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May 30, 1996

Document Control Desk
U.S. Nuclear Regulatory Commission
Washington, D.C. 20555

ATTENTION: T. R. QUAY

SUBJECT: DESIGN INFORMATION ON SHIELD BUILDING ROOF

References: 1) NRC letter from Diane Jackson, dated 3/21/96, "Summary of Meeting to Discuss Westinghouse AP600 Shield Building Roof Structures".

Dear Mr. Quay:

This letter provides design information on the shield building roof for use in the independent analyses being performed by Ames Lab. This information was requested during the meeting in Pittsburgh on March 7, 1996 (Reference 1). The questions and request for information and responses are provided below.

1. How is concrete cracking considered in the thermal analysis? Also, provide justification for the adequacy of the methods used.

Response

Thermal analyses are performed on a finite element model using uncracked section properties. Thermal loads include both the average temperature change as well as the gradient across the section. Member forces from these analyses are reduced by a factor of 0.5 for use in the design evaluation to reflect the stiffness reduction due to cracking of the concrete.

2. What is the correspondence between the numbered sections in the shield building roof section illustrated in Attachment 2 of the NRC meeting summary dated March 21 and the sections in the ANSALDO analysis Tables 72 to 76 in the Westinghouse presentation material?

Response

Member forces are reported in the meeting handout at the nodes (sections) shown in the figure. These results at the node are averaged with respect to the elements interfacing at the node, as described in attachment 1 taken from the GTSTRUDL users manual.

2786A

060023

9606060099 960530
PDR ADOCK 05200003
A PDR

E004
1/1

3. What are the masses of the passive containment cooling system (PCS) valve room and stair enclosure and their center of gravity locations?

Response

Attachment 2 provides dead and seismic reactions for the valve room (pages 1-4), stair enclosure (pages 5-8) and air baffle upper ring (pages 9-32). For each structure, the attachment includes a figure showing the location of support points, a table of the support coordinates, and tables of dead and seismic reactions. For the air baffle upper support ring reactions are given in both the global coordinate system as well as in cylindrical coordinates.

4. Provide the loads for the shield building roof structure including the digitized six-degrees-of-freedom (three translational and three rotational) raw (without peak broadening) floor response spectra at elevation 180 ft. corresponding to all design site conditions for the input loads of the staff's confirmatory analysis.

Response

- a) Design loads are given in Attachment 3. Hydrostatic loads are defined in Appendix 1, snow loads in Appendix 2, wind loads in Appendix 3, and thermal loads in Appendix 5.
- b) Attachment 4 provides the following seismic inputs:
 - o The raw response spectra for the four design soil cases and the enveloped and widened response spectra at nodes 3008, 3167, and 3197.
 - o Figure showing the location of the nodes. Node 3008 is at the center of mass and nodes 3167 and 3197 are at the north and west edges, respectively.
 - o An explanation of the response spectra files represented by the hard copies of the spectra.
 - o A listing of the response spectra electronic files.

Response spectra are provided for 2, 3, 4, 5, 7, 10 and 20 percent damping. Response spectra for 0.5 percent are not available. Rotational time histories are not available, but the magnitude of rocking can be estimated from the difference in vertical responses at the center of mass and edge nodes.

A copy of the electronic files of the raw, enveloped, and widened spectra is provided with the copy of this letter to L. Greimann.

May 30, 1996

5. The following questions were asked subsequent to Reference 1.
- Are there sufficient shear connectors to develop full composite action between the precast panel units and the second concrete pour of the shield building roof along the sloping surface?
 - Are there sufficient shear connectors to develop full composite action between the precast panel units and the second concrete pour of the shield building roof along the vertical surface at the location of the tension ring.
 - Are there sufficient shear connectors to develop full composite action between the precast panel units and the second concrete pour of the shield building roof along the vertical surface at the location of the compression ring.
 - What does the line just below the PCS water tank roof at elevation 307'-3" represent.

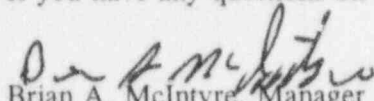
Response:

The shear connectors on the sloping surface (item a) and vertical surface at the tension ring (item b) include adequate shear connectors to develop composite action. The vertical surface at the compression ring (item c) can also be assumed to be composite since there is a steel connection across the plane.

Item d - The roof at elevation 307'3" is constructed using the steel tank liner as a form. The cross section shows radial steel members to support the concrete during placement.

This transmittal completes our response to Reference 1 and the subsequent questions and should complete the information required for the portion of the Final Safety Evaluation Report related to the shield building roof structure.

If you have any questions on this information, please call Richard Orr on 412-374-5924.


Brian A. McIntyre, Manager
Advanced Plant Safety and Licensing

/nja

Attachments

cc: L. Greimann, Ames Lab
T. Cheng, NRC
R. S. Orr, Westinghouse
N. J. Liparulo, Westinghouse (w/o enclosures)

ATTACHMENT 1

GTSTRUDL

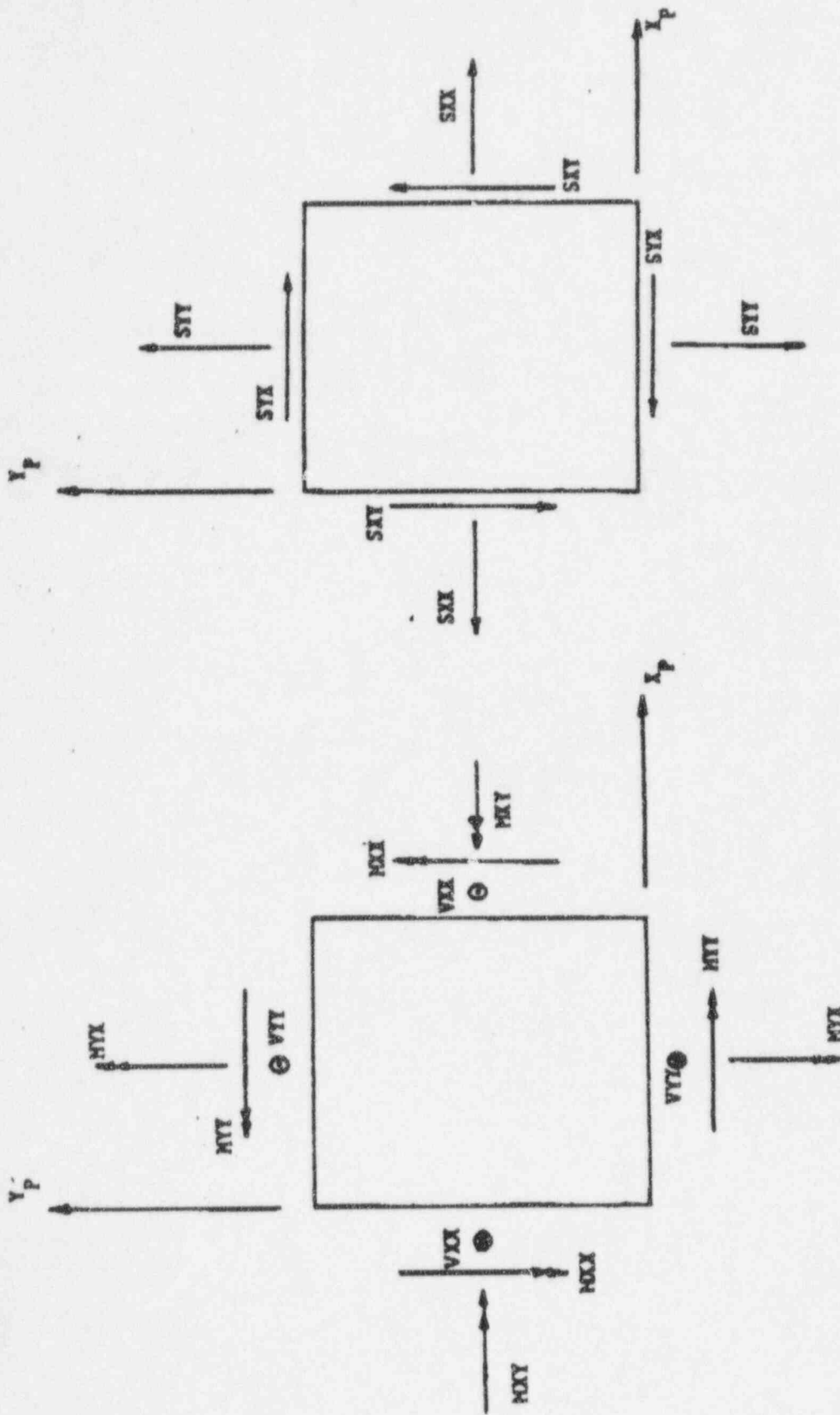
USER'S MANUAL: VOLUME 3

GEORGIA INSTITUTE OF TECHNOLOGY

**GTICES SYSTEMS LABORATORY
ATLANTA, GEORGIA 30332-0358
U.S.A.**

REVISION M

2.3.7 - 5



b) PLANE STRESS/STRAIN

a) PLATE BENDING

Figure 2.3.11 POSITIVE SIGN CONVENTION FOR INTERPRETING RESULTS OF PLANE STRESS/STRAIN AND PLATE BENDING ELEMENTS

Rev. J

FIG. 1

2.3.7 Output and Interpretation of Computed Finite Element Results

Two commands are available to output finite element computed results. They are the LIST command described in Section 2.3.7.1, and the CALCULATE AVERAGE command described in Section 2.3.7.2.

2.3.7.1 The LIST Command for Finite Element Results

The LIST command is used to output the computed results for problems which contain finite elements or a combination of members and finite elements. Member results (forces, distortions, stresses, etc.) and joint displacements and reactions are output using the standard options of the LIST command as described in Section 2.1.14. The additional options of the LIST command for the output of finite element results are as follows:

LIST {
 STRESSES
 STRAINS
 PRINCIPAL STRESSES
 PRINCIPAL STRAINS
 ELEMENT FORCES
} (component specs)

where

component specs = {
 ALL (active and inactive) (ELEMENTS)
 ELEMENTS list
}

active and inactive = {
 →ACTIVE
 INACTIVE
} (AND {
 →INACTIVE
 ACTIVE
})

The results output using this command are located at different points depending on the element type (CSTG, SBHQ6, etc.). Some elements output the result at all nodes of the element, others at only the corner nodes, and a few elements output the results only at the centroid of the element. The output location of each result for the various elements is indicated in the GTSTRUPL element library presented in Table 2.3.1. PRINCIPAL STRESSES and PRINCIPAL STRAINS are available for the PLANE STRESS/STRAIN elements only using the LIST command.

Interpretation of Results

The STRESSES, STRAINS, PRINCIPAL STRESSES, PRINCIPAL STRAINS, and ELEMENT FORCES output using the LIST command are element type dependent. The reference frame for the results is also dependent on the type of element, two-dimensional (PLANE STRESS/STRAIN, AXISYMMETRIC STRESS, PLATE BENDING, PLATE) or three-dimensional (TRIDIMENSIONAL). The reference frame for all two-dimensional elements is the PLANAR element coordinate system. The location of the PLANAR coordinate system is described in Section 2.3.2. The reference frame for all TRIDIMENSIONAL element results is the GLOBAL coordinate system.

PLATE BENDING Results

The PLATE BENDING element results are also output with respect to the PLANAR coordinate system. By using the LIST STRESSES form of the command, the moment resultants, M_{XX} , M_{YY} , and M_{XY} , are output at the available locations on the elements. The units of these resultants in the current active units are FORCE-LENGTH/LENGTH. For several plate bending elements, the transverse shear resultants, V_{XX} and V_{YY} , are also output. The units of these resultants in the current active units are FORCE/LENGTH. The positive direction of the moment and shear resultants on a unit area is shown in Fig. 2.3.11(a).








The LIST STRAINS form of the command outputs the curvatures, K_{XX} , K_{YY} , and K_{XY} . The positive directions of these curvatures are the same as for the corresponding moment resultants.

Table 2.3.1

STRUCTURAL Finite Element Dictionary (continued)

Element				Input				
Element Name	Shape	No. of Nodes	D.O.F.	Rigidity Matrix				
				Concentrated	Temperature Change	Temperature Gradient	Edge	Surface
				Joint Loads	Element Loads			Body


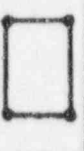





TYPE -- PLATE

SECT		3	u_1, u_2, u_3	u_1, u_2, u_3	u_1, u_2, u_3	u_1, u_2, u_3	u_1, u_2, u_3	u_1, u_2, u_3
SECR		4	u_1, u_2, u_3, u_4	u_1, u_2, u_3, u_4	u_1, u_2, u_3, u_4	u_1, u_2, u_3, u_4	u_1, u_2, u_3, u_4	u_1, u_2, u_3, u_4
SABQ		4	u_1, u_2, u_3, u_4	u_1, u_2, u_3, u_4	u_1, u_2, u_3, u_4	u_1, u_2, u_3, u_4	u_1, u_2, u_3, u_4	u_1, u_2, u_3, u_4
SEDOCEB		4	u_1, u_2, u_3, u_4	u_1, u_2, u_3, u_4	u_1, u_2, u_3, u_4	u_1, u_2, u_3, u_4	u_1, u_2, u_3, u_4	u_1, u_2, u_3, u_4
SEBT		3	u_1, u_2, u_3	u_1, u_2, u_3	u_1, u_2, u_3	u_1, u_2, u_3	u_1, u_2, u_3	u_1, u_2, u_3
SEBTE		3	u_1, u_2, u_3	u_1, u_2, u_3	u_1, u_2, u_3	u_1, u_2, u_3	u_1, u_2, u_3	u_1, u_2, u_3
SEBCE		3	u_1, u_2, u_3	u_1, u_2, u_3	u_1, u_2, u_3	u_1, u_2, u_3	u_1, u_2, u_3	u_1, u_2, u_3



Element		Output									
Element Name	Shape	LIST					CALCULATE AVERAGE				
		Stress/Moment	Shear Resultant	Strain/Curvature	Element Forces	Stresses	Principal Stresses	Resultants	Principal Membrane Resultants	Principal Bending Resultants	Von Mises

TYPE -- PLATE

SBCT		.	C	..	M	M	M	M	M	M	M
SBCR		.	M		M	M	M	M	M	M	M
SBSQ		M	M	M	M	M	M	M	M	M	M
SBSQCB		M	M	M	M	M	M	M	M	M	M
SBSY		M	M	M	M	M	M	M	M	M	M
SBSY6		M	M	M	M	M	M	M	M	M	M
<u>SBS06</u>		M	M	M	M	M	M	M	M	M	M

M - Output of element nodes, C-Output at element centroid
 . - in-plane stresses at centroid, moments resultants at nodes
 .. - in-plane strains at centroid, curvatures at nodes

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2.3.7.2 Average and Envelope of Results (The CALCULATE AVERAGE Command)

In many instances, the user may note that elements incident on a common node have different stresses or stress resultants at the same node. This is due to the fact that continuity of stresses is not enforced or required for the finite elements in GTSTRUPL, as is also true in all other major finite element programs. Furthermore, the stresses at a common node are different in zones of high stress gradients or stress concentrations. One method of obtaining a more useful representation of the stresses without going to a finer mesh is to compute the weighted average of the stresses. To compute the weighted average, GTSTRUPL sums the stresses for all elements incident on a given node, and then divides the sum by the number of elements which are incident on the node.

However, in regions of high stress concentrations which are due to geometric or material discontinuities or highly concentrated loadings, this averaging procedure will 'smooth out' the stresses. The results may be inaccurate if the stresses vary 'considerably' between adjacent elements, in which case a finer mesh may be required.

Even though the quantity of output produced by the averaging of the results is greatly reduced when compared to the output from the LIST STRESSES command, a large amount of output may still be produced due to the number of active loadings. In many analyses, the user would like to obtain output which indicates the maximum and minimum of each result component for all the loadings and the loading which produced the maximum and minimum result component. This output is often referred to as a result envelope and is also available in GTSTRUPL.

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The command to perform this stress averaging and enveloping of results as well as computing additional results is presented below:

```

          * { STRESSES
            STRAINS
            RESULTANTS
            PRINCIPAL STRESSES
            PRINCIPAL STRAINS
            PRINCIPAL MEMBRANE (RESULTANTS)
            PRINCIPAL BENDING (RESULTANTS)
            VON (MISES) }

CALCULATE AVERAGE

((AND) ENVELOPE) -

(AT) * { TOP
        MIDDLE
        BOTTOM } { SURFACES
                  FIBERS } (FOR) { WALL
                                   ELEMENT list }

```

Explanation:

This command will compute and automatically output the specified averaged results for joints which are connected to elements provided in the element list. For two-dimensional elements, the results will be with respect to the PLANAR system and the command assumes that all elements referenced are in the same PLANAR system. For TRIDIMENSIONAL elements, the results will be with respect to the GLOBAL system.

If the AND ENVELOPE option is used, an envelope of each averaged component (SXX, SYY, etc.) of the requested result will also be output. The envelope output will contain the maximum and minimum of each averaged component for each joint and the loading which produced the result. If the ENVELOPE option without the word AND is used, only the ENVELOPE results will be output.

2.3.7 - 19

will be ignored for those midside node joints. However, results for other elements connected to midside nodes will be considered in the averaging. Units of averaged stresses are FORCE/LENGTH^2 .

- 2) Strains - average strain results are available only for PLANE STRESS/STRAIN, AXISYMMETRIC STRESS, and TRIDIMENSIONAL elements. The strains used in the averaging process are the same strains that are produced by the LIST STRAINS command for the element types mentioned above. For elements with midside nodes but strains at only the corner nodes (UTLQ1, LST), the average results cannot be computed at the midside nodes and the element will be ignored for those midside node joints. However, results for other elements connected to the midside nodes will be considered in the averaging process. For elements which have strain results only at the element centroid (CSTG, PSR) the centroidal strains will be used for all joints connected to the element.
- 3) Resultants - average resultants are available for all element types except AXISYMMETRIC STRESS and TRIDIMENSIONAL elements where the resultants are valid only for the middle surface specification. The average resultants are computed using the average stresses:

$$\begin{aligned}
 N_{XX} &= \int_{-T/2}^{T/2} S_{XX} dz \\
 N_{YY} &= \int_{-T/2}^{T/2} S_{YY} dz \\
 N_{XY} &= \int_{-T/2}^{T/2} S_{XY} dz \\
 M_{XX} &= \int_{-T/2}^{T/2} z S_{XX} dz \\
 M_{YY} &= \int_{-T/2}^{T/2} z S_{YY} dz \\
 M_{XY} &= \int_{-T/2}^{T/2} z S_{XY} dz
 \end{aligned}$$

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where T is the thickness and z is measured from the middle surface of the two-dimensional elements to the extreme fibers with positive z in the same direction as positive Z_p . The positive orientation of N_{XX} , N_{YY} , and N_{XY} are the same as the positive orientation of S_{XX} , S_{YY} , and S_{XY} as shown in Fig. 2.3.11(b) while the positive orientation of M_{XX} , M_{YY} , and M_{XY} are shown in Fig. 2.3.11(a).

The N_{XX} , N_{YY} , and N_{XY} resultants are often referred to as membrane resultants and are in units of FORCE/LENGTH. These resultants may be nonzero for PLANE STRESS/STRAIN and PLATE elements but are always zero for PLATE BENDING elements since these elements have no in-plane behavior. The M_{XX} , M_{YY} , and M_{XY} resultants are referred to as bending resultants and are in units of FORCE-LENGTH/LENGTH. These resultants may be nonzero for all two-dimensional elements except PLANE STRESS/ STRAIN elements.

- 4) Principal Stresses - principal stresses are available for all elements. The principal stresses are computed using the average stresses and therefore have the same restrictions. The positive stress sign convention and orientation are illustrated in Fig. 2.3.12 for two-dimensional elements.
- 5) Principal Strains - principal strains are available for all elements except PLATE and PLATE BENDING elements. The principal strains are computed using the average strains for these elements and therefore have the same restrictions. The positive sign convention and orientation for the principal strains for two-dimensional elements is shown in Fig. 2.3.12.

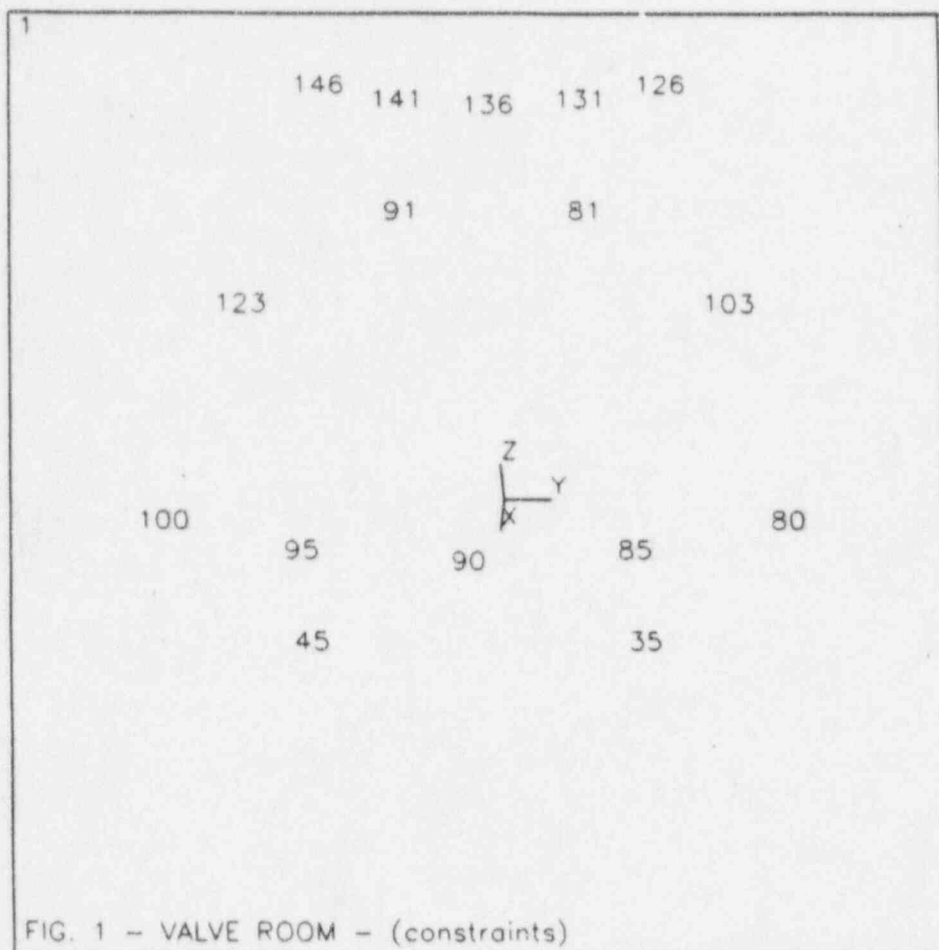
ATTACHMENT 2

SHIELD BUILDING ROOF
FOOTPRINT DEAD AND SEISMIC LOADS

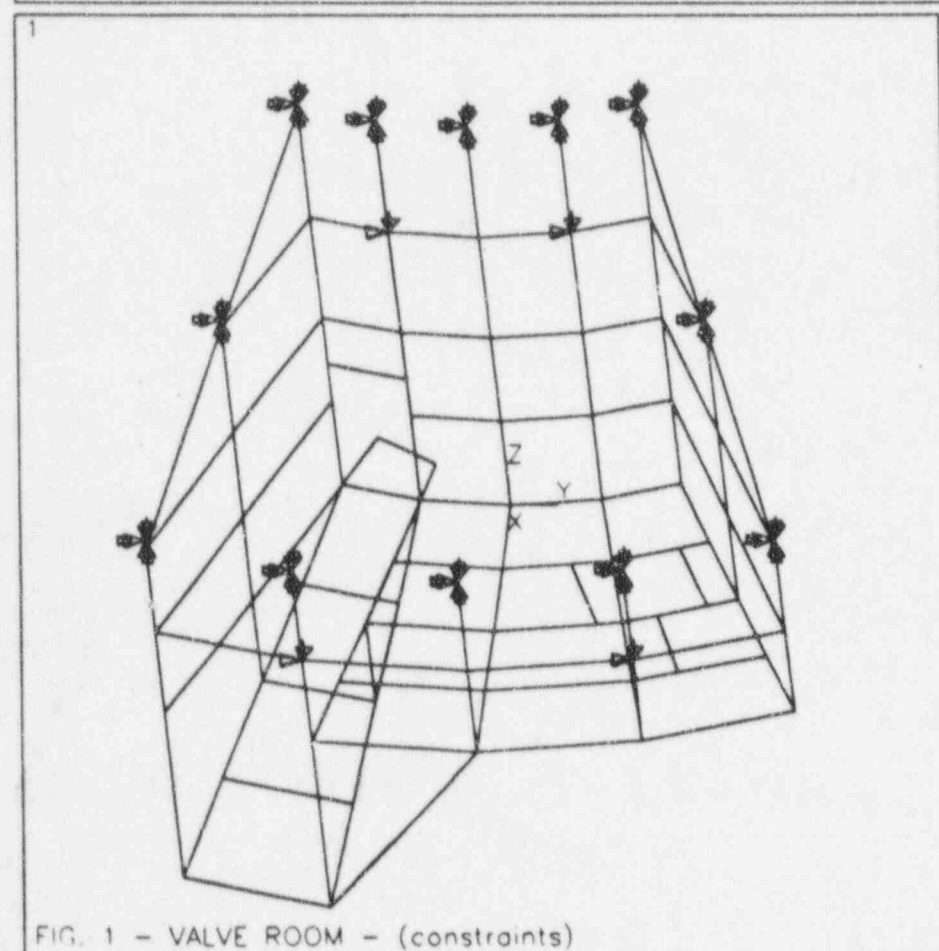
VALVE ROOM

STAIR ENCLOSURE

AIR BAFFLE UPPER RING



ANSYS 4.4A1
MAR 13 1996
14:27:36
PLOT NO 2
PREP7 NODES
XV = 6
YV = 1
ZV = 5
*DIST = 256
*XF = 75
*ZF = 77
ANGZ = -90



ANSYS 4.4A1
MAR 13 1996
14:29:00
PLOT NO 4
PREP7 ELEMENTS
TYPE NUM
TOIS
RDIS
XV = 6
YV = 1
ZV = 5
*DIST = 256
*XF = 75
*ZF = 77
ANGZ = -90

COORDINATES OF VALVE ROOM CONSTRAINED NODES

LIST SELECTED NODES IN THE RANGE 1 TO 403 BY 1 DSYS= 0

NODE	X	Y	Z	THXY	THYZ	THXZ
35	200.89	92.500	58.520	.00	.00	.00
45	200.89	-92.500	58.520	.00	.00	.00
80	176.18	175.83	122.67	.00	.00	.00
81	-5.0700	51.500	190.57	.00	.00	.00
85	200.89	92.500	122.67	.00	.00	.00
90	210.00	.00000E+00	122.67	.00	.00	.00
91	-5.0700	-51.500	190.57	.00	.00	.00
95	200.89	-92.500	122.67	.00	.00	.00
100	176.18	-175.83	122.67	.00	.00	.00
103	79.160	135.65	196.20	.00	.00	.00
123	79.160	-135.65	196.20	.00	.00	.00
126	-17.860	95.460	269.73	.00	.00	.00
131	-5.0700	51.500	269.73	.00	.00	.00
136	.00000E+00	.00000E+00	269.73	.00	.00	.00
141	-5.0700	-51.500	269.73	.00	.00	.00
146	-17.860	-95.460	269.73	.00	.00	.00

NEW TITLE = FOAKE - VALVE ROOM - (D+L/4 load)

c*** units: inch lb F sec

c*** units dens: lb*sec²/in⁴

***** REACTION FORCES ***** TIME = .00000E+00 LOAD STEP = 1 ITERATION = 1 CUM.
ITER. = 1

NOTE - REACTION FORCES ARE IN THE NODAL COORDINATE SYSTEM.

NODE	FX	FY	FZ	MX	MY	MZ
35	1487.05	104.625				
45	1116.66	-100.997				
80	-285.276	5.61119	2585.95	870.183	4705.14	-193.959
81	-952.481	1395.19				
85	-19.5253	13.3579	4380.95	91.3615	228.396	15.6336
90	1018.13	26.8213	6216.18	129.839	-35461.5	-.957925
91	-823.750	-2133.63				
95	-198.688	34.2824	6563.75	467.938	2427.96	-11.1988
100	-17.4927	-14.8619	3566.95	293.315	2352.37	49.5500
103	-424.129	426.460	6324.09	30769.6	15121.8	-4.90971
123	31.5447	-174.141	5864.45	-8980.83	4057.61	10.3272
126	-73.9716	-18.1033	4806.04	27.6616	34.8447	-7.97575
131	271.530	102.621	4727.07	863.740	-5229.47	-6.29992
136	35.0823	24.7514	5219.74	227.612	7436.72	-.704408E-01
141	162.139	-74.6538	5488.65	-81.6350	-3189.23	6.62938
146	-50.7303	6.72540	5638.34	-350.878	-601.242	-1.09692
TOTAL	1276.10	-375.942	61382.1	24327.9	-8116.58	-144.329

NEW TITLE = FOAKE - VALVE ROOM (Es)

POST DATA FILE13 NAME = file13.dat

c*** load case 1 ###

c*** REACTIONS

324 ELEMENTS (OF 324 DEFINED) SELECTED BY EALL COMMAND.

112 NODES (OF 112 DEFINED) SELECTED BY NALL COMMAND.

PRINT REACTION FORCES PER NODE

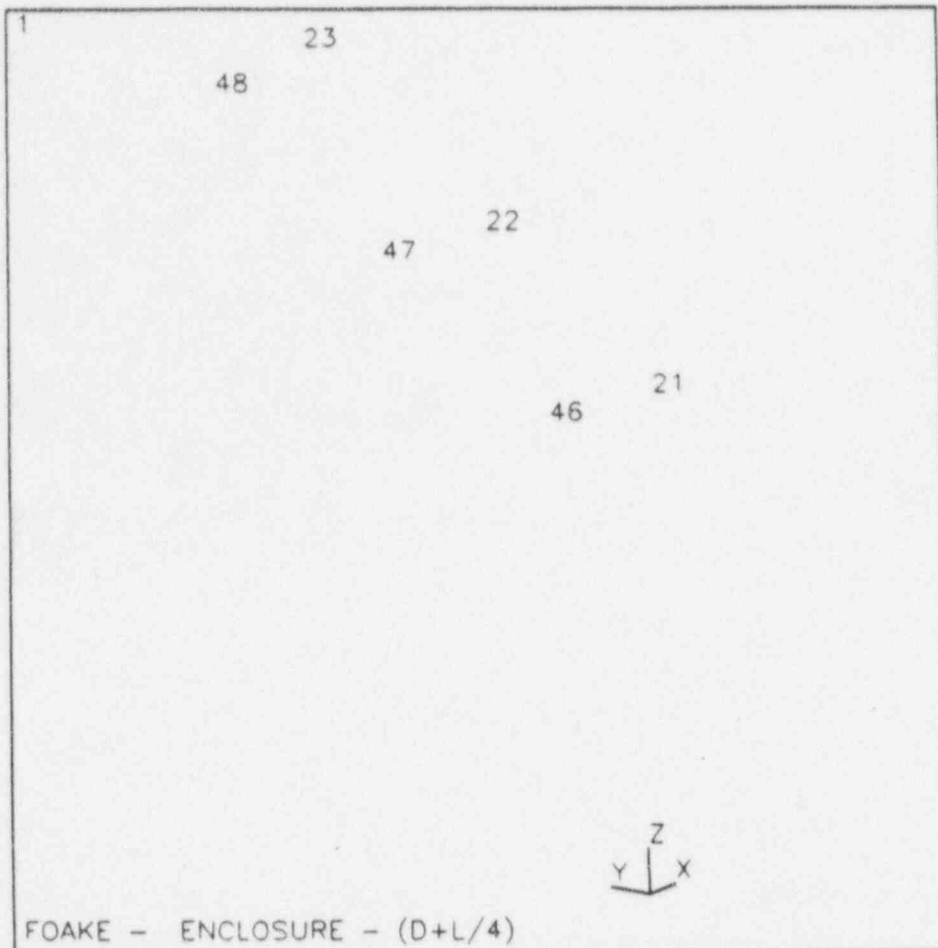
***** POST1 REACTION FORCE LISTING *****

