-01 | 1.17122E 18 | 2.23517E-07 | 5.96046E-08 | 2.05080E-01 | 0. |
| 019. | 7.45058E-09 | 4.50750E 03 | 1.01599E 04 | 4.97793E 05 | 1.99716E-01 | 1.95821E-01 |
| 021. | 5.32351E-04 | 1.72496E-04 | 2.05393E-01 | 1.17122E 18 | 1.17122E 18 | 1.17122E 18 |
| 023. | 2.16067E-07 | 1.34110E-07 | 1.43410E-01 | 1.88867E 01 | 1.56261E 03 | -3.57146E 02 |
| 024. | 1.17122E 18 | 4.68756E-02 | 1.49012E-08 | -2.65689E-01 | 1.50384E-01 | -3.75546E 02 |
| 025. | 1.17122E 18 | 2.16067E-07 | 1.34110E-07 | 1.43410E-01 | 1.28115E-01 | 2.54222E 00 |
| 029. | 1.17122E 18 | 1.17122E 18 | 4.68756E-02 | 7.45058E-09 | -2.37831E 01 | 6.46955E 01 |
| 031. | -1.16583E 03 | 2.92979E-03 | 8.72418E-04 | -1.2146E 06 | 0. | 0. |
| 032. | -4.67132E 02 | 1.88165E 03 | -4.51074E-04 | 6.51074E 05 | -3.59381E-06 | 0. |
| 027. | 7.45058E-09 | 1.52381E-01 | -3.66633E-01 | 2.17065E 02 | 3.66315E-05 | -2.34281E-05 |
| 034. | 1.65265E-07 | 0. | 0. | 1.3704E-01 | 1.17122E 18 | 2.16067E-07 |
| 035. | 1.17122E 18 | 1.17122E 18 | 1.17122E 18 | 4.68756E-02 | 2.23517E-08 | -1.37799E 02 |
| 036. | 1.39504E-01 | 1.17122E 18 | 2.16067E-07 | 1.56462E-07 | 1.43410E-01 | 1.38491E 01 |
| 037. | 1.27813E-02 | 6.50637E-05 | 1.65208E-01 | 1.73771E-01 | 1.39504E-01 | 1.17122E 18 |
| 038. | 1.19209E-07 | 1.43410E-01 | 2.85782E 03 | 2.60682E 05 | 1.62276E 05 | 2.65072E-02 |
| 040. | -9.21466E-05 | 0. | 1.17122E 18 | 1.17122E 18 | 1.17122E 18 | 4.68756E-02 |
| 040.01 | -9.31003E 01 | -4.12954E-05 | 2.02612E-05 | -2.38421E-07 | 0. | 0. |
| 041. | 1.17122E 18 | 2.23517E-07 | 5.96046E-08 | 1.43410E-01 | 2.22644E 00 | 2.25571E 00 |
| 043. | -1.13547E-05 | 1.16347E-07 | -1.63780E-07 | 0. | 1.17122E 18 | 1.17122E 18 |
| 043.01 | 2.52785E-01 | 1.17122E 18 | 2.30968E-07 | 1.09945E-02 | 0. | 0. |
| 044. | 9.85196E 04 | 1.32031E-02 | 2.41726E-04 | 1.35654E-04 | 1.84763E-01 | 1.17122E 18 |
| 046. | 3.59108E-03 | 3.36489E-05 | 7.24813E-05 | 2.32461E-01 | 1.17122E 18 | 1.17122E 18 |
| 047. | -2.85664E 00 | -3.54406E 00 | -1.34830E 02 | -5.98049E-05 | 2.93428E-05 | -3.45287E-07 |
| 049. | 1.73771E-01 | 2.52785E-01 | 1.17122E 18 | 2.23517E-07 | 1.34110E-07 | 1.43410E-01 |
| 051. | 1.33732E 05 | 2.28866E 05 | 2.65072E-02 | 5.32351E-04 | 1.72496E-04 | 2.05393E-01 |

MULTIPLE SUPPORT RESPONSE SPECTRUM MODAL REPORT

M-RZ SSE

M U L T I P L E S U P P O R T R E S P O N S E S P E C T R U M M O D A L R E P O R T

M-RZ SSE

| | | | | | | |
|--------|--------------|--------------|--------------|--------------|--------------|--------------|
| 053. | 1.17122E 18 | 1.17122E 18 | 4.68756E-02 | 7.45058E-09 | 1.75490E 03 | 8.65268E 03 |
| 054. | 1.17122E 18 | 2.23517E-07 | 0. | 1.43410E-01 | -5.14772E 00 | 1.49158E 04 |
| 055. | 1.17122E 18 | 4.68756E-02 | 9.68575E-08 | -1.24651E 02 | 2.01779E 02 | -5.96393E 03 |
| 056. | 2.23517E-07 | 0. | 1.43410E-01 | -4.15113E 02 | -2.91361E 04 | 1.42677E 04 |
| 057. | 4.68756E-02 | 5.21541E-08 | 1.21996E 02 | -1.08553E 02 | 7.43028E 03 | 2.40213E-03 |
| 058. | 7.37263E-01 | 1.56442E-07 | -3.59588E-09 | 3.29963E-09 | 0. | 1.17122E 18 |
| 059. | -5.98049E-05 | 2.93428E-05 | -3.45287E-07 | 0. | 0. | 1.39504E-01 |
| 061. | 2.21918E-04 | -1.79208E-06 | 2.95384E-06 | 0. | 1.17122E 18 | 1.17122E 18 |
| 061.01 | 4.68756E-02 | 2.23517E-08 | 9.69931E 02 | 1.05482E 03 | 9.65699E 04 | 1.31605E-02 |
| 062. | 2.13065E-04 | 4.78894E-01 | 4.62006E-01 | 1.39504E-01 | 1.17122E 18 | 2.16067E-07 |
| 064. | 1.43410E-01 | 5.62230E 02 | 5.28365E 04 | -1.09550E 04 | -1.76810E-03 | 3.10715E-05 |
| 065. | 1.17122E 18 | 1.17122E 18 | 4.68756E-02 | 1.49012E-08 | -1.97251E 00 | -2.44718E 00 |
| 067. | -4.97694E-05 | 5.46230E-05 | -3.47898E-07 | 0. | 0. | 2.52785E-01 |
| 069. | 2.08987E-01 | 3.72529E-08 | 1.43410E-01 | -7.35383E-01 | -2.09332E 01 | 5.14472E 01 |
| 071. | 8.64813E 01 | 3.66315E-05 | -2.34281E-05 | 1.65265E-07 | 0. | 0. |
| 072. | 1.17122E 18 | 2.23517E-07 | 2.98023E-08 | 1.43410E-01 | 2.25485E 03 | 1.05612E 05 |
| 073. | 2.23517E-07 | 2.23517E-08 | 1.43410E-01 | 6.27157E 02 | 3.40342E 04 | 3.85357E 04 |
| 074. | 0. | 1.17122E 18 | 1.17122E 18 | 1.17122E 18 | 4.68756E-02 | 1.49012E-08 |
| 075. | 8.51997E 02 | 9.49699E 04 | 1.31605E-02 | 1.27813E-02 | 6.50637E-05 | 1.95208E-01 |
| 076. | 3.72529E-08 | 1.43410E-01 | -1.42361E 00 | -7.36920E 01 | 3.56380E 01 | -1.13547E-05 |
| 077. | 1.16347E-07 | -1.63780E-07 | 0. | 1.17122E 18 | 1.17122E 18 | 1.17122E 18 |
| 079. | 4.68756E-02 | 2.23517E-08 | 2.40431E 00 | -1.06878E 01 | 6.29885E 02 | -4.97694E-05 |
| 079.01 | 5.46230E-05 | -3.47898E-07 | 0. | 0. | 1.37504E-01 | 1.17122E 18 |
| 080. | 2.15067E-07 | 5.96046E-08 | 1.43410E-01 | 9.21469E 00 | 6.79613E 02 | -1.54910E 02 |
| 082. | 9.65019E-05 | -7.79502E-07 | 1.28458E-06 | 0. | 1.17122E 18 | 1.17122E 18 |
| 082.01 | 1.17122E 18 | 4.68756E-02 | 1.49012E-08 | -1.83459E-01 | 1.03841E-01 | -2.59315E 02 |
| 083. | -4.12954E-05 | 2.02612E-05 | -2.38421E-07 | 0. | 0. | 1.39504E-01 |
| 085. | 1.17122E 18 | 2.16067E-07 | 5.96046E-08 | 1.43410E-01 | 1.05405E 02 | 2.27785E 03 |
| 086. | 6.76189E 02 | 1.27173E-04 | -3.29377E-06 | 2.78223E-06 | 0. | 1.17122E 18 |
| 088. | 1.17122E 18 | 1.17122E 18 | 4.68756E-02 | 7.45058E-09 | 4.04950E 03 | 1.02300E 03 |
| 090. | 1.07656E 06 | 0. | 0. | 0. | 2.61537E 00 | 2.61200E 00 |
| 092. | 1.39504E-01 | 1.17122E 18 | 2.16067E-07 | 2.53836E 03 | 0. | 0. |
| 093. | 0. | 0. | 0. | 4.93438E 02 | 0. | 0. |
| 094. | 2.03127E-01 | 0. | 1.43410E-01 | 4.18377E 03 | 2.33430E 05 | 3.24221E 05 |
| 095. | 2.53735E-02 | 4.37115E-04 | 2.84447E-04 | 1.19926E 00 | 1.17122E 18 | 1.17122E 18 |
| 096. | 1.17122E 18 | 4.68756E-02 | 2.23517E-08 | 8.75282E 03 | 5.65082E 03 | 5.79454E 05 |

MAXIMUM DISPLACEMENT, 1.17122E 18, OCCURED AT JOINT 096.
 MAXIMUM ROTATION, 1.17122E 18, OCCURED AT JOINT 095.

M U L T I P L E S U P P O R T R E S P O N S E S P E C T R U M M O D A L R E P O R T

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ULTIPLE SUPPORT RESPONSE SPECTRUM MODAL REPORT

M-RZ SSE

COMBINED NOISE ACCELERATIONS
COMBINATION METHOD 6 FOR MODAL SHAPES. MODE # 1 TO 30

OAD CASE # 1 (FINAL)

| JOINT LABEL | TRANSLATION X (GS) | TRANSLATION Y (GS) | TRANSLATION Z (GS) | ROTATION X (R/SEC**2) | ROTATION Y (R/SEC**2) | ROTATION Z (R/SEC**2) |
|-------------|--------------------|--------------------|--------------------|-----------------------|-----------------------|-----------------------|
| 01. | 5.51536E-04 | 3.47436E-10 | 3.71528E-04 | 1.23024E-01 | 2.12474E 00 | 6.66582E-01 |
| 02. | 3.03425E 15 | 1.21439E-04 | 1.93020E-11 | -3.83160E 01 | 5.35980E 01 | -4.14219E 02 |
| 03. | 3.03425E 15 | 5.79061E-10 | 4.05342E-10 | 1.43410E-01 | 2.62871E 01 | 3.59736E 02 |
| 03.01 | 3.03425E 15 | 3.03425E 15 | 1.21439E-04 | 2.23517E-08 | -1.68521E 02 | 2.44624E 02 |
| 04. | 6.54883E-04 | 3.03425E 15 | 5.79061E-10 | 1.56462E-07 | 1.43410E-01 | -7.90196E 01 |
| 05. | 3.03425E 15 | 3.03425E 15 | 3.03425E 15 | 4.68756E-02 | 3.72529E-08 | 1.88879E 04 |
| 06. | 1.11948E 00 | -4.73696E 01 | 1.95703E 02 | 2.98050E-01 | 3.69667E-03 | 1.16899E-03 |
| 07. | -5.76046E-01 | 4.00984E 01 | 1.07639E-05 | 1.43389E-02 | 1.79119E-05 | 0. |
| 08. | 0. | 0. | 6.95362E-04 | 1.17122E 18 | 2.30968E-07 | 0. |
| 09. | 7.72081E-11 | -1.09807E 00 | 1.93120E-11 | 6.10049E 03 | -3.27639E 02 | 9.25512E 05 |
| 12 | 8.67691E 02 | 6.57344E-05 | 1.13242E-06 | 2.84447E-04 | 1.19926E 00 | 1.17122E 18 |
| 13. | -4.06793E 02 | 5.64001E 02 | 0. | 0. | 0. | 3.04755E 00 |
| 14. | 3.03425E 15 | 3.03425E 15 | 1.21439E-04 | 2.23517E-08 | 9.20681E 03 | 3.92490E 03 |
| 15. | 3.24694E-03 | 6.54883E-04 | 3.03425E 15 | 2.23517E-07 | 0. | 1.43410E-01 |
| 16. | 4.75909E-02 | 3.75790E-02 | 2.50325E 00 | 4.09272E-04 | -2.61738E-04 | 1.891560E-06 |
| 18. | 0. | 0. | 5.46476E-04 | 8.19564E-08 | 1.43410E-01 | -2.70691E 01 |
| 18.01 | 4.76584E-01 | -8.73518E 00 | 2.98113E-05 | 2.79382E-03 | -6.23517E 01 | -8.74453E 00 |
| 19. | 4.78034E 01 | 1.07639E-05 | 3.71475E-05 | 1.79119E-05 | 0. | 0. |
| 21. | 5.36356E-04 | 1.93020E-11 | 3.71528E-04 | 3.22016E 03 | 4.80063E 05 | 3.88745E 05 |
| 23. | -2.59780E-03 | 3.55270E-03 | 6.22541E-06 | 0. | 0. | 2.52785E-01 |
| 24. | 1.01308E 03 | 7.75501E-04 | 9.53067E-06 | 1.18182E-03 | 0. | 1.17122E 18 |
| 25. | -2.11852E 03 | -3.11772E-03 | 2.80780E-03 | 1.95218E-03 | 0. | 0. |
| 29. | -1.85966E 02 | 1.80831E 01 | 4.41677E-05 | -8.50209E-05 | 1.93450E-04 | 0. |
| 31. | 3.03425E 15 | 3.03425E 15 | 3.03425E 15 | 4.68756E-02 | 1.99012E-08 | -2.55169E 02 |
| 32. | 0. | 6.54883E-04 | 3.03425E 15 | 2.23517E-07 | 2.23517E-08 | 1.43410E-01 |
| 27. | 0. | 0. | 7.89522E-03 | 1.17122E 18 | 1.17122E 18 | 1.17122E 18 |
| 34. | 1.21439E-04 | 9.65101E-11 | 1.59268E 01 | 4.94051E 03 | 4.39963E 05 | 2.80431E-02 |
| 35. | 4.08125E 00 | 2.02476E 02 | 3.08203E 02 | 1.43284E-02 | 2.90103E-04 | 8.90032E-05 |
| 36. | 1.89885E 01 | 4.11206E 02 | -8.51763E-05 | -1.81668E-02 | 2.69772E-05 | 0. |
| 37. | 3.03425E 15 | 1.21439E-04 | 3.86040E-11 | -9.16517E 03 | 2.35002E 04 | -1.18197E 06 |
| 38. | 0. | 0. | 0. | 0. | 0. | 0. |
| 40. | 3.03425E 15 | 3.03425E 15 | 1.21439E-04 | 7.2529E-08 | 1.48954E 02 | -2.65314E 02 |
| 40.01 | 3.03425E 15 | 3.03425E 15 | 3.03425E 15 | 4.68756E-02 | 7.45058E-09 | -1.85174E 02 |
| 41. | 0. | 0. | 0. | 0. | 0. | 0. |
| 43. | 3.38445E-03 | 3.03425E 15 | 3.03425E 15 | 1.17122E 18 | 4.68756E-02 | 7.45058E-09 |
| 43.01 | 9.11521E 00 | 1.13224E 03 | 7.26506E-05 | 2.78064E-02 | 4.72868E-04 | 1.47645E 00 |
| 44. | 6.54883E-04 | 3.03425E 15 | 5.79061E-10 | 0. | 1.43410E-01 | 5.23182E 03 |
| 46. | 3.03425E 15 | 5.79061E-10 | 0. | 1.43410E-01 | 5.62847E 03 | 2.69414E 05 |
| 47. | 3.06171E-06 | 0. | 3.03425E 15 | 1.17122E 18 | 1.17122E 18 | 4.68756E-02 |
| 49. | -2.39905E 00 | 1.55522E-01 | -2.50381E 02 | -1.00275E 00 | 1.37134E 00 | 2.40301E-05 |

ULTIPLE SUPPORT RESPONSE SPECTRUM MODAL REPORT

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MULTIPLE SUPPORT RESPONSE SPECTRUM MODAL REPORT

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| | | | | | | |
|-------|--------------|--------------|--------------|--------------|--------------|--------------|
| 51. | 0. | 6.54883E-04 | 3.03425E 15 | 2.23517E-07 | 7.45058E-09 | 1.43410E-01 |
| 53. | -4.93278E 00 | 6.25259E 00 | -1.30395E-06 | 9.99584E-06 | -5.88483E-06 | 0. |
| 54. | -1.78340E 01 | 2.47916E-05 | 8.20782E-06 | 1.40423E-05 | 0. | 0. |
| 55. | 5.16607E 03 | -1.16859E-06 | 2.21174E-08 | -3.59381E-06 | 0. | 1.17122E 18 |
| 56. | 7.59013E-06 | 2.26015E-06 | -5.10740E-09 | 0. | 0. | 2.52785E-01 |
| 57. | 4.05291E-10 | -9.31575E-12 | 8.54827E-12 | 0. | 1.17122E 18 | 1.17122E 18 |
| 58. | 6.54883E-04 | 3.03425E 15 | 5.79061E-10 | 1.49012E-08 | 1.43410E-01 | 3.66832E 02 |
| 59. | 3.03425E 15 | 3.03425E 15 | 1.21439E-04 | 2.98023E-08 | -9.85652E 03 | 2.44236E 04 |
| 61. | 3.03425E 15 | 5.79061E-10 | 0. | 1.43410E-01 | 3.31175E 03 | 4.90931E 05 |
| 61.01 | 7.72152E-04 | 9.57687E-06 | 3.02848E-06 | 0. | 1.17122E 18 | 1.17122E 18 |
| 62. | 3.61408E-04 | 3.03425E 15 | 5.79061E-10 | 0. | 0. | 0. |
| 64. | 7.22189E 00 | -1.30395E-06 | 2.58960E-08 | -5.88483E-06 | 0. | 1.17122E 18 |
| 65. | -1.99622E 00 | 4.90608E 00 | -1.08280E-06 | 4.28267E-06 | 5.02865E-06 | 0. |
| 67. | 0. | 0. | 6.54883E-04 | 1.17122E 18 | 2.30968E-07 | 0. |
| 69. | 1.65462E 01 | 9.35938E 02 | 9.34771E 02 | 4.33231E-02 | 6.79121E-04 | 3.54975E-04 |
| 71. | 3.03425E 15 | 3.03425E 15 | 3.03425E 15 | 1.18755E-02 | 3.72529E-08 | 5.96669E 03 |
| 72. | 1.28399E 03 | 1.25502E-04 | 1.28160E-04 | 6.22782E-04 | 1.27888E 00 | 1.19923E 00 |
| 73. | 0. | 0. | 0. | 2.61537E 00 | 2.66208E 00 | 2.52785E-01 |
| 74. | 3.71528E-04 | 1.12002E 00 | -4.79013E 01 | 7.52895E 04 | 2.99343E-01 | 3.67884E-03 |
| 75. | 0. | 3.03425E 15 | 3.03425E 15 | 1.17122E 18 | 4.68756E-02 | 1.49012E-08 |
| 76. | 7.20373E-05 | 1.22505E-06 | 3.82500E-03 | 1.25332E 00 | 1.39504E-01 | 1.17122E 18 |
| 77. | 5.59759E-10 | 0. | 3.71528E-04 | 4.42091E 03 | 3.12806E 05 | 3.44240E 05 |
| 79. | 1.12245E-04 | 1.75938E-06 | 9.19625E-07 | 1.30640E 00 | 1.17122E 18 | 1.17122E 18 |
| 79.01 | 3.03425E 15 | 1.21439E-04 | 1.93020E-11 | 1.71110E 00 | -4.09721E 00 | 2.51482E 03 |
| 80. | 1.06029E-06 | -6.78077E-07 | 4.78134E-09 | 0. | 0. | 1.39504E-01 |
| 82. | 3.03425E 15 | 5.59759E-10 | 2.12322E-10 | 1.43410E-01 | -5.24026E 01 | -2.71257E 03 |
| 82.01 | 3.39850E 00 | -1.08280E-06 | 1.10950E-08 | -6.02865E-06 | 0. | 1.17122E 18 |
| 83. | 3.03425E 15 | 3.03425E 15 | 1.21439E-04 | 7.45058E-09 | -1.32582E 02 | 3.5754. |
| 85. | -1.53914E 01 | 2.98113E-05 | 7.23787E-06 | -8.27471E-06 | 0. | 0. |
| 86. | 3.61408E-04 | 3.03425E 15 | 5.59759E-10 | 0. | 1.43410E-01 | -3.00503E |
| 88. | 3.63294E 00 | 9.57363E 01 | -1.16718E-05 | 9.16476E-05 | -2.81278E-05 | 0. |
| 90. | 3.03425E 15 | 3.03425E 15 | 3.03425E 15 | 4.68756E-02 | 5.21541E-08 | 8.59646E 01 |
| 92. | -3.87884E-01 | 2.66651E 01 | 6.22313E-06 | 1.15271E-02 | -1.04473E-05 | 0. |
| 93. | 0. | 3.61408E-04 | 3.03425E 15 | 2.16067E-07 | 0. | 1.43410E-01 |
| 94. | -1.12171E 00 | -8.24327E 01 | 3.86199E 01 | -5.18340E-03 | 1.07470E-04 | -4.32352E-05 |
| 95. | 0. | 3.03425E 15 | 3.03425E 15 | 1.17122E 18 | 4.68756E-02 | 9.68575E-08 |
| 96. | 1.55807E-01 | -9.73878E-01 | -4.61879E 01 | 4.65993E-02 | 3.02040E-02 | 1.53552E-04 |

AXIMUM TRANSLATIONAL ACCEL., 3.03425E 15, OCCURED AT JOINT 095.
 AXIMUM ROTATIONAL ACCEL., 1.17122E 18, OCCURED AT JOINT 095.