LOAD STEP 1 ITERATION = 1 SECTION = 1

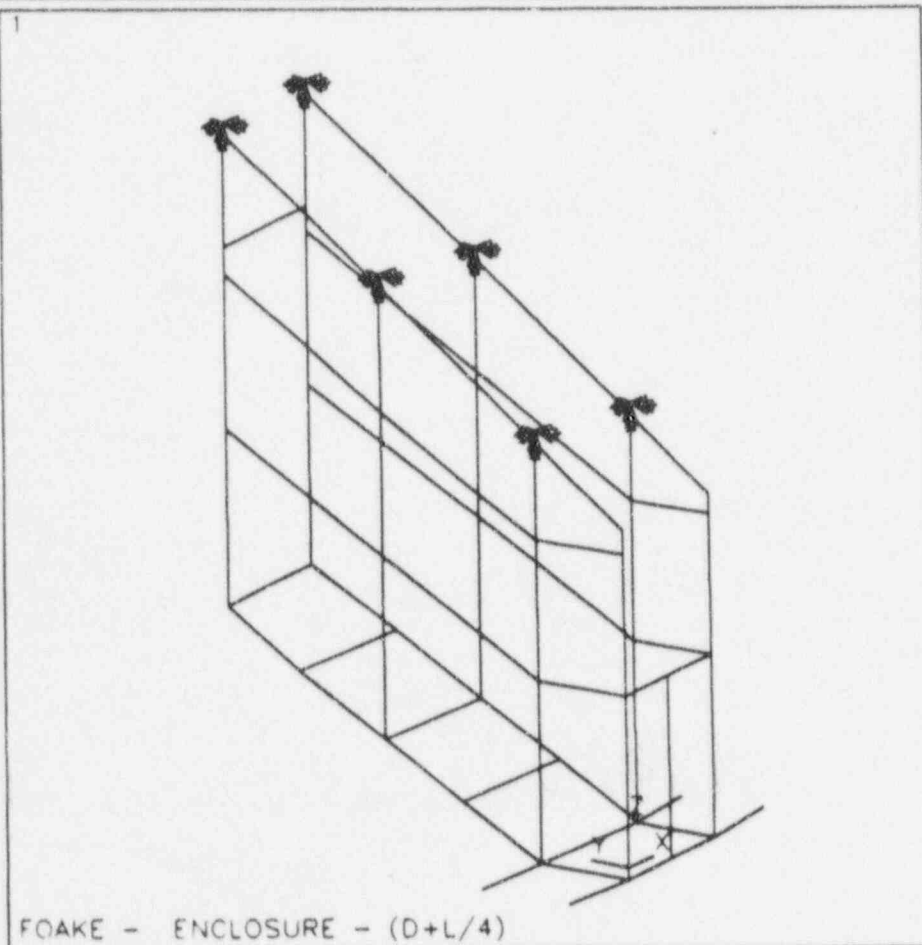
FREQ = -1.0000 LOAD CASE = 1

THE FOLLOWING X,Y,Z FORCES ARE IN GLOBAL COORDINATES

NODE	FX	FY	FZ	MX	MY	MZ
35	6604.3987	9898.9547				
45	9111.5125	10161.035				
80	10020.225	3933.1575	8816.9454	23481.716	81746.538	416.45923
81	2602.8893	7531.6768				
85	2202.1935	532.50176	3612.7064	6759.6630	27431.938	31.187971
90	1190.6700	123.88313	6851.7322	2469.0306	93288.559	17.081115
91	1799.2946	5951.9457				
95	3206.7996	456.69990	8597.2093	5976.4221	40025.005	62.617589
100	8542.2498	3755.8703	9151.1396	20752.943	69383.143	1213.4951
103	3667.2378	1683.2692	3022.5861	52082.464	37317.801	102.23692
123	3281.3823	2597.2954	2077.3011	159262.26	72366.836	100.45988
126	182.94626	219.87955	12783.683	4048.8114	5896.7734	85.439144
131	675.29335	111.00015	2664.5249	3680.3104	12829.742	29.887591
136	116.01254	298.55223	3387.4302	2721.2211	24817.810	1.7062719
141	815.09838	72.860390	5052.6897	3193.3241	15015.824	29.367915
146	110.89335	155.32932	9298.7939	3643.8045	4299.8420	108.97556
TOTAL	54129.097	47483.912	75316.742	288071.97	484419.81	2198.9142



ANSYS 4.4A1
MAR 13 1996
16:29:50
PLOT NO 1
PREP7 NODES
XV = -3
YV = -2
ZV = 1
DIST = 213.727
*XF = 44
*YF = 121
*ZF = 166
ANGZ = 80



ANSYS 4.4A1
MAR 13 1996
16:29:50
PLOT NO 2
PREP7 ELEMENTS
TYPE NUM
TDIS
RDIS
XV = -3
YV = -2
ZV = 1
DIST = 227.555
*XF = 44
*YF = 121
*ZF = 166
ANGZ = 80

COORDINATES OF STAIRS ENCLOSURE CONSTRAINED NODES

NEW TITLE = FOAKE - ENCLOSURE - (D+L/4)

c*** units: Inch lb C sec

c*** units dens: lb*sec²/in⁴

DISPLAY TITLE = FOAKE - ENCLOSURE - (D+L/4)

LIST SELECTED NODES IN THE RANGE 1 TO 63 BY 1 DSYS= 0

NODE	X	Y	Z	THXY	THYZ	THXZ
21	86.520	52.080	204.72	.00	.00	.00
22	86.520	143.52	268.68	.00	.00	.00
23	86.520	243.96	339.05	.00	.00	.00
46	.00000E+00	52.080	211.08	.00	.00	.00
47	.00000E+00	143.52	275.04	.00	.00	.00
48	.00000E+00	234.80	339.05	.00	.00	.00

NEW TITLE = FOAKE - ENCLOSURE (D+L/4)

C***

C*** REACTIONS

C***

PRINT REACTION FORCES PER NODE

***** POST1 REACTION FORCE LISTING *****

LOAD STEP 1 ITERATION= 1 SECTION= 1

TIME = .00000E+00 LOAD CASE= 1

THE FOLLOWING X,Y,Z FORCES ARE IN GLOBAL COORDINATES

NODE	FX	FY	FZ	MX	MY	MZ
21	12.575280	10.957203	3906.2349	-4765.0962	253.08388	4.3519064
22	3.5167935	-47.857468	1918.7581	-3645.6803	-450.86908	-1.3616140
23	-.62193325	21.007652	1755.6590	-1499.1287	-216.61067	-.19539287
46	.43558329	28.197451	3975.9727	-2904.3029	928.26723	4.2431041
47	-14.629319	-30.560101	1921.7342	-2527.2442	933.24741	-.46610575
48	-1.2764047	18.255263	1743.6354	-1477.7785	-94.686786	-.23353917

TOTAL .59556804E-11 .14890844E-08 15221.994 -16819.231 1352.4320 6.3383588

NEW TITLE = FOAKE - ENCLOSURE (ES)

POST DATA FILE13 NAME = file13.dat

C***

C*** REACTIONS

C***

PRINT REACTION FORCES PER NODE

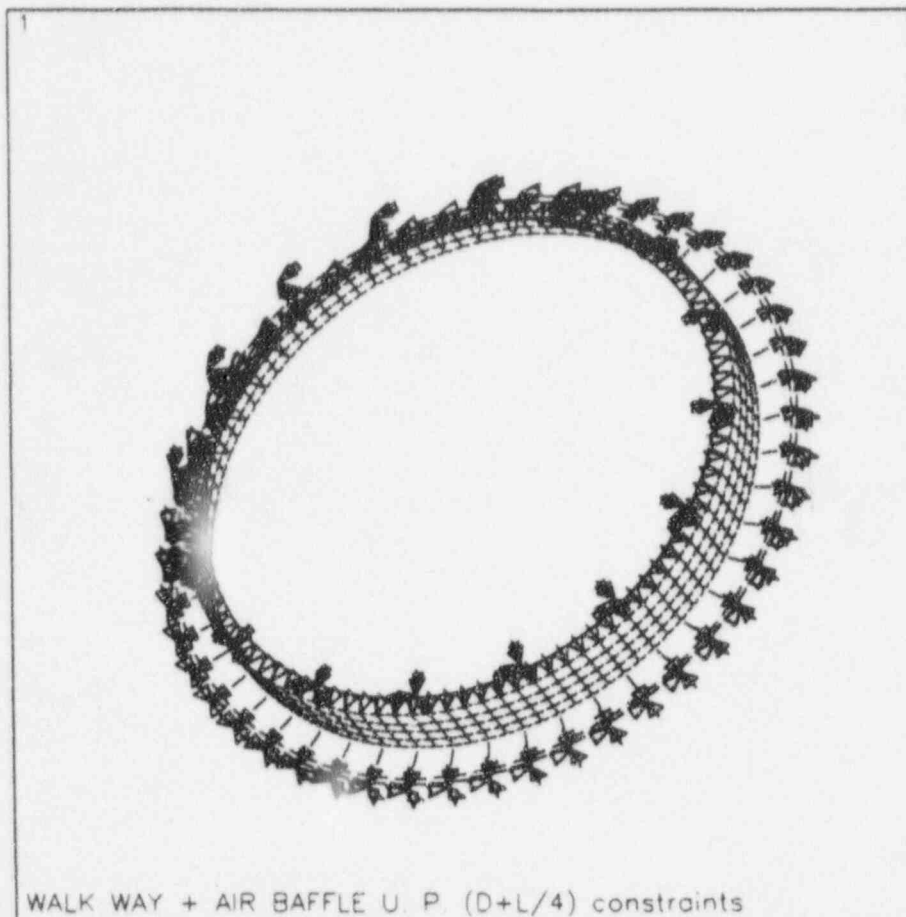
***** POST1 REACTION FORCE LISTING *****

LOAD STEP = 1 ITERATION = 1 SECTION = 1

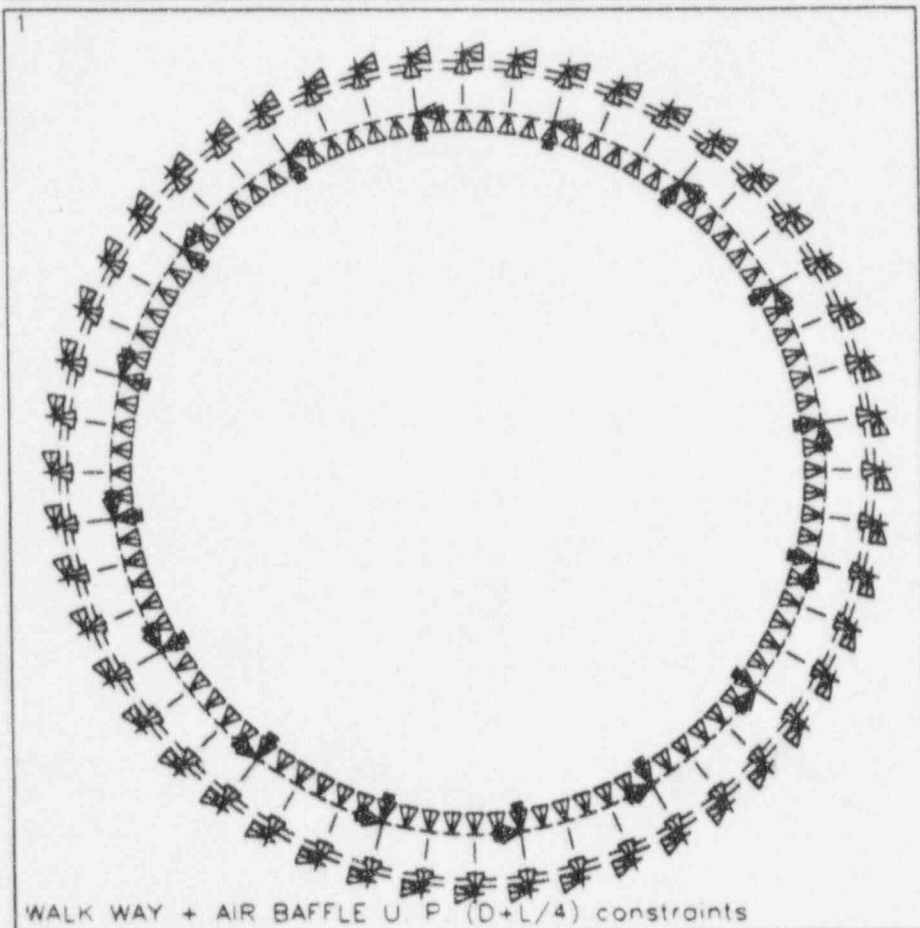
FREQ = -1.0000 LOAD CASE = 1

THE FOLLOWING X,Y,Z FORCES ARE IN GLOBAL COORDINATES

NODE	FX	FY	FZ	MX	MY	MZ
21	13230.170	6024.6512	21216.728	66158.884	848777.86	1712.2524
22	2697.6886	3448.5476	12580.924	28799.997	510939.36	852.93621
23	4292.6972	431.99767	8837.1144	7752.6412	483338.21	2.9184154
46	11415.927	5937.8941	20987.674	61420.957	794112.83	1232.8651
47	2768.7256	3288.8638	12560.374	26979.922	497521.82	723.32302
48	4311.3496	374.36456	9389.7800	7784.5804	485457.29	4.7121953
TOTAL	38716.558	19506.319	85572.595	198896.98	3620147.4	4529.0073



ANSYS 4.4A1
 MAR 14 1996
 11:30:36
 PLOT NO 1
 PREP 7 ELEMENTS
 TYPE NUM
 TOIS
 RDIS
 XV = -3
 YV = -3
 ZV = 5
 DIST = 1085
 ZF = 105.695
 ANGZ = 90
 CENTROID HIDDEN



ANSYS 4.4A1
 MAR 14 1996
 11:30:36
 PLOT NO 2
 PREP 7 ELEMENTS
 TYPE NUM
 TOIS
 RDIS
 ZV = 1
 DIST = 917.4
 ZF = 105.695
 CENTROID HIDDEN

1

2561 2521 2481 2441 2401
2601 2361
2641 2321
2681 2281
2721 2241
2761 2201
2801 2161
2841 2121
2881 2081
2921 2041
2961 2001
3001 3881
3041 3841
3081 3801
3121 3761
3161 3721
3201 3681
3241 3641
3281 3601
3321 3561
3361 3521
3401 3441 3481

ANSYS 4.4A1
MAR 14 1996
15:49:43
PLOT NO. 3
PREP7 NODES

ZV =1
DIST=917.4
CENTROID HIDDEN

WALK WAY + AIR BAFFLE U. P. (D+L/4) walk-way constraints

ANSYS 4.4A1
MAR 14 1996
15:49:43
PLOT NO. 4
PREP7 NODES

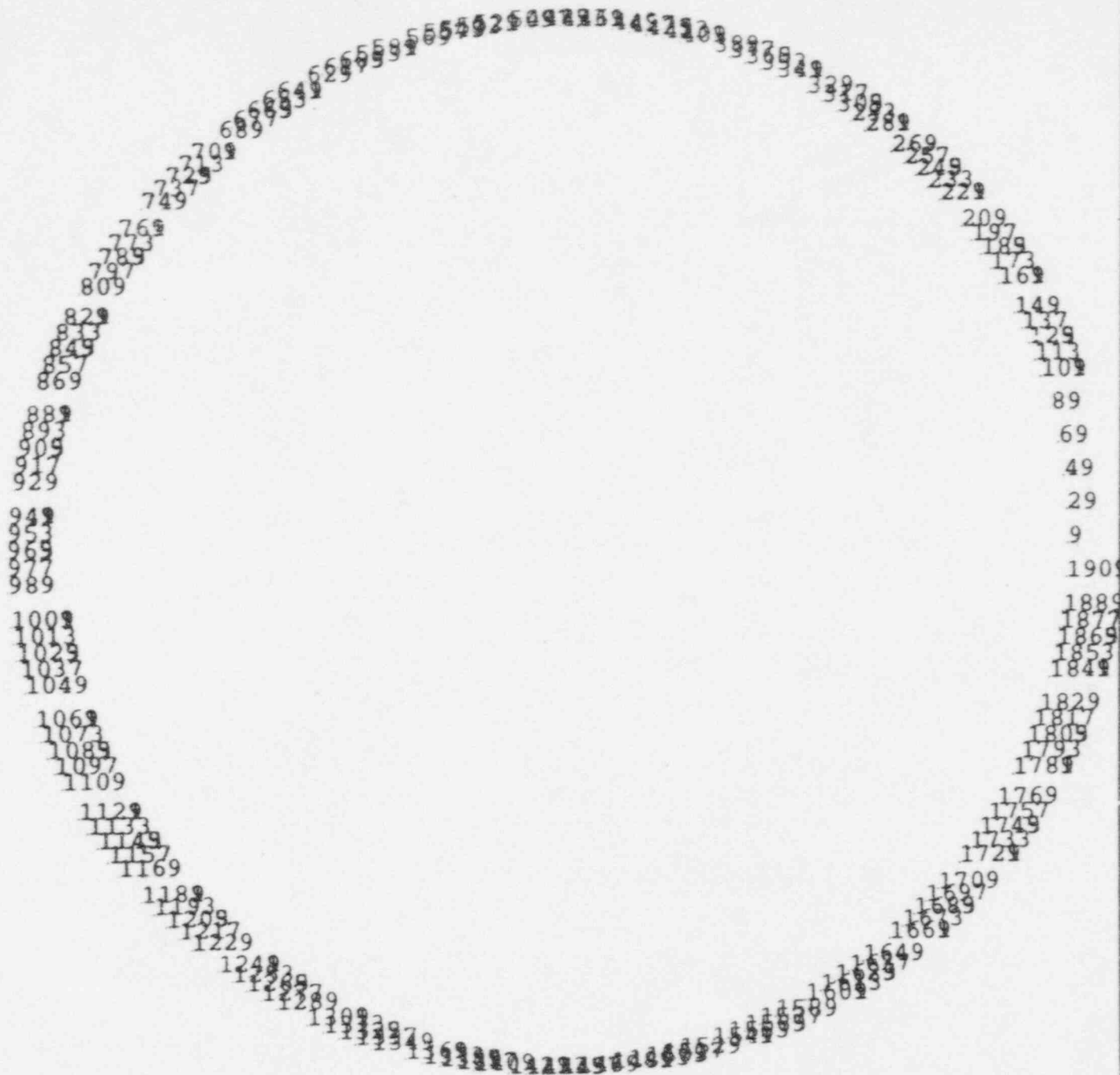
ZV =1
DIST=781.271
ZF =230.078
CENTROID HIDDEN

1
520 400
640 280
760 160
880 40
1000 1840
1120 1720
1240 1600
1360 1480

WALK WAY + AIR BAFFLE U. P. (D+L/4) air baffle on roof constraints

ANSYS 4.4A1
MAR 14 1996
15:49:43
PLOT NO. 5
PREP7 NODES

ZV =1
DIST=788.013
ZF =73.344
CENTROID HIDDEN



WALK WAY + AIR BAFFLE U. P. (D+L/4) air baffle on panels constraints

COORDINATES OF AIR BAFFLE & WALK WAY CONSTRAINED NODES

NEW TITLE = - FOAKE - WALK WAY + AIR BAFFLE U. P. (D+L/4)

c*** units: inch lb C sec

c*** units dens: lb*sec²/in⁴

230 NODES (OF 2880 DEFINED) SELECTED BY NASE COMMAND.

LIST SELECTED NODES IN THE RANGE 1 TO 3927 BY 1 DSYS= 0

NODE	X	Y	Z	THXY	THYZ	THXZ
9	716.36	.00000E+00	146.69	.00	.00	.00
29	714.84	46.853	146.69	3.75	.00	.00
40	710.25	93.506	230.08	7.50	.00	.00
49	710.25	93.506	146.69	7.50	.00	.00
69	702.61	139.76	146.69	11.25	.00	.00
89	691.97	185.41	146.69	15.00	.00	.00
101	678.36	230.27	.00000E+00	18.75	.00	.00
109	678.36	230.27	146.69	18.75	.00	.00
113	670.46	252.34	32.313	20.63	.00	.00
125	661.84	274.14	68.313	22.50	.00	.00
129	661.84	274.14	146.69	22.50	.00	.00
137	652.52	295.55	104.31	24.38	.00	.00
149	642.50	316.84	146.69	26.25	.00	.00
160	620.40	358.19	230.08	30.00	.00	.00
161	620.40	358.19	.00000E+00	30.00	.00	.00
169	620.40	358.19	146.69	30.00	.00	.00
173	608.35	378.29	32.313	31.88	.00	.00
185	595.64	398.00	68.313	33.75	.00	.00
189	595.64	398.00	146.69	33.75	.00	.00
197	582.30	417.27	104.31	35.63	.00	.00
209	568.34	436.10	146.69	37.50	.00	.00
221	538.60	472.34	.00000E+00	41.25	.00	.00
229	538.60	472.34	146.69	41.25	.00	.00
233	522.86	489.71	32.313	43.13	.00	.00
245	506.55	506.55	68.313	45.00	.00	.00
249	506.55	506.55	146.69	45.00	.00	.00
257	489.71	522.86	104.31	46.88	.00	.00
269	472.34	538.60	146.69	48.75	.00	.00
280	436.10	568.34	230.08	52.50	.00	.00
281	436.10	568.34	.00000E+00	52.50	.00	.00
289	436.10	568.34	146.69	52.50	.00	.00
293	417.27	582.30	32.313	54.38	.00	.00
305	398.00	595.64	68.313	56.25	.00	.00
309	398.00	595.64	146.69	56.25	.00	.00
317	378.29	608.35	104.31	58.13	.00	.00
329	358.19	620.40	146.69	60.00	.00	.00
341	316.84	642.50	.00000E+00	63.75	.00	.00
349	316.84	642.50	146.69	63.75	.00	.00
353	295.65	652.52	32.313	65.63	.00	.00

365	274.14	661.84	68.313	67.50	.00	.00
369	274.14	661.84	146.69	67.50	.00	.00
377	252.34	670.46	104.31	69.38	.00	.00
389	230.27	678.36	146.69	71.25	.00	.00
400	185.41	691.97	230.08	75.00	.00	.00
401	185.41	691.97	.00000E+00	75.00	.00	.00
409	185.41	691.97	146.69	75.00	.00	.00
413	162.67	697.66	32.313	76.88	.00	.00
425	139.76	702.61	68.313	78.75	.00	.00
429	139.76	702.61	146.69	78.75	.00	.00
437	116.69	706.81	104.31	80.63	.00	.00
449	93.506	710.25	146.69	82.50	.00	.00
461	46.853	714.84	.00000E+00	86.25	.00	.00
469	46.853	714.84	146.69	86.25	.00	.00
473	23.439	715.99	32.313	88.13	.00	.00
485	.27914E-08	716.38	68.313	90.00	.00	.00
489	.27914E-08	716.38	146.69	90.00	.00	.00
497	-23.439	715.99	104.31	91.88	.00	.00
509	-46.853	714.84	146.69	93.75	.00	.00
520	-93.506	710.25	230.08	97.50	.00	.00
521	-93.506	710.25	.00000E+00	97.50	.00	.00
529	-93.506	710.25	146.69	97.50	.00	.00
533	-116.69	706.81	32.313	99.38	.00	.00
545	-139.76	702.61	68.313	101.25	.00	.00
549	-139.76	702.61	146.69	101.25	.00	.00
557	-162.67	697.66	104.31	103.13	.00	.00
569	-185.41	691.97	146.69	105.00	.00	.00
581	-230.27	678.36	.00000E+00	108.75	.00	.00
589	-230.27	678.36	146.69	108.75	.00	.00
593	-252.34	670.46	32.313	110.63	.00	.00
605	-274.14	661.84	68.313	112.50	.00	.00
609	-274.14	661.84	146.69	112.50	.00	.00
617	-295.65	652.52	104.31	114.38	.00	.00
629	-316.84	642.50	146.69	116.25	.00	.00
640	-358.19	620.40	230.08	120.00	.00	.00
641	-358.19	620.40	.00000E+00	120.00	.00	.00
649	-358.19	620.40	146.69	120.00	.00	.00
653	-378.29	608.35	32.313	121.88	.00	.00
665	-398.00	595.64	68.313	123.75	.00	.00
669	-398.00	595.64	146.69	123.75	.00	.00
677	-417.27	582.30	104.31	125.63	.00	.00
689	-436.10	568.34	146.69	127.50	.00	.00
701	-472.34	538.60	.00000E+00	131.25	.00	.00
709	-472.34	538.60	146.69	131.25	.00	.00
713	-489.71	522.86	32.313	133.13	.00	.00
725	-506.55	506.55	68.313	135.00	.00	.00
729	-506.55	506.55	146.69	135.00	.00	.00
737	-522.86	489.71	104.31	136.88	.00	.00
749	-538.60	472.34	146.69	138.75	.00	.00
760	-568.34	436.10	230.08	142.50	.00	.00
761	-568.34	436.10	.00000E+00	142.50	.00	.00
769	-568.34	436.10	146.69	142.50	.00	.00
773	-582.30	417.27	32.313	144.38	.00	.00

785	-595.64	398.00	68.313	146.25	.00	.00
789	-595.64	398.00	146.69	146.25	.00	.00
797	-608.35	378.29	104.31	148.13	.00	.00
809	-620.40	358.19	146.69	150.00	.00	.00
821	-642.50	316.84	.00000E+00	153.75	.00	.00
829	-642.50	316.84	146.69	153.75	.00	.00
833	-652.52	295.65	32.313	155.63	.00	.00
845	-661.84	274.14	68.313	157.50	.00	.00
849	-661.84	274.14	146.69	157.50	.00	.00
857	-670.46	252.34	104.31	159.38	.00	.00
869	-678.36	230.27	146.69	161.25	.00	.00
880	-691.97	185.41	230.08	165.00	.00	.00
881	-691.97	185.41	.00000E+00	165.00	.00	.00
889	-691.97	185.41	146.69	165.00	.00	.00
893	-697.66	162.67	32.313	166.88	.00	.00
905	-702.61	139.76	68.313	168.75	.00	.00
909	-702.61	139.76	146.69	168.75	.00	.00
917	-706.81	116.69	104.31	170.63	.00	.00
929	-710.25	93.506	146.69	172.50	.00	.00
941	-714.84	46.853	.00000E+00	176.25	.00	.00
949	-714.84	46.853	146.69	176.25	.00	.00
953	-715.99	23.439	32.313	178.13	.00	.00
965	-716.38	.12559E-05	68.313	-180.00	.00	.00
969	-716.38	.12559E-05	146.69	-180.00	.00	.00
977	-715.99	-23.439	104.31	-178.12	.00	.00
989	-714.84	-46.853	146.69	-176.25	.00	.00
1000	-710.25	-93.506	230.08	-172.50	.00	.00
1001	-710.25	-93.506	.00000E+00	-172.50	.00	.00
1009	-710.25	-93.506	146.69	-172.50	.00	.00
1013	-706.81	-116.69	32.313	-170.62	.00	.00
1025	-702.61	-139.76	68.313	-168.75	.00	.00
1029	-702.61	-139.76	146.69	-168.75	.00	.00
1037	-697.66	-162.67	104.31	-166.87	.00	.00
1049	-691.97	-185.41	146.69	-165.00	.00	.00
1061	-678.36	-230.27	.00000E+00	-161.25	.00	.00
1069	-678.36	-230.27	146.69	-161.25	.00	.00
1073	-670.46	-252.34	32.313	-159.37	.00	.00
1085	-661.84	-274.14	68.313	-157.50	.00	.00
1089	-661.84	-274.14	146.69	-157.50	.00	.00
1097	-652.52	-295.65	104.31	-155.62	.00	.00
1109	-642.50	-316.84	146.69	-153.75	.00	.00
1120	-620.40	-358.19	230.08	-150.00	.00	.00
1121	-620.40	-358.19	.00000E+00	-150.00	.00	.00
1129	-620.40	-358.19	146.69	-150.00	.00	.00
1133	-608.35	-378.29	32.313	-148.12	.00	.00
1145	-595.64	-398.00	68.313	-146.25	.00	.00
1149	-595.64	-398.00	146.69	-146.25	.00	.00
1157	-582.30	-417.27	104.31	-144.37	.00	.00
1169	-568.34	-436.10	146.69	-142.50	.00	.00
1181	-538.60	-472.34	.00000E+00	-138.75	.00	.00
1189	-538.60	-472.34	146.69	-138.75	.00	.00
1193	-522.86	-489.71	32.313	-136.87	.00	.00
1205	-506.55	-506.55	68.313	-135.00	.00	.00

1209	-506.55	-506.55	146.69	-135.00	.00	.00
1217	-489.71	-522.86	104.31	-133.12	.00	.00
1229	-472.34	-538.60	146.69	-131.25	.00	.00
1240	-436.10	-568.34	230.08	-127.50	.00	.00
1241	-436.10	-568.34	.00000E+00	-127.50	.00	.00
1249	-436.10	-568.34	146.69	-127.50	.00	.00
1253	-417.27	-582.30	32.313	-125.62	.00	.00
1265	-398.00	-595.64	68.313	-123.75	.00	.00
1269	-398.00	-595.64	146.69	-123.75	.00	.00
1277	-378.29	-608.35	104.31	-121.87	.00	.00
1289	-358.19	-620.40	146.69	-120.00	.00	.00
1301	-316.84	-642.50	.00000E+00	-116.25	.00	.00
1309	-316.84	-642.50	146.69	-116.25	.00	.00
1313	-295.65	-652.52	32.313	-114.37	.00	.00
1325	-274.14	-661.84	68.313	-112.50	.00	.00
1329	-274.14	-661.84	146.69	-112.50	.00	.00
1337	-252.34	-670.46	104.31	-110.62	.00	.00
1349	-230.27	-678.36	146.69	-108.75	.00	.00
1360	-185.41	-691.97	230.08	-105.00	.00	.00
1361	-185.41	-691.97	.00000E+00	-105.00	.00	.00
1369	-185.41	-691.97	146.69	-105.00	.00	.00
1373	-162.67	-697.66	32.313	-103.12	.00	.00
1385	-139.76	-702.61	68.313	-101.25	.00	.00
1389	-139.76	-702.61	146.69	-101.25	.00	.00
1397	-116.69	-706.81	104.31	-99.37	.00	.00
1409	-93.506	-710.25	146.69	-97.50	.00	.00
1421	-46.853	-714.84	.00000E+00	-93.75	.00	.00
1429	-46.853	-714.84	146.69	-93.75	.00	.00
1433	-23.439	-715.99	32.313	-91.87	.00	.00
1445	-.83741E-08	-716.38	68.313	-90.00	.00	.00
1449	-.83741E-08	-716.38	146.69	-90.00	.00	.00
1457	23.439	-715.99	104.31	-88.12	.00	.00
1469	46.853	-714.84	146.69	-86.25	.00	.00
1480	93.506	-710.25	230.08	-82.50	.00	.00
1481	93.506	-710.25	.00000E+00	-82.50	.00	.00
1489	93.506	-710.25	146.69	-82.50	.00	.00
1493	116.69	-706.81	32.313	-80.62	.00	.00
1505	139.76	-702.61	68.313	-78.75	.00	.00
1509	139.76	-702.61	146.69	-78.75	.00	.00
1517	162.67	-697.66	104.31	-76.87	.00	.00
1529	185.41	-691.97	146.69	-75.00	.00	.00
1541	230.27	-678.36	.00000E+00	-71.25	.00	.00
1549	230.27	-678.36	146.69	-71.25	.00	.00
1553	252.34	-670.46	32.313	-69.37	.00	.00
1565	274.14	-661.84	68.313	-67.50	.00	.00
1569	274.14	-661.84	146.69	-67.50	.00	.00
1577	295.65	-652.52	104.31	-65.62	.00	.00
1589	316.84	-642.50	146.69	-63.75	.00	.00
1600	358.19	-620.40	230.08	-60.00	.00	.00
1601	358.19	-620.40	.00000E+00	-60.00	.00	.00
1609	358.19	-620.40	146.69	-60.00	.00	.00
1613	378.29	-608.35	32.313	-58.12	.00	.00
1625	398.00	-595.64	68.313	-56.25	.00	.00

1629	398.00	-595.64	146.69	-56.25	.00	.00
1637	417.27	-582.30	104.31	-54.37	.00	.00
1649	436.10	-568.34	146.69	-52.50	.00	.00
1661	472.34	-538.60	.00000E+00	-46.75	.00	.00
1669	472.34	-538.60	146.69	-48.75	.00	.00
1673	489.71	-522.86	32.313	-46.87	.00	.00
1685	506.55	-506.55	68.313	-45.00	.00	.00
1689	506.55	-506.55	146.69	-45.00	.00	.00
1697	522.86	-489.71	104.31	-43.12	.00	.00
1709	538.60	-472.34	146.69	-41.25	.00	.00
1720	568.34	-436.10	230.08	-37.50	.00	.00
1721	568.34	-436.10	.00000E+00	-37.50	.00	.00
1729	568.34	-436.10	146.69	-37.50	.00	.00
1733	582.30	-417.27	32.313	-35.62	.00	.00
1745	595.64	-398.00	68.313	-33.75	.00	.00
1749	595.64	-398.00	146.69	-33.75	.00	.00
1757	608.35	-378.29	104.31	-31.87	.00	.00
1769	620.40	-358.19	146.69	-30.00	.00	.00
1781	642.50	-316.84	.00000E+00	-26.25	.00	.00
1789	642.50	-316.84	146.69	-26.25	.00	.00
1793	652.52	-295.65	32.313	-24.37	.00	.00
1805	661.84	-274.14	68.313	-22.50	.00	.00
1809	661.84	-274.14	146.69	-22.50	.00	.00
1817	670.46	-252.34	104.31	-20.62	.00	.00
1829	678.36	-230.27	146.69	-18.75	.00	.00
1840	691.97	-185.41	230.08	-15.00	.00	.00
1841	691.97	-185.41	.00000E+00	-15.00	.00	.00
1849	691.97	-185.41	146.69	-15.00	.00	.00
1853	697.66	-162.67	32.313	-13.12	.00	.00
1865	702.61	-139.76	68.313	-11.25	.00	.00
1869	702.61	-139.76	146.69	-11.25	.00	.00
1877	706.81	-116.69	104.31	-9.37	.00	.00
1889	710.25	-93.506	146.69	-7.50	.00	.00
1909	714.84	-46.853	146.69	-3.75	.00	.00
2001	834.00	.00000E+00	.00000E+00	.00	.00	.00
2041	826.87	108.86	.00000E+00	7.50	.00	.00
2081	805.58	215.86	.00000E+00	15.00	.00	.00
2121	770.52	319.16	.00000E+00	22.50	.00	.00
2161	722.27	417.00	.00000E+00	30.00	.00	.00
2201	661.66	507.71	.00000E+00	37.50	.00	.00
2241	589.73	589.73	.00000E+00	45.00	.00	.00
2281	507.71	661.66	.00000E+00	52.50	.00	.00
2321	417.00	722.27	.00000E+00	60.00	.00	.00
2361	319.16	770.52	.00000E+00	67.50	.00	.00
2401	215.86	805.58	.00000E+00	75.00	.00	.00
2441	108.86	826.87	.00000E+00	82.50	.00	.00
2481	.32497E-08	834.00	.00000E+00	90.00	.00	.00
2521	-108.86	826.87	.00000E+00	97.50	.00	.00
2561	-215.86	805.58	.00000E+00	105.00	.00	.00
2601	-319.16	770.52	.00000E+00	112.50	.00	.00
2641	-417.00	722.27	.00000E+00	120.00	.00	.00
2681	-507.71	661.66	.00000E+00	127.50	.00	.00
2721	-589.73	589.73	.00000E+00	135.00	.00	.00

2761	-661.66	507.71	.00000E+00	142.50	.00	.00
2801	-722.27	417.00	.00000E+00	150.00	.00	.00
2841	-770.52	319.16	.00000E+00	157.50	.00	.00
2881	-805.58	215.86	.00000E+00	165.00	.00	.00
2921	-826.87	108.86	.00000E+00	172.50	.00	.00
2961	-834.00	.14621E-05	.00000E+00	-180.00	.00	.00
3001	-826.87	-108.86	.00000E+00	-172.50	.00	.00
3041	-805.58	-215.86	.00000E+00	-165.00	.00	.00
3081	-770.52	-319.16	.00000E+00	-157.50	.00	.00
3121	-722.27	-417.00	.00000E+00	-150.00	.00	.00
3161	-661.66	-507.71	.00000E+00	-142.50	.00	.00
3201	-589.73	-589.73	.00000E+00	-135.00	.00	.00
3241	-507.71	-661.66	.00000E+00	-127.50	.00	.00
3281	-417.00	-722.27	.00000E+00	-120.00	.00	.00
3321	-319.16	-770.52	.00000E+00	-112.50	.00	.00
3361	-215.86	-805.58	.00000E+00	-105.00	.00	.00
3401	-108.86	-826.87	.00000E+00	-97.50	.00	.00
3441	-.97490E-08	-834.00	.00000E+00	-90.00	.00	.00
3481	108.86	-826.87	.00000E+00	-82.50	.00	.00
3521	215.86	-805.58	.00000E+00	-75.00	.00	.00
3561	319.16	-770.52	.00000E+00	-67.50	.00	.00
3601	417.00	-722.27	.00000E+00	-60.00	.00	.00
3641	507.71	-661.66	.00000E+00	-52.50	.00	.00
3681	589.73	-589.73	.00000E+00	-45.00	.00	.00
3721	661.66	-507.71	.00000E+00	-37.50	.00	.00
3761	722.27	-417.00	.00000E+00	-30.00	.00	.00
3801	770.52	-319.16	.00000E+00	-22.50	.00	.00
3841	805.58	-215.86	.00000E+00	-15.00	.00	.00
3881	826.87	-108.86	.00000E+00	-7.50	.00	.00

NEW TITLE = FOAKE-Task9 - Walk Way + Air Baffle U. P. (D+L/4)

POST DATA FILE12 NAME = file12.dat

39 47.522522 40.568447

C***

C*** REACTIONS

C***

PRINT REACTION FORCES PER NODE

***** POST1 REACTION FORCE LISTING *****

LOAD STEP 1 ITERATION = 1 SECTION = 1

TIME = .00000E+00 LOAD CASE = 1

THE FOLLOWING X,Y,Z FORCES ARE IN GLOBAL COORDINATES

NODE	FX	FY	FZ	MX	MY	MZ
9	-36.902674	.0000E+00	.0000E+00	.0000E+00	.0000E+00	.0000E+00
29	15.225669	.99794307	.0000E+00	.0000E+00	.0000E+00	.0000E+00
40	2.2904255	.29086995	10790.445	7.9146545	-63.639586	.52306620E-02
49	115.69868	15.232020	.0000E+00	.0000E+00	.0000E+00	.0000E+00
69	15.598561	3.1027467	.0000E+00	.0000E+00	.0000E+00	.0000E+00
89	-35.563942	-9.5293295	.0000E+00	.0000E+00	.0000E+00	.0000E+00
109	-45.461804	-15.432203	.0000E+00	.0000E+00	.0000E+00	.0000E+00
129	-34.123673	-14.134488	.0000E+00	.0000E+00	.0000E+00	.0000E+00
149	14.589170	7.1945826	.0000E+00	.0000E+00	.0000E+00	.0000E+00
160	1.9765542	1.1404850	10795.494	31.692117	-54.891625	-.18746189E-02
169	101.08661	58.362382	.0000E+00	.0000E+00	.0000E+00	.0000E+00
189	13.613944	9.0965465	.0000E+00	.0000E+00	.0000E+00	.0000E+00
209	-29.023332	-22.270386	.0000E+00	.0000E+00	.0000E+00	.0000E+00
229	-35.858912	-31.447422	.0000E+00	.0000E+00	.0000E+00	.0000E+00
249	-25.941457	-25.941457	.0000E+00	.0000E+00	.0000E+00	.0000E+00
269	10.807898	12.324045	.0000E+00	.0000E+00	.0000E+00	.0000E+00
280	1.3866756	1.8117540	10795.214	50.355705	-38.472540	-.18065230E-02
289	71.086743	92.642047	.0000E+00	.0000E+00	.0000E+00	.0000E+00
309	9.1390735	13.677590	.0000E+00	.0000E+00	.0000E+00	.0000E+00
329	-18.222791	-31.562800	.0000E+00	.0000E+00	.0000E+00	.0000E+00
349	-21.027065	-42.638670	.0000E+00	.0000E+00	.0000E+00	.0000E+00
369	-13.995389	-33.787857	.0000E+00	.0000E+00	.0000E+00	.0000E+00
389	5.2875920	15.576744	.0000E+00	.0000E+00	.0000E+00	.0000E+00
400	.58938482	2.2036755	10794.504	61.217683	-16.335899	-.17787496E-02
409	30.226465	112.80670	.0000E+00	.0000E+00	.0000E+00	.0000E+00
429	3.2135228	16.155470	.0000E+00	.0000E+00	.0000E+00	.0000E+00
449	-4.7518040	-36.093535	.0000E+00	.0000E+00	.0000E+00	.0000E+00
469	-3.1066082	-47.397683	.0000E+00	.0000E+00	.0000E+00	.0000E+00
489	-.14239331E-09	-36.543901	.0000E+00	.0000E+00	.0000E+00	.0000E+00
509	-1.0765392	16.424814	.0000E+00	.0000E+00	.0000E+00	.0000E+00
520	-.29599685	2.2617923	10794.245	62.822301	8.2240343	-.17791190E-02
529	-15.243107	115.78289	.0000E+00	.0000E+00	.0000E+00	.0000E+00

549	-3.2118066	16.146842	.0000E+00	.0000E+00	.0000E+00	.0000E+00
569	9.4256099	-35.176855	.0000E+00	.0000E+00	.0000E+00	.0000E+00
589	15.274025	-44.995827	.0000E+00	.0000E+00	.0000E+00	.0000E+00
609	13.990522	-33.776108	.0000E+00	.0000E+00	.0000E+00	.0000E+00
629	-7.2796834	14.761738	.0000E+00	.0000E+00	.0000E+00	.0000E+00
640	-1.1370201	1.9774640	10794.322	54.937894	31.559506	-1.7849426E-02
649	-58.393923	101.14124	.0000E+00	.0000E+00	.0000E+00	.0000E+00
669	-9.1384660	13.676681	.0000E+00	.0000E+00	.0000E+00	.0000E+00
689	22.198007	-28.929006	.0000E+00	.0000E+00	.0000E+00	.0000E+00
709	31.372638	-35.773638	.0000E+00	.0000E+00	.0000E+00	.0000E+00
729	25.883201	-25.883201	.0000E+00	.0000E+00	.0000E+00	.0000E+00
749	-12.380598	10.857493	.0000E+00	.0000E+00	.0000E+00	.0000E+00
760	-1.8062499	1.3925631	10794.404	38.710273	50.145886	-1.7767123E-02
769	-92.682413	71.117717	.0000E+00	.0000E+00	.0000E+00	.0000E+00
789	-13.666147	9.1314273	.0000E+00	.0000E+00	.0000E+00	.0000E+00
809	31.661510	-18.279781	.0000E+00	.0000E+00	.0000E+00	.0000E+00
829	42.796224	-21.104762	.0000E+00	.0000E+00	.0000E+00	.0000E+00
849	33.898207	-14.041097	.0000E+00	.0000E+00	.0000E+00	.0000E+00
869	-15.629001	5.3053311	.0000E+00	.0000E+00	.0000E+00	.0000E+00
880	-2.2007926	.59455562	10793.992	16.543720	61.120406	-1.7802816E-02
889	-112.94643	30.263903	.0000E+00	.0000E+00	.0000E+00	.0000E+00
909	-16.154598	3.2133494	.0000E+00	.0000E+00	.0000E+00	.0000E+00
929	36.351000	-4.7856999	.0000E+00	.0000E+00	.0000E+00	.0000E+00
949	47.776131	-3.1314131	.0000E+00	.0000E+00	.0000E+00	.0000E+00
969	36.799036	.28677488E-09	.0000E+00	.0000E+00	.0000E+00	.0000E+00
989	-16.454109	-1.0784593	.0000E+00	.0000E+00	.0000E+00	.0000E+00
1000	-2.2599380	-.29645980	10793.689	-8.2402119	62.770359	-1.8029698E-02
1009	-115.96810	-15.267489	.0000E+00	.0000E+00	.0000E+00	.0000E+00
1029	-16.207446	-3.2238614	.0000E+00	.0000E+00	.0000E+00	.0000E+00
1049	35.347477	9.4713279	.0000E+00	.0000E+00	.0000E+00	.0000E+00
1069	45.245929	15.358923	.0000E+00	.0000E+00	.0000E+00	.0000E+00
1089	33.946556	14.061124	.0000E+00	.0000E+00	.0000E+00	.0000E+00
1109	-14.728333	-7.2632103	.0000E+00	.0000E+00	.0000E+00	.0000E+00
1120	-1.9747943	-1.1407128	10794.301	-31.706664	54.837999	-1.8122132E-02
1129	-101.18691	-58.420287	.0000E+00	.0000E+00	.0000E+00	.0000E+00
1149	-13.700525	-9.1543978	.0000E+00	.0000E+00	.0000E+00	.0000E+00
1169	28.954474	22.217549	.0000E+00	.0000E+00	.0000E+00	.0000E+00
1189	35.804536	31.399735	.0000E+00	.0000E+00	.0000E+00	.0000E+00
1209	25.903716	25.903716	.0000E+00	.0000E+00	.0000E+00	.0000E+00
1229	-10.831839	-12.351345	.0000E+00	.0000E+00	.0000E+00	.0000E+00
1240	-1.3885746	-1.8097359	10794.357	-50.280372	38.550408	-1.7971717E-02
1249	-71.095745	-92.653779	.0000E+00	.0000E+00	.0000E+00	.0000E+00
1269	-9.1460995	-13.688105	.0000E+00	.0000E+00	.0000E+00	.0000E+00
1289	18.218961	31.556166	.0000E+00	.0000E+00	.0000E+00	.0000E+00
1309	21.025715	42.635933	.0000E+00	.0000E+00	.0000E+00	.0000E+00
1329	13.995903	33.789099	.0000E+00	.0000E+00	.0000E+00	.0000E+00
1349	-5.2856690	-15.571079	.0000E+00	.0000E+00	.0000E+00	.0000E+00
1360	-59197995	-2.2029916	10794.241	-61.190003	16.440389	-1.7973011E-02
1369	-30.223816	-112.79682	.0000E+00	.0000E+00	.0000E+00	.0000E+00
1389	-3.2118404	-16.147012	.0000E+00	.0000E+00	.0000E+00	.0000E+00
1409	4.7526755	36.100155	.0000E+00	.0000E+00	.0000E+00	.0000E+00
1429	3.1069312	47.402609	.0000E+00	.0000E+00	.0000E+00	.0000E+00
1449	-1.4240268E-09	36.546307	.0000E+00	.0000E+00	.0000E+00	.0000E+00

1469	1.0765333	-16.424724	.0000E+00	.0000E+00	.0000E+00	.0000E+00
1480	.29361833	-2.2621013	10794.313	-62.834924	-8.1272726	-.18043959E-02
1489	15.243439	-115.78541	.0000E+00	.0000E+00	.0000E+00	.0000E+00
1509	3.2125169	-16.150413	.0000E+00	.0000E+00	.0000E+00	.0000E+00
1529	-9.4245613	35.172942	.0000E+00	.0000E+00	.0000E+00	.0000E+00
1549	-15.272484	44.991287	.0000E+00	.0000E+00	.0000E+00	.0000E+00
1569	-13.988901	33.772194	.0000E+00	.0000E+00	.0000E+00	.0000E+00
1589	7.2814084	-14.765236	.0000E+00	.0000E+00	.0000E+00	.0000E+00
1600	1.1347421	-1.9789126	10794.764	-54.994746	-31.467453	-.17933686E-02
1609	58.395658	-101.14425	.0000E+00	.0000E+00	.0000E+00	.0000E+00
1629	9.1347244	-13.671081	.0000E+00	.0000E+00	.0000E+00	.0000E+00
1649	-22.207962	28.941979	.0000E+00	.0000E+00	.0000E+00	.0000E+00
1669	-31.389948	35.793376	.0000E+00	.0000E+00	.0000E+00	.0000E+00
1689	-25.907859	25.907859	.0000E+00	.0000E+00	.0000E+00	.0000E+00
1709	12.347073	-10.828092	.0000E+00	.0000E+00	.0000E+00	.0000E+00
1720	1.8059499	-1.3942795	10795.362	-38.772381	-50.126476	-.17473753E-02
1729	92.642761	-71.087291	.0000E+00	.0000E+00	.0000E+00	.0000E+00
1749	13.602225	-9.0887159	.0000E+00	.0000E+00	.0000E+00	.0000E+00
1769	-31.746143	18.328644	.0000E+00	.0000E+00	.0000E+00	.0000E+00
1789	-42.905532	21.158667	.0000E+00	.0000E+00	.0000E+00	.0000E+00
1809	-34.027073	14.094475	.0000E+00	.0000E+00	.0000E+00	.0000E+00
1829	15.475862	-5.2533473	.0000E+00	.0000E+00	.0000E+00	.0000E+00
1840	2.2040116	-5.8977136	10794.308	-16.360626	-61.223269	-.17049426E-02
1849	112.76998	-30.216625	.0000E+00	.0000E+00	.0000E+00	.0000E+00
1869	15.955513	-3.1737488	.0000E+00	.0000E+00	.0000E+00	.0000E+00
1889	-36.542898	4.8109638	.0000E+00	.0000E+00	.0000E+00	.0000E+00
1909	-48.310420	3.1664322	.0000E+00	.0000E+00	.0000E+00	.0000E+00
2001	-622.23613	3.0701018	1463.9672	.0000E+00	.0000E+00	.0000E+00
2041	-739.48031	-97.340032	1464.2632	.0000E+00	.0000E+00	.0000E+00
2081	-600.41767	-164.04840	1464.3309	.0000E+00	.0000E+00	.0000E+00
2121	-576.24649	-235.31990	1464.2973	.0000E+00	.0000E+00	.0000E+00
2161	-646.32808	-373.11750	1464.3862	.0000E+00	.0000E+00	.0000E+00
2201	-492.52001	-381.77753	1464.4961	.0000E+00	.0000E+00	.0000E+00
2241	-442.91786	-438.53253	1464.3979	.0000E+00	.0000E+00	.0000E+00
2281	-454.64531	-592.47971	1464.2671	.0000E+00	.0000E+00	.0000E+00
2321	-309.05548	-541.44513	1464.5015	.0000E+00	.0000E+00	.0000E+00
2361	-241.41038	-574.74352	1464.4490	.0000E+00	.0000E+00	.0000E+00
2401	-193.29369	-721.35050	1464.2187	.0000E+00	.0000E+00	.0000E+00
2441	-78.316525	-618.45111	1464.5030	.0000E+00	.0000E+00	.0000E+00
2481	-3.0852719	-623.33735	1464.4698	.0000E+00	.0000E+00	.0000E+00
2521	97.468822	-740.38100	1464.2149	.0000E+00	.0000E+00	.0000E+00
2561	164.31611	-601.32877	1464.4911	.0000E+00	.0000E+00	.0000E+00
2601	235.69477	-577.06697	1464.4697	.0000E+00	.0000E+00	.0000E+00
2641	373.38357	-646.71692	1464.2403	.0000E+00	.0000E+00	.0000E+00
2681	381.91921	-492.65509	1464.4420	.0000E+00	.0000E+00	.0000E+00
2721	438.56983	-442.91830	1464.4522	.0000E+00	.0000E+00	.0000E+00
2761	592.41331	-454.56736	1464.3163	.0000E+00	.0000E+00	.0000E+00
2801	541.31887	-308.96074	1464.3348	.0000E+00	.0000E+00	.0000E+00
2841	574.59668	-241.33024	1464.4166	.0000E+00	.0000E+00	.0000E+00
2881	721.15406	-193.22909	1464.5059	.0000E+00	.0000E+00	.0000E+00
2921	618.27358	-78.285798	1464.2649	.0000E+00	.0000E+00	.0000E+00
2961	623.14718	-3.0768299	1464.2726	.0000E+00	.0000E+00	.0000E+00
3001	740.14680	97.438407	1464.5789	.0000E+00	.0000E+00	.0000E+00

3041	601.16905	164.26387	1464.4218	.0000E+00	.0000E+00	.0000E+00
3081	576.94312	235.63235	1464.2651	.0000E+00	.0000E+00	.0000E+00
3121	646.64013	373.32532	1464.3656	.0000E+00	.0000E+00	.0000E+00
3161	492.63042	381.89179	1464.4786	.0000E+00	.0000E+00	.0000E+00
3201	442.91351	438.54356	1464.3841	.0000E+00	.0000E+00	.0000E+00
3241	454.59634	592.42691	1464.2588	.0000E+00	.0000E+00	.0000E+00
3281	309.01567	541.38453	1464.4985	.0000E+00	.0000E+00	.0000E+00
3321	241.38826	574.70012	1464.4496	.0000E+00	.0000E+00	.0000E+00
3361	193.28207	721.32312	1464.2211	.0000E+00	.0000E+00	.0000E+00
3401	78.310468	618.43974	1464.5054	.0000E+00	.0000E+00	.0000E+00
3441	3.0802772	623.33417	1464.4708	.0000E+00	.0000E+00	.0000E+00
3481	-97.473721	740.37864	1464.2141	.0000E+00	.0000E+00	.0000E+00
3521	-164.32105	601.32874	1464.4888	.0000E+00	.0000E+00	.0000E+00
3561	-235.70540	577.08176	1464.4671	.0000E+00	.0000E+00	.0000E+00
3601	-373.40873	646.75226	1464.2394	.0000E+00	.0000E+00	.0000E+00
3641	-381.95768	492.69757	1464.4449	.0000E+00	.0000E+00	.0000E+00
3681	-438.61609	442.95572	1464.4606	.0000E+00	.0000E+00	.0000E+00
3721	-592.43084	454.56740	1464.3309	.0000E+00	.0000E+00	.0000E+00
3761	-541.20726	308.87739	1464.3539	.0000E+00	.0000E+00	.0000E+00
3801	-574.26052	241.16506	1464.4389	.0000E+00	.0000E+00	.0000E+00
3841	-720.45766	193.01937	1464.5381	.0000E+00	.0000E+00	.0000E+00
3881	-617.50020	78.162423	1464.1733	.0000E+00	.0000E+00	.0000E+00

TOTAL .15256774E-09 .45207571E-09 242997.97 -18558116 -63513308 -21610023E-01

ACTIVE COORDINATE SYSTEM SET TO 1 (CYLINDRICAL) –
DISPLACEMENTS, FORCES, AND COMPONENT STRESSES
WILL BE EXPRESSED IN THIS SYSTEM

PRINT REACTION FORCES PER NODE

***** POST1 REACTION FORCE LISTING *****

LOAD STEP 1 ITERATION= 1 SECTION= 1
TIME = .00000E+00 LOAD CASE = 1

THE FOLLOWING X,Y,Z FORCES ARE IN COORDINATE SYSTEM 1

NODE	FX	FY	FZ	MX	MY	MZ
9	-36.902674	.23474195E-06	.0000E+00	.0000E+00	.0000E+00	.0000E+00
29	15.258338	-.14982997E-06	.0000E+00	.0000E+00	.0000E+00	.0000E+00
40	2.3087967	-.10579024E-01	10790.445	-.45969014	-64.128210	.52306620E-02
49	116.69704	-.14827302E-05	.0000E+00	.0000E+00	.0000E+00	.0000E+00
69	15.904155	-.72483476E-07	.0000E+00	.0000E+00	.0000E+00	.0000E+00
89	-36.818502	.19692270E-06	.0000E+00	.0000E+00	.0000E+00	.0000E+00
109	-48.009671	.25618556E-06	.0000E+00	.0000E+00	.0000E+00	.0000E+00
129	-36.935198	.14335771E-06	.0000E+00	.0000E+00	.0000E+00	.0000E+00
149	16.266712	-.12615922E-06	.0000E+00	.0000E+00	.0000E+00	.0000E+00
160	2.2819886	-.58807559E-03	10795.494	.36590911E-03	-63.383600	-.18746189E-02
169	116.72476	-.84853027E-06	.0000E+00	.0000E+00	.0000E+00	.0000E+00
189	16.373351	-.15285486E-06	.0000E+00	.0000E+00	.0000E+00	.0000E+00
209	-36.583110	.43054127E-06	.0000E+00	.0000E+00	.0000E+00	.0000E+00
229	-47.694884	.26489973E-06	.0000E+00	.0000E+00	.0000E+00	.0000E+00

249	-36.686761	.16508792E-06	.0000E+00	.0000E+00	.0000E+00	.0000E+00
269	16.391850	-.12491777E-06	.0000E+00	.0000E+00	.0000E+00	.0000E+00
280	2.2815157	.28022101E-02	10795.214	.13229180	-63.370465	-.18065230E-02
289	116.77274	-.11613577E-05	.0000E+00	.0000E+00	.0000E+00	.0000E+00
309	16.449898	-.16564321E-06	.0000E+00	.0000E+00	.0000E+00	.0000E+00
329	-36.445583	.33752426E-06	.0000E+00	.0000E+00	.0000E+00	.0000E+00
349	-47.541494	.44515692E-06	.0000E+00	.0000E+00	.0000E+00	.0000E+00
369	-36.571713	.19902591E-06	.0000E+00	.0000E+00	.0000E+00	.0000E+00
389	16.449729	-.14409200E-06	.0000E+00	.0000E+00	.0000E+00	.0000E+00
400	2.2811311	.10511631E-02	10794.504	.65035061E-01	-63.359782	-.17787496E-02
409	116.78609	-.81097956E-06	.0000E+00	.0000E+00	.0000E+00	.0000E+00
429	16.471975	-.22307222E-06	.0000E+00	.0000E+00	.0000E+00	.0000E+00
449	-36.404985	.43329674E-06	.0000E+00	.0000E+00	.0000E+00	.0000E+00
469	-47.499382	.41603654E-06	.0000E+00	.0000E+00	.0000E+00	.0000E+00
489	-36.543901	.23260215E-06	.0000E+00	.0000E+00	.0000E+00	.0000E+00
509	16.460056	-.15655845E-06	.0000E+00	.0000E+00	.0000E+00	.0000E+00
520	2.2810777	-.17586052E-02	10794.245	-.46279633E-01	-63.358299	-.17791190E-02
529	116.78198	-.86896070E-06	.0000E+00	.0000E+00	.0000E+00	.0000E+00
549	16.463177	-.10574136E-06	.0000E+00	.0000E+00	.0000E+00	.0000E+00
569	-36.417760	.44866374E-06	.0000E+00	.0000E+00	.0000E+00	.0000E+00
589	-47.517579	.53996824E-06	.0000E+00	.0000E+00	.0000E+00	.0000E+00
609	-36.558996	.14204000E-06	.0000E+00	.0000E+00	.0000E+00	.0000E+00
629	16.459122	-.17530979E-06	.0000E+00	.0000E+00	.0000E+00	.0000E+00
640	2.2810441	-.40437357E-02	10794.322	-.13761418	-63.357365	-.17849426E-02
649	116.78785	-.16785395E-05	.0000E+00	.0000E+00	.0000E+00	.0000E+00
669	16.448804	-.15362336E-06	.0000E+00	.0000E+00	.0000E+00	.0000E+00
689	-36.464214	.33089676E-06	.0000E+00	.0000E+00	.0000E+00	.0000E+00
709	-47.581463	.32044566E-06	.0000E+00	.0000E+00	.0000E+00	.0000E+00
729	-36.604374	.49415156E-06	.0000E+00	.0000E+00	.0000E+00	.0000E+00
749	16.467069	-.19462087E-06	.0000E+00	.0000E+00	.0000E+00	.0000E+00
760	2.2807331	-.52193567E-02	10794.404	-.18404384	-63.348728	-.17767123E-02
769	116.82362	-.98428214E-06	.0000E+00	.0000E+00	.0000E+00	.0000E+00
789	16.436135	-.49396662E-07	.0000E+00	.0000E+00	.0000E+00	.0000E+00
809	-36.559563	.25359964E-06	.0000E+00	.0000E+00	.0000E+00	.0000E+00
829	-47.717165	.51038053E-06	.0000E+00	.0000E+00	.0000E+00	.0000E+00
849	-36.691155	.28147367E-06	.0000E+00	.0000E+00	.0000E+00	.0000E+00
869	16.504915	-.16151361E-06	.0000E+00	.0000E+00	.0000E+00	.0000E+00
880	2.2796848	-.46895985E-02	10793.992	-.16088188	-63.319609	-.17802816E-02
889	116.93074	-.11012077E-05	.0000E+00	.0000E+00	.0000E+00	.0000E+00
909	16.471085	-.15613400E-06	.0000E+00	.0000E+00	.0000E+00	.0000E+00
929	-36.664671	.13680243E-06	.0000E+00	.0000E+00	.0000E+00	.0000E+00
949	-47.878643	.37970644E-06	.0000E+00	.0000E+00	.0000E+00	.0000E+00
969	-36.799036	.23379592E-06	.0000E+00	.0000E+00	.0000E+00	.0000E+00
989	16.489414	-.15750245E-06	.0000E+00	.0000E+00	.0000E+00	.0000E+00
1000	2.2792997	-.10575844E-02	10793.689	-.23460954E-01	-63.308913	-.18029698E-02
1009	116.96878	-.13881531E-05	.0000E+00	.0000E+00	.0000E+00	.0000E+00
1029	16.524968	-.15777406E-06	.0000E+00	.0000E+00	.0000E+00	.0000E+00
1049	-36.594401	.34605930E-06	.0000E+00	.0000E+00	.0000E+00	.0000E+00
1069	-47.781698	.20574681E-06	.0000E+00	.0000E+00	.0000E+00	.0000E+00
1089	-36.743488	.31354285E-06	.0000E+00	.0000E+00	.0000E+00	.0000E+00
1109	16.421877	-.12723465E-06	.0000E+00	.0000E+00	.0000E+00	.0000E+00
1120	2.2805785	.48905222E-03	10794.301	.39776178E-01	-63.344432	-.18122132E-02
1129	116.84057	-.10342705E-05	.0000E+00	.0000E+00	.0000E+00	.0000E+00

1149	16.477481	-.95466432E-07	.0000E+00	.0000E+00	.0000E+00	.0000E+00
1169	-36.496316	.28790712E-06	.0000E+00	.0000E+00	.0000E+00	.0000E+00
1189	-47.622560	.40782522E-06	.0000E+00	.0000E+00	.0000E+00	.0000E+00
1209	-36.633386	.49411500E-06	.0000E+00	.0000E+00	.0000E+00	.0000E+00
1229	16.428160	-.15406369E-06	.0000E+00	.0000E+00	.0000E+00	.0000E+00
1240	2.2810706	.67093798E-04	10794.357	.24655881E-01	-63.358103	-.17971717E-02
1249	116.78753	-.11605946E-05	.0000E+00	.0000E+00	.0000E+00	.0000E+00
1269	16.462544	-.10785787E-06	.0000E+00	.0000E+00	.0000E+00	.0000E+00
1289	-36.437922	.51100853E-06	.0000E+00	.0000E+00	.0000E+00	.0000E+00
1309	-47.538442	.44847597E-06	.0000E+00	.0000E+00	.0000E+00	.0000E+00
1329	-36.573057	.28777767E-06	.0000E+00	.0000E+00	.0000E+00	.0000E+00
1349	16.443746	-.20933806E-06	.0000E+00	.0000E+00	.0000E+00	.0000E+00
1360	2.2811422	-.16325488E-02	10794.241	-.43058684E-01	-63.360090	-.17973011E-02
1369	116.77586	-.10983839E-05	.0000E+00	.0000E+00	.0000E+00	.0000E+00
1389	16.463351	-.15586823E-06	.0000E+00	.0000E+00	.0000E+00	.0000E+00
1409	-36.411661	.25636191E-06	.0000E+00	.0000E+00	.0000E+00	.0000E+00
1429	-47.504320	.41323913E-06	.0000E+00	.0000E+00	.0000E+00	.0000E+00
1449	-36.546307	.23232265E-06	.0000E+00	.0000E+00	.0000E+00	.0000E+00
1469	16.459966	-.15728531E-06	.0000E+00	.0000E+00	.0000E+00	.0000E+00
1480	2.2810736	-.41571030E-02	10794.313	-.14386119	-63.358185	-.18043959E-02
1489	116.78452	-.84382819E-06	.0000E+00	.0000E+00	.0000E+00	.0000E+00
1509	16.466818	-.16239183E-06	.0000E+00	.0000E+00	.0000E+00	.0000E+00
1529	-36.413709	.13466512E-06	.0000E+00	.0000E+00	.0000E+00	.0000E+00
1549	-47.512784	.35049891E-06	.0000E+00	.0000E+00	.0000E+00	.0000E+00
1569	-36.554759	.35656728E-06	.0000E+00	.0000E+00	.0000E+00	.0000E+00
1589	16.463022	-.12632998E-06	.0000E+00	.0000E+00	.0000E+00	.0000E+00
1600	2.2811596	-.67408053E-02	10794.764	-.24575942	-63.360574	-.17933686E-02
1609	116.79132	-.84855896E-06	.0000E+00	.0000E+00	.0000E+00	.0000E+00
1629	16.442069	-.95325340E-07	.0000E+00	.0000E+00	.0000E+00	.0000E+00
1649	-36.480566	.42919230E-06	.0000E+00	.0000E+00	.0000E+00	.0000E+00
1669	-47.607715	.26423008E-06	.0000E+00	.0000E+00	.0000E+00	.0000E+00
1689	-36.639246	.16473134E-06	.0000E+00	.0000E+00	.0000E+00	.0000E+00
1709	16.422478	-.56208512E-07	.0000E+00	.0000E+00	.0000E+00	.0000E+00
1720	2.2815399	-.67636896E-02	10795.362	-.24513363	-63.371137	-.17473753E-02
1729	116.77364	-.70871758E-06	.0000E+00	.0000E+00	.0000E+00	.0000E+00
1749	16.359256	-.13595583E-06	.0000E+00	.0000E+00	.0000E+00	.0000E+00
1769	-36.657289	.39763729E-06	.0000E+00	.0000E+00	.0000E+00	.0000E+00
1789	-47.839041	.71694179E-06	.0000E+00	.0000E+00	.0000E+00	.0000E+00
1809	-36.830638	.11832630E-06	.0000E+00	.0000E+00	.0000E+00	.0000E+00
1829	16.343193	-.14309511E-06	.0000E+00	.0000E+00	.0000E+00	.0000E+00
1840	2.2815558	.76477120E-03	10794.308	.42596164E-01	-63.371578	-.17049426E-02
1849	116.74807	-.10985775E-05	.0000E+00	.0000E+00	.0000E+00	.0000E+00
1869	16.268099	-.13894164E-06	.0000E+00	.0000E+00	.0000E+00	.0000E+00
1889	-36.858226	.48445224E-06	.0000E+00	.0000E+00	.0000E+00	.0000E+00
1909	-48.414078	.45155478E-06	.0000E+00	.0000E+00	.0000E+00	.0000E+00
2001	-622.23613	3.0701057	1463.9672	.0000E+00	.0000E+00	.0000E+00
2041	-745.85938	.14278700E-01	1464.2632	.0000E+00	.0000E+00	.0000E+00
2081	-622.41779	-3.0590563	1464.3309	.0000E+00	.0000E+00	.0000E+00
2121	-622.43537	3.1127483	1464.2973	.0000E+00	.0000E+00	.0000E+00
2161	-746.29529	.34816058E-01	1464.3862	.0000E+00	.0000E+00	.0000E+00
2201	-623.15382	-3.0572863	1464.4961	.0000E+00	.0000E+00	.0000E+00
2241	-623.27955	3.1008960	1464.3979	.0000E+00	.0000E+00	.0000E+00
2281	-746.81628	.15587297E-01	1464.2671	.0000E+00	.0000E+00	.0000E+00