MULTIPLE SUPPORT RESPONSE SPECTRUM MODAL REPORT

M-RZ SSE

WIT 01 07-22-92 18.169 P15Y506 FEEDWATER LINE A

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ULTIPLE SUPPORT RESPONSE SPECTRUM STRESS REPORT

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WIT 01 07-22-92 18.169 P15Y506 FEEDWATER LINE A

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MULTIPLE SUPPORT RESPONSE SPECTRUM STRESS REPORT

M-RZ SSE

RESPONSE SPECTRUM ANALYSIS --- STRESS REPORT PISYS PAGE 1
 ELEMENT TYPE 1 --- 3-D STRAIGHT OR CURVED PIPE ELEMENTS

COMBINED ELEMENT FORCES AND MOMENTS
 COMBINED METHOD 6 MODE 1 TO MODE 30 --- INTERMEDIATE

| ELEM NO | LOAD CASE | END | AXIAL FORCE | Y-AXIS SHEAR | Z-AXIS SHEAR | TORSION MOMENT | Y-AXIS MOMENT | Z-AXIS MOMENT |
|---------|-----------|-----|-------------|--------------|--------------|----------------|---------------|---------------|
| 1T | 1 001. | | 34277.483 | 10849.919 | 24801.412 | 301414.551 | 252980.958 | 106674.645 |
| | 002. | | 34277.483 | 10849.919 | 24801.412 | 301414.551 | 1799890.401 | 783065.858 |
| 2T | 1 002. | | 33886.479 | 10850.871 | 24803.169 | 301414.551 | 1799890.401 | 783065.858 |
| | 003. | | 33886.479 | 10850.871 | 24803.169 | 301414.551 | 1692477.243 | 736077.921 |
| 3T | 1 003. | | 33617.687 | 10848.023 | 24799.381 | 301414.551 | 1692477.243 | 736077.921 |
| | 003.01 | | 33617.687 | 10848.023 | 24799.381 | 301414.551 | 144286.913 | 67890.823 |
| 4T | 1 003.01 | | 33083.482 | 10345.385 | 24066.586 | 301414.551 | 144286.913 | 67890.823 |
| | 004. | | 33083.482 | 10345.385 | 24066.586 | 301414.551 | 1922738.939 | 831588.755 |
| 5T | 1 004. | | 32658.787 | 9844.381 | 23316.901 | 301414.551 | 1922738.939 | 831588.755 |
| | 005. | | 32658.787 | 9844.381 | 23316.901 | 301414.551 | 2250103.313 | 969606.941 |
| 6T | 1 005. | | 32581.265 | 9761.637 | 23191.072 | 301414.551 | 2250103.313 | 969606.941 |
| | 006. | | 32581.265 | 9761.637 | 23191.072 | 301414.551 | 2910525.553 | 1247258.456 |
| 7T | 1 006. | | 2733.817 | 5173.953 | 4972.834 | 0.000 | 76352.897 | 79440.871 |
| | 007. | | 2733.817 | 5173.953 | 4972.834 | 0.000 | 0.000 | 0.000 |
| 8T | 1 006. | | 30510.419 | 8185.162 | 20380.483 | 258721.244 | 2910525.553 | 1243696.648 |
| | 008. | | 30510.419 | 8185.162 | 20380.483 | 258721.244 | 3479273.166 | 1466070.402 |
| 9T | 1 008. | | 30436.000 | 8157.792 | 20330.929 | 258721.244 | 3479273.166 | 1466070.402 |
| | 009. | | 30436.000 | 8157.792 | 20330.929 | 258721.244 | 3830391.933 | 1603867.848 |
| 10T | 1 009. | | 30292.364 | 18647.139 | 55558.586 | 258721.244 | 3830391.933 | 1603867.848 |
| | 012. | | 30292.364 | 18647.139 | 55558.586 | 258721.244 | 2839294.732 | 1278106.478 |
| 11T | 1 012. | | 30210.676 | 18578.708 | 55464.531 | 258721.244 | 2839294.732 | 1278106.478 |
| | 013. | | 30210.676 | 18578.708 | 55464.531 | 258721.244 | 1267478.812 | 773470.871 |
| 12T | 1 013. | | 5523.393 | 9229.677 | 7945.117 | 0.000 | 238981.151 | 277619.452 |
| | 014. | | 5523.393 | 9229.677 | 7945.117 | 0.000 | 0.000 | 0.000 |

MULTIPLE SUPPORT RESPONSE SPECTRUM STRESS REPORT

M-RZ SSE

U L T I P L E S U P P O R T R E S P O N S E S P E C T R U M S T R E S S R E P O R T M-RZ SSE

| | | | | | | | |
|-----|--------------------------|-------------------------------------|-------------------------------------|-------------------------------------|----------------------------------------|----------------------------------------|-------------------------------------------|
| 13T | I 013. 015. | 29397.796 29397.796 | 14124.497 14124.497 | 49619.428 49619.428 | 359319.252 359319.252 | 1267478.812 188006.109 | 689144.655 292040.367 |
| 14T | I 015. 016. | 29363.467 29363.467 | 13796.213 13796.213 | 49064.600 49064.600 | 359319.252 359319.252 | 188006.109 1260680.105 | 292040.367 81380.195 |
| 15B | I 016. CENTER 018. | 29277.622 49171.559 55103.687 | 46932.383 25315.846 4928.288 | 12562.288 12562.288 12562.288 | 359319.546 396140.367 480034.999 | 81378.860 183812.424 271822.325 | 1260680.105 2138979.938 2402049.161 |
| 16T | I 018. 018.01 | 50302.834 50302.834 | 9173.974 9173.974 | 7287.486 7287.486 | 480024.260 480024.260 | 2402049.161 1727833.703 | 271841.113 1132252.105 |
| 17T | I 018.01 019. | 43921.061 43921.061 | 4075.498 4075.498 | 9535.920 9535.920 | 480024.250 480024.250 | 1727833.703 921451.759 | 1132252.109 1361384.599 |
| 18T | I 019. 021. | 39216.672 39216.672 | 15919.875 15919.875 | 42544.765 42544.765 | 480348.835 480348.835 | 921451.759 1015023.640 | 1361270.416 672330.090 |
| 19B | I 021. CENTER 023. | 36642.574 51431.269 51719.256 | 39329.431 15589.762 14644.976 | 18602.455 18602.455 18602.455 | 480218.276 226240.355 168269.135 | 672423.441 401835.013 116197.950 | 1015023.640 1666327.263 1682402.254 |
| 20T | I 023. 024. | 47388.041 47388.041 | 20568.906 20568.906 | 14716.904 14716.904 | 168269.125 168269.125 | 1682402.254 1182086.582 | 116198.146 813295.003 |
| 21T | I 024. 025. | 38574.107 38574.107 | 23235.654 23235.654 | 16228.253 16228.253 | 202285.582 202285.582 | 1052719.816 691748.047 | 811783.624 1524297.339 |
| 22T | I 025. 029. | 32727.781 32727.781 | 8486.155 8486.155 | 7021.904 7021.904 | 202285.582 202285.582 | 691748.047 506653.127 | 1524297.339 1069209.904 |
| 23T | I 029. 031. | 26971.853 26971.853 | 7950.582 7950.582 | 5928.590 5928.590 | 202285.582 202285.582 | 506653.127 482970.756 | 1069209.904 797512.669 |
| 24T | I 031. 032. | 20072.749 20072.749 | 8771.580 8771.580 | 5788.543 5788.543 | 196571.747 196571.747 | 624217.665 593047.122 | 688540.074 250454.887 |
| 25T | I 032. 027. | 14978.475 14978.475 | 5421.808 5421.808 | 8805.717 8805.717 | 196571.747 196571.747 | 593047.122 563585.729 | 250454.887 247514.674 |
| 26T | I 027. 034. | 12312.862 12312.862 | 5516.498 5516.498 | 5606.671 5606.671 | 196571.747 196571.747 | 563585.729 494032.077 | 247514.674 155211.082 |
| 27T | I 034. 035. | 3098.971 3098.971 | 2235.495 2235.495 | 1471.160 1471.160 | 0.000 0.000 | 43639.812 8940.549 | 65964.907 13167.492 |
| 28T | I 035. 036. | 929.717 929.717 | 743.212 743.212 | 504.631 504.631 | 0.000 0.000 | 8940.549 0.000 | 13167.492 0.000 |

U L T I P L E S U P P O R T R E S P O N S E S P E C T R U M S T R E S S R E P O R T M-RZ SSE

ULTIPLE SUPPORT RESPONSE SPECTRUM STRESS REPORT

M-RZ SSE

RESPONSE SPECTRUM ANALYSIS --- STRESS REPORT PISYS PAGE 2
 ELEMENT TYPE 1 --- 3-D STRAIGHT OR CURVED PIPE ELEMENTS

COMBINED ELEMENT FORCES AND MOMENTS
 COMBINED METHOD 6 MODE 1 TO MODE 30 --- INTERMEDIATE

| ELEM NO | LOAD CASE | AXIAL FORCE | Y-AXIS SHEAR | Z-AXIS SHEAR | TORSION MOMENT | Y-AXIS MOMENT | Z-AXIS MOMENT |
|---------|--------------------------|-------------|--------------|--------------|----------------|---------------|---------------|
| 29T | 1 024. 037. | 3823.179 | 4445.839 | 9198.427 | 481180.702 | 483739.651 | 211054.979 |
| | | 3823.179 | 4445.839 | 9198.427 | 481180.702 | 310807.441 | 143849.412 |
| 30T | 1 037. 038. | 3730.862 | 4260.505 | 8954.059 | 481180.599 | 310807.601 | 143849.412 |
| | | 3730.862 | 4260.505 | 8954.059 | 481180.599 | 223793.252 | 119325.984 |
| 31B | 1 038. CENTER 040. | 3657.775 | 4070.009 | 8748.821 | 481134.234 | 223891.849 | 119325.984 |
| | | 4139.379 | 3580.201 | 8748.821 | 387328.528 | 318114.072 | 109405.104 |
| | | 4427.892 | 3201.500 | 8748.821 | 266759.394 | 374247.336 | 99888.723 |
| 32T | 1 040. 040.01 | 4005.001 | 2964.300 | 8199.456 | 266980.602 | 374089.681 | 99888.723 |
| | | 4005.001 | 2964.300 | 8199.456 | 266980.602 | 140434.024 | 118762.138 |
| 33T | 1 040.01 041. | 3399.012 | 1949.755 | 6282.653 | 266980.602 | 140434.024 | 118762.138 |
| | | 3399.012 | 1949.755 | 6282.653 | 266980.602 | 307522.653 | 183804.063 |
| 34B | 1 041. CENTER 043. | 3062.546 | 4447.464 | 979.080 | 266980.846 | 183805.895 | 307522.653 |
| | | 3215.358 | 4318.018 | 979.080 | 262493.803 | 190448.402 | 324932.675 |
| | | 3549.885 | 4062.566 | 979.080 | 250937.679 | 209730.496 | 341084.456 |
| 35T | 1 043. 043.01 | 2649.266 | 900.563 | 2369.892 | 250946.135 | 341084.456 | 209718.809 |
| | | 2649.266 | 900.563 | 2369.892 | 250946.135 | 403934.959 | 177156.282 |
| 36T | 1 043.01 044. | 2780.379 | 2484.795 | 4143.546 | 250946.136 | 403934.959 | 177156.280 |
| | | 2780.379 | 2484.795 | 4143.546 | 250946.136 | 175012.110 | 125718.960 |
| 37B | 1 044. CENTER 046. | 4006.767 | 3258.169 | 7846.507 | 250946.390 | 175012.110 | 125718.446 |
| | | 4179.675 | 3069.131 | 7846.507 | 116427.645 | 194192.358 | 124412.219 |
| | | 3256.811 | 4007.871 | 7846.507 | 71187.327 | 110770.477 | 94491.888 |
| 38T | 1 046. 047. | 4145.416 | 10998.277 | 3119.726 | 71155.428 | 59974.573 | 132345.546 |
| | | 4145.416 | 10998.277 | 3119.726 | 71155.428 | 101089.817 | 366106.944 |
| 39B | 1 047. CENTER 049. | 4905.607 | 10740.915 | 5446.345 | 71135.743 | 165872.849 | 343447.737 |
| | | 3699.795 | 11180.605 | 5446.345 | 73934.829 | 189081.668 | 396687.254 |
| | | 4403.353 | 10944.593 | 5446.345 | 101170.772 | 201353.572 | 449613.205 |

ULTIPLE SUPPORT RESPONSE SPECTRUM STRESS REPORT

M-RZ SSE

MULTIPLE SUPPORT RESPONSE SPECTRUM STRESS REPORT

H-RZ SSE

RESPONSE SPECTRUM ANALYSIS --- STRESS REPORT PISYS PAGE 3
 ELEMENT TYPE 1 --- 3-D STRAIGHT OR CURVED PIPE ELEMENTS

COMBINED ELEMENT FORCES AND MOMENTS
 COMBINED METHOD 6 MODE 1 TO MODE 30 --- INTERMEDIATE

| ELEM NO | LOAD CASE | END | AXIAL FORCE | Y-AXIS SHEAR | Z-AXIS SHEAR | TORSION MOMENT | Y-AXIS MOMENT | Z-AXIS MOMENT |
|---------|--------------------------|-----|-------------|--------------|--------------|----------------|---------------|---------------|
| 40B | 1 049. CENTER 051. | | 4391.742 | 11153.128 | 5592.666 | 101115.702 | 201441.887 | 449586.105 |
| | | | 6173.413 | 10307.866 | 5592.666 | 142067.645 | 202037.247 | 499809.798 |
| | | | 8108.112 | 8887.606 | 5592.666 | 186364.361 | 190484.460 | 543297.166 |
| 41B | 1 051. CENTER 053. | | 8057.764 | 9103.562 | 5709.933 | 186113.851 | 190580.960 | 543349.064 |
| | | | 9713.454 | 7323.850 | 5709.933 | 227535.248 | 168474.119 | 578320.683 |
| | | | 10857.244 | 5415.497 | 5709.933 | 262292.530 | 138356.494 | 601508.569 |
| 42T | 1 053. 054. | | 10908.496 | 5884.770 | 5978.709 | 262230.822 | 138426.943 | 601518.925 |
| | | | 10908.496 | 5884.770 | 5978.709 | 262230.822 | 376440.782 | 787350.267 |
| 43T | 1 054. 055. | | 11010.711 | 5943.844 | 6055.957 | 262220.857 | 376440.782 | 787353.558 |
| | | | 11010.711 | 5943.844 | 6055.957 | 262220.857 | 484892.380 | 878560.004 |
| 44T | 1 055. 056. | | 11125.150 | 5944.901 | 6093.584 | 262271.778 | 484892.380 | 878544.893 |
| | | | 11125.150 | 5944.901 | 6093.584 | 262271.778 | 521362.431 | 909793.254 |
| 45T | 1 056. 057. | | 77.891 | 0.009 | 46.009 | 0.000 | 351.390 | 0.068 |
| | | | 77.891 | 0.009 | 46.009 | 0.000 | 0.000 | 0.000 |
| 46T | 1 031. 058. | | 1514.754 | 2862.207 | 3632.003 | 142439.718 | 28455.024 | 114454.244 |
| | | | 1514.754 | 2862.207 | 3632.003 | 142439.718 | 24072.488 | 81295.218 |
| 47T | 1 058. 059. | | 1488.322 | 2573.803 | 3540.305 | 142439.650 | 260072.525 | 81295.218 |
| | | | 1488.322 | 2573.803 | 3540.305 | 142439.650 | 245437.269 | 77014.032 |
| 48B | 1 059. CENTER 061. | | 1476.940 | 2295.641 | 3509.082 | 142402.997 | 245458.565 | 77014.032 |
| | | | 2074.306 | 1780.919 | 3509.082 | 110261.813 | 250239.188 | 78140.423 |
| | | | 2465.457 | 1185.448 | 3509.082 | 143632.653 | 218660.727 | 77731.061 |
| 49T | 1 061. 061.01 | | 1986.876 | 951.962 | 3498.793 | 143540.411 | 218721.192 | 77731.061 |
| | | | 1986.876 | 951.962 | 3498.793 | 143540.411 | 138986.957 | 62580.556 |
| 50T | 1 061.01 062. | | 1391.243 | 1128.285 | 3129.185 | 143540.411 | 138986.957 | 62580.556 |
| | | | 1391.243 | 1128.285 | 3129.185 | 143540.411 | 110010.324 | 43846.523 |

MULTIPLE SUPPORT RESPONSE SPECTRUM STRESS REPORT

H-RZ SSE

MULTIPLE SUPPORT RESPONSE SPECTRUM STRESS REPORT

M-RZ 55E

RESPONSE SPECTRUM ANALYSIS --- STRESS REPORT
 ELEMENT TYPE : --- 3-D STRAIGHT OR CURVED PIPE ELEMENTS PISYS PAGE 3

COMBINED ELEMENT FORCES AND MOMENTS
 COMBINED METHOD 6 MODE 1 TO MODE 30 --- INTERMEDIATE

| ELEM NO | LOAD CASE | AXIAL FORCE | Y-AXIS SHEAR | Z-AXIS SHEAR | TORSION MOMENT | Y-AXIS MOMENT | Z-AXIS MOMENT |
|---------|--------------------------|-------------|--------------|--------------|----------------|---------------|---------------|
| 40B | 1 049. CENTER 051. | 4391.742 | 11153.128 | 5592.666 | 101115.702 | 201441.887 | 449586.105 |
| | | 6173.413 | 10307.866 | 5592.666 | 142067.645 | 202037.247 | 499809.798 |
| | | 8108.112 | 8087.606 | 5592.666 | 186364.361 | 190484.460 | 543297.166 |
| 41B | 1 051. CENTER 053. | 8057.764 | 9103.562 | 5709.933 | 186113.851 | 190580.960 | 543349.064 |
| | | 9713.454 | 7323.850 | 5709.933 | 227535.248 | 168474.119 | 578320.683 |
| | | 10857.244 | 5415.497 | 5709.933 | 262292.530 | 138356.494 | 601508.569 |
| 42T | 1 053. 054. | 10908.496 | 5884.770 | 5978.709 | 262230.822 | 138426.943 | 601518.925 |
| | | 10908.496 | 5884.770 | 5978.709 | 262230.822 | 376440.782 | 787350.267 |
| 43T | 1 054. 055. | 11010.711 | 5943.844 | 6055.957 | 262220.857 | 376440.782 | 787353.558 |
| | | 11010.711 | 5943.844 | 6055.957 | 262220.857 | 484892.380 | 878560.004 |
| 44T | 1 055. 056. | 11125.150 | 5944.901 | 6093.584 | 262271.778 | 484892.380 | 878544.893 |
| | | 11125.150 | 5944.901 | 6093.584 | 262271.778 | 521362.431 | 909793.254 |
| 45T | 1 056. 057. | 77.891 | 0.009 | 46.009 | 0.000 | 351.390 | 0.068 |
| | | 77.891 | 0.009 | 46.009 | 0.000 | 0.000 | 0.070 |
| 46T | 1 031. 058. | 1514.754 | 2862.207 | 3632.003 | 142439.718 | 289455.024 | 114454.244 |
| | | 1514.754 | 2862.207 | 3632.003 | 142439.718 | 260072.488 | 81295.218 |
| 47T | 1 058. 059. | 1488.322 | 2573.803 | 3540.305 | 142439.650 | 260072.525 | 81295.218 |
| | | 1488.322 | 2573.803 | 3540.305 | 142439.650 | 245437.269 | 77014.032 |
| 48B | 1 059. CENTER 061. | 1476.940 | 2295.641 | 3509.082 | 142402.997 | 245458.565 | 77014.032 |
| | | 2074.306 | 1780.919 | 3509.082 | 110261.813 | 250239.188 | 78140.423 |
| | | 2465.457 | 1185.448 | 3509.082 | 143632.653 | 218660.727 | 77731.061 |
| 49T | 1 061. 061.01 | 1986.876 | 951.962 | 3498.793 | 143540.411 | 218721.192 | 77731.061 |
| | | 1986.876 | 951.962 | 3498.793 | 143540.411 | 138986.957 | 62580.556 |
| 50T | 1 061.01 062. | 1391.243 | 1128.285 | 3129.185 | 143540.411 | 138986.957 | 62580.556 |
| | | 1391.243 | 1128.285 | 3129.185 | 143540.411 | 110010.324 | 43846.523 |

MULTIPLE SUPPORT RESPONSE SPECTRUM STRESS REPORT

M-RZ 55E

MULTIPLE SUPPORT RESPONSE SPECTRUM STRESS REPORT M-RZ SSE

| | | | | | | | |
|-----|--------------------------|----------------------------------|----------------------------------|----------------------------------|----------------------------------------|----------------------------------------|---------------------------------------|
| 51B | 1 062. CENTER 064. | 1134.201 1761.483 1487.755 | 1488.721 643.830 1135.463 | 3578.109 3578.109 3578.109 | 143540.411 103507.212 108815.948 | 110010.324 125696.049 80705.615 | 43846.523 39206.462 33313.507 |
| 52T | 1 064. 065. | 1940.225 1940.225 | 4901.626 4901.626 | 1190.766 1190.766 | 108799.264 108799.264 | 33313.507 36043.561 | 80728.193 128180.045 |
| 53B | 1 065. CENTER 067. | 2332.090 2394.458 2325.178 | 1207.699 1128.902 1315.280 | 5494.404 5494.404 5494.404 | 108803.808 113317.461 126354.164 | 128176.179 150780.504 166063.405 | 36043.561 39272.295 40562.794 |
| 54B | 1 067. CENTER 069. | 2437.854 2216.062 1890.716 | 1402.082 1730.141 2050.807 | 5684.138 5684.138 5684.138 | 126352.083 148353.761 176154.316 | 166064.987 172621.517 169186.663 | 40562.794 39990.212 38830.283 |
| 55B | 1 069. CENTER 071. | 1943.490 1542.215 1211.063 | 2176.662 2465.768 2629.072 | 5834.781 5834.781 5834.781 | 176020.748 205355.854 232283.751 | 169325.256 156413.448 135095.907 | 38830.283 38811.510 41224.072 |
| 56T | 1 071. 072. | 1212.680 1212.680 | 2935.165 2935.165 | 6160.505 6160.505 | 232242.022 232242.022 | 135167.690 353520.602 | 41224.072 138946.726 |
| 57T | 1 072. 073. | 1213.086 1213.086 | 2981.980 2981.980 | 6269.947 6269.947 | 232242.022 232242.022 | 353620.602 462765.221 | 138946.726 191717.519 |
| 58T | 1 073. 074. | 1213.107 1213.107 | 2982.941 2982.941 | 6370.070 6370.070 | 232242.022 232242.022 | 462765.221 499857.413 | 191717.519 209511.694 |
| 59T | 1 074. 075. | 0.000 0.000 | 0.007 0.007 | 92.503 92.503 | 0.000 0.000 | 706.541 0.000 | 0.052 0.000 |
| 60T | 1 034. 076. | 2998.785 2998.785 | 3993.770 3993.770 | 7851.555 7851.555 | 341760.058 341760.058 | 357392.140 214584.527 | 196571.747 134392.970 |
| 61T | 1 076. 077. | 2985.913 2985.913 | 3812.890 3812.890 | 7525.270 7525.270 | 341759.995 341759.995 | 214584.627 148770.058 | 134392.970 111396.057 |
| 62B | 1 077. CENTER 079. | 2981.582 3485.506 3842.864 | 3635.370 3218.732 2795.160 | 7247.222 7247.222 7247.222 | 341734.516 287913.984 215489.515 | 148828.695 205570.173 246694.469 | 111396.057 100704.642 91296.066 |
| 63T | 1 079. 079.01 | 3563.437 3563.437 | 2559.465 2559.465 | 6546.467 6546.467 | 215624.028 215624.028 | 246576.401 175876.787 | 91296.066 89002.988 |
| 64T | 1 079.01 080. | 3194.243 3194.243 | 1794.245 1794.245 | 4698.620 4698.620 | 215624.028 215624.028 | 175876.787 313802.326 | 89002.988 140517.306 |
| 65B | 1 080. CENTER | 3006.574 3271.835 | 3219.374 2572.536 | 1147.612 1147.612 | 215629.505 201764.078 | 140514.177 160026.156 | 313802.326 324202.077 |