2321	-623.43297	-3.0726615	1464.5015	.0000E+00	.0000E+00	.0000E+00
2361	-623.37752	3.0892874	1464.4490	.0000E+00	.0000E+00	.0000E+00
2401	-746.79917	.81254787E-02	1464.2187	.0000E+00	.0000E+00	.0000E+00
2441	-623.38254	-3.0775483	1464.5030	.0000E+00	.0000E+00	.0000E+00
2481	-623.33735	3.0852758	1464.4698	.0000E+00	.0000E+00	.0000E+00
2521	-746.76917	.41539524E-02	1464.2149	.0000E+00	.0000E+00	.0000E+00
2561	-623.36713	-3.0818330	1464.4911	.0000E+00	.0000E+00	.0000E+00
2601	-623.33684	3.0804008	1464.4697	.0000E+00	.0000E+00	.0000E+00
2641	-746.76507	-.11889582E-02	1464.2403	.0000E+00	.0000E+00	.0000E+00
2681	-623.34725	-3.0874612	1464.4420	.0000E+00	.0000E+00	.0000E+00
2721	-623.30623	3.0748349	1464.4522	.0000E+00	.0000E+00	.0000E+00
2761	-746.71615	-.58344940E-02	1464.3163	.0000E+00	.0000E+00	.0000E+00
2801	-623.27626	-3.0915736	1464.3348	.0000E+00	.0000E+00	.0000E+00
2841	-623.21120	3.0714456	1464.4166	.0000E+00	.0000E+00	.0000E+00
2881	-746.59270	-.34319584E-02	1464.5059	.0000E+00	.0000E+00	.0000E+00
2921	-623.20251	-3.0848365	1464.2649	.0000E+00	.0000E+00	.0000E+00
2961	-623.14718	3.0768339	1464.2726	.0000E+00	.0000E+00	.0000E+00
3001	-746.53301	.37446029E-02	1464.5789	.0000E+00	.0000E+00	.0000E+00
3041	-623.19933	-3.0727095	1464.4218	.0000E+00	.0000E+00	.0000E+00
3081	-623.19853	3.0906697	1464.2651	.0000E+00	.0000E+00	.0000E+00
3121	-746.66944	.10860739E-01	1464.3656	.0000E+00	.0000E+00	.0000E+00
3161	-623.30489	-3.0727879	1464.4786	.0000E+00	.0000E+00	.0000E+00
3201	-623.28427	3.0900272	1464.3841	.0000E+00	.0000E+00	.0000E+00
3241	-746.74458	.88806587E-02	1464.2588	.0000E+00	.0000E+00	.0000E+00
3281	-623.36059	-3.0768440	1464.4985	.0000E+00	.0000E+00	.0000E+00
3321	-623.32896	3.0854658	1464.4496	.0000E+00	.0000E+00	.0000E+00
3361	-746.76971	.39891444E-02	1464.2211	.0000E+00	.0000E+00	.0000E+00
3401	-623.37047	-3.0820699	1464.5054	.0000E+00	.0000E+00	.0000E+00
3441	-623.33417	3.0802812	1464.4708	.0000E+00	.0000E+00	.0000E+00
3481	-746.76747	-.10096631E-02	1464.2141	.0000E+00	.0000E+00	.0000E+00
3521	-623.36837	-3.0866129	1464.4888	.0000E+00	.0000E+00	.0000E+00
3561	-623.35458	3.0762415	1464.4671	.0000E+00	.0000E+00	.0000E+00
3601	-746.80825	-.53157108E-02	1464.2394	.0000E+00	.0000E+00	.0000E+00
3641	-623.40437	-3.0921234	1464.4449	.0000E+00	.0000E+00	.0000E+00
3681	-623.36540	3.0685864	1464.4606	.0000E+00	.0000E+00	.0000E+00
3721	-746.73008	-.16471092E-01	1464.3309	.0000E+00	.0000E+00	.0000E+00
3761	-623.13793	-3.1079614	1464.3539	.0000E+00	.0000E+00	.0000E+00
3801	-622.83741	3.0474756	1464.4389	.0000E+00	.0000E+00	.0000E+00
3841	-745.86575	-.25766961E-01	1464.5381	.0000E+00	.0000E+00	.0000E+00
3881	-622.41964	-3.1062130	1464.1733	.0000E+00	.0000E+00	.0000E+00
TOTAL	-31392.291	-.56464525E-02	242997.97	-1.3850626	-1014.4591	-.21610023E-01

NEW TITLE = FOAKE- Walk Way & AIR Baffle U.P. (Es) combined

POST DATA FILE13 NAME = file13.dat

C***

C*** REACTIONS .

C***

PRINT REACTION FORCES PER NODE

***** POST1 REACTION FORCE LISTING *****

LOAD STEP 1 ITERATION= 1 SECTION= 1

FREQ= -1.0000 LOAD CASE= 1

THE FOLLOWING X,Y,Z FORCES ARE IN GLOBAL COORDINATES

NODE	FX	FY	FZ	MX	MY	MZ
9	321.31955	.0000E+00	.0000E+00	.0000E+00	.0000E+00	.0000E+00
29	304.55742	19.961748	.0000E+00	.0000E+00	.0000E+00	.0000E+00
40	-2.5230865	42.769836	6717.2045	1770.5807	319.41875	.38992621
49	327.28804	43.088288	.0000E+00	.0000E+00	.0000E+00	.0000E+00
69	309.13735	61.491242	.0000E+00	.0000E+00	.0000E+00	.0000E+00
89	318.10458	85.235866	.0000E+00	.0000E+00	.0000E+00	.0000E+00
109	322.28510	109.40105	.0000E+00	.0000E+00	.0000E+00	.0000E+00
129	299.85963	124.20593	.0000E+00	.0000E+00	.0000E+00	.0000E+00
149	279.38197	137.77594	.0000E+00	.0000E+00	.0000E+00	.0000E+00
160	-17.867998	37.118191	6760.7958	1452.5601	937.57817	.38008917
169	293.44959	169.42320	.0000E+00	.0000E+00	.0000E+00	.0000E+00
189	279.33413	186.64510	.0000E+00	.0000E+00	.0000E+00	.0000E+00
209	281.21795	215.78613	.0000E+00	.0000E+00	.0000E+00	.0000E+00
229	267.42554	234.52590	.0000E+00	.0000E+00	.0000E+00	.0000E+00
249	235.92127	235.92127	.0000E+00	.0000E+00	.0000E+00	.0000E+00
269	219.14768	249.89003	.0000E+00	.0000E+00	.0000E+00	.0000E+00
280	-28.042043	26.092749	6856.7308	895.04314	1332.0602	.35825626
289	224.49370	292.56588	.0000E+00	.0000E+00	.0000E+00	.0000E+00
309	196.02569	293.37317	.0000E+00	.0000E+00	.0000E+00	.0000E+00
329	181.84505	314.96486	.0000E+00	.0000E+00	.0000E+00	.0000E+00
349	166.77668	338.18965	.0000E+00	.0000E+00	.0000E+00	.0000E+00
369	139.29834	336.29594	.0000E+00	.0000E+00	.0000E+00	.0000E+00
389	112.28333	330.77602	.0000E+00	.0000E+00	.0000E+00	.0000E+00
400	-33.451168	12.524252	6945.0952	293.91751	1466.0521	.33973216
409	96.433543	359.89488	.0000E+00	.0000E+00	.0000E+00	.0000E+00
429	70.470019	354.27671	.0000E+00	.0000E+00	.0000E+00	.0000E+00
449	49.355128	374.88942	.0000E+00	.0000E+00	.0000E+00	.0000E+00
469	25.391923	367.40588	.0000E+00	.0000E+00	.0000E+00	.0000E+00
489	.14426296E-08	370.23735	.0000E+00	.0000E+00	.0000E+00	.0000E+00
509	-23.338252	356.07292	.0000E+00	.0000E+00	.0000E+00	.0000E+00
520	-35.237301	-1.0546671	6974.3813	-289.96717	1446.2923	.34842729
529	-49.584929	376.63493	.0000E+00	.0000E+00	.0000E+00	.0000E+00
549	-70.496842	354.41156	.0000E+00	.0000E+00	.0000E+00	.0000E+00

569	-95.598745	356.77937	.0000E+00	.0000E+00	.0000E+00	.0000E+00
589	-122.15220	359.84878	.0000E+00	.0000E+00	.0000E+00	.0000E+00
609	-140.30180	338.71852	.0000E+00	.0000E+00	.0000E+00	.0000E+00
629	-155.37973	315.07892	.0000E+00	.0000E+00	.0000E+00	.0000E+00
640	-33.916769	-15.567723	6915.8519	-863.74032	1302.9273	.35723209
649	-184.73262	319.96629	.0000E+00	.0000E+00	.0000E+00	.0000E+00
669	-192.52649	288.13625	.0000E+00	.0000E+00	.0000E+00	.0000E+00
689	-213.98225	278.86709	.0000E+00	.0000E+00	.0000E+00	.0000E+00
709	-239.44373	273.03324	.0000E+00	.0000E+00	.0000E+00	.0000E+00
729	-248.08577	248.08577	.0000E+00	.0000E+00	.0000E+00	.0000E+00
749	-251.37724	220.45192	.0000E+00	.0000E+00	.0000E+00	.0000E+00
760	-27.196992	-29.787087	6808.2132	-1398.1264	952.25861	.38173597
769	-280.00662	214.85663	.0000E+00	.0000E+00	.0000E+00	.0000E+00
789	-271.12144	181.15755	.0000E+00	.0000E+00	.0000E+00	.0000E+00
809	-283.20011	163.50566	.0000E+00	.0000E+00	.0000E+00	.0000E+00
829	-309.23979	152.50019	.0000E+00	.0000E+00	.0000E+00	.0000E+00
849	-311.45076	129.00713	.0000E+00	.0000E+00	.0000E+00	.0000E+00
869	-299.49351	101.66435	.0000E+00	.0000E+00	.0000E+00	.0000E+00
880	-13.809153	-40.156588	6721.4475	-1742.0559	382.08836	.39604767
889	-316.61267	84.836109	.0000E+00	.0000E+00	.0000E+00	.0000E+00
909	-305.77418	60.822266	.0000E+00	.0000E+00	.0000E+00	.0000E+00
929	-322.64389	42.476873	.0000E+00	.0000E+00	.0000E+00	.0000E+00
949	-332.84009	21.815492	.0000E+00	.0000E+00	.0000E+00	.0000E+00
969	-315.25350	-.24567705E-08	.0000E+00	.0000E+00	.0000E+00	.0000E+00
989	-302.23383	-19.809452	.0000E+00	.0000E+00	.0000E+00	.0000E+00
1000	2.5706379	-42.746135	6697.8927	-1770.3231	-317.97740	.39333678
1009	-326.04146	-42.924173	.0000E+00	.0000E+00	.0000E+00	.0000E+00
1029	-312.09482	-62.079520	.0000E+00	.0000E+00	.0000E+00	.0000E+00
1049	-321.55144	-86.159448	.0000E+00	.0000E+00	.0000E+00	.0000E+00
1069	-318.75160	-108.20159	.0000E+00	.0000E+00	.0000E+00	.0000E+00
1089	-293.23429	-121.46162	.0000E+00	.0000E+00	.0000E+00	.0000E+00
1109	-281.32323	-138.73327	.0000E+00	.0000E+00	.0000E+00	.0000E+00
1120	17.593586	-37.251304	6736.8569	-1447.4163	-944.36502	.38253742
1129	-301.07330	-173.82475	.0000E+00	.0000E+00	.0000E+00	.0000E+00
1149	-276.94553	-185.04909	.0000E+00	.0000E+00	.0000E+00	.0000E+00
1169	-274.07866	-210.30795	.0000E+00	.0000E+00	.0000E+00	.0000E+00
1189	-267.98894	-235.01999	.0000E+00	.0000E+00	.0000E+00	.0000E+00
1209	-242.61578	-242.61578	.0000E+00	.0000E+00	.0000E+00	.0000E+00
1229	-219.98610	-250.84608	.0000E+00	.0000E+00	.0000E+00	.0000E+00
1240	28.178470	-25.849898	6839.4894	-899.94017	-1325.8621	.36305741
1249	-220.03020	-286.74895	.0000E+00	.0000E+00	.0000E+00	.0000E+00
1269	-195.89208	-293.17321	.0000E+00	.0000E+00	.0000E+00	.0000E+00
1289	-183.95353	-318.61686	.0000E+00	.0000E+00	.0000E+00	.0000E+00
1309	-166.46139	-337.55030	.0000E+00	.0000E+00	.0000E+00	.0000E+00
1329	-137.60070	-332.19748	.0000E+00	.0000E+00	.0000E+00	.0000E+00
1349	-112.24908	-330.67512	.0000E+00	.0000E+00	.0000E+00	.0000E+00
1360	33.421465	-12.578847	6938.5472	-292.15774	-1465.9689	.34295244
1369	-97.234016	-362.88229	.0000E+00	.0000E+00	.0000E+00	.0000E+00
1389	-71.082833	-357.35753	.0000E+00	.0000E+00	.0000E+00	.0000E+00
1409	-49.429764	-375.45633	.0000E+00	.0000E+00	.0000E+00	.0000E+00
1429	-25.368781	-387.05280	.0000E+00	.0000E+00	.0000E+00	.0000E+00
1449	.14393867E-08	-369.40504	.0000E+00	.0000E+00	.0000E+00	.0000E+00
1469	23.200528	-353.97166	.0000E+00	.0000E+00	.0000E+00	.0000E+00

1480	35.308935	1.0218985	6970.3897	291.51636	-1449.1565	.33803491
1489	49.445631	-375.57686	.0000E+00	.0000E+00	.0000E+00	.0000E+00
1509	70.507140	-354.46333	.0000E+00	.0000E+00	.0000E+00	.0000E+00
1529	96.015752	-358.33566	.0000E+00	.0000E+00	.0000E+00	.0000E+00
1549	122.79389	-361.73913	.0000E+00	.0000E+00	.0000E+00	.0000E+00
1569	140.50625	-339.21210	.0000E+00	.0000E+00	.0000E+00	.0000E+00
1589	156.19168	-316.72539	.0000E+00	.0000E+00	.0000E+00	.0000E+00
1600	33.967532	15.440915	6917.7670	866.58122	-1300.3373	.36009520
1609	186.12785	-322.38289	.0000E+00	.0000E+00	.0000E+00	.0000E+00
1629	190.70749	-285.41393	.0000E+00	.0000E+00	.0000E+00	.0000E+00
1649	209.82919	-273.45473	.0000E+00	.0000E+00	.0000E+00	.0000E+00
1669	239.34435	-272.91993	.0000E+00	.0000E+00	.0000E+00	.0000E+00
1689	252.36712	-252.36712	.0000E+00	.0000E+00	.0000E+00	.0000E+00
1709	251.61492	-220.66036	.0000E+00	.0000E+00	.0000E+00	.0000E+00
1720	26.874929	30.025922	6814.1991	1391.1302	-960.92597	.37877874
1729	272.25463	-208.90833	.0000E+00	.0000E+00	.0000E+00	.0000E+00
1749	269.95427	-180.37768	.0000E+00	.0000E+00	.0000E+00	.0000E+00
1769	290.46207	-167.69836	.0000E+00	.0000E+00	.0000E+00	.0000E+00
1789	306.62345	-151.20995	.0000E+00	.0000E+00	.0000E+00	.0000E+00
1809	299.47314	-124.04583	.0000E+00	.0000E+00	.0000E+00	.0000E+00
1829	295.60842	-100.34554	.0000E+00	.0000E+00	.0000E+00	.0000E+00
1840	14.138358	40.074143	6741.5526	1744.4848	-372.98173	.40218938
1849	326.79627	-87.564796	.0000E+00	.0000E+00	.0000E+00	.0000E+00
1869	310.37737	-61.737898	.0000E+00	.0000E+00	.0000E+00	.0000E+00
1889	317.35475	-41.780545	.0000E+00	.0000E+00	.0000E+00	.0000E+00
1909	331.67615	-21.739203	.0000E+00	.0000E+00	.0000E+00	.0000E+00
2001	2017.5847	161.69158	37.868800	.0000E+00	.0000E+00	.0000E+00
2041	1195.5159	306.47874	40.081812	.0000E+00	.0000E+00	.0000E+00
2081	1928.6378	677.25669	35.394061	.0000E+00	.0000E+00	.0000E+00
2121	1851.2098	944.84109	32.110861	.0000E+00	.0000E+00	.0000E+00
2161	1045.5745	768.27271	32.031099	.0000E+00	.0000E+00	.0000E+00
2201	1600.3232	1406.3949	26.647849	.0000E+00	.0000E+00	.0000E+00
2241	1424.3327	1647.8100	24.885774	.0000E+00	.0000E+00	.0000E+00
2281	742.60149	1186.5014	25.491044	.0000E+00	.0000E+00	.0000E+00
2321	1006.9191	2004.9504	22.461822	.0000E+00	.0000E+00	.0000E+00
2361	738.05944	2162.0181	21.229583	.0000E+00	.0000E+00	.0000E+00
2401	254.49693	1434.3459	23.144525	.0000E+00	.0000E+00	.0000E+00
2441	172.27947	2306.7915	20.430709	.0000E+00	.0000E+00	.0000E+00
2481	-132.60873	2333.2562	20.421815	.0000E+00	.0000E+00	.0000E+00
2521	-313.21600	1428.6931	22.869972	.0000E+00	.0000E+00	.0000E+00
2561	-730.22105	2178.7822	21.176916	.0000E+00	.0000E+00	.0000E+00
2601	-993.68287	2063.6481	21.857372	.0000E+00	.0000E+00	.0000E+00
2641	-822.25439	1164.0621	24.825746	.0000E+00	.0000E+00	.0000E+00
2681	-1461.9419	1650.6016	23.630340	.0000E+00	.0000E+00	.0000E+00
2721	-1633.2263	1440.0903	24.778899	.0000E+00	.0000E+00	.0000E+00
2761	-1132.0123	692.78509	28.896891	.0000E+00	.0000E+00	.0000E+00
2801	-1889.9912	902.20110	29.225150	.0000E+00	.0000E+00	.0000E+00
2841	-1971.3362	653.37929	31.847436	.0000E+00	.0000E+00	.0000E+00
2881	-1231.5672	178.24933	38.353465	.0000E+00	.0000E+00	.0000E+00
2921	-2019.9007	100.51853	37.805485	.0000E+00	.0000E+00	.0000E+00
2961	-2024.8483	-161.57216	38.685268	.0000E+00	.0000E+00	.0000E+00
3001	-1204.4128	-307.57088	39.894007	.0000E+00	.0000E+00	.0000E+00
3041	-1907.0176	-671.26324	33.935466	.0000E+00	.0000E+00	.0000E+00

3081	-1831.4367	-936.59286	30.745815	.0000E+00	.0000E+00	.0000E+00
3121	-1053.6249	-773.02896	30.268373	.0000E+00	.0000E+00	.0000E+00
3161	-1593.9787	-1400.4817	26.282073	.0000E+00	.0000E+00	.0000E+00
3201	-1424.0114	-1647.2321	24.669100	.0000E+00	.0000E+00	.0000E+00
3241	-735.14528	-1177.2257	26.231309	.0000E+00	.0000E+00	.0000E+00
3281	-1011.0234	-2013.3243	22.989049	.0000E+00	.0000E+00	.0000E+00
3321	-742.73731	-2171.0482	21.940772	.0000E+00	.0000E+00	.0000E+00
3361	-252.23578	-1424.9046	23.641999	.0000E+00	.0000E+00	.0000E+00
3401	-172.10973	-2313.3298	20.718270	.0000E+00	.0000E+00	.0000E+00
3441	132.82189	-2329.5523	20.375058	.0000E+00	.0000E+00	.0000E+00
3481	312.96245	-1428.8983	22.566064	.0000E+00	.0000E+00	.0000E+00
3521	729.46275	-2178.5760	20.830636	.0000E+00	.0000E+00	.0000E+00
3561	995.75683	-2065.5578	21.580351	.0000E+00	.0000E+00	.0000E+00
3601	818.02544	-1156.5132	24.598405	.0000E+00	.0000E+00	.0000E+00
3641	1459.6676	-1648.6492	23.747669	.0000E+00	.0000E+00	.0000E+00
3681	1634.7006	-1441.8810	24.579114	.0000E+00	.0000E+00	.0000E+00
3721	1142.7270	-700.82138	29.060455	.0000E+00	.0000E+00	.0000E+00
3761	1876.9366	-894.32367	28.193132	.0000E+00	.0000E+00	.0000E+00
3801	1955.0027	-647.61075	31.247215	.0000E+00	.0000E+00	.0000E+00
3841	1249.1851	-182.91484	36.753491	.0000E+00	.0000E+00	.0000E+00
3881	2017.7156	-100.13009	37.220151	.0000E+00	.0000E+00	.0000E+00

TOTAL	16.145198	24.861988	110684.64	2.0868558	1.1008808	5.9124291
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ACTIVE COORDINATE SYSTEM SET TO 1 (CYLINDRICAL) --
DISPLACEMENTS, FORCES, AND COMPONENT STRESSES
WILL BE EXPRESSED IN THIS SYSTEM

PRINT REACTION FORCES PER NODE

***** POST1 REACTION FORCE LISTING *****

LOAD STEP 1 ITERATION= 1 SECTION= 1
FREQ= -1.0000 LOAD CASE= 1

THE FOLLOWING X,Y,Z FORCES ARE IN COORDINATE SYSTEM 1

NODE	FX	FY	FZ	MX	MY	MZ
9	321.31955	-.20439488E-05	.0000E+00	.0000E+00	.0000E+00	.0000E+00
29	305.21090	-.29970328E-05	.0000E+00	.0000E+00	.0000E+00	.0000E+00
40	3.0810833	42.733263	6717.2045	1797.1257	85.578895	.38992621
49	330.11219	-.41943423E-05	.0000E+00	.0000E+00	.0000E+00	.0000E+00
69	315.19371	-.14365011E-05	.0000E+00	.0000E+00	.0000E+00	.0000E+00
89	329.32610	-.17613912E-05	.0000E+00	.0000E+00	.0000E+00	.0000E+00
109	340.34728	-.18161353E-05	.0000E+00	.0000E+00	.0000E+00	.0000E+00
129	324.56573	-.12597469E-05	.0000E+00	.0000E+00	.0000E+00	.0000E+00
149	311.50681	-.24159435E-05	.0000E+00	.0000E+00	.0000E+00	.0000E+00
160	3.0849554	41.079295	6760.7958	1726.7430	85.686461	.38008917
169	338.84640	-.24632428E-05	.0000E+00	.0000E+00	.0000E+00	.0000E+00
189	335.95230	-.31363124E-05	.0000E+00	.0000E+00	.0000E+00	.0000E+00
209	354.46747	-.41716759E-05	.0000E+00	.0000E+00	.0000E+00	.0000E+00
229	355.69483	-.19755466E-05	.0000E+00	.0000E+00	.0000E+00	.0000E+00
249	333.64307	-.15013710E-05	.0000E+00	.0000E+00	.0000E+00	.0000E+00

269	332.37138	-25329107E-05	.0000E+00	.0000E+00	.0000E+00	.0000E+00
280	3.6298559	38.131508	6856.7308	1601.6622	100.82139	.35825626
289	368.77122	-36675963E-05	.0000E+00	.0000E+00	.0000E+00	.0000E+00
309	352.83692	-35529121E-05	.0000E+00	.0000E+00	.0000E+00	.0000E+00
329	363.69009	-33681511E-05	.0000E+00	.0000E+00	.0000E+00	.0000E+00
349	377.07651	-35307730E-05	.0000E+00	.0000E+00	.0000E+00	.0000E+00
369	364.00410	-19809367E-05	.0000E+00	.0000E+00	.0000E+00	.0000E+00
389	349.31408	-30598293E-05	.0000E+00	.0000E+00	.0000E+00	.0000E+00
400	3.4396989	35.552862	6945.0952	1492.1691	95.539681	.33973216
409	372.59060	-25873231E-05	.0000E+00	.0000E+00	.0000E+00	.0000E+00
429	361.21740	-48917976E-05	.0000E+00	.0000E+00	.0000E+00	.0000E+00
449	378.12432	-45004836E-05	.0000E+00	.0000E+00	.0000E+00	.0000E+00
469	388.23713	-34004828E-05	.0000E+00	.0000E+00	.0000E+00	.0000E+00
489	370.23735	-23565629E-05	.0000E+00	.0000E+00	.0000E+00	.0000E+00
509	356.83693	-33940246E-05	.0000E+00	.0000E+00	.0000E+00	.0000E+00
520	3.5537468	35.073503	6974.3813	1471.7674	98.707425	.34842729
529	379.88490	-28266780E-05	.0000E+00	.0000E+00	.0000E+00	.0000E+00
549	361.35489	-23209468E-05	.0000E+00	.0000E+00	.0000E+00	.0000E+00
569	369.36519	-45505480E-05	.0000E+00	.0000E+00	.0000E+00	.0000E+00
589	380.01619	-43183318E-05	.0000E+00	.0000E+00	.0000E+00	.0000E+00
609	366.62628	-14244264E-05	.0000E+00	.0000E+00	.0000E+00	.0000E+00
629	351.30839	-37418642E-05	.0000E+00	.0000E+00	.0000E+00	.0000E+00
640	3.4763409	37.156645	6815.8519	1560.2383	96.557411	.35723209
649	369.46524	-53101587E-05	.0000E+00	.0000E+00	.0000E+00	.0000E+00
669	346.53852	-32364912E-05	.0000E+00	.0000E+00	.0000E+00	.0000E+00
689	351.50428	-31897472E-05	.0000E+00	.0000E+00	.0000E+00	.0000E+00
709	363.15348	-24457204E-05	.0000E+00	.0000E+00	.0000E+00	.0000E+00
729	350.84626	-47363527E-05	.0000E+00	.0000E+00	.0000E+00	.0000E+00
749	334.34947	-39516068E-05	.0000E+00	.0000E+00	.0000E+00	.0000E+00
760	3.4435951	40.188164	6808.2132	1688.9066	95.647892	.38173597
769	352.94062	-29736549E-05	.0000E+00	.0000E+00	.0000E+00	.0000E+00
789	326.07498	-97997588E-06	.0000E+00	.0000E+00	.0000E+00	.0000E+00
809	327.01132	-22683519E-05	.0000E+00	.0000E+00	.0000E+00	.0000E+00
829	344.79785	-36879414E-05	.0000E+00	.0000E+00	.0000E+00	.0000E+00
849	337.11187	-25861305E-05	.0000E+00	.0000E+00	.0000E+00	.0000E+00
869	316.27837	-30950332E-05	.0000E+00	.0000E+00	.0000E+00	.0000E+00
880	2.9453282	42.362358	6721.4475	1781.5886	81.808226	.39604767
889	327.78156	-30869176E-05	.0000E+00	.0000E+00	.0000E+00	.0000E+00
909	311.76465	-29553039E-05	.0000E+00	.0000E+00	.0000E+00	.0000E+00
929	325.42797	-12142298E-05	.0000E+00	.0000E+00	.0000E+00	.0000E+00
949	333.55425	-26452859E-05	.0000E+00	.0000E+00	.0000E+00	.0000E+00
969	315.25350	-20029053E-05	.0000E+00	.0000E+00	.0000E+00	.0000E+00
989	302.88232	-28930505E-05	.0000E+00	.0000E+00	.0000E+00	.0000E+00
1000	3.0308451	42.715972	6697.8927	1796.6822	84.183501	.39333678
1009	328.85486	-39027586E-05	.0000E+00	.0000E+00	.0000E+00	.0000E+00
1029	318.20912	-30381387E-05	.0000E+00	.0000E+00	.0000E+00	.0000E+00
1049	332.89454	-31480568E-05	.0000E+00	.0000E+00	.0000E+00	.0000E+00
1069	336.61576	-14494591E-05	.0000E+00	.0000E+00	.0000E+00	.0000E+00
1089	317.39451	-27084195E-05	.0000E+00	.0000E+00	.0000E+00	.0000E+00
1109	313.67129	-24302861E-05	.0000E+00	.0000E+00	.0000E+00	.0000E+00
1120	3.3891599	41.057369	6736.8569	1725.6818	94.135919	.38253742
1129	347.64950	-30773867E-05	.0000E+00	.0000E+00	.0000E+00	.0000E+00
1149	333.07956	-19297803E-05	.0000E+00	.0000E+00	.0000E+00	.0000E+00

1169	345.46859	-.27252852E-05	.0000E+00	.0000E+00	.0000E+00	.0000E+00
1189	356.44420	-.30524805E-05	.0000E+00	.0000E+00	.0000E+00	.0000E+00
1209	343.11053	-.46279112E-05	.0000E+00	.0000E+00	.0000E+00	.0000E+00
1229	333.64298	-.31289121E-05	.0000E+00	.0000E+00	.0000E+00	.0000E+00
1240	3.3541381	38.091904	6839.4894	1599.7260	93.163168	.36305741
1249	361.43914	-.35918587E-05	.0000E+00	.0000E+00	.0000E+00	.0000E+00
1269	352.59642	-.23101107E-05	.0000E+00	.0000E+00	.0000E+00	.0000E+00
1289	367.90706	-.51595600E-05	.0000E+00	.0000E+00	.0000E+00	.0000E+00
1309	376.36366	-.35506013E-05	.0000E+00	.0000E+00	.0000E+00	.0000E+00
1329	359.56797	-.28292858E-05	.0000E+00	.0000E+00	.0000E+00	.0000E+00
1349	349.20752	-.44456064E-05	.0000E+00	.0000E+00	.0000E+00	.0000E+00
1360	3.5001220	35.538301	6938.5472	1491.6332	97.217962	.34295244
1369	375.68339	-.35336464E-05	.0000E+00	.0000E+00	.0000E+00	.0000E+00
1389	364.35858	-.34495971E-05	.0000E+00	.0000E+00	.0000E+00	.0000E+00
1409	378.69613	-.26662684E-05	.0000E+00	.0000E+00	.0000E+00	.0000E+00
1429	387.88328	-.33741890E-05	.0000E+00	.0000E+00	.0000E+00	.0000E+00
1449	369.40504	-.23483865E-05	.0000E+00	.0000E+00	.0000E+00	.0000E+00
1469	354.73117	-.33896789E-05	.0000E+00	.0000E+00	.0000E+00	.0000E+00
1480	3.5955850	35.140246	6970.3897	1474.8092	99.869508	.33803491
1489	378.81769	-.27371525E-05	.0000E+00	.0000E+00	.0000E+00	.0000E+00
1509	361.40768	-.35641161E-05	.0000E+00	.0000E+00	.0000E+00	.0000E+00
1529	370.97638	-.13719443E-05	.0000E+00	.0000E+00	.0000E+00	.0000E+00
1549	382.01249	-.28180828E-05	.0000E+00	.0000E+00	.0000E+00	.0000E+00
1569	367.16053	-.35814060E-05	.0000E+00	.0000E+00	.0000E+00	.0000E+00
1589	353.14418	-.27098730E-05	.0000E+00	.0000E+00	.0000E+00	.0000E+00
1600	3.6115418	37.137203	6917.7670	1559.4157	100.31272	.36009520
1609	372.25569	-.27046609E-05	.0000E+00	.0000E+00	.0000E+00	.0000E+00
1629	343.26441	-.19901264E-05	.0000E+00	.0000E+00	.0000E+00	.0000E+00
1649	344.68214	-.40551706E-05	.0000E+00	.0000E+00	.0000E+00	.0000E+00
1669	363.00276	-.20147207E-05	.0000E+00	.0000E+00	.0000E+00	.0000E+00
1689	356.90100	-.16046395E-05	.0000E+00	.0000E+00	.0000E+00	.0000E+00
1709	334.66560	-.11454456E-05	.0000E+00	.0000E+00	.0000E+00	.0000E+00
1720	3.0426919	40.181586	6814.1991	1688.6325	84.512573	.37877874
1729	343.16945	-.20827492E-05	.0000E+00	.0000E+00	.0000E+00	.0000E+00
1749	324.67124	-.26982245E-05	.0000E+00	.0000E+00	.0000E+00	.0000E+00
1769	335.39671	-.36381916E-05	.0000E+00	.0000E+00	.0000E+00	.0000E+00
1789	341.88067	-.51236090E-05	.0000E+00	.0000E+00	.0000E+00	.0000E+00
1809	324.14739	-.10413928E-05	.0000E+00	.0000E+00	.0000E+00	.0000E+00
1829	312.17553	-.27332965E-05	.0000E+00	.0000E+00	.0000E+00	.0000E+00
1840	3.2846537	42.367926	6741.5526	1781.5777	91.233194	.40218938
1849	338.32439	-.31835691E-05	.0000E+00	.0000E+00	.0000E+00	.0000E+00
1869	316.45802	-.27027863E-05	.0000E+00	.0000E+00	.0000E+00	.0000E+00
1889	320.09319	-.42071983E-05	.0000E+00	.0000E+00	.0000E+00	.0000E+00
1909	332.38782	-.31001583E-05	.0000E+00	.0000E+00	.0000E+00	.0000E+00
2001	2017.5847	161.69157	37.868800	.0000E+00	.0000E+00	.0000E+00
2041	1225.2916	147.81062	40.081812	.0000E+00	.0000E+00	.0000E+00
2081	2038.2080	155.01152	35.394061	.0000E+00	.0000E+00	.0000E+00
2121	2071.8699	164.49201	32.110861	.0000E+00	.0000E+00	.0000E+00
2161	1289.6304	142.55643	32.031099	.0000E+00	.0000E+00	.0000E+00
2201	2125.7807	141.55304	26.647849	.0000E+00	.0000E+00	.0000E+00
2241	2172.3329	158.02230	24.885774	.0000E+00	.0000E+00	.0000E+00
2281	1393.3820	133.15088	25.491044	.0000E+00	.0000E+00	.0000E+00
2321	2239.7975	130.45770	22.461822	.0000E+00	.0000E+00	.0000E+00

2361	2279.8874	145.49048	21.229583	.0000E+00	.0000E+00	.0000E+00
2401	1451.3404	125.41085	23.144525	.0000E+00	.0000E+00	.0000E+00
2441	2309.5436	130.29111	20.430709	.0000E+00	.0000E+00	.0000E+00
2481	2333.2562	132.60871	20.421815	.0000E+00	.0000E+00	.0000E+00
2521	1457.3533	124.05451	22.869972	.0000E+00	.0000E+00	.0000E+00
2561	2293.5372	141.42902	21.176916	.0000E+00	.0000E+00	.0000E+00
2601	2286.8282	128.31930	21.857372	.0000E+00	.0000E+00	.0000E+00
2641	1419.2345	130.06214	24.825746	.0000E+00	.0000E+00	.0000E+00
2681	2199.4841	155.01385	23.630340	.0000E+00	.0000E+00	.0000E+00
2721	2173.1630	136.56776	24.778899	.0000E+00	.0000E+00	.0000E+00
2761	1319.8260	139.50204	28.896891	.0000E+00	.0000E+00	.0000E+00
2801	2087.8809	163.66649	29.225150	.0000E+00	.0000E+00	.0000E+00
2841	2071.3146	150.75395	31.847436	.0000E+00	.0000E+00	.0000E+00
2881	1235.7368	146.57739	38.353465	.0000E+00	.0000E+00	.0000E+00
2921	2015.7405	163.99135	37.805485	.0000E+00	.0000E+00	.0000E+00
2961	2024.8483	161.57215	38.685268	.0000E+00	.0000E+00	.0000E+00
3001	1234.2549	147.73215	39.894007	.0000E+00	.0000E+00	.0000E+00
3041	2015.7732	154.81801	33.935466	.0000E+00	.0000E+00	.0000E+00
3081	2050.4454	164.43848	30.745815	.0000E+00	.0000E+00	.0000E+00
3121	1298.9804	142.65024	30.268373	.0000E+00	.0000E+00	.0000E+00
3161	2117.1476	140.72412	26.282073	.0000E+00	.0000E+00	.0000E+00
3201	2171.6971	157.84086	24.669100	.0000E+00	.0000E+00	.0000E+00
3241	1381.4840	133.41963	26.231309	.0000E+00	.0000E+00	.0000E+00
3281	2249.1016	131.09018	22.989049	.0000E+00	.0000E+00	.0000E+00
3321	2290.0202	144.62435	21.940772	.0000E+00	.0000E+00	.0000E+00
3361	1441.6356	125.15137	23.641999	.0000E+00	.0000E+00	.0000E+00
3401	2316.0038	131.31281	20.718270	.0000E+00	.0000E+00	.0000E+00
3441	2329.5523	132.82187	20.375058	.0000E+00	.0000E+00	.0000E+00
3481	1457.5237	123.77635	22.566064	.0000E+00	.0000E+00	.0000E+00
3521	2293.1417	140.74993	20.830636	.0000E+00	.0000E+00	.0000E+00
3561	2289.3863	129.50456	21.580351	.0000E+00	.0000E+00	.0000E+00
3601	1410.5826	130.17419	24.598405	.0000E+00	.0000E+00	.0000E+00
3641	2196.5507	154.39812	23.747669	.0000E+00	.0000E+00	.0000E+00
3681	2175.4717	136.34398	24.579114	.0000E+00	.0000E+00	.0000E+00
3721	1333.2193	139.64911	29.060455	.0000E+00	.0000E+00	.0000E+00
3761	2072.6366	163.96128	28.193132	.0000E+00	.0000E+00	.0000E+00
3801	2054.0169	149.83281	31.247215	.0000E+00	.0000E+00	.0000E+00
3841	1253.9620	146.63070	36.753491	.0000E+00	.0000E+00	.0000E+00
3881	2013.5234	164.09126	37.220151	.0000E+00	.0000E+00	.0000E+00
TOTAL	124331.08	7520.3013	110684.64	26238.359	1484.9759	5.9124291

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APPENDIX 1 - Hydrostatic Load Evaluation

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Liquid loads

The hydrostatic loads due to the PCS water buoyancy has to be considered as follows:

if ρ = water weight density = 62,43 lb/ft³ = 1 t/m³

at the various water depht the following lateral pressure have been obtained (see Fig. 1.1):

$$q_1 = 62,43 \cdot 24' = 1500 \text{ psf} = 7315 \text{ Kg/mq}$$

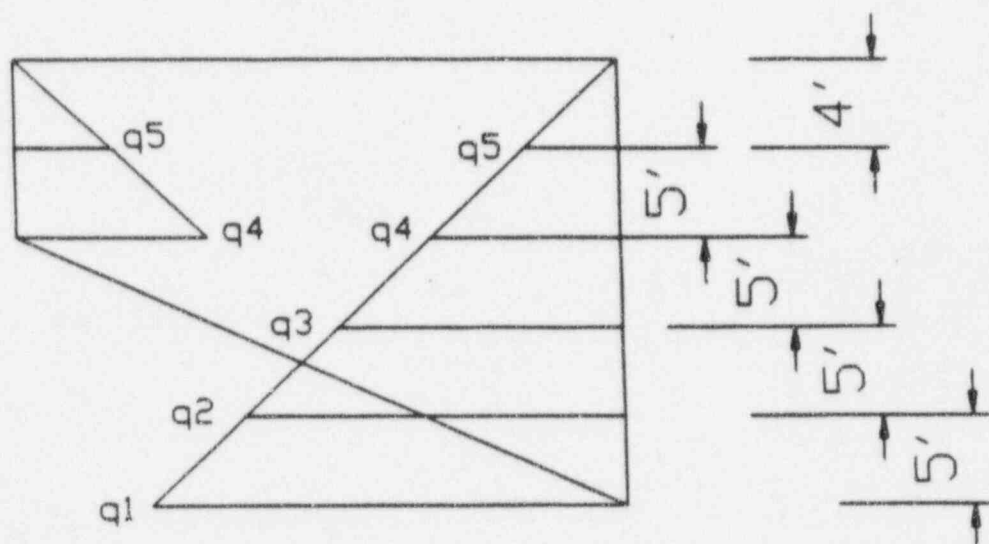
$$q_2 = 62,43 \cdot 19' = 1186 \text{ psf} = 5790 \text{ Kg/mq}$$

$$q_3 = 62,43 \cdot 14' = 874 \text{ psf} = 4266 \text{ Kg/mq}$$

$$q_4 = 62,43 \cdot 9' = 562 \text{ psf} = 2745 \text{ Kg/mq}$$

$$q_5 = 62,43 \cdot 4' = 250 \text{ psf} = 1220 \text{ Kg/mq}$$

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APPENDIX 2 - Snow Load Evaluation

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Snow load

Ground Snow Load = $P_g = 75$ psf

Exposure factor = $C_e = 1.0$

Importance factor = $I = 1.2$

So, for the PCS roof slab the snow load is:

$$P_f = 0.7 C_e \cdot I \cdot P_g = 0.7 \cdot 1.0 \cdot 1.2 \cdot 75 = 63 \text{ psf} = 308 \text{ Kg/mq}$$

while, for the sloped conical roof is:

$P_s = C_s P_f$ acting on the horizontal projection of the concrete roof surface.

The roof slope factor $C_s = 0.5$ (see Fig. 8a of Ref. [10] for unobstructed warm roof) takes into account the roof surface typology that allows snow to slide off the eaves all around.

So: $P_s = 0.5 \cdot 63 = 31.5 \text{ psf} = 154 \text{ Kg/mq}$.

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APPENDIX 3 - Wind Load Evaluation

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				1	2

Wind Load

Basic wind speed = 110 mph = V

Importance factor = 1.11 = I

Exposure category = C

Velocity Pressure:

$$q_z = 0.00256 K_z (IV)^2 = 0.00256 * K_z (1.11 * 110)^2 = 38.17 K_z$$

At the various elevations we obtain (see Fig. 3.1):

z [ft]	K _z	q _z [psf]	G _h (gust factor)
0	0.80	30.54	1.32
60'.5	1.19	45.43	1.20
150'	1.55	59.16	1.135
172'	1.60	61.1	1.125
207'.25	1.69	64.51	1.1

According to Table 12 of Ref. [10], $\frac{h}{D} = \frac{307.25 - 160.5}{145} = 1$

and $D \sqrt{q_z} > 2.5$ So: $C_f = 0.5$

Because of the roof irregular shape, three different portion of this may be considered:

- region I: from El. 160'.5 to El. 250'
- region II: from El. 250' to El. 272'
- region III: from El. 272' to El. 307'.25

For each region, a global horizontal force applied at the elevation of the relative center of gravity, has been obtained as follows:

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$$\begin{aligned}
 F_I &= \left[\frac{59.16 + 45.43}{2} \cdot \frac{1.135 + 1.20}{2} \cdot 0.5 \cdot 12978 \right] = 396180 \text{ lb} \\
 F_{II} &= \left[q_z G_h C_f A_r \right] = \left[\frac{61.1 + 59.16}{2} \cdot \frac{1.125 + 1.135}{2} \cdot 0.5 \cdot 2475 \right] = 84085 \text{ lb} \\
 F_{III} &= \left[\frac{64.51 + 61.6}{2} \cdot \frac{1.11 + 1.125}{2} \cdot 0.5 \cdot 2820 \right] = 98960 \text{ lb}
 \end{aligned}$$

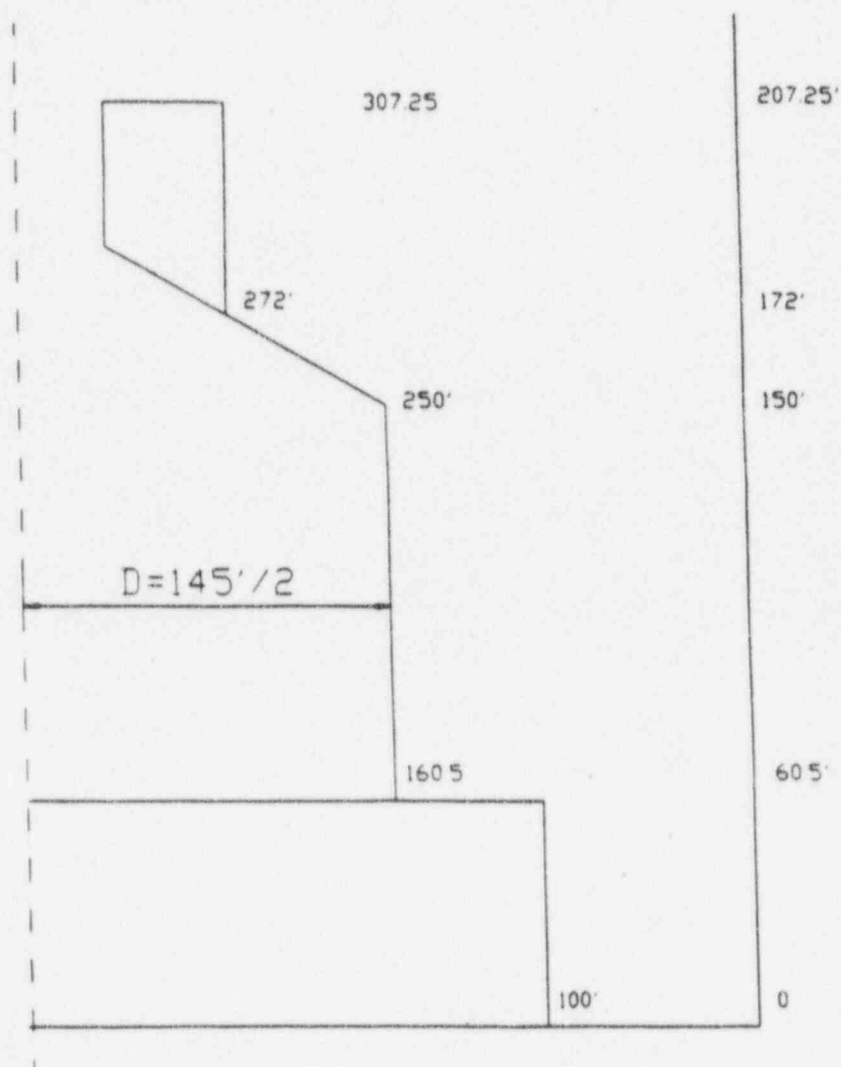
Each force will be applied to the finite element model (one quarter) in the X global direction as follows (see Fig. 3.2):

- portion I (element 'S 31' to 'S 35'): $P_I = \frac{F_I}{A_{rI}} = 30.5 \text{ psf}$
- portion II (element 'S 26' to 'S 30'): $P_{II} = \frac{F_{II}}{A_{rII}} = 34 \text{ psf}$
- portion III (element 'S 1' to 'S 7'): $P_{III} = \frac{F_{III}}{A_{rIII}} = 35 \text{ psf}$

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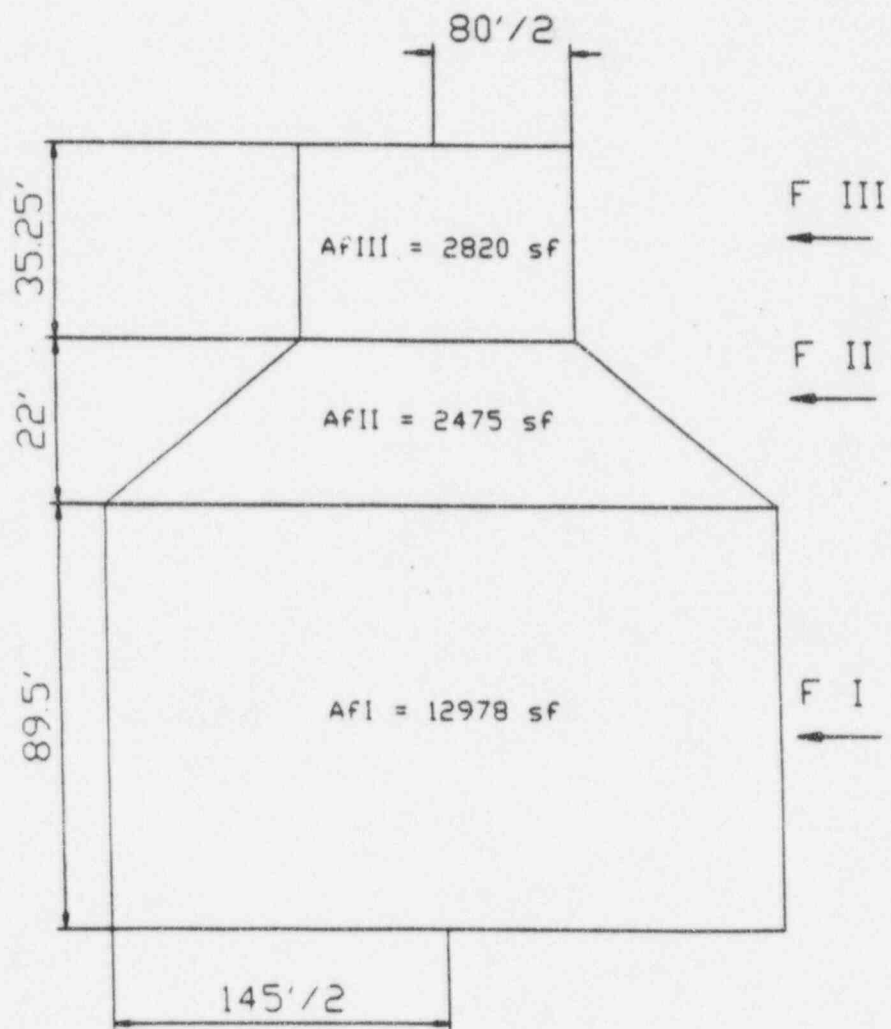


Fig. 3.2 - Wind Static Forces Evaluation

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AM000	1277 93C 007	A	450

APPENDIX 5

Thermal evaluation

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AP800	1277 S3C 007	A	451

The following cases are taken into account:

case "n": when the water temperature in the PCS tank is +40°F and the external temperature is -40 °F: there is a global temperature decrement.

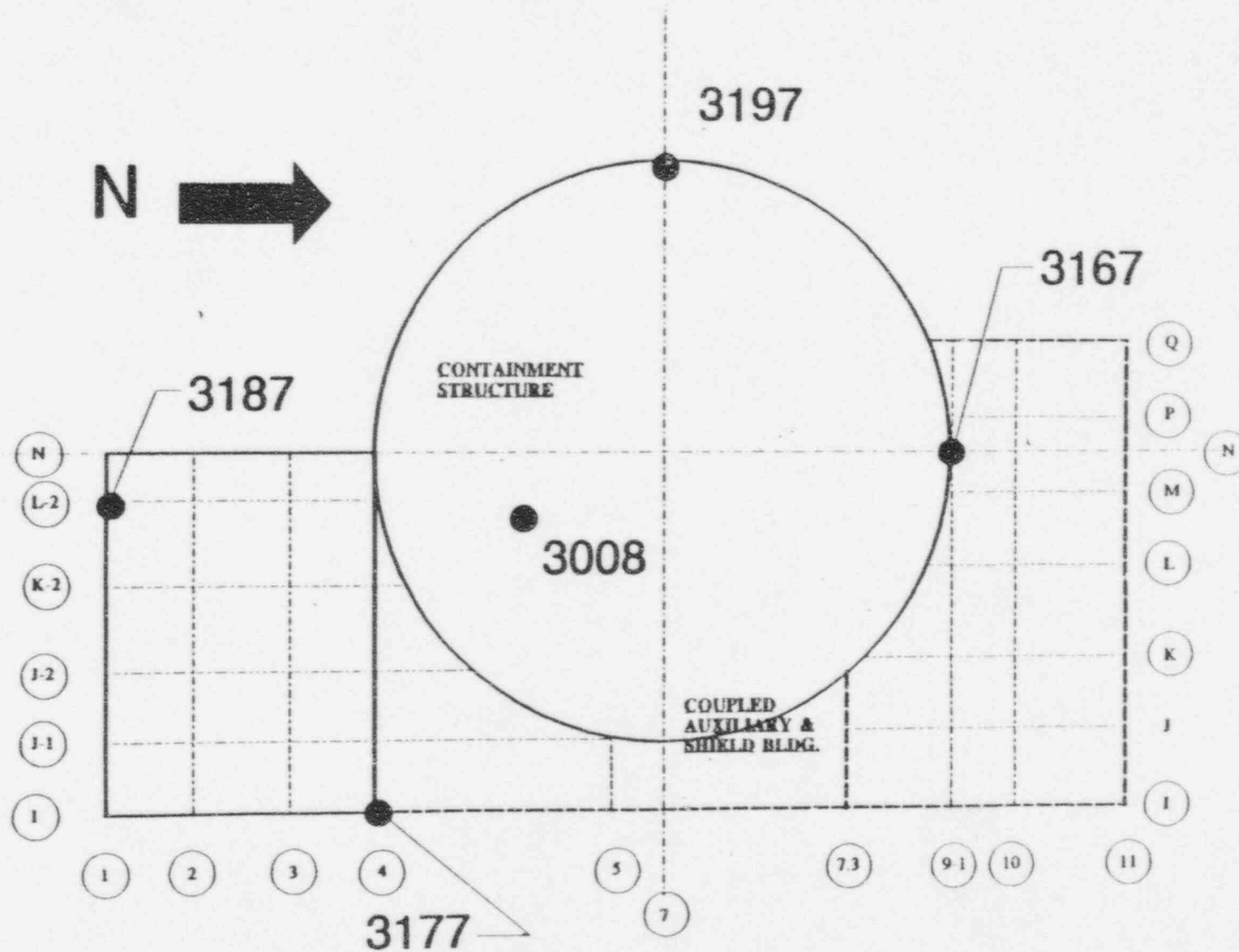
case "p": when the water temperature in the PCS tank is +40°F and the external temperature is +115 °F: there is a global temperature increment.

So in the TABLE A6 are collected, for the two cases, the difference of temperature in the walls of the model, near the PCS tank and far. The difference of temperature can be divided into 2 different values: a *change* value, for a constant temperature in all the wall; and a *gradient* for a temperature variable in the wall thickness.

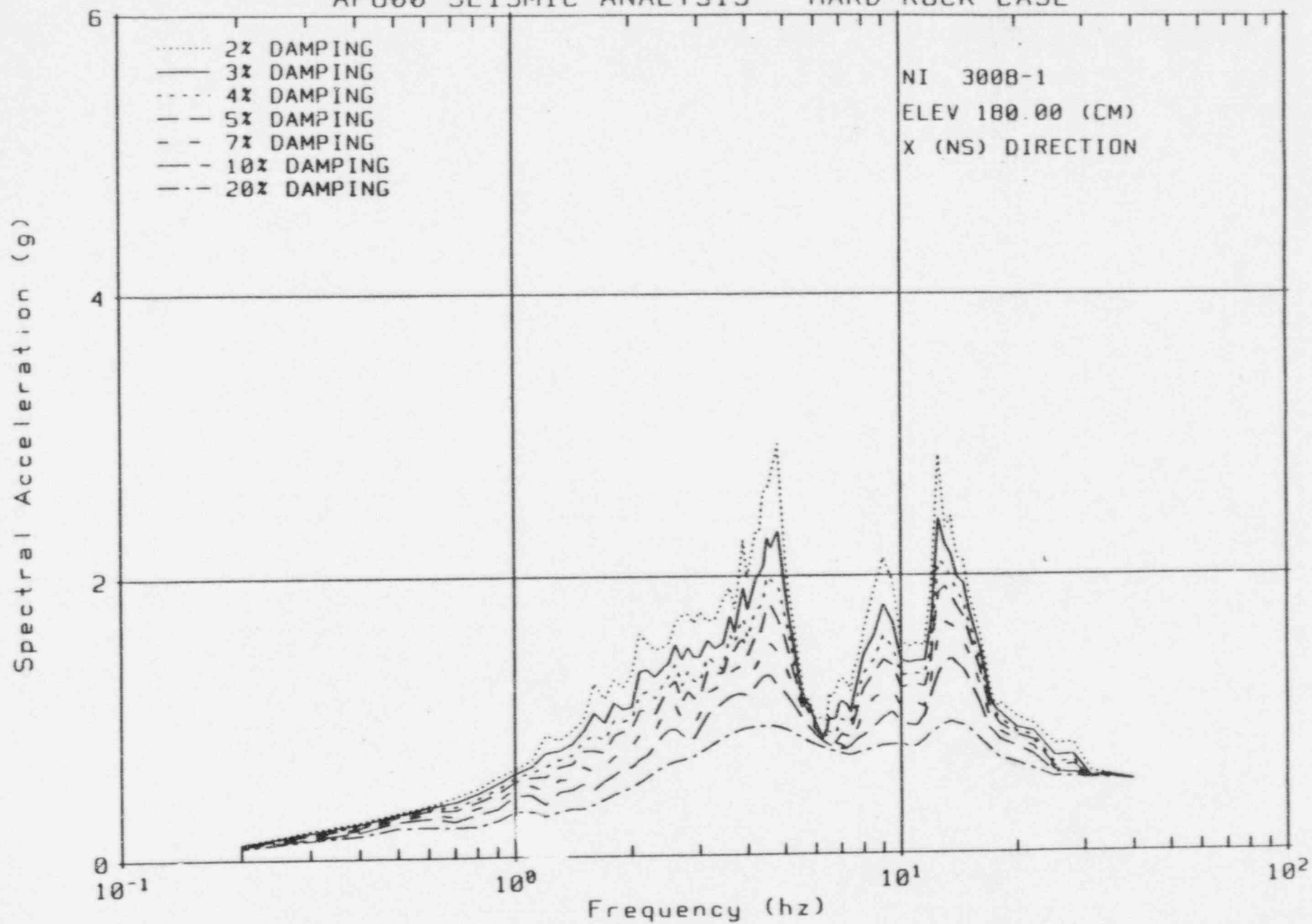
TABLE A6

CASE	t_r [F]	t_{water} [F]	$t_{external}$ [F]	near PCS		far PCS	
				change	gradient	change	gradient
				[F]	[F]	[F]	[F]
n	70	+40	-40	70	±40	110	0
p	70	+40	+115	7.5	±37.5	45	0

Coupled Auxiliary & Shield Buildings
Location of Seismic Responses @ Elevation 180'-0"