MULTIPLE SUPPORT RESPONSE SPECTRUM STRESS REPORT M-RZ SSE

M U L T I P L E S U P P O R T R E S P O N S E S P E C T R U M S T R E S S R E P O R T M-RZ 55E

| | | | | | | | |
|-----|--------------------------|----------------------------------|----------------------------------|----------------------------------|----------------------------------------|----------------------------------------|----------------------------------------|
| | 082. | 3478.487 | 2793.659 | 1147.612 | 186903.275 | 186069.617 | 333386.208 |
| 66T | 1 082. 082.01 | 2912.724 2912.724 | 1267.606 1267.606 | 2007.706 2007.706 | 186912.803 186912.803 | 333386.208 324731.374 | 186057.141 157881.813 |
| 67T | 1 082.01 083. | 2976.909 2976.909 | 2262.929 2262.929 | 3888.394 3888.394 | 186912.804 186912.804 | 324731.374 117941.013 | 157881.811 131197.882 |
| 68B | 1 083. CENTER 085 | 3819.926 3729.487 2661.812 | 2663.067 2823.395 3820.797 | 6322.944 6322.944 6322.944 | 186912.989 97186.837 60612.823 | 117941.013 134126.687 78419.264 | 131197.614 126156.823 94846.962 |
| 69T | 1 085. 086. | 3294.388 3294.388 | 8748.481 8748.481 | 3113.365 3113.365 | 60601.328 60601.328 | 78714.122 73085.798 | 95291.618 313013.666 |
| 70B | 1 086. CENTER 088. | 3903.511 3460.593 4278.550 | 8446.400 8636.834 8355.483 | 4871.184 4871.184 4871.184 | 60561.824 52543.060 73365.074 | 146840.345 170817.064 185759.771 | 284936.912 325753.402 365148.710 |
| 71B | 1 088. CENTER 090. | 4293.008 5558.733 6824.887 | 8520.414 7814.309 6714.332 | 4992.378 4992.378 4992.378 | 73322.167 111373.089 153946.550 | 185836.875 190395.998 183924.385 | 365118.268 401297.690 433305.733 |
| 72B | 1 090. CENTER 092. | 6803.454 7825.504 8542.419 | 6896.662 5584.845 4332.558 | 5093.493 5093.493 5093.493 | 153725.452 194748.560 230524.622 | 184004.179 167669.256 143017.125 | 433349.117 458403.644 474215.766 |
| 73T | 1 092. 093. | 8604.466 8604.466 | 4742.158 4742.158 | 5328.434 5328.434 | 230466.378 230466.378 | 143076.795 361386.312 | 474230.899 603583.806 |
| 74T | 1 093. 094. | 8729.690 8729.690 | 4796.705 4796.705 | 5395.870 5395.870 | 230458.853 230458.853 | 361386.312 458848.800 | 603586.689 671578.676 |
| 75T | 1 094. 095. | 8871.008 8871.008 | 4797.723 4797.723 | 5432.657 5432.657 | 230496.551 230496.551 | 458848.800 491553.870 | 671565.583 695239.978 |
| 76T | 1 095. 096. | 77.891 77.891 | 0.008 0.000 | 46.131 46.131 | 0.000 0.000 | 352.323 0.000 | 0.063 0.000 |

M A X I M U M A N D / O R M I N I M U M V A L U E S
C O R R E S P O N D I N G E L E M / L O A D - C A S E

| | | | | | | |
|--------------|----------------|----------------|-----------------|----------------|---------------|---------------|
| MAXIMUM TANG | 50302.834 | 23235.654 | 55558.586 | 481180.703 | 3830391.938 | 1603867.844 |
| MINIMUM | 16- 1 0.000 | 21- 1 0.007 | 10- 1 46.009 | 29- 1 0.000 | 9- 1 0.000 | 9- 1 0.000 |
| | 59- 1 | 59- 1 | 45- 1 | 59- 1 | 59- 1 | 76- 1 |
| MAXIMUM BEND | 55103.687 | 46932.383 | 18602.455 | 481134.234 | 672423.441 | 2402049.161 |

M U L T I P L E S U P P O R T R E S P O N S E S P E C T R U M S T R E S S R E P O R T M-RZ 55E

M U L T I P L E S U P P O R T R E S P O N S E S P E C T R U M S T R E S S R E P O R T

M-RZ SSE

| | | | | | | |
|---------|----------------------------|---------------------------|---------------------------|-----------------------------|-----------------------------|-----------------------------|
| MINIMUM | 15- 1 1134.201 51- 1 | 15- 1 643.830 51- 1 | 19- 1 979.080 34- 1 | 31- 1 52543.060 70- 1 | 19- 1 78419.264 68- 1 | 15- 1 33313.507 51- 1 |
|---------|----------------------------|---------------------------|---------------------------|-----------------------------|-----------------------------|-----------------------------|

M U L T I P L E S U P P O R T R E S P O N S E S P E C T R U M S T R E S S R E P O R T

M-RZ SSE

MULTIPLE SUPPORT RESPONSE SPECTRUM STRESS REPORT

M-RZ SSE

RESPONSE SPECTRUM ANALYSIS --- STRESS REPORT
 ELEMENT TYPE 2 --- RESTRAINT ELEMENT

P15YS PAGE 4

 COMBINED ELEMENT FORCES AND MOMENTS
 COMBINED METHOD 6 MODE 1 TO MODE 30 --- INTERMEDIATE

| ELEM NO | LOAD CASE | RESTRAINT TYPE | PIPE JOINT | STRUCT. POINT | RESTRAINT FORCE | RESTRAINT MOMENT |
|---------|-----------|----------------|------------|---------------|-----------------|------------------|
| 1 | 1 | ANCHOR | 001. | ANC X | 2.480E 04 | 1.067E 05 |
| 2 | 1 | ANCHOR | 001. | ANC Y | 1.085E 04 | 2.530E 05 |
| 3 | 1 | ANCHOR | 001. | ANC Z | 3.462E 04 | 3.014E 05 |
| 4 | 1 | ANCHOR | 056. | RPUN1X | 3.912E 03 | 8.805E 05 |
| 5 | 1 | ANCHOR | 056. | RPUN1Y | 5.945E 03 | 5.214E 05 |
| 6 | 1 | ANCHOR | 056. | RPUN1Z | 1.220E 04 | 3.473E 05 |
| 7 | 1 | ANCHOR | 074. | RPUN2X | 1.213E 03 | 2.322E 05 |
| 8 | 1 | ANCHOR | 074. | RPUN2Y | 2.983E 03 | 4.998E 05 |
| 9 | 1 | ANCHOR | 074. | RPUN2Z | 6.494E 03 | 2.095E 05 |
| 10 | 1 | ANCHOR | 095. | RPUN3X | 3.933E 03 | 6.828E 05 |
| 11 | 1 | ANCHOR | 095. | RPUN3Y | 4.798E 03 | 4.916E 05 |
| 12 | 1 | ANCHOR | 095. | RPUN3Z | 9.792E 03 | 2.632E 05 |
| 13 | 1 | GLOBAL GUIDE | 009. | GUIDEX | 7.562E 04 | 0. |
| 14 | 1 | GLOBAL GUIDE | 009. | GUIDEY | 2.633E 04 | 0. |
| 15 | 1 | SNUBBER | 019. | AS003 | 4.161E 04 | 0. |
| 16 | 1 | SNUBBER | 025. | AS005 | 1.854E 04 | 0. |
| 17 | 1 | SNUBBER | 025. | AS004 | 3.174E 04 | 0. |
| 18 | 1 | SNUBBER | 027. | AS007 | 1.309E 04 | 0. |

MULTIPLE SUPPORT RESPONSE SPECTRUM STRESS REPORT

M-RZ SSE

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M U L T I P L E S U P P O R T R E S P O N S E S P E C T R U M S T R E S S R E P O R T

M-RZ SSE

19 1 SNUBBER 032. A5006 1.091E 04 0.

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M U L T I P L E S U P P O R T R E S P O N S E S P E C T R U M S T R E S S R E P O R T

M-RZ SSE

P I S E Z F I L E G E N E R A T I O N R E P O R T

M-RZ SSE

P I S E Z F I L E U P D A T E H A S S T A R T E D .
A N A L Y S I S C A S E L A B E L " M - R Z S S E "
A N A L Y S I S C A S E S E Q U E N C E N U M B E R = 1 5 (P I S E Z)
I S B E I N G A D D E D .

P I S E Z F I L E U P D A T E I S C O M P L E T E .

P I S E Z F I L E G E N E R A T I O N R E P O R T

M-RZ SSE

| | | | | |
|---------------------------------------|--------------------------------|---------------------------------------|------------------------------------------|---------------------------------------|
| LLLLL L L L L L L LLLLL L | LLL L L L L LLL | LLLL L L L L L L L L L L L L | L L L L L L L L L L L L L L L L | LLLL L L L L L L L L L L L L |
|---------------------------------------|--------------------------------|---------------------------------------|------------------------------------------|---------------------------------------|

LLLLLL LLLLLL LLLLLL

| | | | |
|----------------------------------------------------------------------------------|--------------------------------------------------|-------------------------------------------------|------------------------------------------------------------------------------------------------------------|
| LL L L L L L L L L L L L L L L L L L L L L L L L L L L L L L L L L L | L L L L L L L L L L L L L L L L L L L L | LLL LLLL L L L L L L L L L L L L L L L | LLLL L L L L L L L L L L L L L L L L L L L L L L L L L L L L L L L L L L L L L L L L L L L L L |
|----------------------------------------------------------------------------------|--------------------------------------------------|-------------------------------------------------|------------------------------------------------------------------------------------------------------------|

| | |
|-------------------------------|-----------------------------------------|
| L LL L L L LLL | L L L L L L L L L L L L L L |
|-------------------------------|-----------------------------------------|

PISYS MASTER CONTROL INFORMATION

RUN LABEL = FEEDWATER LINE A

MODEL DATE = 11/91

PROJECT TITLE =

PROJECT NUMBER =

JOB TITLE =

JOB NUMBER =

RUN NUMBER =

ANALYSIS CASE 16, OF 16

DEBUG PARAMETER = 0

PUNCH PARAMETER = 0

DATA CHECK FLAG = 0

PISEZ GENERATION = T

LOAD LABEL = H-RY CO

A MULTIPLE SUPPORT EXCITATION RESPONSE SPECTRUM ANALYSIS WAS SELECTED.

COMBINATION METHOD, MC, = 6
DISPLACEMENT OUTPUT OPTION = 5
STRESS OUTPUT OPTION = 0
NUMBER OF SPECTRUM CASES = 1
INTERPOLATION INDICATOR = 0

*** WORKING FILES RESTARTED FROM TAPE # 12529 ***

MULTIPLE SUPPORT RESPONSE SPECTRUM INPUT

M-RY CO

CONTROL INFORMATION

NUMBER OF SPECTRA = 4

MAXIMUM NUMBER OF SPECTRUM
TABLE ENTRIES (PAIRS) = 56

METHOD OF COMBINATION = 6

- EQ. 1, METHOD I
- EQ. 2, METHOD II
- EQ. 3, METHOD III
- EQ. 4, METHOD IV
- EQ. 5, METHOD V
- EQ. 6, METHOD VI, (METHOD I + H/F)

NUMBER OF SPECTRUM
ANALYSIS LOAD CASES = 1

OUTPUT TYPE FLAG (NPRINT) = 5
EQ.0, PRINT COMB. RESULTS (DISP.,
ACCEL.,STRESSES)

EQ.1, PRINT MODAL RESULTS AND
COMB. RESULTS

EQ.2, PRINT = 1,
SAVE MODAL & COMB. RESULTS
ON TAPE 10

EQ.3, PRINT = 0
SAVE = 2

EQ.4, RESULTS WITH 3 PEAK SHIFTS
EQ.5, RESULTS WITHOUT PEAK SHIFT

EQ.6, H1 FREQ. RESP. USES MAX ZPA

EQ.N, RESULTS WITH (2*N-9) SHIFTS

OUTPUT FLAG NPRINT VALUE OF 4 OR MORE IS A
SUBSET OF COMBINATION METHOD VI AND CANNOT
BE USED WITH ANY OTHER COMBINATION OPTION
- REFER TO USER'S MANUAL FOR DETAILS

FLAG FOR ELEMENT STRESS OUTPUT = 0
.EQ. 1 ELEMENT ORIENTED MODAL FORCES & MOMENTS
.EQ. 2 MODEL ORIENTED MODAL FORCES & MOMENTS

FLAG FOR SPECTRUM INTERPOLATION= 0
.EQ. 0 LINEAR INTERPOLATION
.EQ. 1 LOGARITHMIC INTERPOLATION

M-RY CO

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MULTIPLE SUPPORT RESPONSE SPECTRUM INPUT

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MULTIPLE SUPPORT RESPONSE SPECTRUM INPUT

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SPECTRAL RESPONSE LOAD CASE DEFINITION

SHOCK DIRECTION OF APPLICATION (GLOBAL)
NO. -X- -Y- -Z-

1 0 1 0

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MULTIPLE SUPPORT RESPONSE SPECTRUM INPUT

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MULTIPLE SUPPORT RESPONSE SPECTRUM INPUT

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M-RY CO

SPECTRUM TABLES

SPECTRUM TABLE NUMBER = 1
NUMBER OF ENTRIES = 53
SPECTRUM TYPE = PERIOD/ ACC
SCALE FACTOR = 306.0
DAMPING COEFFICIENT = 2.000E-02
DESCRIPTION = CO U RPV FM N

SPECTRAL PERIOD / DISPLACEMENT-OR-ACCELERATION

| | |
|--------------|------------|
| 1.0000E-05 / | 1.3467E 00 |
| 1.6700E-02 / | 1.3467E 00 |
| 1.8300E-02 / | 2.1542E 00 |
| 2.0000E-02 / | 2.4517E 00 |
| 2.3400E-02 / | 2.4517E 00 |
| 2.5100E-02 / | 2.4352E 00 |
| 2.6700E-02 / | 1.8497E 00 |
| 2.8400E-02 / | 1.6100E 00 |
| 3.0100E-02 / | 1.4615E 00 |
| 3.1800E-02 / | 1.4191E 00 |
| 3.3500E-02 / | 1.4185E 00 |
| 3.8500E-02 / | 1.4185E 00 |
| 4.0200E-02 / | 1.0121E 00 |
| 4.1800E-02 / | 8.6900E-01 |
| 4.3500E-02 / | 9.0630E-01 |
| 4.5200E-02 / | 9.0630E-01 |
| 4.6900E-02 / | 9.6210E-01 |
| 5.0200E-02 / | 9.6210E-01 |
| 5.1900E-02 / | 1.0363E 00 |
| 5.3600E-02 / | 1.1531E 00 |
| 6.0300E-02 / | 3.2131E 00 |
| 6.2000E-02 / | 3.1706E 00 |
| 7.5400E-02 / | 3.1706E 00 |
| 7.7100E-02 / | 3.1686E 00 |
| 8.0500E-02 / | 3.1394E 00 |
| 8.3800E-02 / | 2.1618E 00 |
| 8.5500E-02 / | 2.1649E 00 |
| 8.7200E-02 / | 2.1456E 00 |
| 8.8900E-02 / | 2.1183E 00 |
| 9.8900E-02 / | 1.0623E 00 |
| 1.0060E-01 / | 1.0264E 00 |
| 1.0730E-01 / | 1.0264E 00 |
| 1.1070E-01 / | 9.1320E-01 |
| 1.1240E-01 / | 9.1320E-01 |
| 1.1400E-01 / | 8.9619E-01 |

034IT 01 07-22-92 10.169 P I S Y 5 0 6 FEEDWATER LINE A
MULTIPLE SUPPORT RESPONSE SPECTRUM INPUT

PAGE 542
M-RY CO

M U L T I P L E S U P P O R T R E S P O N S E S P E C T R U M I N P U T

M-RY CO

| | |
|--------------|------------|
| 1.2580E-01 / | 5.3855E-01 |
| 1.3080E-01 / | 5.0792E-01 |
| 1.3250E-01 / | 5.0156E-01 |
| 1.3750E-01 / | 4.8947E-01 |
| 1.3920E-01 / | 4.8703E-01 |
| 1.5940E-01 / | 4.6952E-01 |
| 1.6610E-01 / | 3.8466E-01 |
| 1.6770E-01 / | 3.7532E-01 |
| 1.7450E-01 / | 3.8136E-01 |
| 1.7610E-01 / | 3.8140E-01 |
| 1.9460E-01 / | 1.7732E-01 |
| 2.0300E-01 / | 1.5161E-01 |
| 2.0470E-01 / | 1.4843E-01 |
| 2.0640E-01 / | 1.4686E-01 |
| 2.1140E-01 / | 1.6102E-01 |
| 2.3490E-01 / | 3.9370E-01 |
| 2.3660E-01 / | 3.9331E-01 |
| 2.4830E-01 / | 3.8405E-01 |

SPECTRUM TABLE NUMBER = 2
 NUMBER OF ENTRIES = 54
 SPECTRUM TYPE = PER000 / ACC
 SCALE FACTOR = 386.0
 DAMPING COEFFICIENT = 3.000E-02
 DESCRIPTION = CO U DEPSS

S P E C T R A L P E R I O D / D I S P L A C E M E N T - O R - A C C E L E R A T I O N

| | |
|--------------|------------|
| 1.0000E-05 / | 2.0092E 00 |
| 1.6700E-02 / | 2.0092E 00 |
| 1.8300E-02 / | 2.1297E 00 |
| 2.0000E-02 / | 2.1628E 00 |
| 2.3400E-02 / | 2.1628E 00 |
| 2.5100E-02 / | 2.0937E 00 |
| 2.6700E-02 / | 1.5077E 00 |
| 3.0100E-02 / | 1.1743E 00 |
| 3.1800E-02 / | 1.1743E 00 |
| 3.3500E-02 / | 9.4922E-01 |
| 3.5100E-02 / | 9.1990E-01 |
| 3.8500E-02 / | 9.1990E-01 |
| 4.1800E-02 / | 6.3464E-01 |
| 4.3500E-02 / | 5.4653E-01 |
| 4.5200E-02 / | 5.4395E-01 |
| 4.6900E-02 / | 6.1690E-01 |
| 4.8600E-02 / | 5.9136E-01 |
| 5.0200E-02 / | 6.1164E-01 |
| 5.3600E-02 / | 7.6413E-01 |
| 6.0300E-02 / | 1.7600E 00 |
| 7.5400E-02 / | 1.7600E 00 |

M U L T I P L E S U P P O R T R E S P O N S E S P E C T R U M I N P U T

M-RY CO

M U L T I P L E S U P P O R T R E S P O N S E S P E C T R U M I N P U T

H-RY CO

| | | |
|------------|---|------------|
| 7.7100E-02 | / | 1.7580E 00 |
| 8.0500E-02 | / | 1.7418E 00 |
| 8.3800E-02 | / | 1.3871E 00 |
| 8.5500E-02 | / | 1.3908E 00 |
| 8.7200E-02 | / | 1.3868E 00 |
| 8.8900E-02 | / | 1.3792E 00 |
| 1.0400E-01 | / | 6.7712E-01 |
| 1.0560E-01 | / | 6.7310E-01 |
| 1.0730E-01 | / | 6.7310E-01 |
| 1.0900E-01 | / | 6.3795E-01 |
| 1.1070E-01 | / | 6.3350E-01 |
| 1.1240E-01 | / | 6.3350E-01 |
| 1.1400E-01 | / | 6.2394E-01 |
| 1.2410E-01 | / | 3.9623E-01 |
| 1.2580E-01 | / | 3.8278E-01 |
| 1.3080E-01 | / | 3.6102E-01 |
| 1.3250E-01 | / | 3.5613E-01 |
| 1.3750E-01 | / | 3.4580E-01 |
| 1.3920E-01 | / | 3.4346E-01 |
| 1.4590E-01 | / | 3.3638E-01 |
| 1.5260E-01 | / | 3.3176E-01 |
| 1.5940E-01 | / | 3.2964E-01 |
| 1.6770E-01 | / | 2.9033E-01 |
| 1.6940E-01 | / | 2.8711E-01 |
| 1.7450E-01 | / | 2.8987E-01 |
| 1.7610E-01 | / | 2.8990E-01 |
| 1.9460E-01 | / | 1.5015E-01 |
| 2.0300E-01 | / | 1.3151E-01 |
| 2.0640E-01 | / | 1.2700E-01 |
| 2.1140E-01 | / | 1.3891E-01 |
| 2.3490E-01 | / | 3.0860E-01 |
| 2.3660E-01 | / | 3.0833E-01 |
| 2.4830E-01 | / | 3.0179E-01 |

SPECTRUM TABLE NUMBER = 3
 NUMBER OF ENTRIES = 56
 SPECTRUM TYPE = PER000/ ACC
 SCALE FACTOR = 386.0
 DAMPING COEFFICIENT = 3.000E-02
 DESCRIPTION = CO U GUIDE

S P E C T R A L P E R I O D / D I S P L A C E M E N T - O R - A C C E L E R A T I O N

| | | |
|------------|---|------------|
| 1.0000E-05 | / | 8.1154E-01 |
| 1.6700E-02 | / | 8.1154E-01 |
| 1.8300E-02 | / | 1.0924E 00 |
| 2.0000E-02 | / | 1.2203E 00 |
| 2.1700E-02 | / | 1.4218E 00 |
| 2.3400E-02 | / | 2.0063E 00 |

M U L T I P L E S U P P O R T R E S P O N S E S P E C T R U M I N P U T

H-RY CO

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M U L T I P L E S U P P O R T R E S P O N S E S P E C T R U M I N P U T

M-RY CO

| | | |
|------------|---|------------|
| 2.5100E-02 | / | 2.1622E 00 |
| 2.6700E-02 | / | 2.1622E 00 |
| 2.8400E-02 | / | 2.2307E 00 |
| 3.0100E-02 | / | 2.2513E 00 |
| 3.1800E-02 | / | 2.2513E 00 |
| 3.3500E-02 | / | 1.9241E 00 |
| 3.5100E-02 | / | 1.9068E 00 |
| 3.6800E-02 | / | 1.6226E 00 |
| 3.8500E-02 | / | 1.6226E 00 |
| 4.1800E-02 | / | 8.7284E-01 |
| 4.6900E-02 | / | 5.2420E-01 |
| 5.0200E-02 | / | 4.1936E-01 |
| 5.1900E-02 | / | 3.9405E-01 |
| 5.3600E-02 | / | 3.7638E-01 |
| 5.5300E-02 | / | 3.9948E-01 |
| 6.0300E-02 | / | 6.7950E-01 |
| 6.2000E-02 | / | 6.6980E-01 |
| 7.5400E-02 | / | 6.6980E-01 |
| 7.7100E-02 | / | 6.6913E-01 |
| 8.0500E-02 | / | 6.5960E-01 |
| 8.3800E-02 | / | 5.2365E-01 |
| 8.5500E-02 | / | 5.1708E-01 |
| 8.8900E-02 | / | 4.9350E-01 |
| 9.7200E-02 | / | 2.8637E-01 |
| 9.8900E-02 | / | 2.6511E-01 |
| 1.0400E-01 | / | 2.2740E-01 |
| 1.0730E-01 | / | 2.2740E-01 |
| 1.0900E-01 | / | 2.1763E-01 |
| 1.1070E-01 | / | 1.9822E-01 |
| 1.1240E-01 | / | 1.9274E-01 |
| 1.1400E-01 | / | 1.9055E-01 |
| 1.1570E-01 | / | 1.8965E-01 |
| 1.1910E-01 | / | 2.0320E-01 |
| 1.2580E-01 | / | 1.8831E-01 |
| 1.3250E-01 | / | 1.8304E-01 |
| 1.3750E-01 | / | 1.8036E-01 |
| 1.5940E-01 | / | 1.7470E-01 |
| 1.6440E-01 | / | 1.5351E-01 |
| 1.6610E-01 | / | 1.4997E-01 |
| 1.7450E-01 | / | 1.5179E-01 |
| 1.7610E-01 | / | 1.5180E-01 |
| 1.8450E-01 | / | 1.0219E-01 |
| 1.8620E-01 | / | 9.7270E-02 |
| 1.9630E-01 | / | 7.9040E-02 |
| 1.9800E-01 | / | 7.7270E-02 |
| 2.0130E-01 | / | 8.0760E-02 |
| 2.1140E-01 | / | 1.1039E-01 |
| 2.3190E-01 | / | 2.5630E-01 |
| 2.3660E-01 | / | 2.5621E-01 |

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M U L T I P L E S U P P O R T R E S P O N S E S P E C T R U M I N P U T

M-RY CO

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M U L T I P L E S U P P O R T R E S P O N S E S P E C T R U M I N P U T

M-RY CO

2.4830E-01 / 2.5394E-01

SPECTRUM TABLE NUMBER = 4
NUMBER OF ENTRIES = 49
SPECTRUM TYPE = PER000/ ACC
SCALE FACTOR = 386.0
DAMPING COEFFICIENT = 3.000E-02
DESCRIPTION = CO V PENET

SPECTRAL PERIOD / DISPLACEMENT-OR-ACCELERATION

| | |
|--------------|------------|
| 1.0000E-05 / | 2.9890E-01 |
| 1.6700E-02 / | 2.9890E-01 |
| 1.8300E-02 / | 3.3088E-01 |
| 2.0000E-02 / | 3.3680E-01 |
| 2.1700E-02 / | 3.3596E-01 |
| 2.3400E-02 / | 3.2957E-01 |
| 2.5100E-02 / | 3.4990E-01 |
| 2.6700E-02 / | 3.4990E-01 |
| 2.8400E-02 / | 3.5801E-01 |
| 3.0100E-02 / | 3.6160E-01 |
| 3.1800E-02 / | 3.6160E-01 |
| 3.3500E-02 / | 2.5997E-01 |
| 3.5100E-02 / | 2.5640E-01 |
| 3.6800E-02 / | 2.4620E-01 |
| 3.8500E-02 / | 2.4620E-01 |
| 4.0200E-02 / | 1.9906E-01 |
| 4.3500E-02 / | 1.6334E-01 |
| 4.5200E-02 / | 1.5490E-01 |
| 4.6900E-02 / | 1.5490E-01 |
| 5.1900E-02 / | 1.0442E-01 |
| 5.3600E-02 / | 1.0126E-01 |
| 5.5300E-02 / | 1.1273E-01 |
| 6.0300E-02 / | 2.1120E-01 |
| 7.5400E-02 / | 2.1120E-01 |
| 7.7100E-02 / | 2.1087E-01 |
| 8.0500E-02 / | 2.0615E-01 |
| 8.2100E-02 / | 1.7544E-01 |
| 8.3800E-02 / | 1.7123E-01 |
| 8.5500E-02 / | 1.6997E-01 |
| 8.8900E-02 / | 1.6627E-01 |
| 9.7200E-02 / | 8.9900E-02 |
| 1.0730E-01 / | 8.9900E-02 |
| 1.1910E-01 / | 1.5480E-01 |
| 1.2580E-01 / | 1.5072E-01 |
| 1.3080E-01 / | 1.4919E-01 |
| 1.3750E-01 / | 1.4780E-01 |
| 1.4420E-01 / | 1.4689E-01 |
| 1.4590E-01 / | 1.4677E-01 |

834IT 01 07-22-92 18.169 P I S Y 5 0 6 FEEDWATER LINE A

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M U L T I P L E S U P P O R T R E S P O N S E S P E C T R U M I N P U T

M-RY CO

M U L T I P L E S U P P O R T R E S P O N S E S P E C T R U M I N P U T

M-RY CO

| | | |
|------------|---|------------|
| 1.4930E-01 | / | 1.4668E-01 |
| 1.5100E-01 | / | 1.4672E-01 |
| 1.5770E-01 | / | 1.4744E-01 |
| 1.5940E-01 | / | 1.4765E-01 |
| 1.6440E-01 | / | 1.3605E-01 |
| 1.7450E-01 | / | 1.3729E-01 |
| 1.7610E-01 | / | 1.3730E-01 |
| 1.9800E-01 | / | 6.9980E-02 |
| 2.3490E-01 | / | 2.3960E-01 |
| 2.3660E-01 | / | 2.3951E-01 |
| 2.4830E-01 | / | 2.3745E-01 |

SUPPORT EXCITATION INPUT INFORMATION

| RESTRAINT LABEL | S P E C T R U M M U L T I P L I E R S | | | SPECTRUM NUMBER |
|-----------------|---------------------------------------|-----------------|-----------------|-----------------|
| | X TRANSLATIONAL | Y TRANSLATIONAL | Z TRANSLATIONAL | |
| RPUN1 | 0. | 1.00000E 00 | 0. | 1 |
| RPUN2 | 0. | 1.00000E 00 | 0. | 1 |
| RPUN3 | 0. | 1.00000E 00 | 0. | 1 |
| A5003 | 0. | 1.20000E 00 | 0. | 2 |
| A5005 | 0. | 1.20000E 00 | 0. | 2 |
| A5004 | 0. | 1.20000E 00 | 0. | 2 |
| A5007 | 0. | 1.20000E 00 | 0. | 2 |
| A5006 | 0. | 1.20000E 00 | 0. | 2 |
| GUIDE | 0. | 1.20000E 00 | 0. | 2 |
| ANC | 0. | 1.00000E 00 | 0. | 4 |

M U L T I P L E S U P P O R T R E S P O N S E S P E C T R U M I N P U T

M-RY CO

MULTIPLE SUPPORT RESPONSE SPECTRUM ANALYSIS

M-RY CO

PREVIOUSLY SAVED PARTICIPATION FACTORS HAVE BEEN
 SUCCESSFULLY RETRIEVED FROM FILE CODE 23
 MODAL PARTICIPATION FACTORS

| MODE NUMBER | FREQUENCY (HERTZ) | SUPPORT NUMBER AND FACTORS | | | | | | | | | |
|-------------|-------------------|----------------------------|--------------|----|--------------|----|--------------|----|--------------|----|--------------|
| 1 | 8.126 | 1 | -2.47121E 00 | 2 | -8.33189E-01 | 3 | 2.83760E 00 | 4 | 2.11920E-01 | 5 | 3.90609E-02 |
| | | 6 | 4.66300E-01 | 7 | -7.28889E-02 | 8 | 4.17094E-02 | 9 | 4.60421E-01 | 10 | -2.15295E-01 |
| | | 11 | 7.93844E-02 | 12 | 5.74996E-01 | 13 | 7.56524E 00 | 14 | 2.14310E 00 | 15 | -1.74536E 00 |
| | | 16 | -1.40429E 00 | 17 | 3.28341E 00 | 18 | 9.18522E-01 | 19 | 9.18552E-01 | 20 | -2.16636E 00 |
| | | 21 | 2.16373E 00 | 22 | -5.47649E-01 | 23 | -4.59772E-01 | 24 | 4.92717E-01 | 25 | -5.86890E-01 |
| 2 | 10.871 | 1 | 1.20032E 00 | 2 | -1.73186E 00 | 3 | -5.51535E-01 | 4 | -2.29063E-01 | 5 | 2.25932E-01 |
| | | 6 | 3.84387E-01 | 7 | 1.44198E-01 | 8 | 1.09624E-01 | 9 | -3.06140E-02 | 10 | 1.70547E-02 |
| | | 11 | 4.57423E-02 | 12 | -4.84575E-01 | 13 | -3.34059E 00 | 14 | 4.14417E 00 | 15 | 2.23215E-01 |
| | | 16 | 1.79595E-01 | 17 | -4.19917E-01 | 18 | 8.67347E-01 | 19 | 8.67376E-01 | 20 | -2.42355E 00 |
| | | 21 | 2.42061E 00 | 22 | 9.67769E-02 | 23 | 8.12480E-02 | 24 | 6.96325E-01 | 25 | -8.29414E-01 |
| 3 | 11.554 | 1 | -6.46668E-01 | 2 | 5.31906E-01 | 3 | 3.29275E-01 | 4 | 2.01890E-02 | 5 | -2.74524E-01 |
| | | 6 | 8.01196E-01 | 7 | 3.73147E-02 | 8 | -8.08778E-03 | 9 | 3.34001E-02 | 10 | -3.43092E-01 |
| | | 11 | -3.56686E-01 | 12 | -1.28909E 00 | 13 | 1.85154E 00 | 14 | -1.29654E 00 | 15 | -2.05889E-01 |
| | | 16 | -1.65655E-01 | 17 | 3.87322E-01 | 18 | 2.25550E-01 | 19 | 2.25558E-01 | 20 | 1.28283E 00 |
| | | 21 | -1.28127E 00 | 22 | -3.38250E-01 | 23 | -2.83974E-01 | 24 | -6.68390E-01 | 25 | 7.96140E-01 |
| 4 | 11.842 | 1 | 6.00221E-01 | 2 | 5.44366E-01 | 3 | -4.46262E-01 | 4 | -2.54188E-01 | 5 | -5.22341E-01 |
| | | 6 | 1.35285E 00 | 7 | 1.76461E-02 | 8 | -5.53318E-02 | 9 | -7.75584E-02 | 10 | 2.19431E-01 |
| | | 11 | 1.86903E-01 | 12 | 7.42028E-01 | 13 | -1.73554E 00 | 14 | -1.25791E 00 | 15 | -3.16647E-01 |
| | | 16 | -2.54769E-01 | 17 | 5.95683E-01 | 18 | -4.92073E-01 | 19 | -4.92089E-01 | 20 | 9.34800E-02 |
| | | 21 | -9.32666E-02 | 22 | 4.39743E-01 | 23 | 3.69181E-01 | 24 | 2.45898E-01 | 25 | -2.92897E-01 |
| 5 | 13.025 | 1 | -3.66546E-01 | 2 | -7.05655E-01 | 3 | -5.01030E-01 | 4 | 3.70877E-02 | 5 | 4.35788E-01 |
| | | 6 | 7.36382E-03 | 7 | -5.41073E-04 | 8 | 4.89478E-01 | 9 | -2.38921E-02 | 10 | -3.97476E-02 |
| | | 11 | 1.27252E 00 | 12 | 2.65602E-01 | 13 | 1.43531E 00 | 14 | 1.31039E 00 | 15 | 2.62247E-01 |
| | | 16 | 2.11000E-01 | 17 | -4.93346E-01 | 18 | -9.61373E-02 | 19 | -9.61405E-02 | 20 | 1.68235E 00 |
| | | 21 | -1.68031E 00 | 22 | 1.98823E 00 | 23 | 1.66919E 00 | 24 | -4.91990E-01 | 25 | 5.86025E-01 |
| 6 | 15.275 | 1 | 3.24656E-01 | 2 | 1.24210E 00 | 3 | 1.04385E 00 | 4 | 7.84291E-02 | 5 | -6.49649E-01 |
| | | 6 | -5.82303E-02 | 7 | 2.08878E-02 | 8 | -8.96499E-02 | 9 | 1.67002E-01 | 10 | -1.09051E-01 |
| | | 11 | 7.03582E-01 | 12 | -6.09131E-02 | 13 | -1.62016E 00 | 14 | -2.48899E 00 | 15 | -8.11394E-01 |
| | | 16 | -6.52834E-01 | 17 | 1.52641E 00 | 18 | -4.66183E-01 | 19 | -4.66199E-01 | 20 | -1.45964E 00 |
| | | 21 | 1.45787E 00 | 22 | 9.17860E-01 | 23 | 7.70579E-01 | 24 | 2.99487E-01 | 25 | -3.56727E-01 |
| 7 | 15.809 | 1 | 1.31258E-01 | 2 | 1.39885E 00 | 3 | 1.35978E 00 | 4 | -1.96674E-01 | 5 | 1.23788E 00 |
| | | 6 | -2.12795E-01 | 7 | 6.44740E-02 | 8 | 4.60681E-02 | 9 | 1.70967E-02 | 10 | 8.15989E-02 |
| | | 11 | -8.20362E-02 | 12 | -2.25314E-02 | 13 | -9.41577E-01 | 14 | -2.96517E 00 | 15 | -1.30894E-01 |

MULTIPLE SUPPORT RESPONSE SPECTRUM ANALYSIS

M-RY CO

M U L T I P L E S U P P O R T R E S P O N S E S P E C T R U M A N A L Y S I S

H-RY CO

| | | | | | | | | | | | |
|----|--------|----|--------------|----|--------------|----|--------------|----|--------------|----|--------------|
| 8 | 17.998 | 16 | -1.05315E-01 | 17 | 2.46240E-01 | 18 | 1.05810E 00 | 19 | 1.05814E 00 | 20 | -8.75106E-01 |
| | | 21 | 8.74044E-01 | 22 | 7.79779E-02 | 23 | 6.54654E-02 | 24 | 5.29598E-01 | 25 | -6.30820E-01 |
| 9 | 19.854 | 1 | 3.27171E-02 | 2 | -1.87328E-01 | 3 | -4.22821E-01 | 4 | -7.11660E-03 | 5 | -1.03090E-01 |
| | | 6 | 7.73104E-03 | 7 | 1.32906E-01 | 8 | 6.06063E-02 | 9 | 2.26804E-01 | 10 | 5.62685E-01 |
| | | 11 | -4.91030E-01 | 12 | -2.89594E-01 | 13 | 2.01215E-01 | 14 | 3.15807E-01 | 15 | -1.31501E-01 |
| | | 16 | -1.05804E-01 | 17 | 2.47382E-01 | 18 | -1.66525E-01 | 19 | -1.66530E-01 | 20 | 1.01962E-02 |
| | | 21 | -1.01838E-02 | 22 | 1.14561E 00 | 23 | 9.61787E-01 | 24 | 2.74787E 00 | 25 | -3.27307E 00 |
| | | 1 | -6.04652E-01 | 2 | 3.47558E-01 | 3 | 7.40943E-01 | 4 | 2.55926E-01 | 5 | -5.01076E-01 |
| 10 | 21.590 | 6 | 1.20278E-01 | 7 | 1.67752E-01 | 8 | -3.33576E-03 | 9 | -4.04569E-01 | 10 | 2.64572E-01 |
| | | 11 | 2.03562E-01 | 12 | 1.04399E-01 | 13 | 8.75003E-01 | 14 | -5.64848E-01 | 15 | 1.40250E 00 |
| | | 16 | 1.12843E 00 | 17 | -2.6307E 00 | 18 | 2.07164E 00 | 19 | 2.07171E 00 | 20 | 5.20267E-01 |
| | | 21 | -5.19636E-01 | 22 | 1.52875E-01 | 23 | 1.28344E-01 | 24 | 5.11784E-01 | 25 | -6.09601E-01 |
| | | 1 | -1.30819E-01 | 2 | 1.41296E-01 | 3 | 1.61103E-01 | 4 | -5.24979E-01 | 5 | -3.74654E-01 |
| | | 6 | 1.34683E-01 | 7 | -1.30493E-01 | 8 | 9.11101E-02 | 9 | -2.24901E-01 | 10 | -4.33150E-01 |
| 11 | 21.903 | 11 | -1.65785E-01 | 12 | -1.05746E-01 | 13 | 8.00977E-02 | 14 | -2.46184E-01 | 15 | 3.78554E-01 |
| | | 16 | 3.04578E-01 | 17 | -7.12144E-01 | 18 | 3.63038E-01 | 19 | 3.63050E-01 | 20 | -8.07315E-01 |
| | | 21 | 8.06335E-01 | 22 | -3.27871E-01 | 23 | -2.75260E-01 | 24 | -1.19970E-01 | 25 | 1.42900E-01 |
| | | 1 | -8.97462E-02 | 2 | 5.33538E-02 | 3 | 5.62848E-03 | 4 | -4.29309E-01 | 5 | -1.82088E-01 |
| | | 6 | 8.83878E-02 | 7 | -2.46543E-02 | 8 | -5.95694E-02 | 9 | 8.29876E-01 | 10 | 3.34419E-01 |
| | | 11 | 2.44623E-01 | 12 | 1.04010E-01 | 13 | 8.08824E-02 | 14 | -0.29538E-02 | 15 | 1.98938E-01 |
| 12 | 22.948 | 16 | 1.60062E-01 | 17 | -3.74246E-01 | 18 | 5.27745E-02 | 19 | 5.27762E-02 | 20 | -3.92174E-01 |
| | | 21 | 3.91698E-01 | 22 | 5.47506E-02 | 23 | 4.59653E-02 | 24 | -1.88042E-01 | 25 | 2.23982E-01 |
| | | 1 | -1.31235E-02 | 2 | 4.34438E-02 | 3 | 2.51818E-01 | 4 | 3.06332E-01 | 5 | -1.72857E-0 |
| | | 6 | -1.45745E-03 | 7 | 3.57920E-02 | 8 | 3.78481E-01 | 9 | 7.48086E-01 | 10 | -2.56487E-01 |
| | | 11 | -4.61861E-01 | 12 | -2.98470E-02 | 13 | 1.54236E-02 | 14 | -8.19220E-02 | 15 | 2.47635E-01 |
| | | 16 | 1.99243E-01 | 17 | -4.65857E-01 | 18 | 1.08673E 00 | 19 | 1.08676E 00 | 20 | 2.02489E-01 |
| 13 | 23.646 | 21 | -2.02243E-01 | 22 | 1.05631E 00 | 23 | 8.86812E-01 | 24 | -4.15774E-01 | 25 | 4.95241E-01 |
| | | 1 | 1.03513E-01 | 2 | 6.12122E-03 | 3 | 2.01237E-01 | 4 | -1.44009E-01 | 5 | -1.53150E-01 |
| | | 6 | -1.27489E-02 | 7 | -4.78375E-03 | 8 | 3.98423E-01 | 9 | -4.26482E-01 | 10 | 3.27447E-01 |
| | | 11 | -6.07306E-01 | 12 | -1.99569E-02 | 13 | -5.32195E-02 | 14 | -3.50851E-02 | 15 | -5.78572E-01 |
| | | 16 | -4.65510E-01 | 17 | 1.08842E 00 | 18 | 2.84433E-01 | 19 | 2.84442E-01 | 20 | -1.62491E-01 |
| | | 21 | 1.62294E-01 | 22 | 2.25957E 00 | 23 | 1.89700E 00 | 24 | -7.65428E-01 | 25 | 9.11725E-01 |
| 14 | 25.645 | 1 | 2.14401E-01 | 2 | -1.10049E-01 | 3 | 2.50268E-01 | 4 | 1.15693E-02 | 5 | -2.77656E-01 |
| | | 6 | -3.40458E-02 | 7 | 9.81769E-03 | 8 | 7.44911E-01 | 9 | -5.54737E-02 | 10 | -1.00700E-01 |
| | | 11 | 4.96218E-01 | 12 | 6.85672E-02 | 13 | 9.78428E-01 | 14 | 5.90768E-02 | 15 | -7.92523E-01 |
| | | 16 | -6.37651E-01 | 17 | 1.49091E 00 | 18 | 6.96416E-01 | 19 | 6.96439E-01 | 20 | -1.23850E-01 |
| | | 21 | 1.23699E-01 | 22 | -9.23687E-01 | 23 | -7.75471E-01 | 24 | 3.28474E-01 | 25 | -3.91255E-01 |
| | | 1 | 9.94608E-02 | 2 | -2.24455E-01 | 3 | -6.24734E-01 | 4 | -2.43517E-02 | 5 | 1.42204E-01 |
| 15 | 27.271 | 6 | -1.88016E-02 | 7 | -8.13451E-02 | 8 | -4.60575E-01 | 9 | 9.85066E-03 | 10 | 6.48079E-03 |
| | | 11 | 8.00290E-02 | 12 | -2.10897E-02 | 13 | 3.36997E 00 | 14 | 1.47404E-01 | 15 | -3.62079E-02 |
| | | 16 | -2.91323E-02 | 17 | 6.81152E-02 | 18 | 5.05399E-01 | 19 | 5.05416E-01 | 20 | -1.38183E 00 |