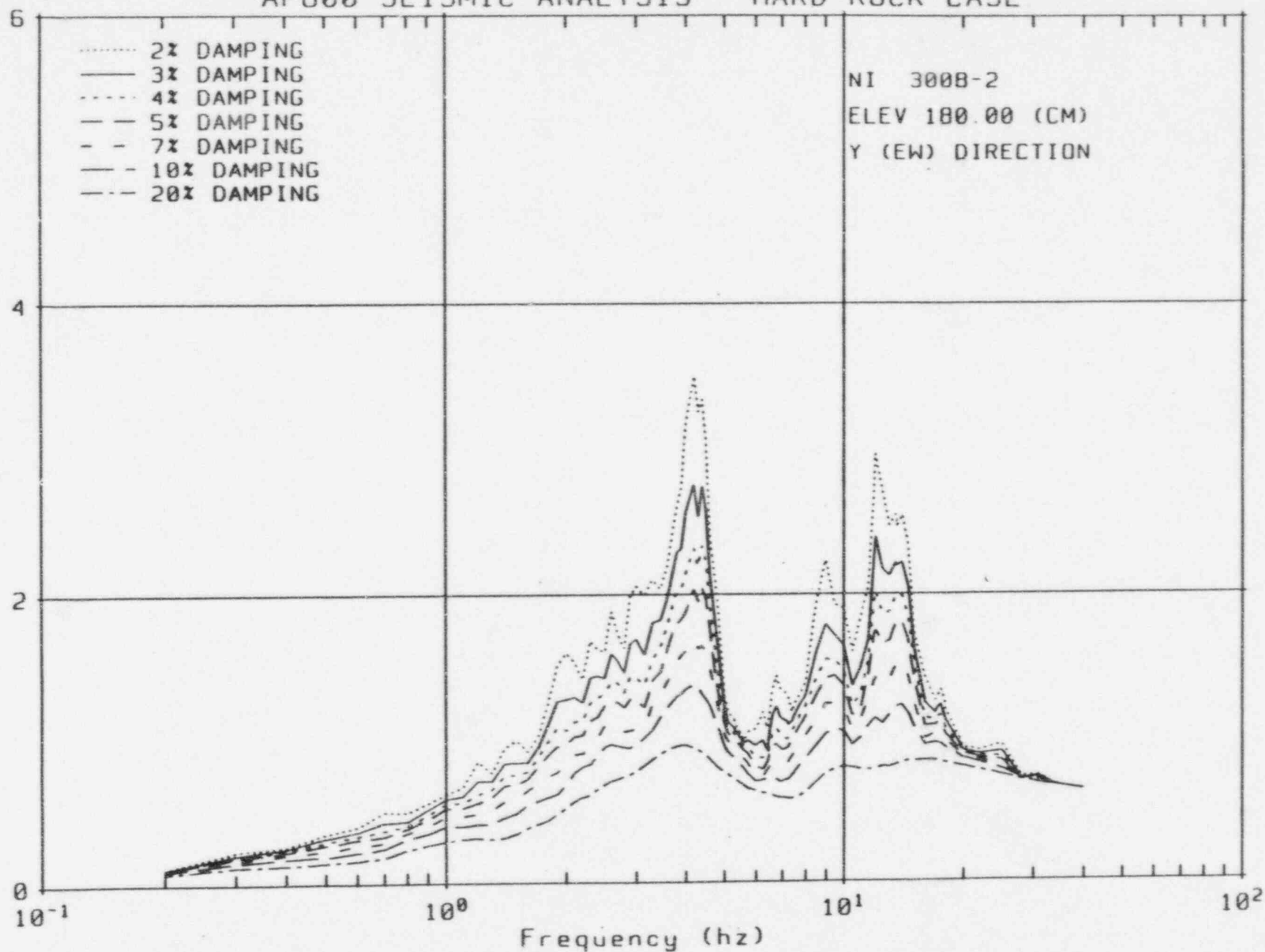


AP600 SEISMIC ANALYSIS - HARD ROCK CASE

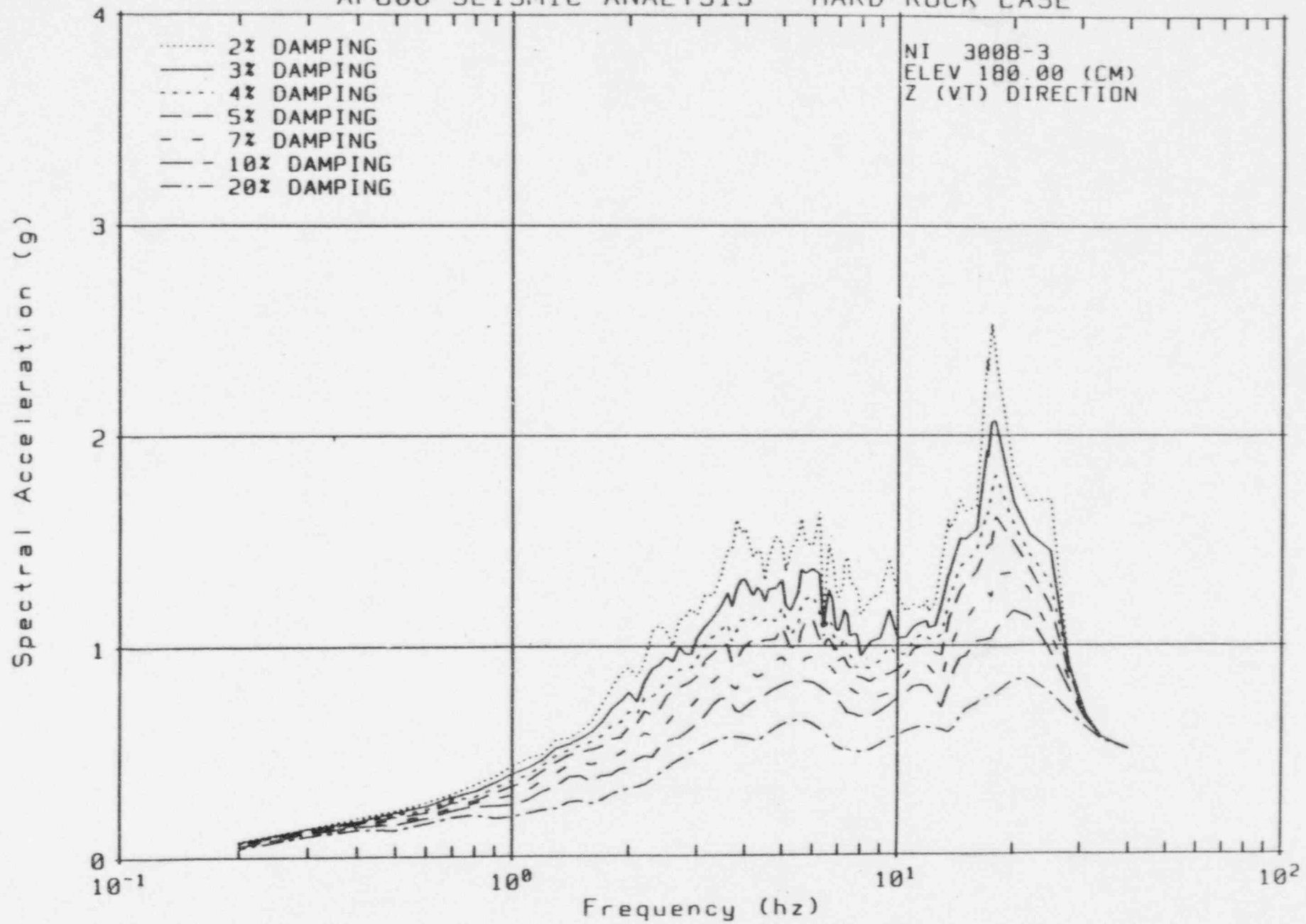


AP600 SEISMIC ANALYSIS - HARD ROCK CASE

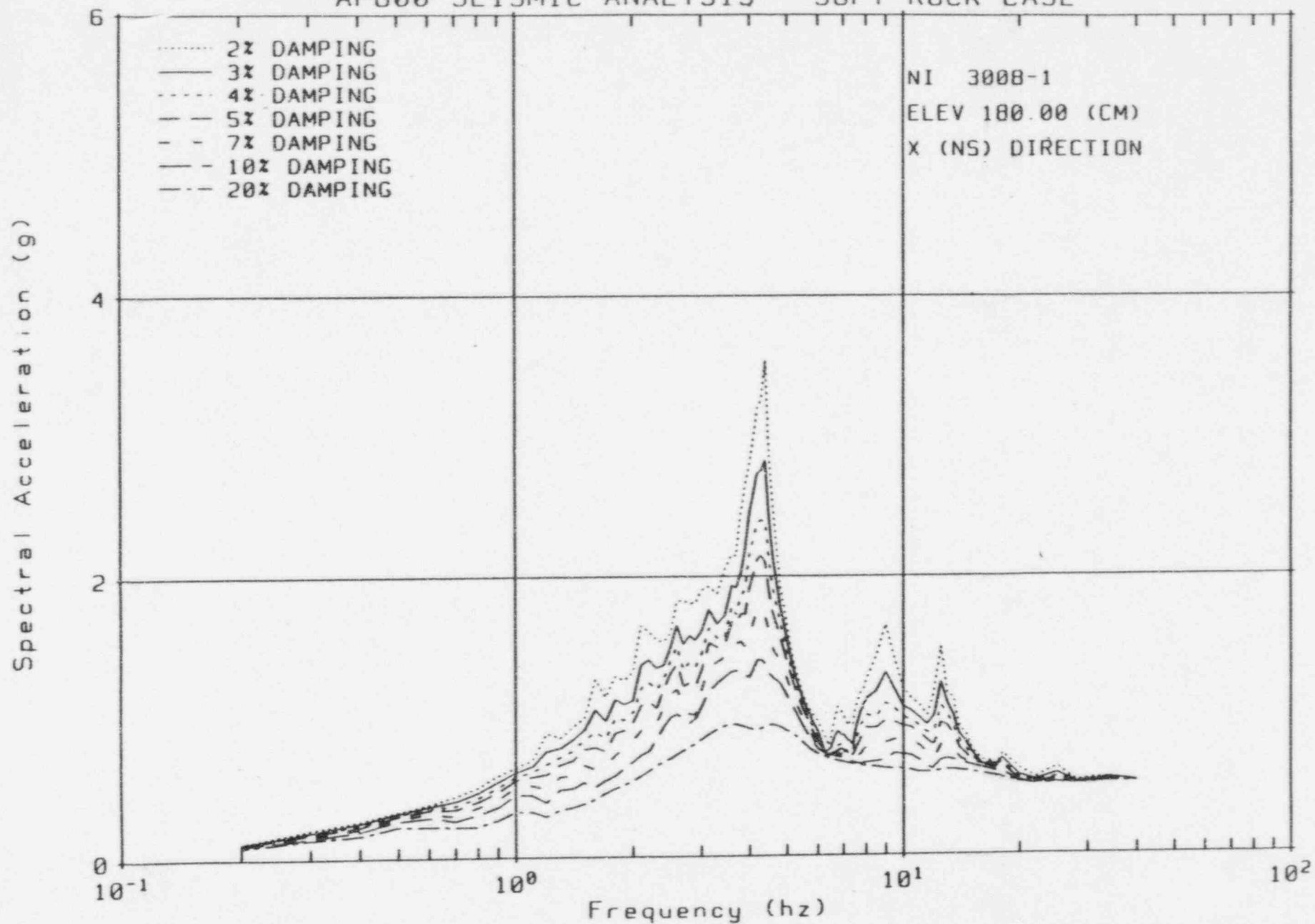
Spectral Acceleration (g)



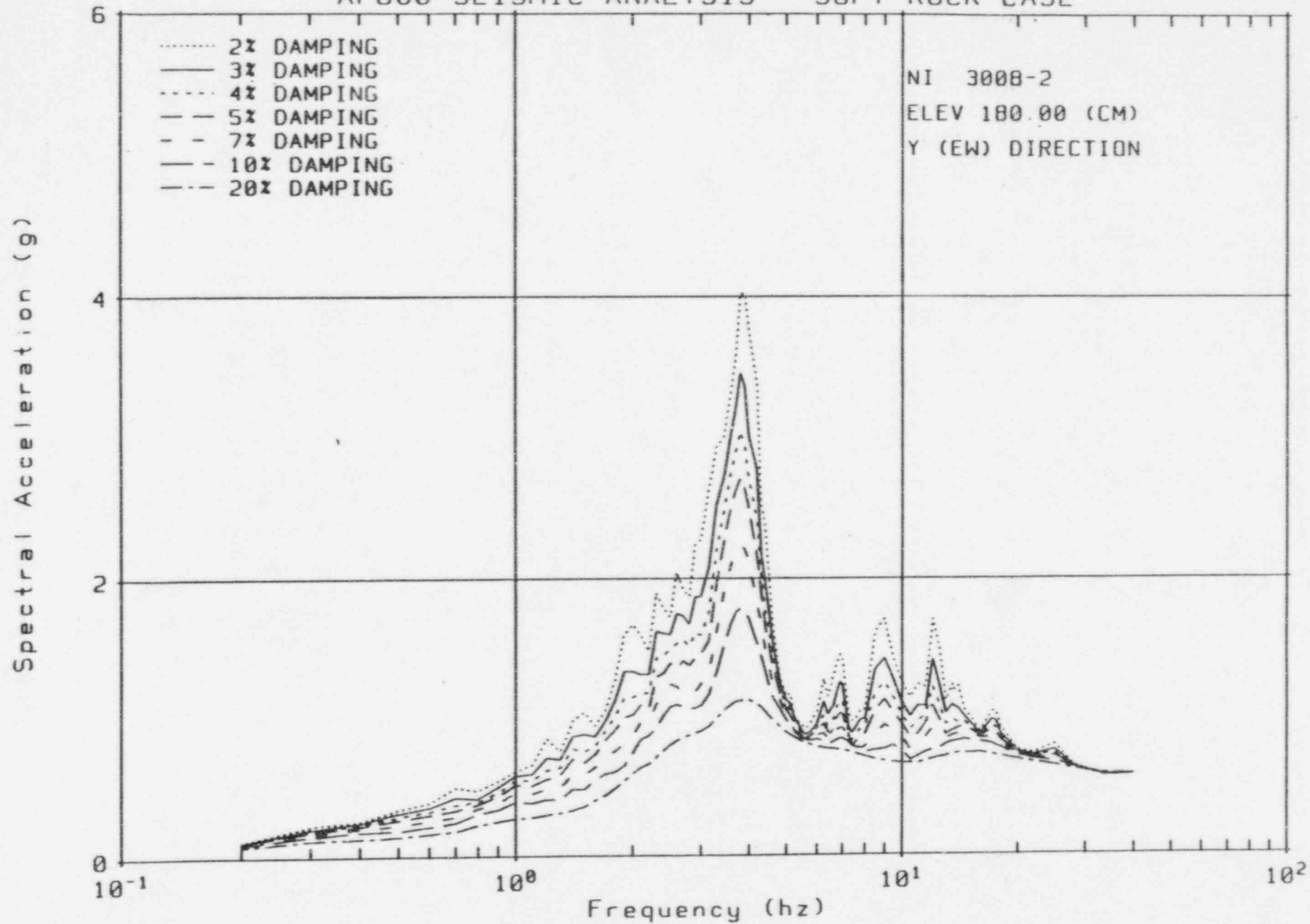
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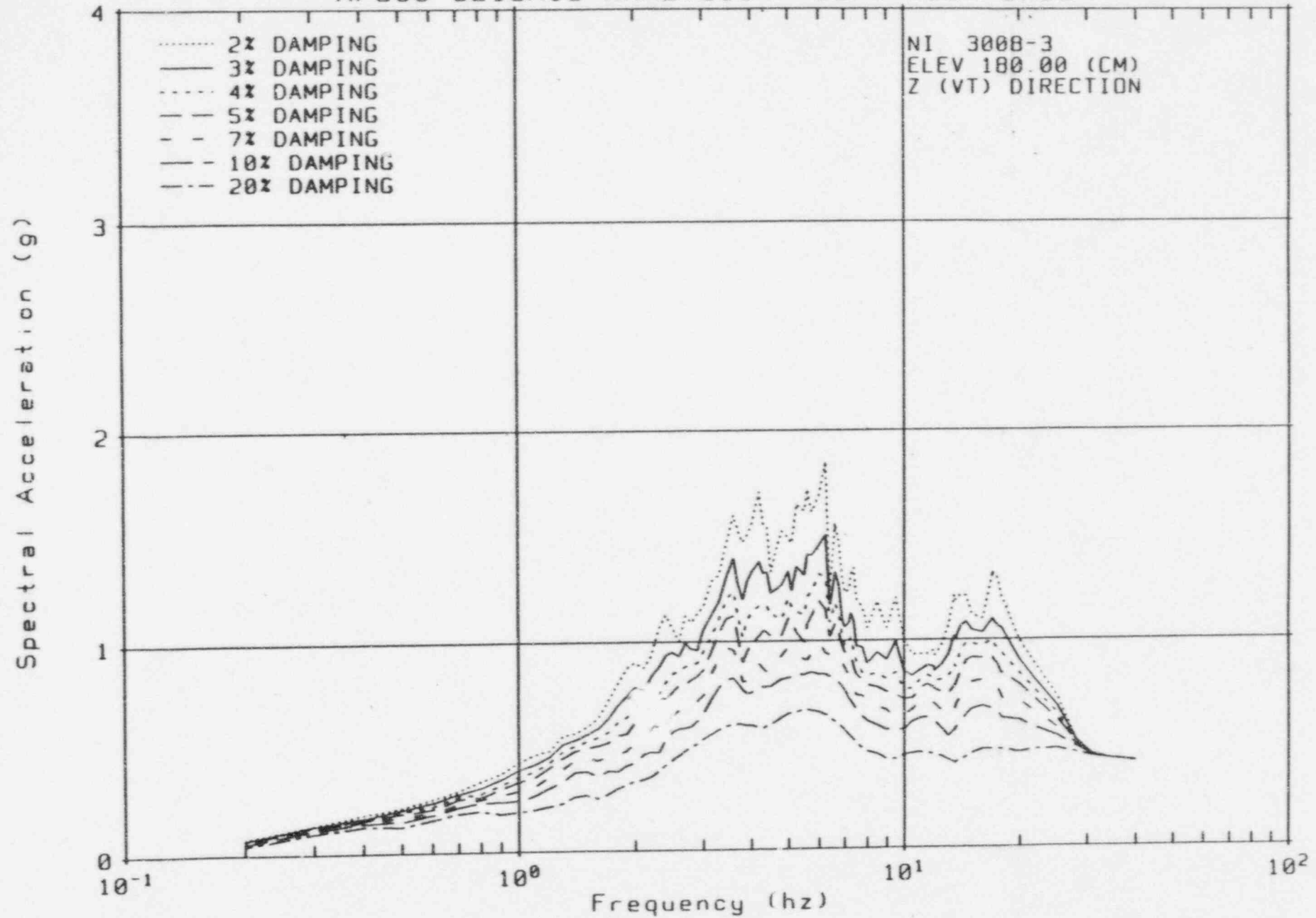
AP600 SEISMIC ANALYSIS - SOFT ROCK CASE



AP600 SEISMIC ANALYSIS - SOFT ROCK CASE

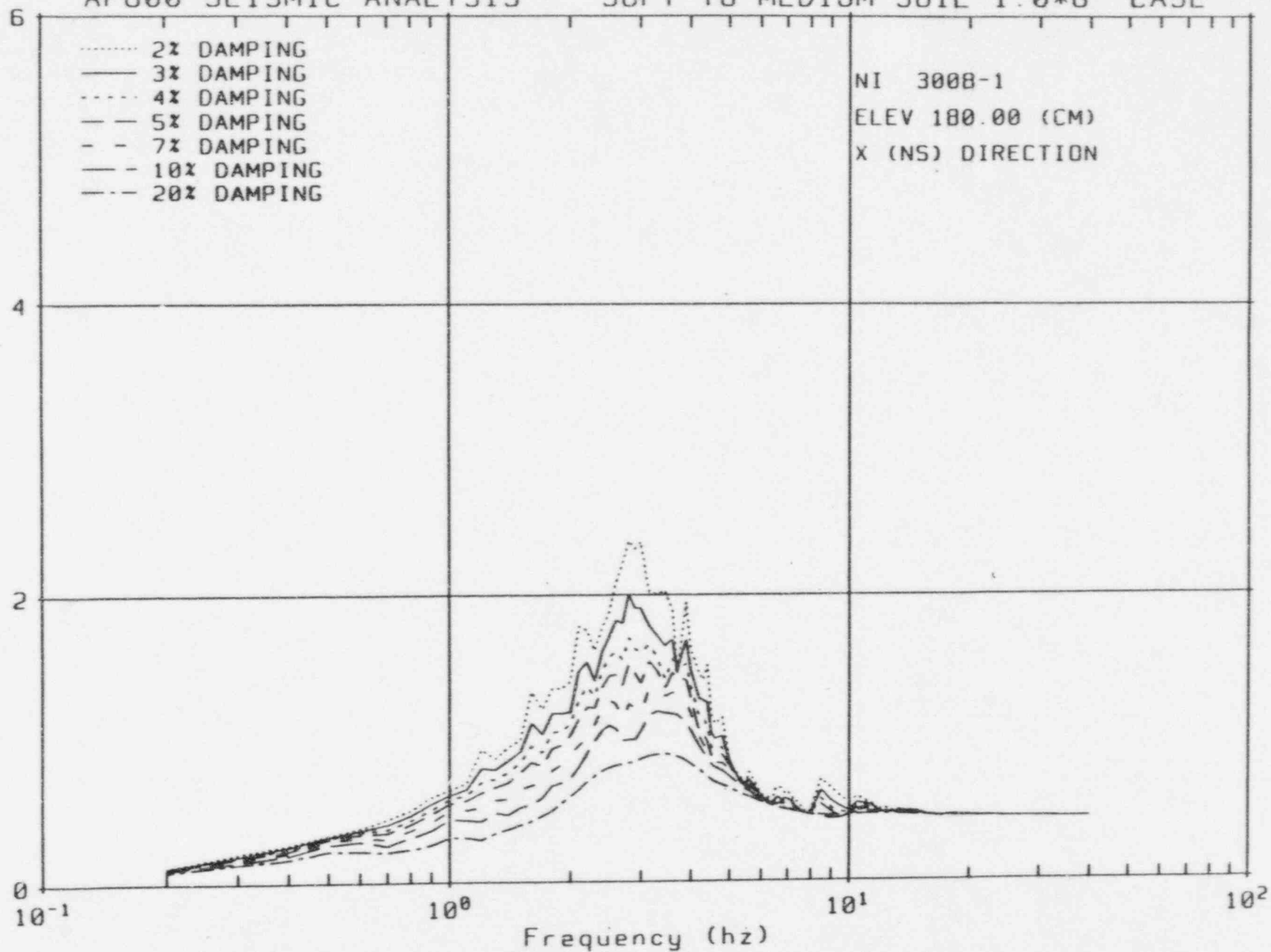


AP600 SEISMIC ANALYSIS - SOFT ROCK CASE

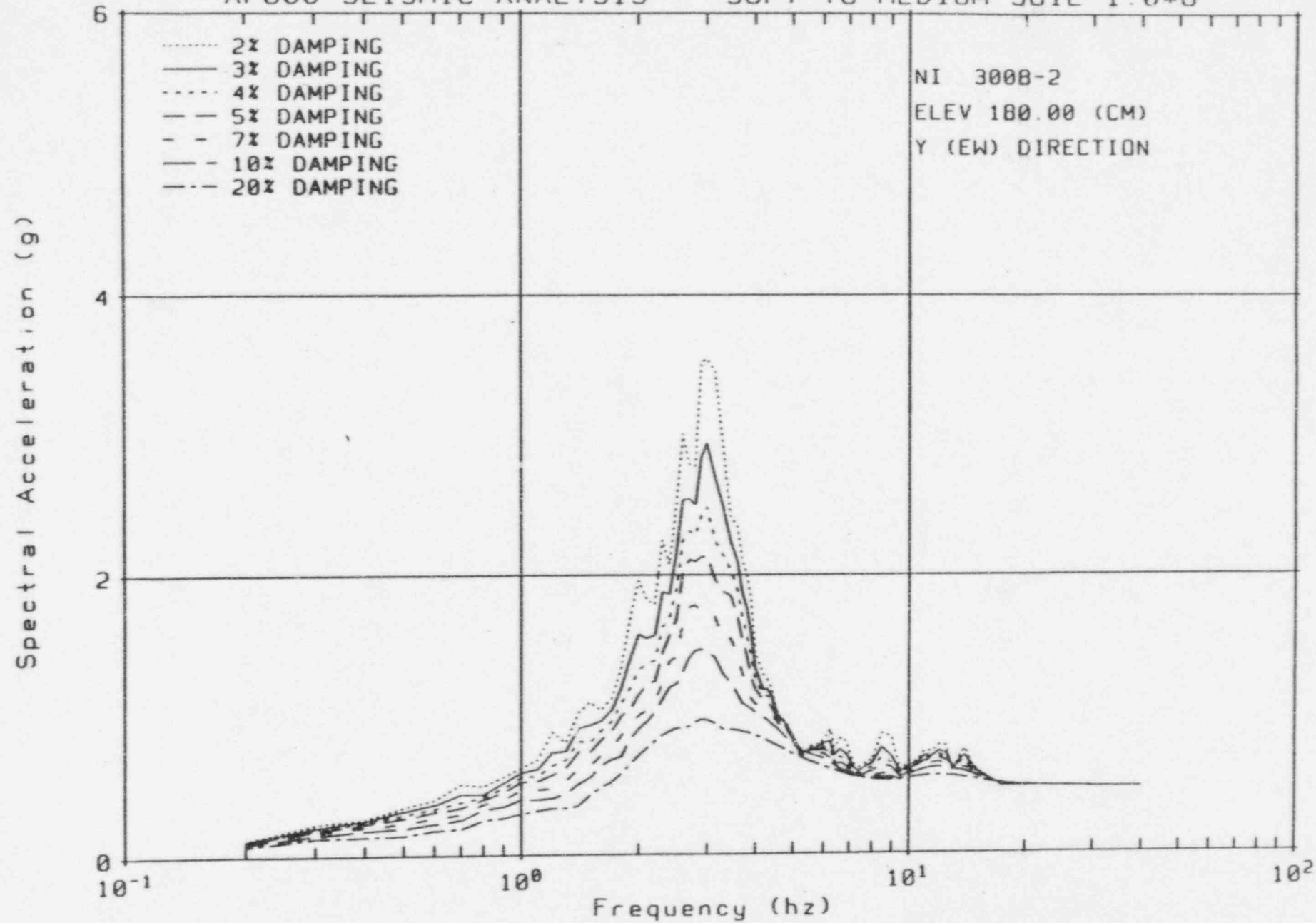


AP600 SEISMIC ANALYSIS - SOFT TO MEDIUM SOIL 1.0*G CASE

Spectral Acceleration (g)



AP600 SEISMIC ANALYSIS - SOFT TO MEDIUM SOIL 1.0*G

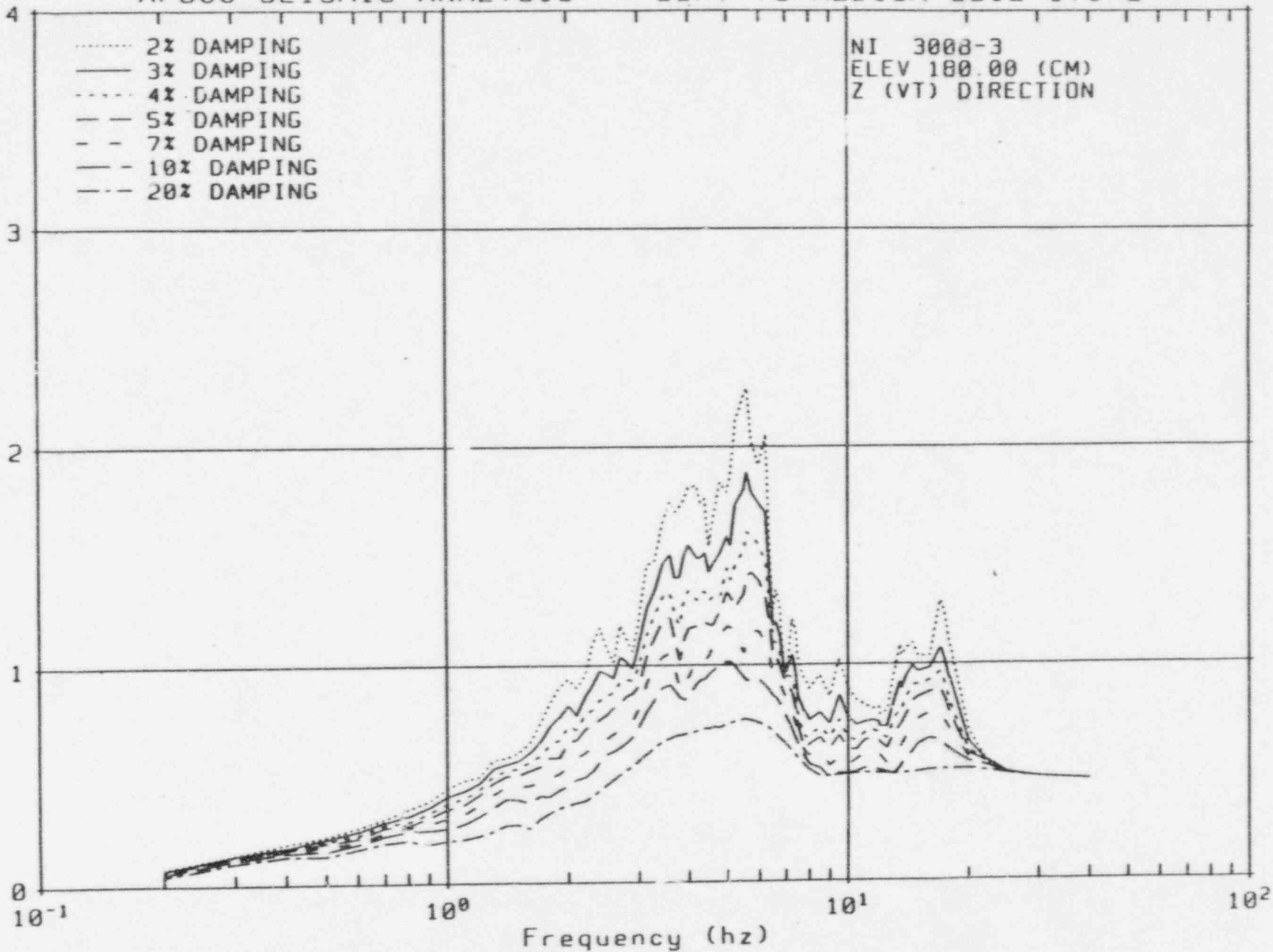


AP600 SEISMIC ANALYSIS - SOFT TO MEDIUM SOIL 1.0*G

Spectral Acceleration (g)

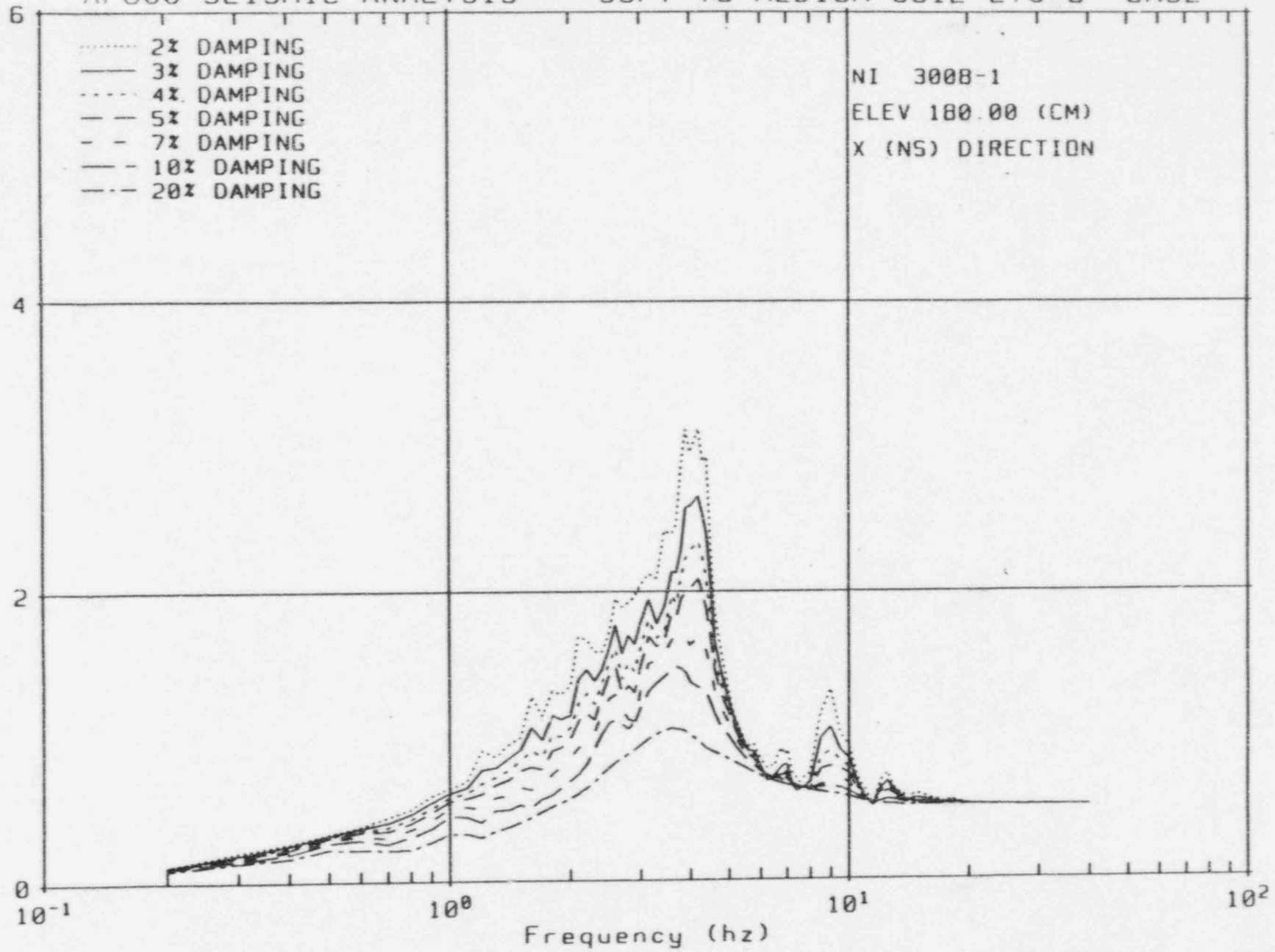
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 ——— 3% DAMPING
 - - - 4% DAMPING
 — — — 5% DAMPING
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 — — — 10% DAMPING
 - - - 20% DAMPING

NI 3008-3
 ELEV 180.00 (CM)
 Z (VT) DIRECTION

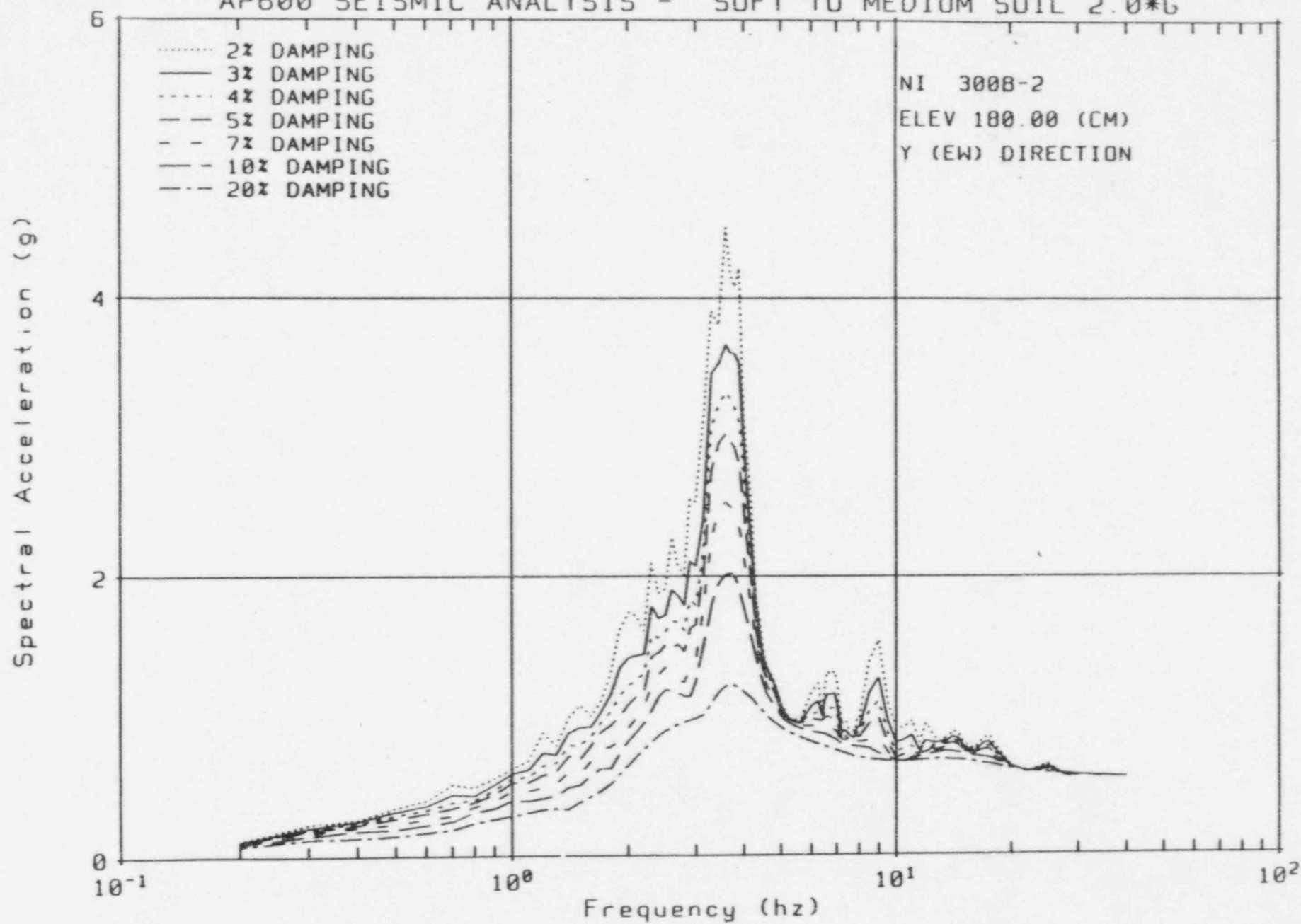


AP600 SEISMIC ANALYSIS - SOFT TO MEDIUM SOIL 2.0*G CASE

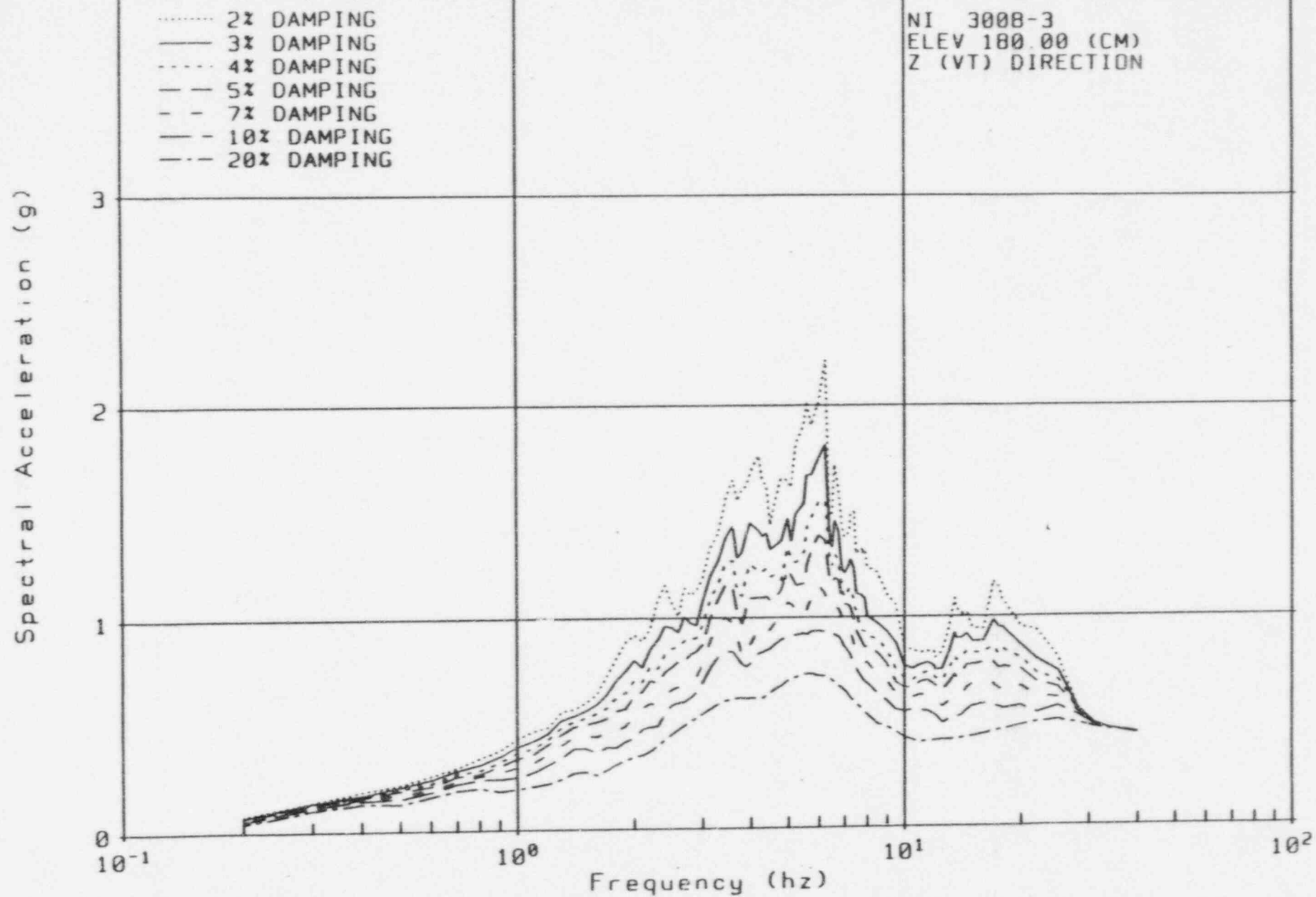
Spectral Acceleration (g)