M U L T I P L E S U P P O R T R E S P O N S E S P E C T R U M A N A L Y S I S

H-RY CO

MULTIPLE SUPPORT RESPONSE SPECTRUM ANALYSIS

M-RY CO

| | | | | | | | | | | | |
|----|--------|----|--------------|----|--------------|----|--------------|----|--------------|----|--------------|
| 16 | 30.144 | 21 | 1.38016E 00 | 22 | 3.57989E-01 | 23 | 3.00545E-01 | 24 | -3.40369E-01 | 25 | 4.05424E-01 |
| | | 1 | 6.30132E-02 | 2 | -1.95152E-01 | 3 | -1.22213E 00 | 4 | 2.30605E-03 | 5 | 2.20860E-01 |
| | | 6 | -1.02547E-02 | 7 | -2.70236E-01 | 8 | 2.06983E-01 | 9 | -2.52312E-02 | 10 | 1.94945E-02 |
| | | 11 | 3.40851E-01 | 12 | -3.99359E-02 | 13 | -2.10067E 00 | 14 | 1.35834E-01 | 15 | 3.42049E-01 |
| | | 16 | 2.75207E-01 | 17 | -6.43470E-01 | 18 | 3.97023E-01 | 19 | 3.97036E-01 | 20 | -1.42486E 00 |
| | | 21 | 1.42313E 00 | 22 | 1.52207E-01 | 23 | 1.27784E-01 | 24 | -5.54984E-01 | 25 | 6.61058E-01 |
| 17 | 32.488 | 1 | 3.60086E-02 | 2 | 1.75351E-01 | 3 | -4.24779E-01 | 4 | -1.99841E-01 | 5 | 1.59585E-01 |
| | | 6 | 2.19861E-02 | 7 | -4.07051E-01 | 8 | 1.73568E 00 | 9 | 4.46901E-01 | 10 | 1.42633E-01 |
| | | 11 | -4.34714E-01 | 12 | 6.95124E-02 | 13 | 8.56100E-01 | 14 | -1.17212E-01 | 15 | 3.39826E-01 |
| | | 16 | 2.73418E-01 | 17 | -6.39288E-01 | 18 | -4.98297E-01 | 19 | -4.98313E-01 | 20 | -4.36723E-01 |
| | | 21 | 4.36193E-01 | 22 | -4.55634E-01 | 23 | -3.82523E-01 | 24 | -1.72810E-01 | 25 | 2.05840E-01 |
| 18 | 34.289 | 1 | -1.36581E-01 | 2 | 2.02740E-01 | 3 | 1.45240E 00 | 4 | 3.95864E-01 | 5 | -1.30524E 00 |
| | | 6 | -2.62692E-01 | 7 | -1.56914E-01 | 8 | -4.76817E-02 | 9 | 1.16293E-02 | 10 | 1.72446E-01 |
| | | 11 | -3.94680E-01 | 12 | 7.62528E-02 | 13 | -1.50262E-01 | 14 | 1.69380E-03 | 15 | -2.86914E-01 |
| | | 16 | -2.30047E-01 | 17 | 5.39750E-01 | 18 | -4.05365E-02 | 19 | -4.05379E-02 | 20 | -2.32882E-01 |
| | | 21 | 2.32599E-01 | 22 | -2.94697E-01 | 23 | -2.47409E-01 | 24 | -3.41254E-01 | 25 | 4.06477E-01 |
| 19 | 35.752 | 1 | -6.14533E-01 | 2 | 2.97217E-01 | 3 | 2.29453E 00 | 4 | -6.58103E-02 | 5 | 7.71128E-01 |
| | | 6 | 2.34444E-01 | 7 | -1.44258E-01 | 8 | 2.78188E-01 | 9 | 1.14263E-02 | 10 | -8.05167E-02 |
| | | 11 | 6.95680E-01 | 12 | -2.03512E-01 | 13 | -5.22684E-01 | 14 | 1.65181E-01 | 15 | -3.57734E-01 |
| | | 16 | -2.87827E-01 | 17 | 6.72977E-01 | 18 | -5.00416E-02 | 19 | -5.00432E-02 | 20 | 1.18593E-01 |
| | | 21 | -1.18449E-01 | 22 | 1.48621E-01 | 23 | 1.24773E-01 | 24 | -2.28624E-01 | 25 | 2.72321E-01 |
| 20 | 36.127 | 1 | -2.12367E-01 | 2 | 8.63089E-03 | 3 | 5.52804E-01 | 4 | -1.20712E-01 | 5 | 7.69783E-01 |
| | | 6 | 2.13815E-01 | 7 | 4.44070E-02 | 8 | -3.79308E-01 | 9 | 1.14168E-02 | 10 | 2.56316E-01 |
| | | 11 | -1.39328E 00 | 12 | 4.06129E-01 | 13 | -4.56826E-01 | 14 | 3.41663E-02 | 15 | -1.51036E-01 |
| | | 16 | -1.21521E-01 | 17 | 2.84132E-01 | 18 | 1.62995E-01 | 19 | 1.63001E-01 | 20 | -7.14056E-02 |
| | | 21 | 7.13189E-02 | 22 | -3.44929E-01 | 23 | -2.89581E-01 | 24 | -4.12671E-02 | 25 | 4.91545E-02 |
| 21 | 38.942 | 1 | 7.67296E-01 | 2 | 9.72044E-01 | 3 | 6.44488E-01 | 4 | 3.05086E-02 | 5 | 1.61219E-01 |
| | | 6 | 6.72778E-02 | 7 | 4.73289E-02 | 8 | -3.80664E-01 | 9 | -1.19166E-02 | 10 | 2.80740E-02 |
| | | 11 | 7.83509E-02 | 12 | -2.89640E-02 | 13 | 2.66240E 00 | 14 | 6.59399E-01 | 15 | 2.09884E-01 |
| | | 16 | 1.68869E-01 | 17 | -3.94839E-01 | 18 | -1.42439E-01 | 19 | -1.42444E-01 | 20 | 7.53509E-02 |
| | | 21 | -7.52594E-02 | 22 | 2.80877E-02 | 23 | 2.35807E-02 | 24 | -9.79784E-02 | 25 | 1.16705E-01 |
| 22 | 43.322 | 1 | 1.29903E 00 | 2 | -4.84699E-01 | 3 | 1.43627E 00 | 4 | 2.13976E-01 | 5 | 3.64096E-01 |
| | | 6 | 2.92792E-01 | 7 | -5.41529E-02 | 8 | 1.15820E-01 | 9 | 1.46783E-02 | 10 | 9.31923E-02 |
| | | 11 | 8.50111E-02 | 12 | -8.39944E-02 | 13 | 2.49446E 00 | 14 | -6.10834E-01 | 15 | -1.29970E-01 |
| | | 16 | -1.04572E-01 | 17 | 2.44503E-01 | 18 | 1.49104E-01 | 19 | 1.49109E-01 | 20 | 1.29898E-01 |
| | | 21 | -1.29741E-01 | 22 | -1.09230E-01 | 23 | -9.17032E-02 | 24 | -6.77898E-02 | 25 | 8.07465E-02 |
| 23 | 46.471 | 1 | 5.70113E-01 | 2 | 1.67067E-01 | 3 | 1.67845E 00 | 4 | -4.52065E-01 | 5 | -2.77632E-01 |
| | | 6 | -3.63702E-01 | 7 | -3.90691E-02 | 8 | 2.17543E-01 | 9 | -9.46433E-03 | 10 | -4.96940E-01 |
| | | 11 | -2.90667E-01 | 12 | 3.82141E-01 | 13 | 1.37917E 00 | 14 | 5.45171E-01 | 15 | -5.12375E-02 |
| | | 16 | -4.12742E-02 | 17 | 9.63891E-02 | 18 | 5.10252E-02 | 19 | 5.10269E-02 | 20 | 5.90134E-02 |
| | | 21 | -5.89417E-02 | 22 | 1.98343E-01 | 23 | 1.66516E-01 | 24 | 5.35959E-02 | 25 | -6.38398E-02 |

MULTIPLE SUPPORT RESPONSE SPECTRUM ANALYSIS

M-RY CO

MULTIPLE SUPPORT RESPONSE SPECTRUM ANALYSIS

M-RV CO

| | | | | | | | | | | | |
|----|--------|----|--------------|----|--------------|----|--------------|----|--------------|----|--------------|
| 24 | 47.729 | 1 | 2.15162E-01 | 2 | -2.14475E-01 | 3 | 6.81612E-01 | 4 | -6.13656E-01 | 5 | -1.89103E-01 |
| | | 6 | -4.02258E-01 | 7 | 1.13006E-02 | 8 | -7.80485E-02 | 9 | 4.46438E-02 | 10 | 6.31332E-01 |
| | | 11 | 1.93232E-01 | 12 | -4.03363E-01 | 13 | 5.51999E-01 | 14 | -4.21783E-01 | 15 | 1.72522E-02 |
| | | 16 | 1.38808E-02 | 17 | -3.24552E-02 | 18 | 1.47142E-02 | 19 | 1.47147E-02 | 20 | 8.49401E-02 |
| | | 21 | -8.48370E-02 | 22 | -1.27192E-01 | 23 | -1.06783E-01 | 24 | -6.99012E-02 | 25 | 8.32614E-02 |
| 25 | 49.575 | 1 | 7.65267E-02 | 2 | 1.50696E 00 | 3 | -1.52166E-01 | 4 | 3.16759E-02 | 5 | 2.42989E-02 |
| | | 6 | 3.16798E-02 | 7 | 4.27303E-03 | 8 | 9.73754E-02 | 9 | 1.01303E-01 | 10 | 1.94183E-01 |
| | | 11 | 2.22175E-02 | 12 | -1.15609E-01 | 13 | -2.59725E-01 | 14 | 4.04172E 00 | 15 | -8.58932E-02 |
| | | 16 | -6.91083E-02 | 17 | 1.61584E-01 | 18 | 1.48720E-01 | 19 | 1.48725E-01 | 20 | -7.82199E-02 |
| | | 21 | 7.81249E-02 | 22 | -4.05329E-02 | 23 | -3.40289E-02 | 24 | 5.64491E-02 | 25 | -6.72382E-02 |
| 26 | 50.540 | 1 | -2.14697E-02 | 2 | -1.12427E-01 | 3 | -6.05878E-02 | 4 | -4.63799E-03 | 5 | 4.51672E-03 |
| | | 6 | 4.35301E-04 | 7 | -1.20911E-03 | 8 | -5.40663E-03 | 9 | 1.15363E 00 | 10 | -5.08296E-02 |
| | | 11 | -1.09225E-03 | 12 | 2.59934E-02 | 13 | -1.47363E-02 | 14 | -3.31014E-01 | 15 | -2.33219E-03 |
| | | 16 | -1.87641E-03 | 17 | 4.38730E-03 | 18 | -2.30910E-03 | 19 | -2.30917E-03 | 20 | 6.71914E-03 |
| | | 21 | -6.71098E-03 | 22 | -3.45190E-03 | 23 | -2.89800E-03 | 24 | -5.09004E-03 | 25 | 6.06293E-03 |
| 27 | 53.593 | 1 | -1.60693E-01 | 2 | 1.65860E-01 | 3 | -2.13603E 00 | 4 | -4.89869E-01 | 5 | 2.03374E-01 |
| | | 6 | -1.10112E-01 | 7 | -2.53958E-02 | 8 | -1.06297E-01 | 9 | -2.90131E-02 | 10 | -3.51794E-01 |
| | | 11 | 1.12861E-01 | 12 | 1.18590E-01 | 13 | -5.59327E-01 | 14 | 2.44804E-01 | 15 | -4.75990E-02 |
| | | 16 | -3.82974E-02 | 17 | 8.95443E-02 | 18 | 4.02166E-02 | 19 | 4.02179E-02 | 20 | 5.03423E-02 |
| | | 21 | -5.02812E-02 | 22 | -1.57139E-01 | 23 | -1.31924E-01 | 24 | -8.88979E-02 | 25 | 1.05889E-01 |
| 28 | 56.477 | 1 | -1.27592E-01 | 2 | -7.64194E-02 | 3 | -2.54981E 00 | 4 | -1.05012E-01 | 5 | 8.84458E-02 |
| | | 6 | 3.16076E-02 | 7 | -4.32751E-02 | 8 | 2.73510E-01 | 9 | 3.11198E-03 | 10 | 3.01826E-01 |
| | | 11 | -2.29003E-01 | 12 | -1.10060E-02 | 13 | -2.00821E-01 | 14 | -6.82900E-01 | 15 | -7.39427E-02 |
| | | 16 | -5.94931E-02 | 17 | 1.39103E-01 | 18 | 1.03470E-01 | 19 | 1.03474E-01 | 20 | 2.31574E-01 |
| | | 21 | -2.31292E-01 | 22 | 1.73536E-01 | 23 | 1.45690E-01 | 24 | -9.65282E-03 | 25 | 1.14978E-02 |
| 29 | 58.590 | 1 | -2.68508E-01 | 2 | -6.36916E-02 | 3 | 6.25969E 00 | 4 | -1.30052E-01 | 5 | 1.14533E-01 |
| | | 6 | 9.07052E-03 | 7 | 3.84781E-03 | 8 | 5.51186E-02 | 9 | -9.47381E-03 | 10 | 3.74007E-02 |
| | | 11 | -2.68213E-02 | 12 | -7.97425E-03 | 13 | -5.75376E-01 | 14 | 7.62561E-01 | 15 | 6.18322E-02 |
| | | 16 | 4.97492E-02 | 17 | -1.16320E-01 | 18 | 1.02214E-01 | 19 | 1.02218E-01 | 20 | -8.47182E-02 |
| | | 21 | 8.46153E-02 | 22 | -6.06731E-03 | 23 | -5.09374E-03 | 24 | 4.65879E-02 | 25 | -5.54923E-02 |
| 30 | 65.799 | 1 | -3.41462E-02 | 2 | 2.00700E-01 | 3 | 1.35377E 00 | 4 | 4.78694E-02 | 5 | -1.03993E-02 |
| | | 6 | 6.50402E-02 | 7 | -1.89243E-02 | 8 | -1.39023E-01 | 9 | 1.90361E-02 | 10 | 3.47859E-03 |
| | | 11 | -1.78854E-01 | 12 | 2.11762E-01 | 13 | -1.78700E-01 | 14 | 1.27369E 00 | 15 | 8.89513E-02 |
| | | 16 | 7.12470E-02 | 17 | -1.66585E-01 | 18 | -1.78799E-01 | 19 | -1.78801E-01 | 20 | 1.84582E-01 |
| | | 21 | -1.84358E-01 | 22 | 6.15198E-02 | 23 | 5.16482E-02 | 24 | -1.26986E-01 | 25 | 1.51257E-01 |

MULTIPLE SUPPORT RESPONSE SPECTRUM ANALYSIS

M-RV CO

MULTIPLE SUPPORT RESPONSE SPECTRUM ANALYSIS

H-RY CO

TABLE OF MODAL AMPLITUDES

SPECTRUM ANALYSIS LOAD CASE = (1)

| MODE NUMBER | NATURAL FREQUENCY | SPECTRUM (1) | SPECTRUM (2) | SPECTRUM (3) | SPECTRUM (4) | SPECTRUM (0) | SPECTRUM (0) | SPECTRUM (0) | SPECTRUM (0) |
|-------------|-------------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|
| 1 | 8.13 | 1.4740E-02 | 4.7076E-02 | 7.4026E-02 | -1.8800E-02 | | | | |
| 2 | 10.87 | 5.6532E-02 | 3.7359E-01 | 1.7132E-01 | -1.9751E-02 | | | | |
| 3 | 11.55 | -1.0082E-01 | -8.6545E-02 | -5.8096E-02 | 6.5776E-03 | | | | |
| 4 | 11.84 | -5.8935E-02 | -8.8758E-02 | -5.4852E-02 | 6.4812E-03 | | | | |
| 5 | 13.02 | 4.0142E-01 | 8.3919E-02 | 6.0656E-02 | -8.5789E-03 | | | | |
| 6 | 15.27 | -4.7455E-03 | 6.6616E-02 | -8.3834E-02 | 1.0993E-02 | | | | |
| 7 | 15.81 | 1.4908E-01 | 1.0423E-01 | -9.3235E-02 | 1.1558E-02 | | | | |
| 8 | 18.00 | -2.8282E-02 | -9.9184E-02 | 4.7372E-03 | -6.6646E-04 | | | | |
| 9 | 19.85 | -7.2349E-03 | 4.0536E-02 | -7.0087E-03 | 1.0335E-03 | | | | |
| 10 | 21.59 | -8.8884E-03 | 1.9991E-02 | -3.4947E-03 | 4.5847E-04 | | | | |
| 11 | 21.90 | 5.5681E-05 | 1.2053E-02 | -1.2360E-03 | 1.6844E-04 | | | | |
| 12 | 22.95 | -4.3117E-03 | 3.0015E-02 | -1.3714E-03 | 1.3144E-04 | | | | |
| 13 | 23.65 | -5.5695E-03 | 3.5667E-02 | -6.1794E-04 | 1.8886E-05 | | | | |
| 14 | 25.64 | 1.8626E-02 | -1.5403E-02 | 1.5918E-03 | -3.8039E-04 | | | | |
| 15 | 27.27 | -4.4431E-03 | 3.7189E-02 | 3.6242E-03 | -7.2887E-04 | | | | |
| 16 | 30.14 | 1.1734E-02 | 3.6957E-02 | 3.4848E-03 | -5.8678E-04 | | | | |
| 17 | 32.49 | 1.9545E-02 | 4.5187E-04 | -2.5335E-03 | 5.8739E-04 | | | | |
| 18 | 34.29 | -2.2429E-02 | 1.5197E-03 | 3.7863E-04 | 6.0633E-04 | | | | |
| 19 | 35.75 | 2.2299E-02 | -7.5192E-04 | 3.3541E-03 | 8.0928E-04 | | | | |
| 20 | 36.13 | -1.2857E-02 | -1.6196E-03 | 6.7629E-04 | 2.2926E-05 | | | | |
| 21 | 38.94 | -2.0224E-03 | 1.3313E-03 | 1.1031E-02 | 2.1930E-03 | | | | |
| 22 | 43.32 | 7.2155E-03 | -1.3002E-03 | -7.2448E-03 | -8.3521E-04 | | | | |
| 23 | 46.47 | -3.8935E-03 | 6.2910E-04 | 4.1477E-03 | 2.9419E-04 | | | | |
| 24 | 47.73 | -7.7783E-04 | -8.8849E-04 | -2.8959E-03 | -3.0960E-04 | | | | |
| 25 | 49.57 | 1.3937E-03 | 5.8312E-04 | 2.3939E-02 | 2.0187E-03 | | | | |
| 26 | 50.54 | -1.8319E-05 | -7.6664E-05 | -1.8311E-03 | -1.4462E-04 | | | | |
| 27 | 53.59 | 1.5845E-03 | -6.4935E-04 | 1.1195E-03 | 1.8753E-04 | | | | |
| 28 | 56.48 | 7.5589E-04 | -2.3103E-04 | -2.4811E-03 | -7.4732E-05 | | | | |
| 29 | 58.59 | 6.6699E-04 | 1.2252E-03 | 2.2834E-03 | -5.9956E-05 | | | | |
| 30 | 65.80 | -9.9829E-04 | -4.8463E-04 | 2.8012E-03 | 1.3548E-04 | | | | |

MULTIPLE SUPPORT RESPONSE SPECTRUM ANALYSIS

H-RY CO

0341T 01 07-22-92 10.169 P I S Y 5 0 6 FEEDWATER LINE A
MULTIPLE SUPPORT RESPONSE SPECTRUM ANALYSIS

TABLE OF SELECTED SPECTRA
AND ZPA VALUES FOR HIGH FREQUENCY RESPONSE

| SUPPORT NUMBER | SPECTRUM SELECTED | SCALE FACTOR | ZPA VALUE USED |
|----------------|-------------------|--------------|----------------|
| 2 | 4 | 1.00 | 0.2309 |
| 5 | 1 | 1.00 | 1.3467 |
| 8 | 1 | 1.00 | 1.3467 |
| 11 | 1 | 1.00 | 1.3467 |
| 14 | 3 | 1.20 | 0.6115 |
| 16 | 2 | 1.20 | 2.0092 |
| 19 | 2 | 1.20 | 2.0092 |
| 21 | 2 | 1.20 | 2.0092 |
| 23 | 2 | 1.20 | 2.0092 |
| 25 | 2 | 1.20 | 2.0092 |

0341T 01 07-22-92 10.169 P I S Y 5 0 6 FEEDWATER LINE A
MULTIPLE SUPPORT RESPONSE SPECTRUM ANALYSIS

MULTIPLE SUPPORT RESPONSE SPECTRUM MODAL REPORT

M-RY CO

COMBINED NODE DISPLACEMENTS/ROTATIONS
COMBINATION METHOD 6 FOR MODAL SHAPES, MODE # 1 TO 30

LOAD CASE # 1 (FINAL)

| JOINT LABEL | X-TRANSLATION | Y-TRANSLATION | Z-TRANSLATION | X-ROTATION | Y-ROTATION | Z-ROTATION |
|-------------|---------------|---------------|---------------|-------------|-------------|-------------|
| 001. | 3.40018E-09 | 6.75136E-09 | 7.35190E-09 | 7.53791E-08 | 2.8641E-08 | 1.80350E-07 |
| 002. | 4.06767E-05 | 1.81054E-04 | 9.22259E-05 | 1.83528E-05 | 9.8811E-06 | 1.78797E-05 |
| 003. | 5.66861E-05 | 2.01347E-04 | 9.36253E-05 | 1.90738E-05 | 1.02737E-05 | 1.82749E-05 |
| 003.01 | 4.30353E-03 | 8.04255E-03 | 3.19021E-04 | 1.21321E-04 | 6.63961E-05 | 1.53933E-04 |
| 004. | 7.56803E-03 | 1.37990E-02 | 5.40002E-04 | 2.86527E-05 | 1.24404E-05 | 2.69591E-04 |
| 005. | 7.29251E-03 | 1.32380E-02 | 5.81145E-04 | 7.67220E-05 | 3.98641E-05 | 3.15358E-04 |
| 006. | 5.67341E-03 | 1.02088E-02 | 6.25703E-04 | 1.50184E-04 | 8.14473E-05 | 3.47007E-04 |
| 007. | 5.74070E-03 | 1.02204E-02 | 2.70200E-04 | 1.50835E-04 | 8.14473E-05 | 3.47830E-04 |
| 008. | 2.71132E-03 | 4.81627E-03 | 6.63488E-04 | 2.32326E-04 | 1.30313E-04 | 3.74826E-04 |
| 009. | 2.01813E-07 | 3.16896E-07 | 7.07327E-04 | 3.25018E-04 | 1.86214E-04 | 4.03354E-04 |
| 012. | 4.08674E-03 | 6.99498E-03 | 7.52069E-04 | 4.16114E-04 | 2.38784E-04 | 4.32645E-04 |
| 013. | 1.16026E-02 | 2.01043E-02 | 7.90505E-04 | 4.78436E-04 | 2.69400E-04 | 4.61095E-04 |
| 014. | 2.33172E-02 | 2.01295E-02 | 1.50359E-02 | 4.84449E-04 | 2.69400E-04 | 4.72888E-04 |
| 015. | 1.95766E-02 | 3.42950E-02 | 8.07365E-04 | 5.03165E-04 | 2.81183E-04 | 4.61246E-04 |
| 016. | 2.60712E-02 | 4.60037E-02 | 8.32035E-04 | 5.12640E-04 | 2.80461E-04 | 4.63047E-04 |
| 018. | 3.54741E-02 | 6.06685E-02 | 5.43730E-04 | 4.40876E-04 | 1.76771E-04 | 4.80657E-04 |
| 018.01 | 3.95933E-02 | 6.30090E-02 | 1.52941E-02 | 3.46160E-04 | 5.04610E-05 | 5.10441E-04 |
| 019. | 3.50876E-02 | 5.78506E-02 | 1.10020E-02 | 3.87612E-04 | 1.89708E-04 | 5.31512E-04 |
| 021. | 3.13298E-02 | 5.53316E-02 | 1.18028E-02 | 4.31150E-04 | 2.27904E-04 | 5.37858E-04 |
| 023. | 2.25838E-02 | 4.29504E-02 | 1.49581E-02 | 4.48868E-04 | 2.48447E-04 | 5.91485E-04 |
| 024. | 1.41606E-02 | 2.63080E-02 | 1.49938E-02 | 4.07286E-04 | 2.27762E-04 | 6.41487E-04 |
| 025. | 9.78601E-03 | 1.56271E-02 | 1.50256E-02 | 3.27769E-04 | 1.80667E-04 | 6.60020E-04 |
| 029. | 1.05874E-02 | 1.07777E-02 | 1.50761E-02 | 1.66550E-04 | 9.16126E-05 | 6.99243E-04 |
| 031. | 1.17206E-02 | 1.20247E-02 | 1.51013E-02 | 1.20415E-04 | 8.14404E-05 | 7.25725E-04 |
| 032. | 1.47832E-02 | 1.57152E-02 | 1.51353E-02 | 1.95904E-04 | 1.81585E-04 | 8.56621E-04 |
| 027. | 1.74096E-02 | 1.87732E-02 | 1.51406E-02 | 2.21183E-04 | 2.09100E-04 | 8.90705E-04 |
| 034. | 2.33073E-02 | 2.53309E-02 | 1.51460E-02 | 2.40353E-04 | 2.37008E-04 | 9.45618E-04 |
| 035. | 2.80307E-02 | 3.05796E-02 | 1.51482E-02 | 2.43981E-04 | 2.40180E-04 | 9.45618E-04 |
| 036. | 3.19275E-02 | 3.46271E-02 | 1.51487E-02 | 2.44442E-04 | 2.40580E-04 | 9.45618E-04 |
| 037. | 2.07624E-02 | 2.51497E-02 | 1.51214E-02 | 4.12179E-04 | 3.31739E-04 | 7.71856E-04 |
| 038. | 2.64315E-02 | 2.68440E-02 | 1.76811E-02 | 4.19506E-04 | 4.08369E-04 | 8.25470E-04 |
| 040. | 3.08129E-02 | 3.44947E-02 | 2.06567E-02 | 4.06543E-04 | 5.88216E-04 | 9.63266E-04 |
| 040.01 | 3.09226E-02 | 7.18666E-02 | 4.10958E-02 | 5.13607E-04 | 6.71198E-04 | 8.97147E-04 |
| 041. | 3.10116E-02 | 1.03815E-01 | 6.58603E-02 | 7.07432E-04 | 5.72546E-04 | 5.87400E-04 |
| 043. | 3.08360E-02 | 1.06124E-01 | 7.01731E-02 | 7.97859E-04 | 4.69857E-04 | 3.07022E-04 |
| 043.01 | 3.19547E-02 | 8.32808E-02 | 8.38357E-02 | 1.00396E-03 | 3.59843E-04 | 4.18388E-04 |
| 044. | 3.52664E-02 | 3.97850E-02 | 8.62811E-02 | 1.11025E-03 | 3.19225E-04 | 6.75681E-04 |
| 046. | 2.58411E-02 | 3.31754E-02 | 6.49701E-02 | 1.11499E-03 | 2.71132E-04 | 5.18077E-04 |
| 047. | 9.60365E-03 | 3.30567E-02 | 1.93616E-02 | 1.01836E-03 | 2.33419E-04 | 4.65653E-04 |
| 049. | 8.41262E-03 | 3.10331E-02 | 1.09266E-02 | 8.53629E-04 | 2.22757E-04 | 4.20973E-04 |
| 051. | 7.58821E-03 | 2.59141E-02 | 5.73721E-03 | 6.80510E-04 | 2.04536E-04 | 3.77249E-04 |

MULTIPLE SUPPORT RESPONSE SPECTRUM MODAL REPORT

M U L T I P L E S U P P O R T R E S P O N S E S P E C T R U M M O D A L R E P O R T

M-RY CO

| | | | | | | |
|--------|-------------|-------------|-------------|-------------|-------------|-------------|
| 053. | 6.34253E-03 | 1.98406E-02 | 3.73092E-03 | 5.16194E-04 | 1.78452E-04 | 3.30046E-04 |
| 054. | 1.11067E-03 | 2.09241E-03 | 6.58128E-04 | 1.49756E-04 | 7.72185E-05 | 9.79173E-05 |
| 055. | 1.62054E-04 | 4.94758E-05 | 9.4626 E-05 | 7.44425E-06 | 3.09875E-05 | 4.83210E-06 |
| 056. | 1.15360E-09 | 4.37920E-09 | 1.99956E-09 | 2.57228E-07 | 2.86038E-05 | 1.61558E-07 |
| 057. | 1.89228E-04 | 4.44125E-06 | 1.09261E-04 | 2.78265E-07 | 2.86056E-05 | 1.72628E-07 |
| 058. | 1.90526E-02 | 1.82597E-02 | 1.49837E-02 | 1.12916E-04 | 1.23088E-04 | 5.98297E-04 |
| 059. | 2.32596E-02 | 2.21235E-02 | 1.50036E-02 | 1.10179E-04 | 1.54500E-04 | 5.22519E-04 |
| 061. | 2.53703E-02 | 2.59547E-02 | 1.51276E-02 | 1.02505E-04 | 2.32997E-04 | 2.12262E-04 |
| 061.01 | 2.54070E-02 | 2.73206E-02 | 1.94654E-02 | 1.23869E-04 | 2.55213E-04 | 1.53704E-04 |
| 062. | 2.54237E-02 | 2.14223E-02 | 2.64845E-02 | 1.79196E-04 | 2.00980E-04 | 2.36282E-04 |
| 064. | 2.01327E-02 | 1.75156E-02 | 2.37881E-02 | 2.83508E-04 | 8.65975E-05 | 3.18078E-04 |
| 065. | 6.39257E-03 | 1.74340E-02 | 1.19857E-02 | 2.75769E-04 | 9.87136E-05 | 3.34071E-04 |
| 067. | 3.22960E-03 | 1.66439E-02 | 9.51182E-03 | 2.33392E-04 | 1.09254E-04 | 3.40361E-04 |
| 069. | 8.54358E-04 | 1.43688E-02 | 7.39208E-03 | 1.97627E-04 | 1.15632E-04 | 3.35372E-04 |
| 071. | 5.30904E-05 | 1.12792E-02 | 5.81464E-03 | 1.66572E-04 | 1.23044E-04 | 3.02412E-04 |
| 072. | 1.33894E-05 | 1.24923E-03 | 1.11253E-03 | 3.26447E-05 | 6.43246E-05 | 1.01152E-04 |
| 073. | 8.44773E-07 | 3.04489E-05 | 1.62447E-04 | 1.36867E-06 | 2.66437E-05 | 5.15224E-06 |
| 074. | 7.91088E-10 | 2.89700E-09 | 1.21603E-09 | 3.52657E-08 | 2.46108E-05 | 1.78700E-07 |
| 075. | 7.91117E-10 | 4.03588E-06 | 1.88018E-04 | 3.52657E-08 | 2.46123E-05 | 2.15720E-07 |
| 076. | 3.42287E-02 | 3.67284E-02 | 1.58657E-02 | 2.19546E-04 | 3.28183E-04 | 1.13129E-03 |
| 077. | 4.25603E-02 | 4.52722E-02 | 1.68255E-02 | 2.23926E-04 | 3.99733E-04 | 1.18113E-03 |
| 079. | 4.85856E-02 | 6.05074E-02 | 1.99260E-02 | 2.29113E-04 | 5.79772E-04 | 1.21418E-03 |
| 079.01 | 4.87484E-02 | 1.10445E-01 | 4.28784E-02 | 4.31826E-04 | 6.67673E-04 | 1.00792E-03 |
| 080. | 4.88798E-02 | 1.45386E-01 | 6.94197E-02 | 6.82040E-04 | 5.85263E-04 | 5.59610E-04 |
| 082. | 4.90928E-02 | 1.47042E-01 | 7.38023E-02 | 7.91533E-04 | 4.92327E-04 | 2.18247E-04 |
| 082.01 | 5.40401E-02 | 1.12728E-01 | 8.87522E-02 | 1.02439E-03 | 3.61550E-04 | 6.79984E-04 |
| 083. | 5.93873E-02 | 5.36840E-02 | 9.27185E-02 | 1.12895E-03 | 3.08331E-04 | 1.02280E-03 |
| 085. | 4.40777E-02 | 4.19019E-02 | 7.15648E-02 | 1.16626E-03 | 2.65315E-04 | 8.29326E-04 |
| 086. | 1.46826E-02 | 4.17514E-02 | 2.30455E-02 | 1.11631E-03 | 2.62466E-04 | 7.35044E-04 |
| 088. | 1.16173E-02 | 3.90699E-02 | 1.35125E-02 | 9.79753E-04 | 2.59631E-04 | 6.48011E-04 |
| 090. | 1.00841E-02 | 3.23359E-02 | 7.38445E-03 | 8.19667E-04 | 2.49576E-04 | 5.63373E-04 |
| 092. | 8.41378E-03 | 2.45000E-02 | 4.92699E-03 | 6.21241E-04 | 2.29744E-04 | 4.71174E-04 |
| 093. | 1.50012E-03 | 2.48947E-03 | 8.83135E-04 | 1.77101E-04 | 1.03419E-04 | 1.27533E-04 |
| 094. | 2.18881E-04 | 5.64387E-05 | 1.27452E-04 | 8.71457E-06 | 4.17670E-05 | 6.12122E-06 |
| 095. | 1.45816E-09 | 4.68080E-09 | 2.28115E-09 | 3.01727E-07 | 3.89592E-05 | 2.00843E-07 |
| 096. | 2.55092E-04 | 4.66957E-06 | 1.47292E-04 | 3.19288E-07 | 3.85617E-05 | 2.09465E-07 |

MAXIMUM DISPLACEMENT, 1.47042E-01, OCCURRED AT JOINT 082.
 MAXIMUM ROTATION, 1.21418E-03, OCCURRED AT JOINT 079.

MULTIPLE SUPPORT RESPONSE SPECTRUM MODAL REPORT

M-RY CO

COMBINED NODE ACCELERATIONS
COMBINATION METHOD 6 FOR MODAL SH APES, MODE # 1 TO 30

LOAD CASE # 1 (FINAL)

| JOINT LABEL | TRANSLATION X (G) | TRANSLATION Y (G) | TRANSLATION Z (G) | ROTATION X (R/SEC**2) | ROTATION Y (R/SEC**2) | ROTATION Z (R/SEC**2) |
|-------------|-------------------|-------------------|-------------------|-----------------------|-----------------------|-----------------------|
| 001. | 3.03962E-07 | 9.40670E-07 | 1.34971E-06 | 2.18221E-03 | 4.15725E-04 | 3.15094E-03 |
| 002. | 6.77826E-03 | 2.84277E-02 | 1.69315E-02 | 7.00408E-01 | 2.58856E-01 | 3.12381E-01 |
| 003. | 9.84822E-03 | 3.71506E-02 | 1.71875E-02 | 7.33828E-01 | 2.70360E-01 | 3.19285E-01 |
| 003.01 | 3.16946E-01 | 9.00819E-01 | 5.82853E-02 | 4.26636E 00 | 1.62327E 00 | 2.68940E 00 |
| 004. | 4.71508E-01 | 1.22810E 00 | 9.78741E-02 | 2.20804E 00 | 6.37539E-01 | 5.05951E 00 |
| 005. | 4.37202E-01 | 1.11333E 00 | 1.05108E-01 | 3.83384E 00 | 1.27612E 00 | 5.50970E 00 |
| 006. | 3.13962E-01 | 7.56609E-01 | 1.12914E-01 | 5.58201E 00 | 2.05434E 00 | 6.06263E 00 |
| 007. | 4.56833E-01 | 7.61620E-01 | 2.71620E-01 | 5.68656E 00 | 2.05434E 00 | 6.13338E 00 |
| 008. | 1.26022E-01 | 2.76624E-01 | 1.19465E-01 | 5.53884E 00 | 2.41020E 00 | 6.29863E 00 |
| 009. | 1.47136E-05 | 4.46984E-05 | 1.26983E-01 | 3.85440E 00 | 2.19006E 00 | 6.58777E 00 |
| 012. | 1.02621E-01 | 1.56521E-01 | 1.34526E-01 | 3.43976E 00 | 1.90786E 00 | 6.94434E 00 |
| 013. | 2.37624E-01 | 4.45599E-01 | 1.40935E-01 | 4.59255E 00 | 1.73998E 00 | 7.32773E 00 |
| 014. | 7.30663E-01 | 4.47464E-01 | 4.75169E-01 | 5.03364E 00 | 1.73998E 00 | 7.75722E 00 |
| 015. | 3.46458E-01 | 7.86686E-01 | 1.42812E-01 | 4.88061E 00 | 1.86153E 00 | 6.71847E 00 |
| 016. | 4.29609E-01 | 1.07340E 00 | 1.45448E-01 | 4.90559E 00 | 2.01420E 00 | 6.07449E 00 |
| 018. | 5.42067E-01 | 1.26448E 00 | 2.67374E-01 | 3.94979E 00 | 3.38190E 00 | 6.06002E 00 |
| 018.01 | 6.71334E-01 | 1.03667E 00 | 8.75163E-01 | 3.30840E 00 | 7.61587E-01 | 5.13219E 00 |
| 019. | 5.55693E-01 | 9.18857E-01 | 4.29255E-01 | 3.71441E 00 | 3.06676E 00 | 5.67300E 00 |
| 021. | 5.34912E-01 | 1.02951E 00 | 2.46643E-01 | 4.06312E 00 | 2.89448E 00 | 6.24154E 00 |
| 023. | 4.90764E-01 | 1.01832E 00 | 2.50107E-01 | 4.12877E 00 | 2.19798E 00 | 6.32805E 00 |
| 024. | 4.12905E-01 | 7.78308E-01 | 2.51784E-01 | 4.16398E 00 | 2.28703E 00 | 6.66153E 00 |
| 025. | 4.05102E-01 | 6.65272E-01 | 2.53207E-01 | 4.04575E 00 | 2.42595E 00 | 6.70835E 00 |
| 029. | 6.18472E-01 | 8.12816E-01 | 2.55377E-01 | 2.74929E 00 | 1.78070E 00 | 7.08029E 00 |
| 031. | 6.76518E-01 | 8.73802E-01 | 2.56375E-01 | 1.90721E 00 | 1.29414E 00 | 7.45482E 00 |
| 032. | 5.44145E-01 | 6.25093E-01 | 2.57786E-01 | 4.08351E 00 | 3.27216E 00 | 8.08221E 00 |
| 027. | 5.78304E-01 | 6.45507E-01 | 2.57957E-01 | 4.60206E 00 | 3.66965E 00 | 8.28874E 00 |
| 034. | 7.64295E-01 | 8.51540E-01 | 2.58066E-01 | 5.08366E 00 | 4.04978E 00 | 8.65111E 00 |
| 035. | 9.50518E-01 | 1.08315E 00 | 2.58194E-01 | 5.19835E 00 | 4.15340E 00 | 8.65111E 00 |
| 036. | 1.11338E 00 | 1.28564E 00 | 2.58222E-01 | 5.21392E 00 | 4.16715E 00 | 8.65111E 00 |
| 037. | 5.54865E-01 | 7.06266E-01 | 3.18464E-01 | 4.26700E 00 | 2.49430E 00 | 8.28572E 00 |
| 038. | 7.01640E-01 | 7.36541E-01 | 4.00269E-01 | 4.31312E 00 | 3.07610E 00 | 8.68885E 00 |
| 040. | 8.11596E-01 | 9.03148E-01 | 4.79561E-01 | 4.25198E 00 | 4.71626E 00 | 9.02678E 00 |
| 040.01 | 8.21065E-01 | 1.70974E 00 | 8.07783E-01 | 4.79703E 00 | 4.91251E 00 | 8.44940E 00 |
| 041. | 8.28529E-01 | 2.39641E 00 | 1.15423E 00 | 5.98301E 00 | 3.85984E 00 | 6.56785E 00 |
| 043. | 8.27500E-01 | 2.43808E 00 | 1.18727E 00 | 6.76515E 00 | 4.51571E 00 | 5.80784E 00 |
| 043.01 | 9.24089E-01 | 1.98488E 00 | 1.21628E 00 | 7.70757E 00 | 6.00733E 00 | 7.22494E 00 |
| 044. | 1.11152E 00 | 1.49645E 00 | 1.42661E 00 | 8.44436E 00 | 5.72909E 00 | 8.36995E 00 |
| 046. | 8.99640E-01 | 1.47331E 00 | 1.13410E 00 | 8.90742E 00 | 4.78791E 00 | 8.20209E 00 |
| 047. | 8.70040E-01 | 1.46476E 00 | 5.44893E-01 | 7.50160E 00 | 5.32995E 00 | 6.68502E 00 |
| 049. | 8.98020E-01 | 1.44528E 00 | 5.16468E-01 | 6.41829E 00 | 5.80231E 00 | 4.83946E 00 |

MULTIPLE SUPPORT RESPONSE SPECTRUM MODAL REPORT

M-RY CO

034IT 01 07-22-92 18.169 P I S Y S 0 6 FEEDWATER LINE A

| | SUPPORT RESPONSE | | SPECTRUM | | MODAL REPORT | |
|------|------------------|-------------|-------------|-------------|--------------|-------------|
| 051. | 8.28455E-01 | 1.33165E 00 | 4.73219E-01 | 7.53189E 00 | 6.53991E 00 | 4.40219E 00 |
| 053. | 6.88641E-01 | 1.10133E 00 | 3.96655E-01 | 0.93560E 00 | 6.82374E 00 | 4.98216E 00 |
| 054. | 1.28845E-01 | 1.36810E-01 | 7.46724E-02 | 3.57531E 00 | 3.57531E 00 | 1.97468E 00 |
| 055. | 1.88217E-02 | 3.51663E-03 | 1.08862E-02 | 1.09020E-01 | 1.37166E 00 | 1.04866E-01 |
| 056. | 1.41652E-07 | 3.25129E-07 | 1.26577E-07 | 6.57834E-03 | 1.27825E 00 | 3.67881E-03 |
| 057. | 2.18163E-02 | 1.48511E-04 | 1.25970E-02 | 6.57834E-03 | 1.27825E 00 | 3.67881E-03 |
| 058. | 7.58576E-01 | 9.10245E-01 | 2.68694E-01 | 2.28519E 00 | 2.28519E 00 | 5.68016E-03 |
| 059. | 8.49988E-01 | 9.75556E-01 | 2.86503E-01 | 2.50682E 00 | 2.50682E 00 | 7.73010E 00 |
| 061. | 9.09724E-01 | 1.04106E 00 | 3.24004E-01 | 2.74265E 00 | 2.74265E 00 | 5.15745E 00 |
| 062. | 9.15645E-01 | 1.01861E 00 | 7.43021E-01 | 4.10604E 00 | 4.10604E 00 | 5.95635E 00 |
| 064. | 7.43461E-01 | 1.07603E 00 | 1.24168E 00 | 5.83541E 00 | 5.83541E 00 | 6.47688E 00 |
| 065. | 2.77012E-01 | 1.16778E 00 | 1.13073E 00 | 7.73367E 00 | 7.73367E 00 | 5.08623E 00 |
| 067. | 1.60889E-01 | 1.16262E 00 | 8.09151E-01 | 7.11277E 00 | 7.11277E 00 | 4.87374E 00 |
| 069. | 4.86732E-02 | 1.13803E 00 | 7.99074E-01 | 5.60468E 00 | 5.60468E 00 | 4.68471E 00 |
| 071. | 5.01321E-03 | 1.03156E 00 | 7.34160E-01 | 4.47820E 00 | 4.47820E 00 | 6.94059E 00 |
| 072. | 1.26158E-03 | 1.01574E-01 | 1.17084E-01 | 3.72333E 00 | 3.72333E 00 | 7.82937E 00 |
| 073. | 7.97869E-04 | 2.56165E-03 | 1.71073E-02 | 3.05968E-02 | 1.08261E 00 | 3.05081E 00 |
| 074. | 7.47165E-04 | 2.31595E-07 | 1.28699E-07 | 7.88369E-04 | 1.00066E 00 | 1.60337E-01 |
| 075. | 7.47204E-08 | 1.10385E-04 | 1.98012E-02 | 7.82369E-04 | 1.00023E 00 | 5.58863E-03 |
| 076. | 8.49270E-01 | 9.37829E-01 | 3.49734E-01 | 5.18686E 00 | 4.05978E 00 | 9.87335E 00 |
| 077. | 9.66814E-01 | 1.04921E 00 | 4.61431E-01 | 5.19470E 00 | 4.18668E 00 | 9.74552E 00 |
| 079. | 1.05875E 00 | 1.27059E 00 | 5.78651E-01 | 4.87467E 00 | 4.81171E 00 | 9.77779E 00 |
| 080. | 1.06701E 00 | 2.06982E 00 | 8.78881E-01 | 5.03030E 00 | 4.88113E 00 | 8.12131E 00 |
| 082. | 1.06701E 00 | 2.66364E 00 | 1.19117E 00 | 6.12477E 00 | 4.87478E 00 | 6.07511E 00 |
| 083. | 1.17286E 00 | 2.11833E 00 | 1.27546E 00 | 6.88177E 00 | 5.43034E 00 | 5.72414E 00 |
| 085. | 1.11854E 00 | 1.45303E 00 | 1.49844E 00 | 7.68931E 00 | 5.85694E 00 | 7.35102E 00 |
| 086. | 1.23137E 00 | 1.36941E 00 | 1.22494E 00 | 9.77139E 00 | 6.60592E 00 | 8.86702E 00 |
| 088. | 1.29360E 00 | 1.36178E 00 | 7.36233E-01 | 8.73777E 00 | 7.13216E 00 | 1.07030E 01 |
| 090. | 1.21051E 00 | 1.21983E 00 | 7.42400E-01 | 7.33344E 00 | 8.18431E 00 | 1.99871E 00 |
| 092. | 1.01375E 00 | 1.00236E 00 | 6.94230E-01 | 7.65624E 00 | 9.40404E 00 | 6.74658E 00 |
| 093. | 1.90691E-01 | 1.23161E-01 | 5.85410E-01 | 8.31701E 00 | 9.97013E 00 | 5.37463E 00 |
| 094. | 2.78534E-02 | 3.15148E-03 | 1.10149E-01 | 3.23880E 00 | 4.93277E 00 | 1.68036E 00 |
| 095. | 2.09435E-07 | 2.90503E-07 | 1.52072E-07 | 1.70452E-01 | 2.03703E 00 | 9.77223E-02 |
| 096. | 3.22609E-02 | 1.33736E-04 | 1.86278E-02 | 5.92521E-03 | 1.88185E 00 | 3.38661E-03 |

MAXIMUM TRANSLATIONAL ACCEL., 2.68555E 00; OCCURRED AT JOINT 082.
MAXIMUM ROTATIONAL ACCEL., 1.07030E 01; OCCURRED AT JOINT 085.