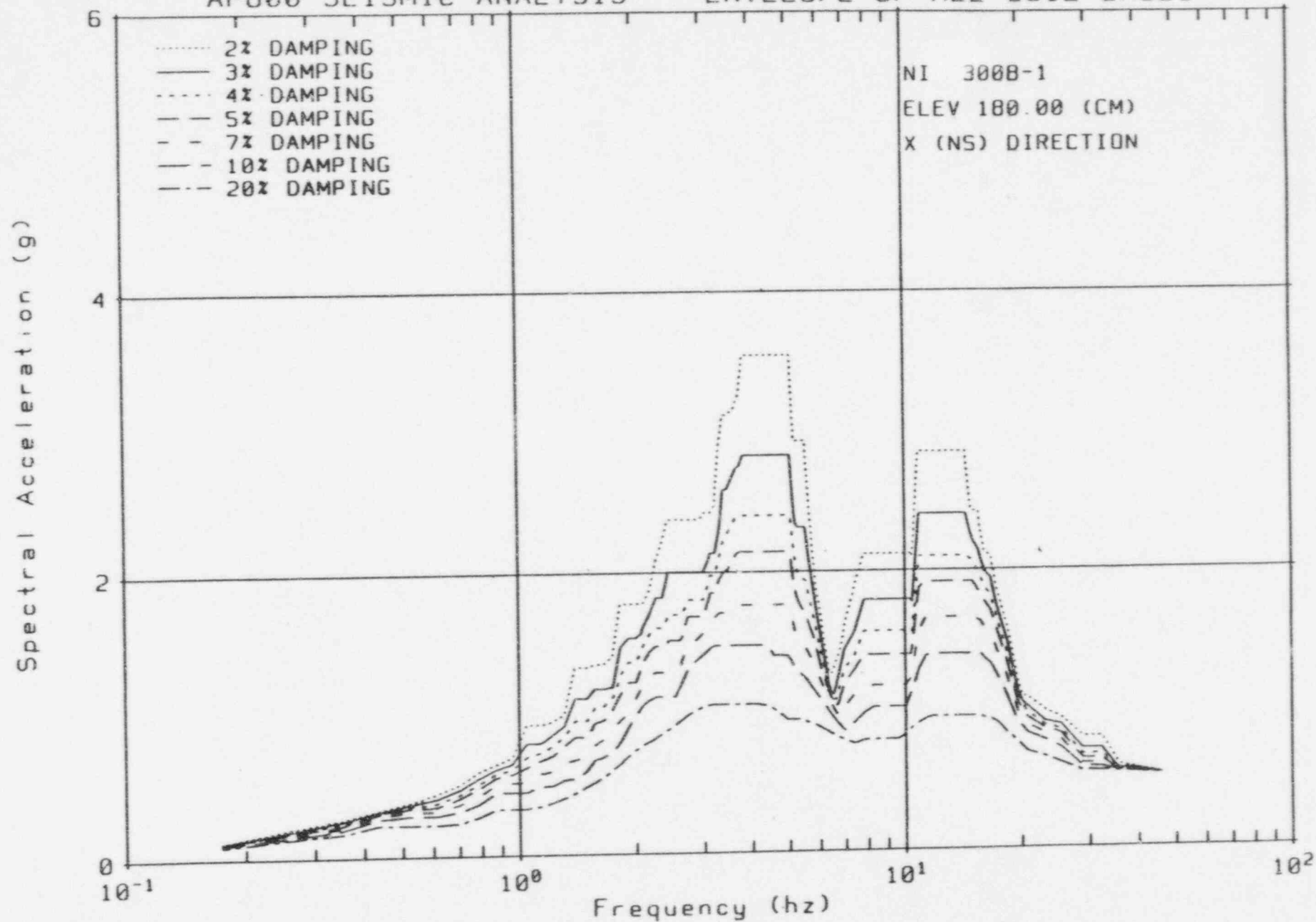
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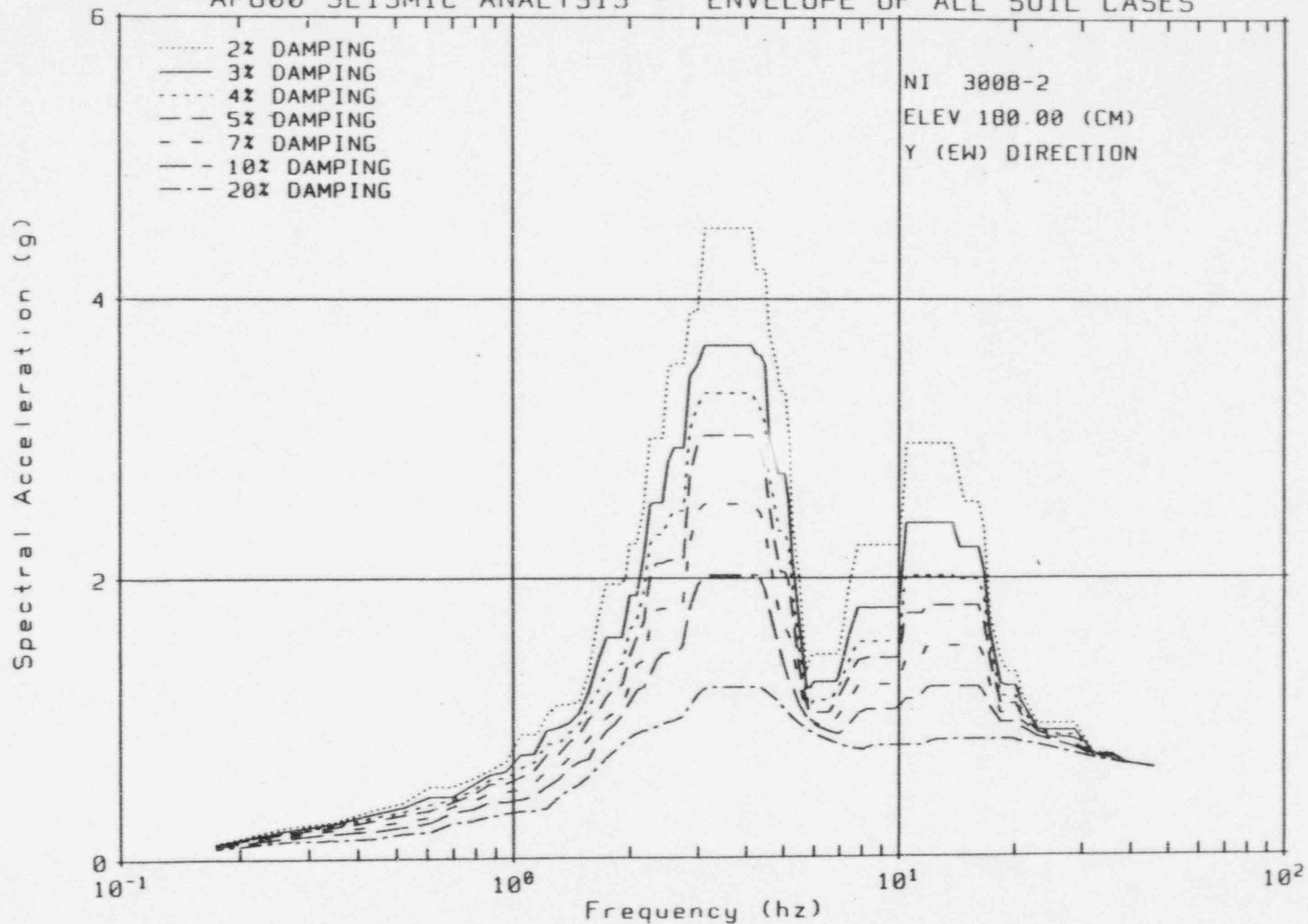
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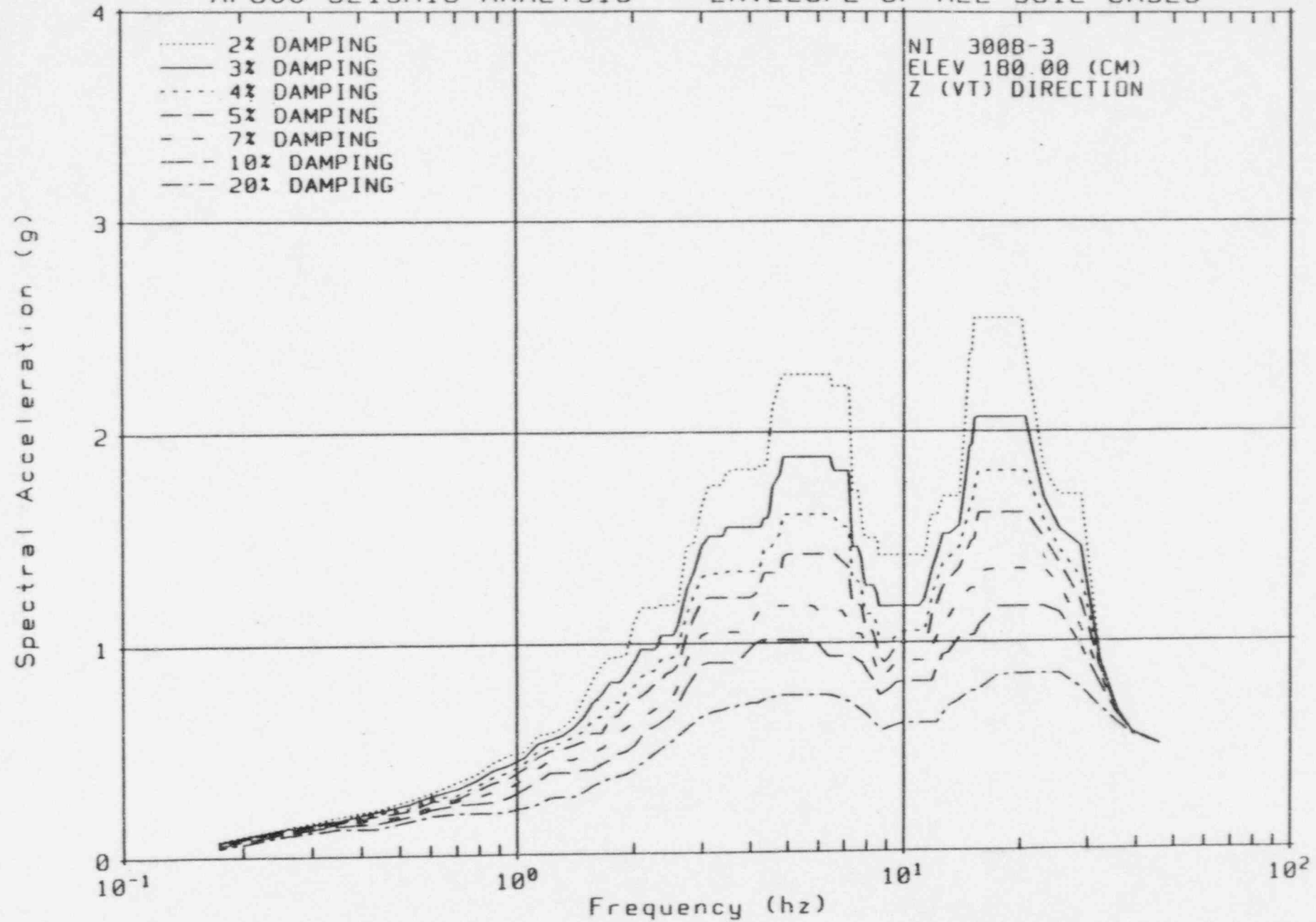
AP600 SEISMIC ANALYSIS - ENVELOPE OF ALL SOIL CASES



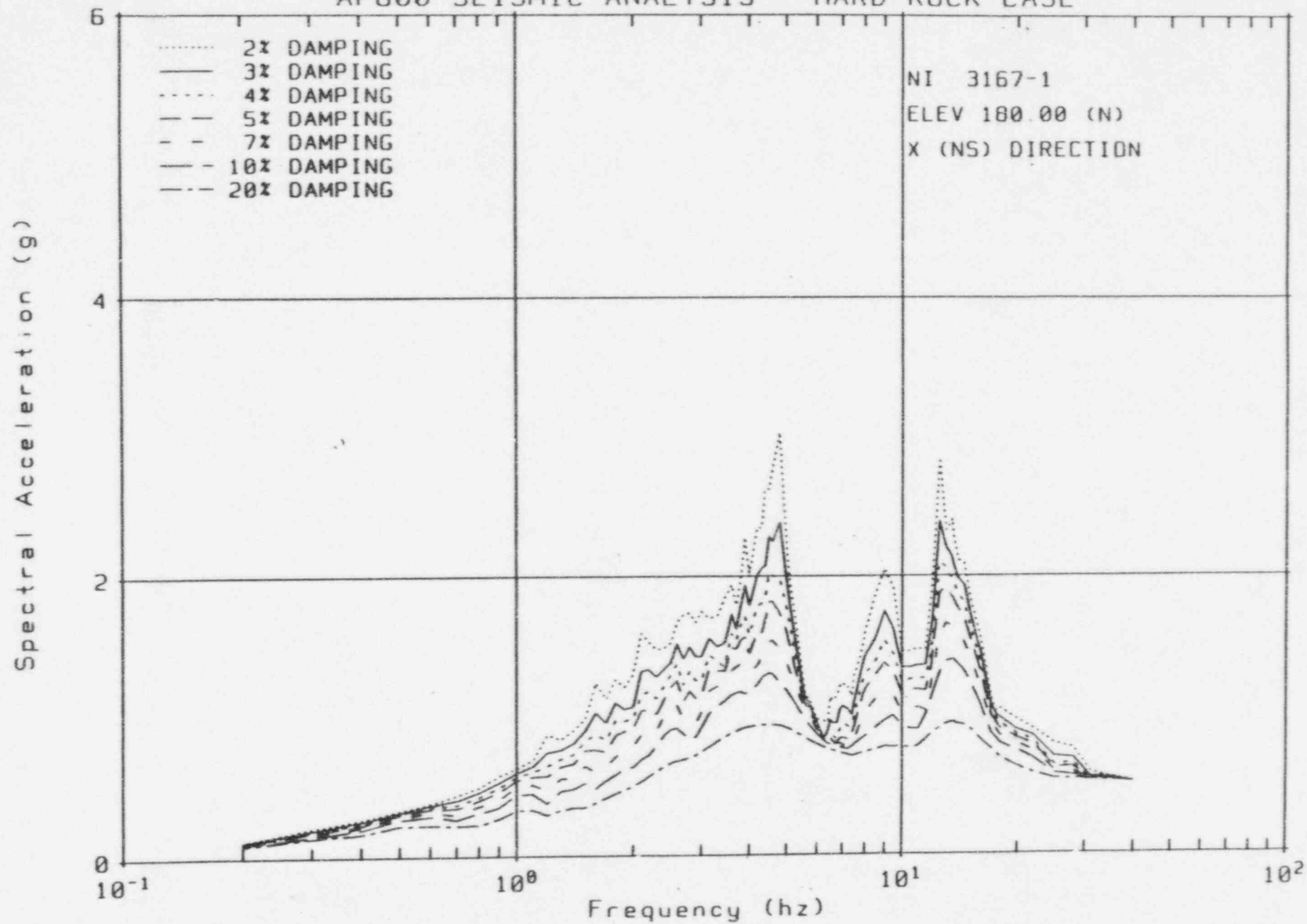
AP600 SEISMIC ANALYSIS - ENVELOPE OF ALL SOIL CASES



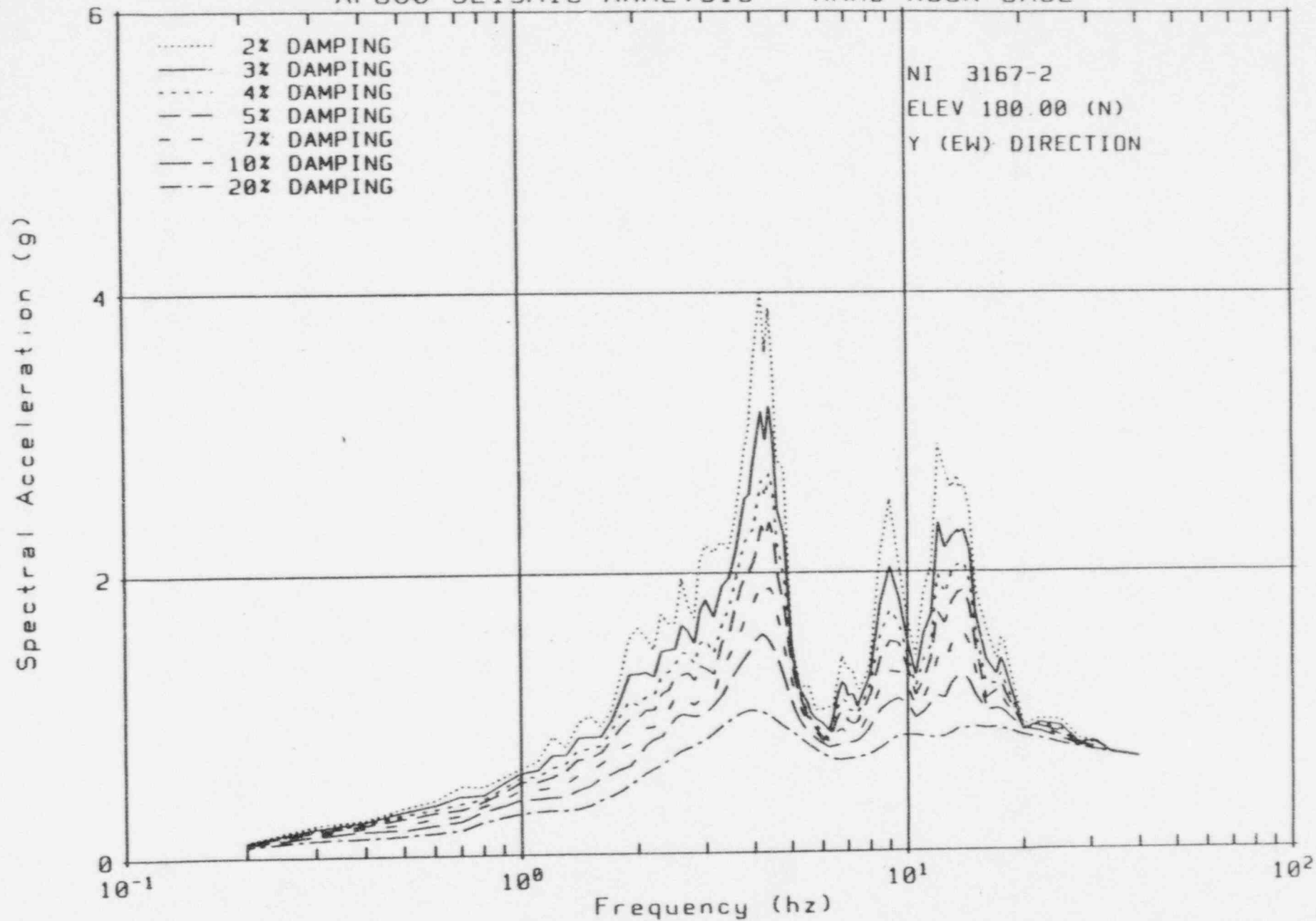
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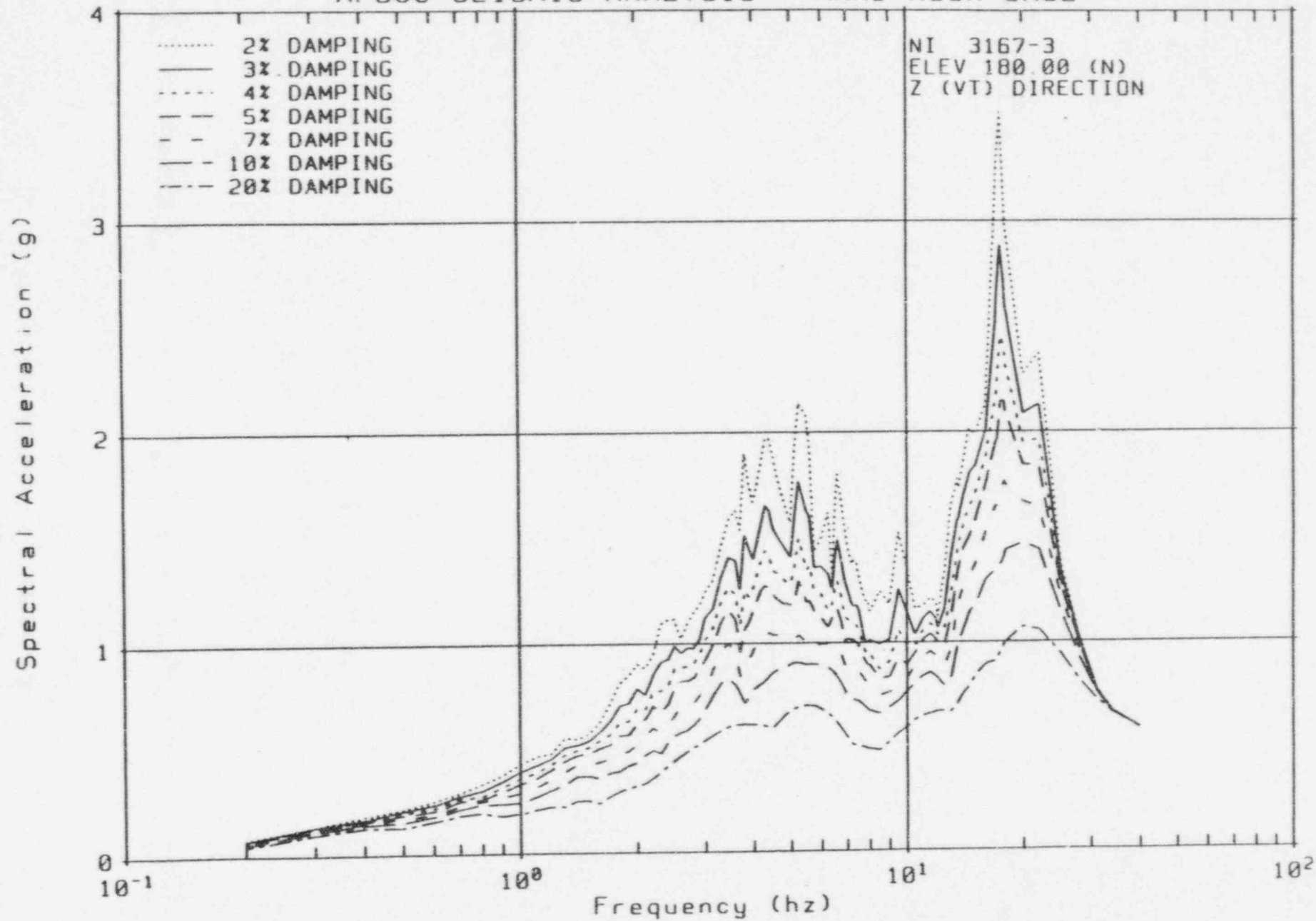
AP600 SEISMIC ANALYSIS - HARD ROCK CASE