034IT 01 07-22-92 18.169 P I S Y S 0 6 FEEDWATER LINE A

| | SUPPORT RESPONSE | | SPECTRUM | | MODAL REPORT | |
|--|------------------|--|----------|--|--------------|--|
|--|------------------|--|----------|--|--------------|--|

MULTIPLE SUPPORT RESPONSE SPECTRUM MODAL REPORT

M-RY CO

COMBINED NODE DISPLACEMENTS/ROTATIONS
COMBINATION METHOD 6 FOR MODAL SHAPES, MODE # 1 TO 30

LOAD CASE # 1 (FINAL)

| JOINT LABEL | X-TRANSLATION | Y-TRANSLATION | Z-TRANSLATION | X-ROTATION | Y-ROTATION | Z-ROTATION |
|-------------|---------------|---------------|---------------|--------------|--------------|--------------|
| 001. | 9.16476E-05 | -2.81278E-05 | 0. | 1.17122E 18 | 1.17122E 18 | 1.17122E 18 |
| 002. | 1.15271E-02 | -1.04473E-05 | 0. | 0. | 2.52785E-01 | 1.17122E 18 |
| 003. | -5.18340E-03 | 1.07470E-04 | -4.32352E-05 | 0. | 1.17122E 18 | 1.17122E 18 |
| 003.01 | 4.65993E-02 | 3.02040E-02 | 1.53552E-04 | 0. | 0. | 2.52785E-01 |
| 004. | -1.53744E 04 | -1.76810E-03 | 3.10715E-05 | -9.21466E-05 | 0. | 1.17122E 18 |
| 005. | 8.59796E 04 | 1.99716E-01 | 1.95821E-01 | 2.13065E-04 | 4.78894E-01 | 4.62006E-01 |
| 006. | 1.17122E 18 | 1.17122E 18 | 1.17122E 18 | 4.68756E-02 | 2.23517E-08 | 9.18892E 02 |
| 007. | 2.52785E-01 | 1.17122E 18 | 2.23517E-07 | 1.19209E-07 | 1.43410E-01 | 4.98434E 03 |
| 008. | 5.12012E 00 | 5.18460E 02 | -6.92252E 02 | 2.21918E-04 | -1.79208E-06 | 2.53384E-06 |
| 009. | 0. | 0. | 3.70520E-01 | 3.68124E-01 | 2.52785E-01 | 1.17122E 18 |
| 012. | 1.17122E 18 | 4.68756E-02 | 7.45058E-09 | 2.28059E 03 | 7.64472E 02 | 4.88963E 05 |
| 013. | 1.17122E 18 | 1.17122E 18 | 4.68756E-02 | 7.45058E-09 | 1.04332E 08 | 1.23818E 08 |
| 014. | 6.94071E-02 | 7.39695E-02 | 2.00869E-04 | 6.34738E-01 | 8.50216E-01 | 4.52768E-01 |
| 015. | 0. | 0. | 0. | 0. | 0. | 0. |
| 016. | 1.17122E 18 | 4.68756E-02 | 2.23517E-08 | 1.51199E 00 | -7.98701E 00 | 7.82843E 02 |
| 018. | -3.00619E 02 | 9.65019E-05 | -7.79502E-07 | 1.28458E-06 | 0. | 1.17122E 18 |
| 018.01 | 2.52785E-01 | 1.17122E 18 | 2.23517E-07 | 5.96046E-08 | 2.09888E-01 | 0. |
| 019. | 7.45058E-09 | 4.50750E 03 | 1.01599E 04 | 4.97793E 05 | 1.99716E-01 | 1.99821E-01 |
| 021. | 5.32351E-04 | 1.72496E-04 | 2.05393E-01 | 1.17122E 18 | 1.17122E 18 | 1.17122E 18 |
| 023. | 2.16067E-07 | 1.34110E-07 | 1.43410E-01 | 1.88867E 01 | 1.56261E 03 | -5.71446E 03 |
| 024. | 1.17122E 18 | 4.68756E-02 | 1.49012E-08 | -2.65689E-01 | 1.50384E-01 | -3.79944E 02 |
| 025. | 1.17122E 18 | 2.16067E-07 | 1.34110E-07 | 1.43410E-01 | 1.28119E-01 | 2.32222E 00 |
| 029. | 1.17122E 18 | 1.17122E 18 | 4.68756E-02 | 7.45058E-09 | -2.37831E 01 | 4.69554E 01 |
| 031. | -1.16583E 03 | 2.92979E-03 | 8.72418E-04 | -1.97146E-06 | 0. | 0. |
| 032. | -4.67132E 02 | 1.88165E 03 | -4.51074E-04 | 8.53722E-06 | -3.99381E-06 | 0. |
| 027. | 7.45058E-09 | 1.52381E-01 | -3.46633E-01 | 2.25069E 02 | 3.66319E-05 | -2.34201E-05 |
| 034. | 1.65265E-07 | 0. | 0. | 1.39504E-01 | 1.17122E 18 | 2.16067E-07 |
| 035. | 1.17122E 18 | 1.17122E 18 | 1.17122E 18 | 4.68756E-02 | 2.23517E-08 | -1.37799E 02 |
| 036. | 1.39504E-01 | 1.17122E 18 | 2.16067E-07 | 1.56462E-07 | 1.43410E-01 | 1.38491E 01 |
| 037. | 1.27813E-02 | 6.50637E-05 | 1.65208E-01 | 1.73771E-01 | 1.39504E-01 | 1.17122E 18 |
| 038. | 1.19209E-07 | 1.43410E-01 | 2.85782E 03 | 2.60682E 05 | 1.62276E 05 | 2.69872E-02 |
| 040. | -9.21466E-05 | 0. | 1.17122E 18 | 1.17122E 18 | 1.17122E 18 | 4.68756E-02 |
| 040.01 | -9.31003E 01 | -4.12954E-05 | 2.02612E-05 | -2.38421E-07 | 0. | 0. |
| 041. | 1.17122E 18 | 2.23517E-07 | 5.96046E-08 | 1.43410E-01 | 2.22844E 00 | 2.29571E 02 |
| 043. | -1.13547E-05 | 1.16347E-07 | -1.63780E-07 | 0. | 1.17122E 18 | 1.17122E 18 |
| 043.01 | 2.52785E-01 | 1.17122E 18 | 2.30968E-07 | 1.68949E-02 | 0. | 0. |
| 044. | 9.85196E 04 | 1.32031E-02 | 2.41726E-04 | 1.35694E-04 | 1.84763E-01 | 1.17122E 18 |
| 046. | 5.59108E-03 | 3.36489E-05 | 7.24813E-05 | 2.32461E-01 | 1.17122E 18 | 1.17122E 18 |
| 047. | -2.85664E 00 | -3.54406E 00 | -1.34830E 02 | -5.98049E-05 | 2.93428E-05 | -3.45287E-07 |
| 049. | 1.73771E-01 | 2.52785E-01 | 1.17122E 18 | 2.23517E-07 | 1.34110E-07 | 1.43410E-01 |
| 051. | 1.33732E 05 | 2.28866E 05 | 2.65072E-02 | 5.32351E-04 | 1.72496E-04 | 2.05393E-01 |

MULTIPLE SUPPORT RESPONSE SPECTRUM MODAL REPORT

M-RY CO

MULTIPLE SUPPORT RESPONSE SPECTRUM MODAL REPORT

H-RY CO

COMBINED NODE ACCELERATIONS
COMBINATION METHOD 6 FOR MODAL SHAPES, MODE # 1 TO 30

LOAD CASE # 1 (FINAL)

| JOINT LABEL | TRANSLATION (G) | TRANSLATION (G) | TRANSLATION (G) | ROTATION (R/SEC**2) | ROTATION (R/SEC**2) | ROTATION (R/SEC**2) |
|-------------|-----------------|-----------------|-----------------|---------------------|---------------------|---------------------|
| | X | Y | Z | X | Y | Z |
| 001. | 5.51536E-04 | 3.47436E-10 | 3.71520E-04 | 1.23024E-01 | 2.12474E 00 | 6.66982E-01 |
| 002. | 3.03425E 15 | 1.21439E-04 | 1.93020E-11 | -3.83160E 01 | 5.35980E 01 | -4.14219E 02 |
| 003. | 3.03425E 15 | 5.79061E-10 | 4.05342E-10 | 1.43410E-01 | 2.62871E 01 | 3.99736E 02 |
| 003.01 | 3.03425E 15 | 3.03425E 15 | 1.21439E-04 | 2.23517E-08 | -1.68521E 02 | 2.44624E 02 |
| 004. | 6.54883E-04 | 3.03425E 15 | 5.79061E-10 | 1.56462E-07 | 1.43410E-01 | -7.90196E 01 |
| 005. | 3.03425E 15 | 3.03425E 15 | 3.03425E 15 | 4.68756E-02 | 3.72428E-08 | 1.88879E 02 |
| 006. | 1.11948E 00 | -4.73696E 01 | 1.95723E 02 | 2.98050E-01 | 3.69667E-03 | 1.16899E-03 |
| 007. | -5.76046E-01 | 4.00904E 01 | 1.07639E-05 | 1.43389E-02 | 1.79119E-05 | 0. |
| 008. | 0. | 0. | 6.95362E-04 | 1.17122E 18 | 2.30968E-07 | 0. |
| 009. | 7.72081E-11 | -1.09807E 00 | 1.93020E-11 | 6.10049E 03 | -3.27639E 02 | 9.29912E 04 |
| 012. | 8.67691E 02 | 6.57344E-05 | 1.13242E-06 | 2.84447E-04 | 1.19926E 00 | 1.17122E 18 |
| 013. | -4.06793E 02 | 5.64001E 02 | 0. | 0. | 0. | 3.04799E 00 |
| 014. | 3.03425E 15 | 3.03425E 15 | 1.21439E-04 | 2.23517E-08 | 9.20681E 03 | 3.92490E 03 |
| 015. | 3.24694E-03 | 6.54883E-04 | 3.03425E 15 | 2.23517E-07 | 0. | 1.43410E-01 |
| 016. | 4.75909E-02 | 3.75790E-02 | 2.50325E 00 | 4.09272E-04 | -2.61738E-04 | 1.84560E-06 |
| 018. | 0. | 0. | 5.46476E-04 | 8.19564E-08 | 1.43410E-01 | -2.70691E 01 |
| 018.01 | 6.76588E-01 | -8.73518E 00 | 2.98113E-05 | 2.79382E-03 | -6.23577E 01 | -8.74453E 02 |
| 019. | 4.78034E 01 | 1.07639E-05 | 3.71475E-05 | 1.79119E-05 | 0. | 0. |
| 021. | 5.36356E-04 | 1.93020E-11 | 3.71520E-04 | 3.22016E 03 | 4.80063E 05 | 3.88745E 05 |
| 023. | -2.59780E-03 | 3.55270E-03 | 6.22541E-06 | 0. | 0. | 4.42784E-01 |
| 024. | 1.01308E 03 | 7.79901E-04 | 9.83067E-06 | 1.18182E-03 | 0. | 1.17122E 18 |
| 025. | -2.21862E 03 | -3.11772E-03 | 2.80780E-03 | 1.95218E-03 | 0. | 0. |
| 029. | -1.85966E 02 | 1.80831E 01 | 4.41677E-05 | -8.50209E-05 | 1.93450E-04 | 0. |
| 031. | 3.03425E 15 | 3.03425E 15 | 3.03425E 15 | 4.68756E-02 | 1.49012E-08 | -2.95169E 02 |
| 032. | 0. | 6.54883E-04 | 3.03425E 15 | 2.23517E-07 | 2.23517E-08 | 1.43410E-01 |
| 027. | 0. | 0. | 7.89522E-03 | 1.17122E 18 | 1.17122E 18 | 1.17122E 18 |
| 034. | 1.21439E-04 | 9.65101E-11 | 1.59268E 01 | 4.94051E 03 | 4.39963E 05 | 2.80431E-02 |
| 035. | 4.08125E 00 | 2.02476E 02 | 3.08203E 02 | 1.43284E-02 | 2.90103E-04 | 8.90032E-05 |
| 036. | 1.89885E 01 | 4.11206E 02 | -6.51763E-05 | -1.81668E-02 | 2.69772E-05 | 0. |
| 037. | 3.03425E 15 | 1.21439E-04 | 3.86040E-11 | -9.16517E 03 | 2.35002E 04 | -1.18197E 06 |
| 038. | 0. | 0. | 0. | 0. | 0. | 0. |
| 040. | 3.03425E 15 | 3.03425E 15 | 1.21439E-04 | 3.72529E-08 | 1.48954E 02 | -2.65314E 02 |
| 040.01 | 3.03425E 15 | 3.03425E 15 | 3.03425E 15 | 4.68756E-02 | 7.45058E-09 | -1.85174E 02 |
| 041. | 0. | 0. | 0. | 0. | 0. | 0. |
| 043. | 3.38445E-03 | 3.03425E 15 | 3.03425E 15 | 1.17122E 18 | 4.68756E-02 | 7.45058E-09 |
| 043.01 | 9.11521E 00 | 1.13224E 03 | 7.26506E-05 | 2.78064E-02 | 4.72868E-04 | 1.47645E 00 |
| 044. | 6.54883E-04 | 3.03425E 15 | 5.79061E-10 | 0. | 1.43410E-01 | 5.23182E 03 |
| 046. | 3.03425E 15 | 5.79061E-10 | 0. | 1.43410E-01 | 5.62847E 03 | 2.65414E 05 |
| 047. | 3.06171E-06 | 0. | 3.03425E 15 | 1.17122E 18 | 1.17122E 18 | 4.68756E-02 |
| 049. | -2.39905E 00 | 1.55522E-01 | -2.50381E 02 | -1.00275E 00 | 1.37134E 00 | 2.40301E-03 |

MULTIPLE SUPPORT RESPONSE SPECTRUM MODAL REPORT

H-RY CO

M U L T I P L E S U P P O R T R E S P O N S E S P E C T R U M M O D A L R E P O R T

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| | | | | | | |
|--------|--------------|--------------|--------------|--------------|--------------|--------------|
| 051. | 0. | 6.54883E-04 | 3.03425E 15 | 2.23517E-07 | 7.45058E-09 | 1.43410E-01 |
| 053. | -4.93278E 00 | 6.25259E 00 | -1.30395E-06 | 9.99584E-06 | -5.88483E-06 | 0. |
| 054. | -1.78340E 01 | 2.47916E-05 | 8.20782E-06 | 1.40423E-05 | 0. | 0. |
| 055. | 5.16607E 00 | -1.16859E-06 | 2.21174E-08 | -3.59381E-06 | 0. | 1.17122E 18 |
| 056. | 7.59013E-06 | 2.26015E-06 | -5.10740E-09 | 0. | 0. | 2.52785E-01 |
| 057. | 4.03291E-10 | -9.31979E-12 | 8.54827E-12 | 0. | 1.17122E 18 | 1.17122E 18 |
| 058. | 6.54883E-04 | 3.03425E 15 | 5.79061E-10 | 1.49012E-08 | 1.43410E-01 | 3.66832E 02 |
| 059. | 3.03425E 15 | 3.03425E 15 | 1.21439E-04 | 2.98023E-08 | -9.89652E 03 | 2.44236E 04 |
| 061. | 3.03425E 15 | 5.79061E-10 | 0. | 1.43410E-01 | 3.31175E 03 | 4.90931E 05 |
| 061.01 | 7.72152E-04 | 9.57687E-06 | 3.02848E-06 | 0. | 1.17122E 18 | 1.17122E 18 |
| 062. | 3.61408E-04 | 3.03425E 15 | 5.79061E-10 | 0. | 0. | 0. |
| 064. | 7.22189E 00 | -1.30395E-06 | 2.58960E-08 | -5.88483E-06 | 0. | 1.17122E 18 |
| 065. | -1.99622E 00 | 4.90608E 00 | -1.08280E-06 | 4.28267E-06 | -6.02865E-06 | 0. |
| 067. | 0. | 0. | 6.54883E-04 | 1.17122E 18 | 2.30968E-07 | 0. |
| 069. | 1.65462E 01 | 9.35938E 02 | 9.34771E 02 | 4.33261E-02 | 6.79121E-04 | 3.94979E-04 |
| 071. | 3.03425E 15 | 3.03425E 15 | 3.03425E 15 | 4.68756E-02 | 3.72529E-08 | 5.96669E 03 |
| 072. | 1.28399E 03 | 1.25502E-04 | 1.28160E-04 | 6.22482E-04 | 1.27888E 00 | 1.19923E 00 |
| 073. | 0. | 0. | 0. | 2.61537E 00 | 2.66208E 00 | 2.52785E-01 |
| 074. | 3.71528E-04 | 1.12002E 00 | -4.79013E 01 | 7.52895E 04 | 2.99343E-01 | 3.67884E-03 |
| 075. | 0. | 3.03425E 15 | 3.03425E 15 | 1.17122E 18 | 4.68756E-02 | 1.49012E-08 |
| 076. | 7.20373E-05 | 1.22505E-06 | 3.82500E-03 | 1.25332E 00 | 1.39504E-01 | 1.17122E 18 |
| 077. | 5.59759E-10 | 0. | 3.71528E-04 | 4.42091E 03 | 3.12806E 05 | 3.44240E 05 |
| 079. | 1.12244E-04 | 1.75938E-06 | 9.19625E-07 | 1.30640E 00 | 1.17122E 18 | 1.17122E 18 |
| 079.01 | 3.03425E 15 | 1.21439E-04 | 1.93020E-11 | 1.71110E 00 | -4.09721E 00 | 2.51482E 03 |
| 080. | 1.06029E-06 | -6.78077E-07 | 4.78134E-09 | 0. | 0. | 1.39504E-01 |
| 082. | 3.03425E 15 | 5.59759E-10 | 2.12322E-10 | 1.43410E-01 | -5.24026E 01 | -2.71257E 03 |
| 082.01 | 3.39850E 00 | -1.08280E-06 | 1.10950E-08 | -6.02865E-06 | 0. | 1.17122E 18 |
| 083. | 3.03425E 15 | 3.03425E 15 | 1.21439E-04 | 7.45058E-09 | -1.32582E 02 | 3.57542E 02 |
| 085. | -1.53914E 01 | 2.98113E-05 | 7.23787E-06 | -8.27471E-06 | 0. | 0. |
| 086. | 3.61408E-04 | 3.03425E 15 | 5.59759E-10 | 0. | 1.43410E-01 | -3.00503E 02 |
| 088. | 3.63294E 00 | 9.57363E 01 | -1.16718E-05 | 9.16476E-05 | -2.81278E-05 | 0. |
| 090. | 3.03425E 15 | 3.03425E 15 | 3.03425E 15 | 4.68756E-02 | 5.21541E-08 | 4.59646E 01 |
| 092. | -3.87884E-01 | 2.66651E 01 | 6.22313E-06 | 1.15271E-02 | -1.04473E-05 | 0. |
| 093. | 0. | 3.61408E-04 | 3.03425E 15 | 2.16067E-07 | 0. | 1.43410E-01 |
| 094. | -1.12171E 00 | -8.24327E 01 | 3.86199E 01 | -5.18340E-03 | 1.07470E-04 | -4.32352E-05 |
| 095. | 0. | 3.03425E 15 | 3.03425E 15 | 1.17122E 18 | 4.68756E-02 | 9.68575E-08 |
| 096. | 1.55807E-01 | -9.73878E-01 | -4.61879E 01 | 4.65993E-02 | 3.02040E-02 | 1.53552E-04 |

MAXIMUM TRANSLATIONAL ACCEL., 3.03425E 15, OCCURED AT JOINT 095.
 MAXIMUM ROTATIONAL ACCEL., 1.17122E 18, OCCURED AT JOINT 095.

M U L T I P L E S U P P O R T R E S P O N S E S P E C T R U M M O D A L R E P O R T

M-RY CO

834IT 01 07-22-92 18.169 P15YS06 FEEDWATER LINE A

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MULTIPLE SUPPORT RESPONSE SPECTRUM STRESS REPORT

M-RY CO

834IT 01 07-22-92 18.169 P15YS06 FEEDWATER LINE A

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MULTIPLE SUPPORT RESPONSE SPECTRUM STRESS REPORT

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MULTIPLE SUPPORT RESPONSE SPECTRUM STRESS REPORT

H-RY CO

RESPONSE SPECTRUM ANALYSIS --- STRESS REPORT

PISYS PAGE 1

ELEMENT TYPE 1 --- 3-D STRAIGHT OR CURVED PIPE ELEMENTS

COMBINED ELEMENT FORCES AND MOMENTS
COMBINED METHOD 6 MODE 1 TO MODE 30 --- INTERMEDIATE

| ELEM NO | LOAD CASE | END | AXIAL FORCE | Y-AXIS SHEAR | Z-AXIS SHEAR | TORSION MOMENT | Y-AXIS MOMENT | Z-AXIS MOMENT |
|---------|------------------|-----|----------------------|------------------------|----------------------|--------------------------|--------------------------|--------------------------|
| 1T | 1 001. 002. | | 7351.901 7351.901 | 6682.297 6682.297 | 3400.183 3400.183 | 180350.112 180350.112 | 28894.124 236272.861 | 75379.130 446024.961 |
| 2T | 1 002. 003. | | 7321.293 7321.293 | 6613.980 6613.980 | 3394.443 3394.443 | 180350.112 180350.112 | 236272.861 221607.317 | 446024.961 417951.707 |
| 3T | 1 003. 003.01 | | 7293.583 7293.583 | 6579.361 6579.361 | 3385.517 3385.517 | 180350.112 180350.112 | 221607.317 32994.378 | 417951.707 82662.316 |
| 4T | 1 003.01 004. | | 7151.826 7151.826 | 5210.181 5210.181 | 2908.618 2908.618 | 180350.112 180350.112 | 32994.378 241215.616 | 82662.316 441430.911 |
| 5T | 1 004. 005. | | 7013.255 7013.255 | 4750.080 4750.080 | 2636.662 2636.662 | 180350.112 180350.112 | 241215.616 276246.045 | 441430.911 499531.769 |
| 6T | 1 005. 006. | | 6987.256 6987.256 | 4747.085 4747.085 | 2610.324 2610.324 | 180350.112 180350.112 | 276246.045 346919.676 | 499531.769 618992.220 |
| 7T | 1 006. 007. | | 7110.300 7110.300 | 3417.903 3417.903 | 3791.358 3791.358 | 0.000 0.000 | 58212.504 0.000 | 52478.477 0.000 |
| 8T | 1 006. 008. | | 6682.327 6682.327 | 8430.931 8430.931 | 4505.354 4505.354 | 167164.942 167164.942 | 346919.676 405914.732 | 618992.220 698791.120 |
| 9T | 1 008. 009. | | 6661.481 6661.481 | 8602.969 8602.969 | 4531.236 4531.236 | 167164.942 167164.942 | 405914.732 456176.863 | 698791.120 785669.152 |
| 10T | 1 009. 012. | | 6619.962 6619.962 | 10551.584 10551.584 | 7909.748 7909.748 | 167164.942 167164.942 | 456176.863 336864.249 | 785669.152 619564.313 |
| 11T | 1 012. 013. | | 6595.671 6595.671 | 10357.673 10357.673 | 7884.133 7884.133 | 167164.942 167164.942 | 336864.249 211628.865 | 619564.313 375633.510 |
| 12T | 1 013. 014. | | 6998.435 6998.435 | 4952.902 4952.902 | 6779.833 6779.833 | 0.000 0.000 | 203930.582 0.000 | 148978.336 0.000 |

MULTIPLE SUPPORT RESPONSE SPECTRUM STRESS REPORT

H-RY CO

M U L T I P L E S U P P O R T R E S P O N S E S P E C T R U M S T R E S S R E P O R T H-RY CO

| | | | | | | | |
|-----|--------------------------|----------------------------------|----------------------------------|----------------------------------|----------------------------------------|----------------------------------------|----------------------------------------|
| 13T | 1 013. 015. | 3396.427 3396.427 | 5703.119 5703.119 | 4449.081 4449.081 | 126987.511 126987.511 | 211628.865 117425.124 | 295609.678 152570.278 |
| 14T | 1 015. 016. | 3356.748 3356.748 | 5444.347 5444.347 | 4351.143 4351.143 | 126987.511 126987.511 | 117425.124 104110.001 | 152570.278 98894.403 |
| 15B | 1 016. CENTER 018. | 3243.051 3869.584 4130.684 | 3949.947 3348.314 2953.487 | 4387.873 4387.873 4387.873 | 126987.423 119408.519 141873.443 | 98894.400 151822.402 215806.276 | 104110.001 144128.247 179871.560 |
| 16T | 1 018. 018.01 | 3302.444 3302.444 | 2745.025 2745.025 | 2110.399 2110.399 | 141867.941 141867.941 | 179871.560 297970.399 | 215810.056 372490.790 |
| 17T | 1 018.01 019. | 2797.070 2797.070 | 2422.750 2422.750 | 2056.386 2056.386 | 141867.539 141867.539 | 297970.399 194838.223 | 372490.791 288434.093 |
| 18T | 1 019. 021. | 3170.696 3170.696 | 3497.910 3497.910 | 3957.587 3957.587 | 141893.338 141893.338 | 194838.223 115373.965 | 288422.442 220044.308 |
| 19B | 1 021. CENTER 023. | 3595.087 3810.805 3722.039 | 3368.783 3095.649 3212.149 | 4442.795 4442.795 4442.795 | 141894.380 178442.246 222264.574 | 220043.576 160409.497 104007.810 | 115373.965 119474.161 115314.335 |
| 20T | 1 023. 024. | 3403.473 3403.473 | 5354.821 5354.821 | 3675.427 3675.427 | 222264.574 222264.574 | 115314.335 179882.810 | 104007.452 258449.497 |
| 21T | 1 024. 025. | 3321.570 3321.570 | 6536.867 6536.867 | 4901.614 4901.614 | 113884.498 113884.498 | 204398.459 274710.945 | 260204.661 428022.465 |
| 22T | 1 025. 029. | 2960.695 2960.695 | 3827.683 3827.683 | 2967.541 2967.541 | 113884.498 113884.498 | 274710.945 228833.516 | 428022.465 305701.142 |
| 23T | 1 029. 031. | 2616.071 2616.071 | 3033.654 3033.654 | 2172.759 2172.759 | 113884.498 113884.498 | 228833.516 237390.993 | 305701.142 255473.053 |
| 24T | 1 031. 032. | 2102.315 2102.315 | 3186.960 3186.960 | 2414.699 2414.699 | 185956.731 185956.731 | 295609.852 206707.660 | 294629.051 199915.156 |
| 25T | 1 032. 027. | 1914.930 1914.930 | 3975.588 3975.588 | 3631.081 3631.081 | 185956.731 185956.731 | 206707.660 196393.186 | 199915.156 157421.272 |
| 26T | 1 027. 034. | 1842.475 1842.475 | 4725.719 4725.719 | 5325.889 5325.889 | 185956.731 185956.731 | 196393.186 127367.873 | 157421.272 49482.804 |
| 27T | 1 034. 035. | 288.804 288.804 | 1292.534 1292.534 | 1115.722 1115.722 | 0.000 0.000 | 32958.727 6442.878 | 38294.191 7778.589 |
| 28T | 1 035. 036. | 86.649 86.649 | 439.047 439.047 | 374.944 374.944 | 0.000 0.000 | 6442.878 0.000 | 7778.589 0.000 |

M U L T I P L E S U P P O R T R E S P O N S E S P E C T R U M S T R E S S R E P O R T H-RY CO

MULTIPLE SUPPORT RESPONSE SPECTRUM STRESS REPORT H-RY CO

RESPONSE SPECTRUM ANALYSIS --- STRESS REPORT PISYS PAGE 2
 ELEMENT TYPE 1 --- 3-D STRAIGHT OR CURVED PIP ELEMENTS

COMBINED ELEMENT FORCES AND MOMENTS
 COMBINED METHOD 6 MODE 1 TO MODE 30 --- INTERMEDIATE

| ELEM NO | LOAD CASE | END | AXIAL FORCE | Y-AXIS SHEAR | Z-AXIS SHEAR | TORSION MOMENT | Y-AXIS MOMENT | Z-AXIS MOMENT |
|---------|-----------|--------|-------------|--------------|--------------|----------------|---------------|---------------|
| 29T | 1 | 024. | 1604.123 | 3980.263 | 1724.094 | 93794.626 | 87795.987 | 211835.682 |
| | | 037. | 1604.123 | 3980.263 | 1724.094 | 93794.626 | 99532.433 | 135249.531 |
| 30T | 1 | 037. | 1578.431 | 3883.766 | 1731.698 | 93794.610 | 99532.459 | 135249.531 |
| | | 038. | 1578.431 | 3883.766 | 1731.698 | 93794.610 | 43809.370 | 96817.784 |
| 31B | 1 | 038. | 1495.402 | 3768.971 | 1728.210 | 93748.402 | 43820.212 | 96817.784 |
| | | CENTER | 2156.516 | 3433.638 | 1728.210 | 79992.698 | 54853.778 | 76610.368 |
| | | 040. | 3016.383 | 2674.220 | 1728.210 | 60261.763 | 66279.179 | 60840.778 |
| 32T | 1 | 040. | 2723.635 | 2420.688 | 1680.083 | 60299.452 | 66244.991 | 60840.778 |
| | | 040.01 | 2723.635 | 2420.688 | 1680.083 | 60299.452 | 37665.617 | 80469.994 |
| 33T | 1 | 040.01 | 2298.124 | 1512.304 | 1328.863 | 60299.452 | 37665.617 | 80469.994 |
| | | 041. | 2298.124 | 1512.304 | 1328.863 | 60299.452 | 77089.147 | 137879.728 |
| 34B | 1 | 041. | 2054.168 | 988.850 | 755.779 | 60311.105 | 137875.423 | 77089.147 |
| | | CENTER | 2141.949 | 746.489 | 755.779 | 46633.688 | 144331.717 | 80305.972 |
| | | 043. | 2117.778 | 836.035 | 755.779 | 58275.365 | 143101.476 | 81733.479 |
| 35T | 1 | 043. | 1714.246 | 749.751 | 721.341 | 58263.619 | 81733.479 | 143105.762 |
| | | 043.01 | 1714.246 | 749.751 | 721.341 | 58263.619 | 73392.312 | 109852.944 |
| 36T | 1 | 043.01 | 1125.872 | 2082.404 | 914.194 | 58263.618 | 73392.312 | 109852.944 |
| | | 044. | 1125.872 | 2082.404 | 914.194 | 58263.618 | 34188.981 | 31746.919 |
| 37B | 1 | 044. | 841.242 | 2662.450 | 1449.368 | 58263.669 | 34188.981 | 31746.819 |
| | | CENTER | 2365.482 | 1512.094 | 1449.368 | 35442.978 | 45620.045 | 56061.356 |
| | | 046. | 2661.769 | 843.416 | 1449.368 | 24782.347 | 46952.532 | 60328.517 |
| 38T | 1 | 046. | 3118.918 | 1851.033 | 895.088 | 24772.823 | 33890.512 | 68022.279 |
| | | 047. | 3118.918 | 1851.033 | 895.088 | 24772.823 | 27681.220 | 92175.082 |
| 39B | 1 | 047. | 3490.501 | 1949.210 | 885.138 | 24773.840 | 47875.392 | 83192.311 |
| | | CENTER | 3438.125 | 1996.555 | 885.138 | 26790.522 | 46900.830 | 89863.895 |
| | | 049. | 3260.996 | 2290.092 | 885.138 | 31264.540 | 43215.425 | 94153.080 |

MULTIPLE SUPPORT RESPONSE SPECTRUM STRESS REPORT H-RY CO

MULTIPLE SUPPORT RESPONSE SPECTRUM STRESS REPORT M-RY CO

RESPONSE SPECTRUM ANALYSIS --- STRESS REPORT
 ELEMENT TYPE I --- 3-D STRAIGHT OR CURVED PIPE ELEMENTS P I S Y S PAGE 3

COMBINED ELEMENT 6 FORCES AND MOMENTS
 COMBINED METHOD 6 MODE 1 TO MODE 30 --- INTERMEDIATE

| ELEM NO | LOAD CASE | END | AXIAL FORCE | Y-AXIS SHEAR | Z-AXIS SHEAR | TORSION MOMENT | Y-AXIS MOMENT | Z-AXIS MOMENT |
|---------|-----------|--------|----------------------------------|----------------------------------|-------------------------------|-------------------------------------|-------------------------------------|--------------------------------------|
| 40P | 1 049 | CENTER | 3375.891 3049.260 2630.797 | 2353.300 2784.206 3187.944 | 940.039 940.039 940.039 | 3157.408 37573.169 44004.194 | 93235.365 37170.687 29669.773 | 91146.916 94305.678 97402.245 |
| 41B | 1 051 | CENTER | 2685.652 2235.591 1958.383 | 3297.947 3635.897 3782.305 | 100.979 100.979 100.979 | 43970.736 44428.892 50436.197 | 29628.418 22154.784 19681.295 | 97411.448 98792.930 100836.562 |
| 42T | 1 053 | | 1959.948 1959.948 | 4083.650 4083.650 | 1170.813 1170.813 | 50436.095 50436.095 | 19996.999 57372.248 | 100836.069 207651.975 |
| 43T | 1 054 | | 1960.404 1960.404 | 4168.562 4168.562 | 1216.695 1216.695 | 50436.080 50436.080 | 57372.248 78376.361 | 207651.949 279917.736 |
| 44T | 1 055 | | 1960.389 1960.389 | 4261.999 4261.999 | 1222.378 1222.378 | 50433.931 50433.931 | 78376.361 89518.888 | 279918.211 299615.973 |
| 45T | 1 056 | | 0.000 0.000 | 67.676 67.676 | 1.266 1.266 | 0.000 0.000 | 9.669 0.000 | 516.871 0.000 |
| 46T | 1 031 | | 1229.519 1229.519 | 1443.627 1443.627 | 891.974 891.974 | 34612.251 34612.251 | 46279.953 29995.871 | 183253.970 98974.648 |
| 47T | 1 058 | | 1146.223 1146.223 | 1323.882 1323.882 | 885.324 885.324 | 34612.231 34612.231 | 29995.883 21047.096 | 98974.648 99374.336 |
| 48B | 1 059 | CENTER | 1094.010 1335.065 1449.339 | 1206.844 944.411 774.439 | 874.605 874.605 874.605 | 34608.088 27112.911 19285.119 | 21874.105 29628.732 26790.584 | 99374.336 98875.771 96300.641 |
| 49T | 1 061 | | 1147.428 1147.428 | 824.356 824.356 | 813.569 813.569 | 19297.624 19297.624 | 26781.688 13609.216 | 96300.641 67561.863 |
| 50T | 1 061.01 | | 791.243 791.243 | 1083.333 1083.333 | 429.918 429.918 | 19297.624 19297.624 | 13609.216 28387.971 | 67761.863 33081.189 |

MULTIPLE SUPPORT RESPONSE SPECTRUM STRESS REPORT M-RY CO

M U L T I P L E S U P P O R T R E S P O N S E S P E C T R U M S T R E S S R E P O R T N-RV CO

| LINE NO | TYPE | RESPONSE | SPECTRUM | STRESS | REPORT | N-RV CO |
|---------|------------------------|----------------------------------|----------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|
| 518 | 1 062 CENTER 064 | 686.257 1320.085 1348.860 | 1349.329 742.060 687.190 | 1927.639 943.277 252.78.187 | 20387.971 38181.236 14832.859 | 33881.189 29419.921 22637.188 |
| 527 | 1 069 065 | 1688.336 1688.336 | 779.227 759.227 | 25269.171 25269.171 | 23637.188 27366.299 | 14877.838 18448.834 |
| 538 | 1 065 CENTER 067 | 1982.300 2008.756 1914.820 | 789.236 744.658 923.589 | 25274.914 23968.989 32275.839 | 18481.128 16997.748 13833.592 | 27366.299 29419.921 25269.284 |
| 548 | 1 067 CENTER 069 | 2007.880 1781.987 1461.882 | 1058.979 1414.072 1733.505 | 32275.506 34638.888 94962.883 | 13839.353 10789.385 8198.441 | 25269.284 29419.921 27451.085 |
| 558 | 1 069 CENTER 071 | 1511.234 1112.415 788.842 | 1827.269 2084.229 2215.072 | 39298.445 36179.677 34563.286 | 8173.877 7095.971 8969.682 | 27451.085 27468.916 31143.189 |
| 567 | 1 071 072 | 790.608 790.608 | 2059.103 2459.103 | 35265.704 34265.704 | 8777.843 44305.982 | 31143.189 11844.504 |
| 577 | 1 072 073 | 791.044 791.044 | 2061.858 2061.858 | 35265.704 34265.704 | 44305.982 66214.198 | 11844.504 163309.113 |
| 587 | 1 073 074 | 791.088 791.088 | 2713.887 2713.887 | 35265.704 34265.704 | 66214.198 73988.798 | 163309.113 178747.742 |
| 597 | 1 074 075 | 0.000 0.000 | 67.682 67.682 | 0.000 0.000 | 7.681 8.000 | 916.942 0.000 |
| 607 | 1 076 076 | 1935.126 1935.126 | 4615.000 4615.000 | 90537.687 90537.687 | 93299.832 62202.979 | 193774.731 94442.184 |
| 617 | 1 076 077 | 1798.359 1798.359 | 4452.631 4452.631 | 90537.687 90537.687 | 62202.979 97877.898 | 27952.184 52705.217 |
| 628 | 1 077 CENTER 079 | 1691.049 2607.221 3602.401 | 4274.591 3881.003 2900.743 | 90531.898 89591.882 67257.348 | 97877.898 94288.887 89721.831 | 52705.217 37111.448 38874.878 |
| 637 | 1 079 079.01 | 3214.646 3214.646 | 2487.632 2487.632 | 67251.845 67251.845 | 62487.285 36189.189 | 38874.878 124899.634 |
| 647 | 1 079.01 080 | 2646.408 2646.408 | 1368.578 1368.578 | 67251.845 67251.845 | 36189.189 36127.813 | 124899.634 188918.643 |
| 658 | 1 080 CENTER | 2313.229 2407.562 | 1023.828 794.501 | 67389.974 49404.403 | 188913.828 188293.147 | 74127.813 79284.489 |

MULTIPLE SUPPORT RESPONSE SPECTRUM STRESS REPORT H-RY CO

| | | | | | | | |
|-----|--------------------------|----------------------------------|----------------------------------|----------------------------------|-------------------------------------|-------------------------------------|----------------------------------------|
| | 082. | 2355.162 | 995.338 | 566.692 | 68526.777 | 184841.243 | 88494.824 |
| 66T | 1 082. 082.01 | 1883.264 1883.264 | 1017.684 1017.684 | 798.398 798.398 | 68526.566 68526.566 | 80454.824 74773.106 | 184847.469 130742.056 |
| 67T | 1 082.01 083. | 1211.230 1211.230 | 2535.281 2535.281 | 888.970 888.970 | 68526.564 68526.564 | 74773.106 37335.485 | 130742.057 41746.189 |
| 68B | 1 083. CENTER 085. | 1032.201 2759.570 3117.292 | 3118.061 1754.470 1034.509 | 1493.640 1493.640 1493.640 | 68526.643 39423.895 23695.628 | 37335.485 95788.296 53094.434 | 41745.974 71212.734 76434.205 |
| 69T | 1 085. 086. | 3539.149 3539.149 | 2078.057 2078.057 | 997.884 997.884 | 23674.318 23674.318 | 44886.290 40495.150 | 81988.262 93493.397 |
| 70B | 1 086. CENTER 088. | 3883.954 3688.637 3387.326 | 2102.195 2431.687 2914.196 | 1182.071 1182.071 1182.071 | 23670.135 27093.387 36690.904 | 61422.993 99897.059 94727.391 | 88292.817 87082.201 92177.713 |
| 71B | 1 088. CENTER 090. | 3487.32 3036.74 2536.744 | 2980.535 3471.067 3837.485 | 1257.154 1257.154 1257.154 | 36682.243 47193.178 56089.277 | 94744.175 46148.291 35245.061 | 92131.188 96112.138 182340.968 |
| 72B | 1 090. CENTER 092. | 2583.759 2151.405 2119.210 | 3934.517 4137.973 4134.939 | 1344.696 1344.696 1344.696 | 56055.306 62096.170 64809.080 | 35275.997 24064.283 18113.567 | 182347.330 109717.887 117890.934 |
| 73T | 1 092. 093. | 2119.945 2119.945 | 4396.515 4396.515 | 1589.783 1589.783 | 64807.767 64807.767 | 18106.276 75627.477 | 117892.448 295939.774 |
| 74T | 1 093. 094. | 2120.373 2120.373 | 4476.142 4476.142 | 1657.381 1657.381 | 64808.794 64808.794 | 75627.477 105269.578 | 295939.538 331148.414 |
| 75T | 1 094. 095. | 2120.342 2120.342 | 4567.634 4567.634 | 1665.846 1665.846 | 64800.752 64800.752 | 105269.578 115282.444 | 331149.847 357018.642 |
| 76T | 1 095. 096. | 0.000 0.000 | 67.676 67.676 | 1.872 1.872 | 0.000 0.000 | 14.296 0.000 | 516.868 0.000 |

MAXIMUM AND/OR MINIMUM VALUES
CORRESPONDING ELEM/LOAD - CASE

| | | | | | | |
|--------------|----------|-----------|----------|------------|------------|------------|
| MAXIMUM TANG | 7351.901 | 10551.584 | 7909.748 | 222264.574 | 456176.863 | 785669.156 |
| MINIMUM | 0.000 | 67.676 | 0.995 | 0.000 | 0.000 | 0.000 |
| MAXIMUM BEND | 4130.684 | 4274.991 | 4442.795 | 222264.724 | 228043.576 | 179871.568 |

MULTIPLE SUPPORT RESPONSE SPECTRUM STRESS REPORT H-RY CO

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M U L T I P L E S U P P O R T R E S P O N S E S P E C T R U M S T R E S S R E P O R T

M-RY CO

| | | | | | | |
|---------|---------------------------|---------------------------|---------------------------|----------------------------|----------------------------|-----------------------------|
| MINIMUM | 15- 1 686.257 51- 1 | 62- 1 687.190 51- 1 | 19- 1 288.496 51- 1 | 19- 1 9569.277 51- 1 | 19- 1 7055.971 55- 1 | 15- 1 22637.188 51- 1 |
|---------|---------------------------|---------------------------|---------------------------|----------------------------|----------------------------|-----------------------------|

MULTIPLE SUPPORT RESPONSE SPECTRUM STRESS REPORT

RESPONSE SPECTRUM ANALYSIS --- STRESS REPORT
 ELEMENT TYPE 2 --- RESTRAINT ELEMENT

 COMBINED ELEMENT FORCES AND MOMENTS
 COMBINED METHOD 6 MODE 1 TO MODE 30 --- INTERMEDIATE

| ELEM NO | LOAD CASE | RESTRAINT TYPE | PIPE JOINT | STRUCT. POINT | RESTRAINT FORCE | RESTRAINT MOMENT |
|---------|-----------|----------------|------------|---------------|-----------------|------------------|
| 1 | 1 | ANCHOR | 001. | ANC X | 3.400E 03 | 7.530E 04 |
| 2 | 1 | ANCHOR | 001. | ANC Y | 6.751E 03 | 2.885E 04 |
| 3 | 1 | ANCHOR | 001. | ANC Z | 7.352E 03 | 1.804E 05 |
| 4 | 1 | ANCHOR | 056. | RPUN1X | 1.154E 03 | 2.572E 05 |
| 5 | 1 | ANCHOR | 056. | RPUN1Y | 4.379E 03 | 8.553E 04 |
| 6 | 1 | ANCHOR | 056. | RPUN1Z | 2.000E 03 | 1.616E 05 |
| 7 | 1 | ANCHOR | 074. | RPUN2X | 7.911E 02 | 3.827E 04 |
| 8 | 1 | ANCHOR | 074. | RPUN2Y | 2.897E 03 | 7.359E 04 |
| 9 | 1 | ANCHOR | 074. | RPUN2Z | 1.216E 03 | 1.787E 05 |
| 10 | 1 | ANCHOR | 095. | RPUN3X | 1.458E 03 | 3.017E 05 |
| 11 | 1 | ANCHOR | 095. | RPUN3Y | 4.681E 03 | 1.153E 05 |
| 12 | 1 | ANCHOR | 095. | RPUN3Z | 2.281E 03 | 2.008E 05 |
| 13 | 1 | GLOBAL GUIDE | 009. | GUIDEX | 1.130E 04 | 0. |
| 14 | 1 | GLOBAL GUIDE | 009. | GUIDEY | 1.779E 04 | 0. |
| 15 | 1 | SNUBBER | 019. | AS003 | 5.243E 03 | 0. |
| 16 | 1 | SNUBBER | 025. | AS005 | 5.380E 03 | 0. |
| 17 | 1 | SNUBBER | 025. | AS004 | 1.126E 04 | 0. |
| 18 | 1 | SNUBBER | 027. | AS007 | 8.643E 03 | 0. |

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MULTIPLE SUPPORT RESPONSE SPECTRUM STRESS REPORT

H-RY CO

19 1 SHUBBER 032. A5006 7.534E 03 0.

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MULTIPLE SUPPORT RESPONSE SPECTRUM STRESS REPORT

H-RY CO

UNIT 01 07-22-92 18.169 P I S Y 5 0 6 FEEDWATER LINE A
P I S E Z F I L E G E N E R A T I O N R E P O R T

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M-RY CO

P I S E Z F I L E U P D A T E H A S S T A R T E D.
A N A L Y S I S C A S E L A B E L M - R Y C O
A N A L Y S I S C A S E S E Q U E N C E N U M B E R : 1 6 (P I S E Z)
I S B E I N G A D D E D.

P I S E Z F I L E U P D A T E I S C O M P L E T E .

N O R M A L T E R M I N A T I O N O F P I S Y S

UNIT 01 07-22-92 18.169 P I S Y 5 0 6 FEEDWATER LINE A
P I S E Z F I L E G E N E R A T I O N R E P O R T

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