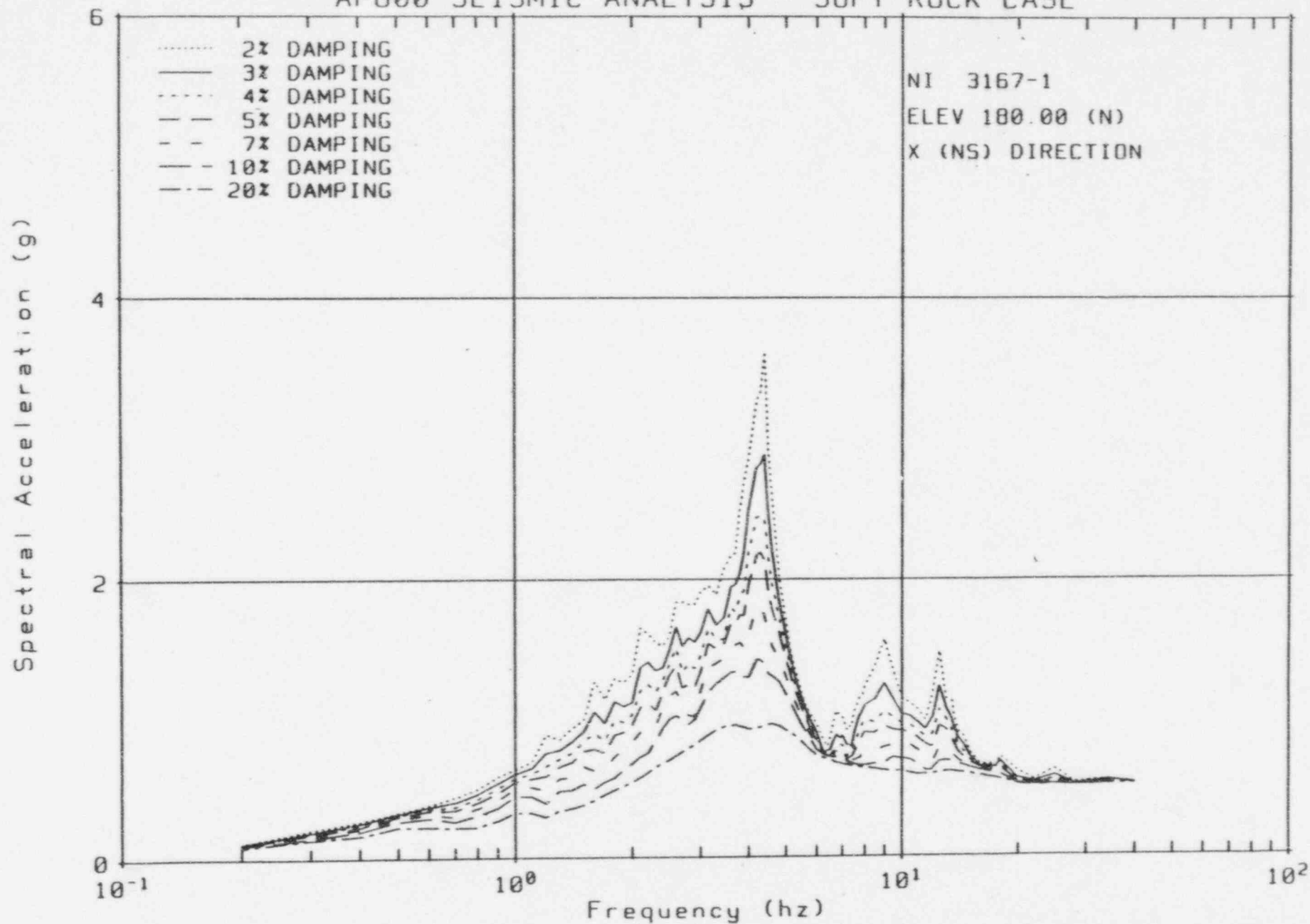
AP600 SEISMIC ANALYSIS - HARD ROCK CASE



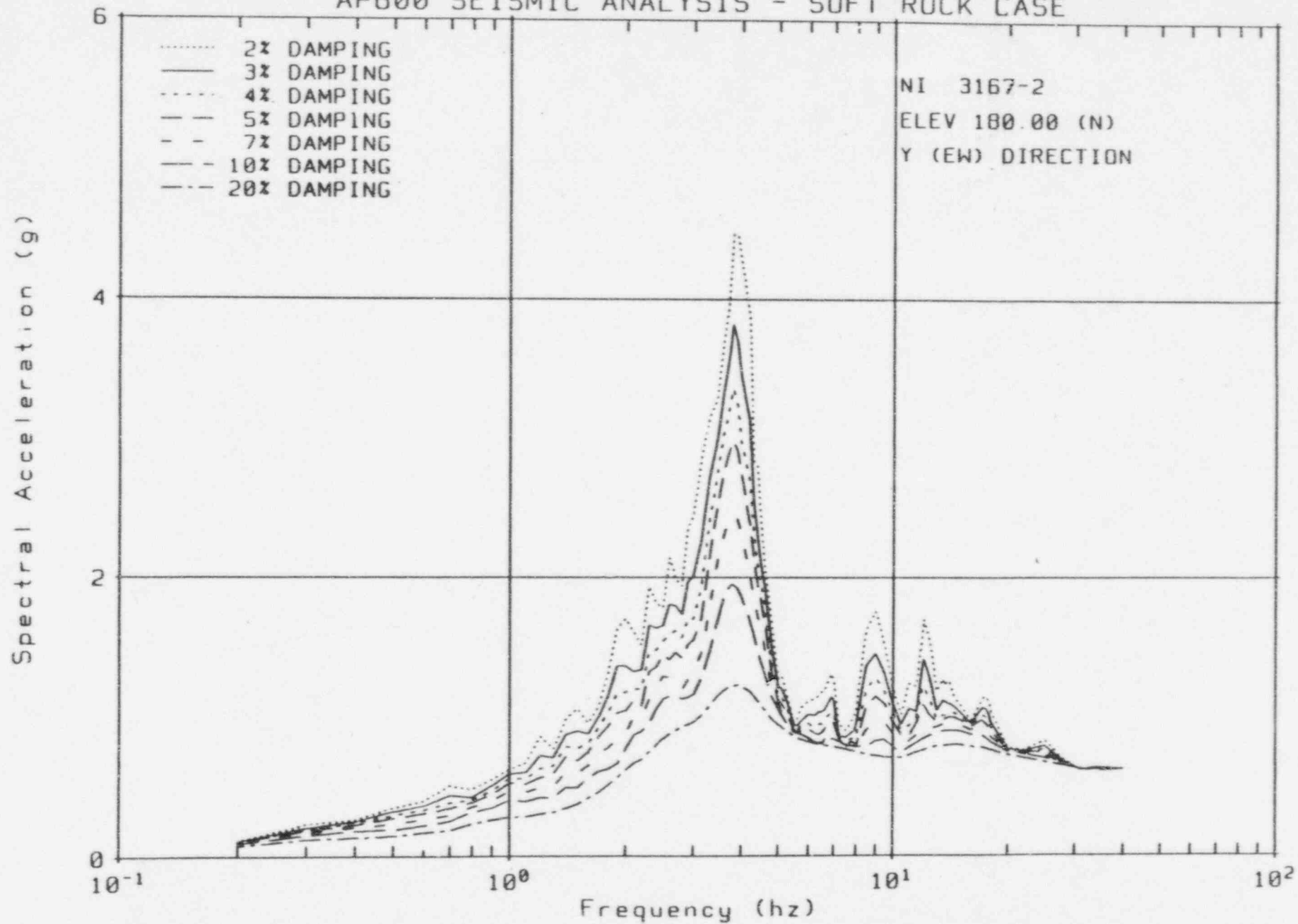
AP600 SEISMIC ANALYSIS - HARD ROCK CASE



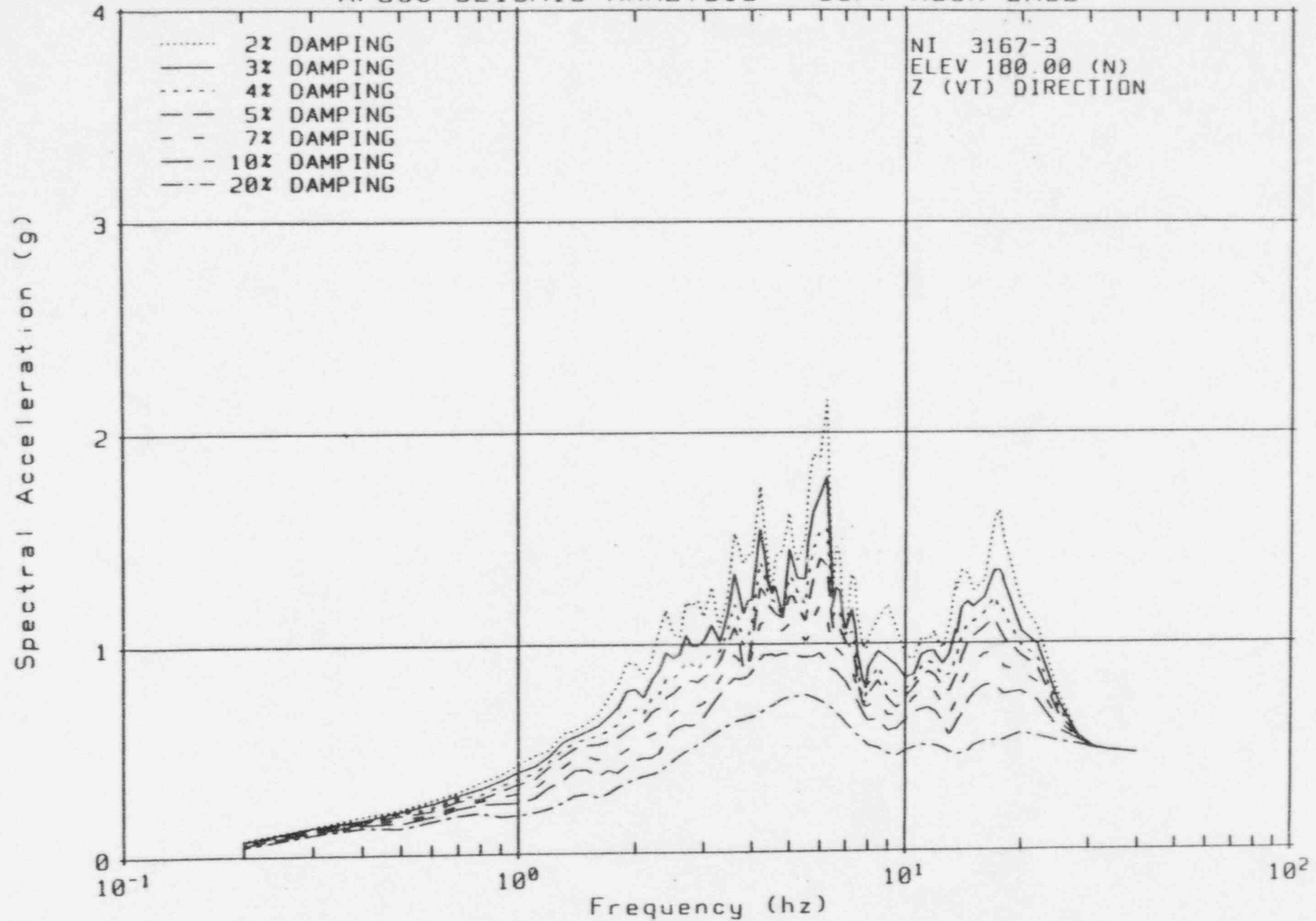
AP600 SEISMIC ANALYSIS - SOFT ROCK CASE



AP600 SEISMIC ANALYSIS - SOFT ROCK CASE



AP600 SEISMIC ANALYSIS - SOFT ROCK CASE



AP600 SEISMIC ANALYSIS - SOFT TO MEDIUM SOIL 1.0*G

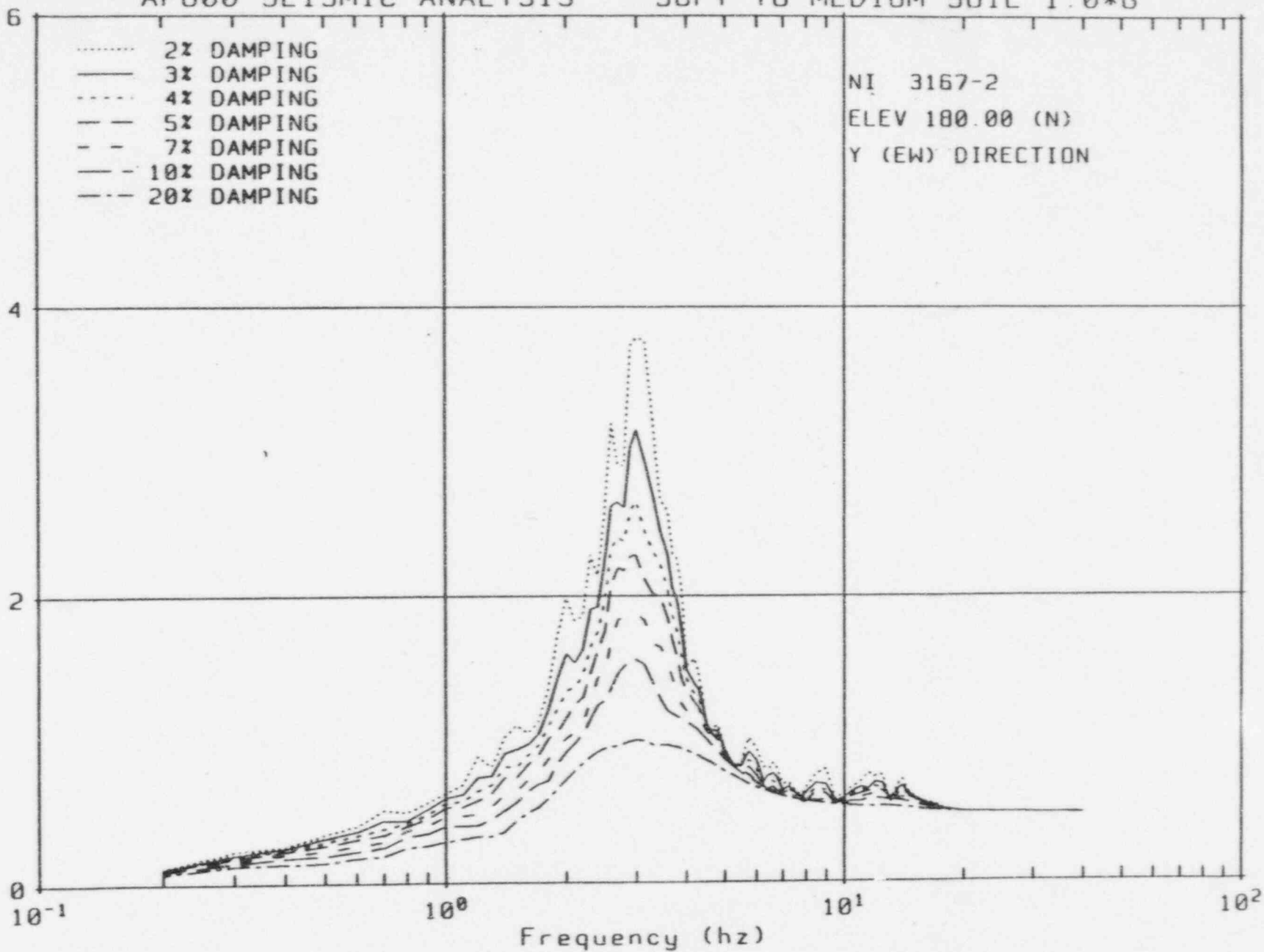
Spectral Acceleration (g)

- 2% DAMPING
- 3% DAMPING
- 4% DAMPING
- 5% DAMPING
- - - 7% DAMPING
- 10% DAMPING
- - - 20% DAMPING

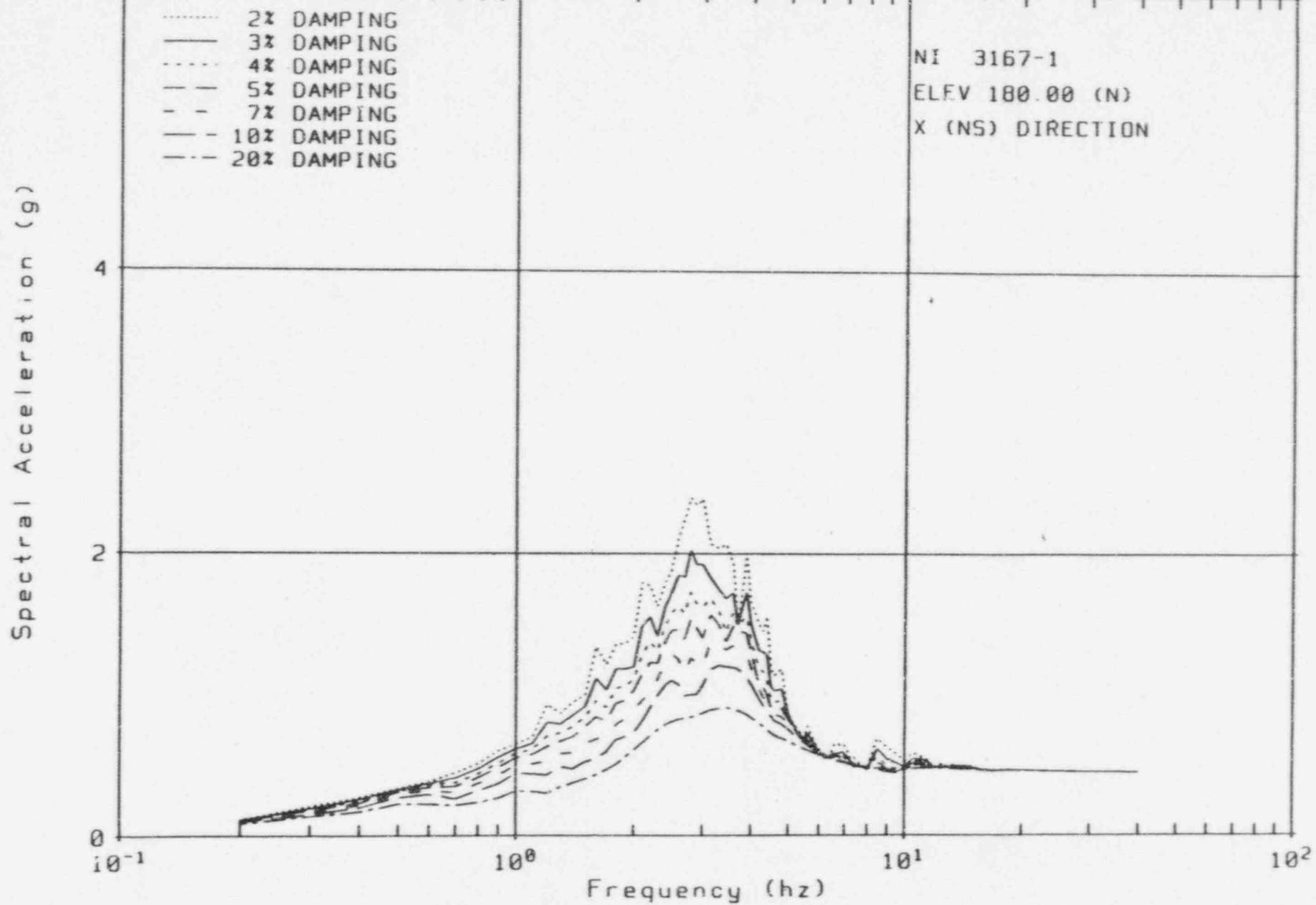
NI 3167-2

ELEV 180.00 (N)

Y (EW) DIRECTION



AP600 SEISMIC ANALYSIS - SOFT TO MEDIUM SOIL 1.0*G

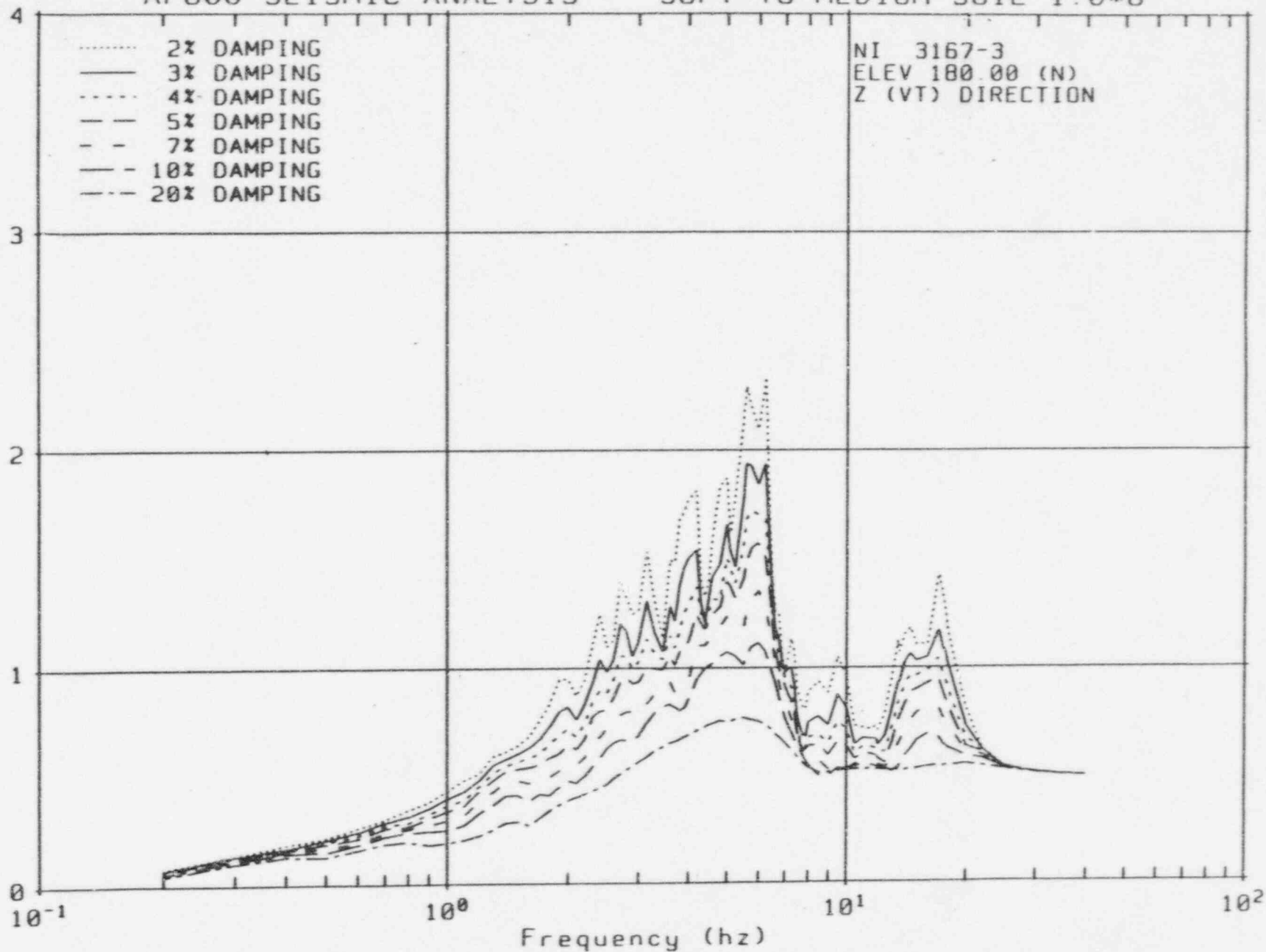


AP600 SEISMIC ANALYSIS - SOFT TO MEDIUM SOIL 1.0*G

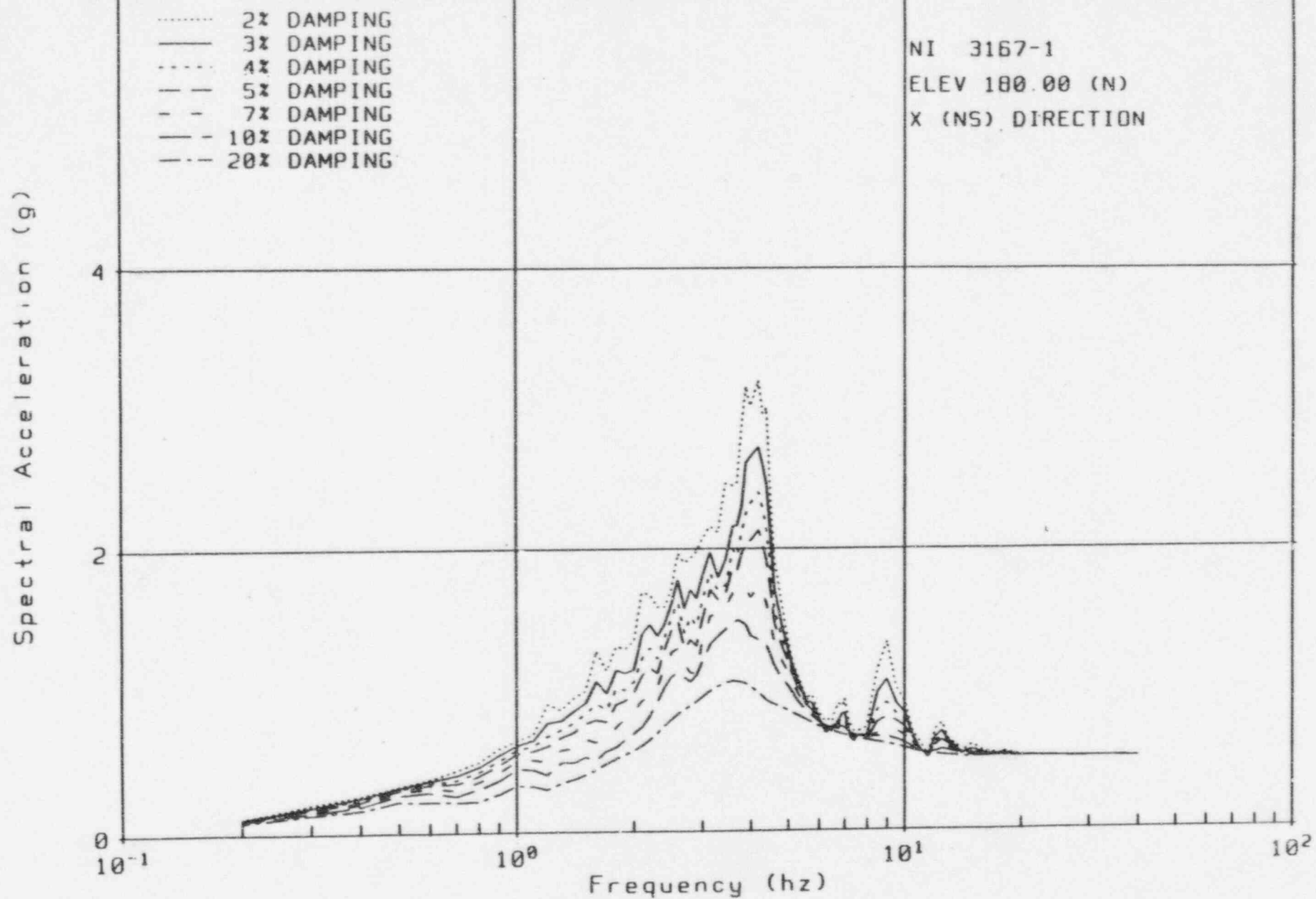
Spectral Acceleration (g)

- 2% DAMPING
- 3% DAMPING
- 4% DAMPING
- 5% DAMPING
- - - 7% DAMPING
- 10% DAMPING
- - - 20% DAMPING

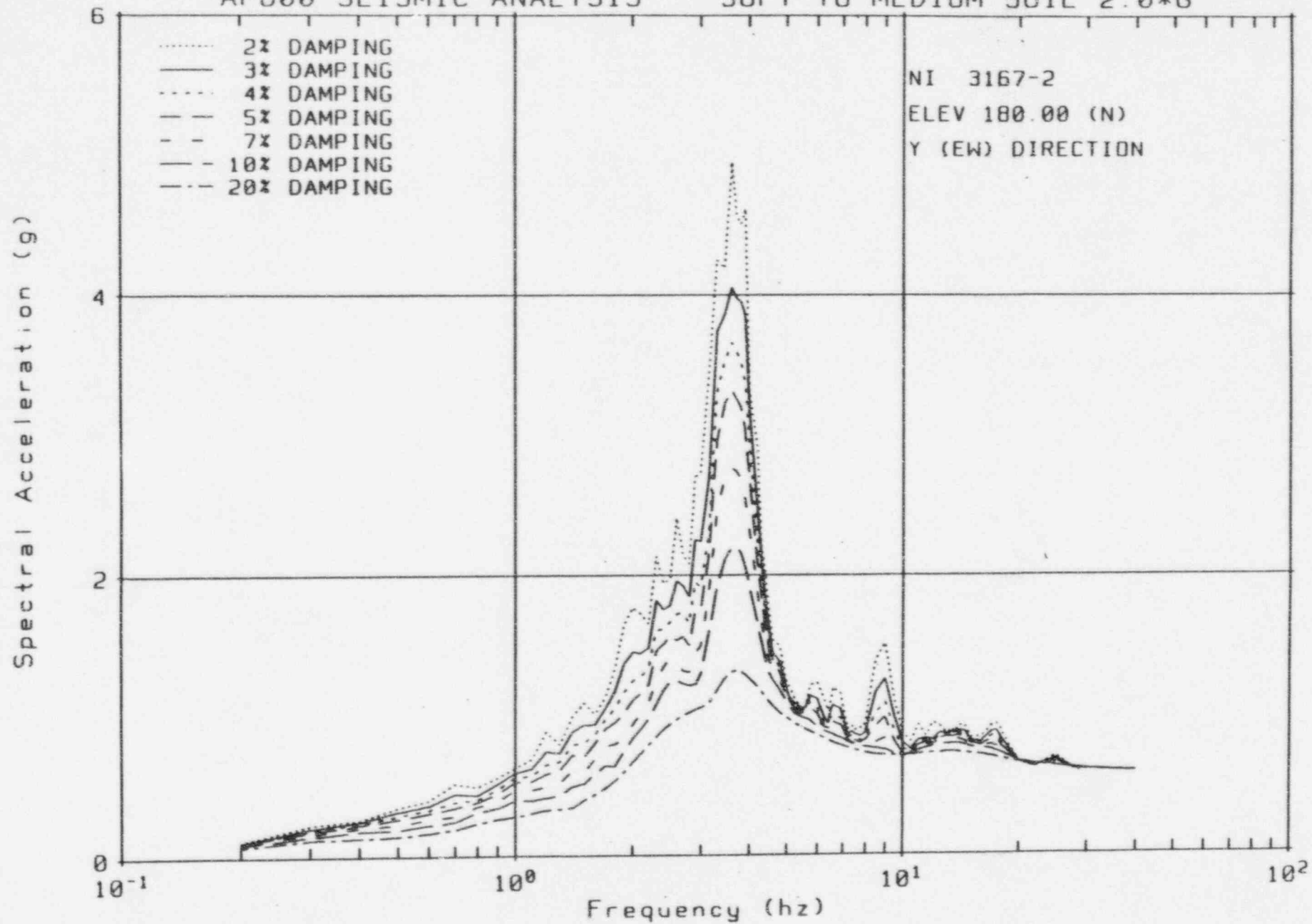
NI 3167-3
ELEV 180.00 (N)
Z (VT) DIRECTION



AP600 SEISMIC ANALYSIS - SOFT TO MEDIUM SOIL 2.0*G



AP600 SEISMIC ANALYSIS - SOFT TO MEDIUM SOIL 2.0*G

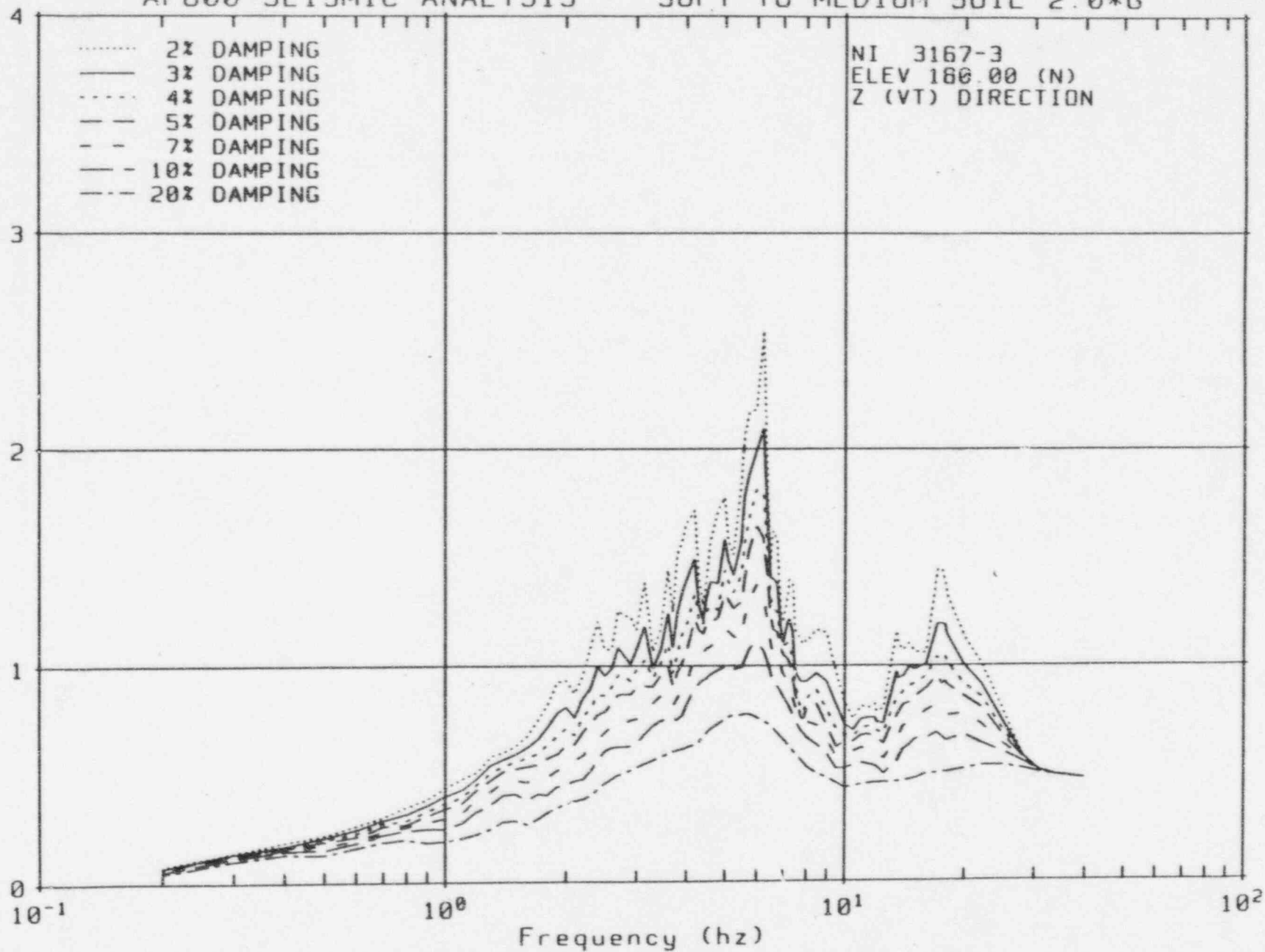


AP600 SEISMIC ANALYSIS - SOFT TO MEDIUM SOIL 2.0*G

Spectral Acceleration (g)

..... 2% DAMPING
 ——— 3% DAMPING
 - - - 4% DAMPING
 - - - 5% DAMPING
 - - - 7% DAMPING
 - - - 10% DAMPING
 - - - 20% DAMPING

NI 3167-3
 ELEV 180.00 (N)
 Z (VT) DIRECTION

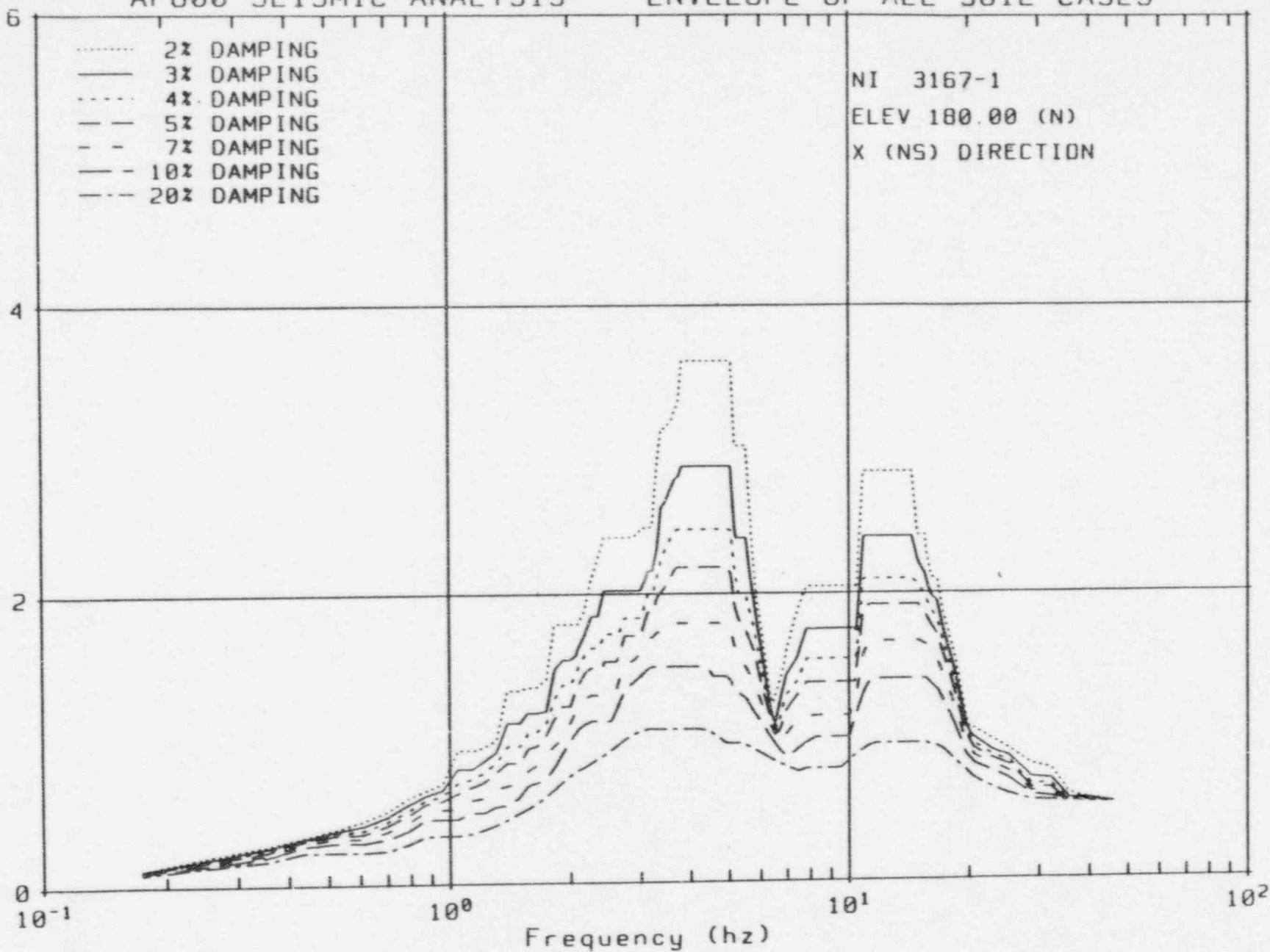


AP600 SEISMIC ANALYSIS - ENVELOPE OF ALL SOIL CASES

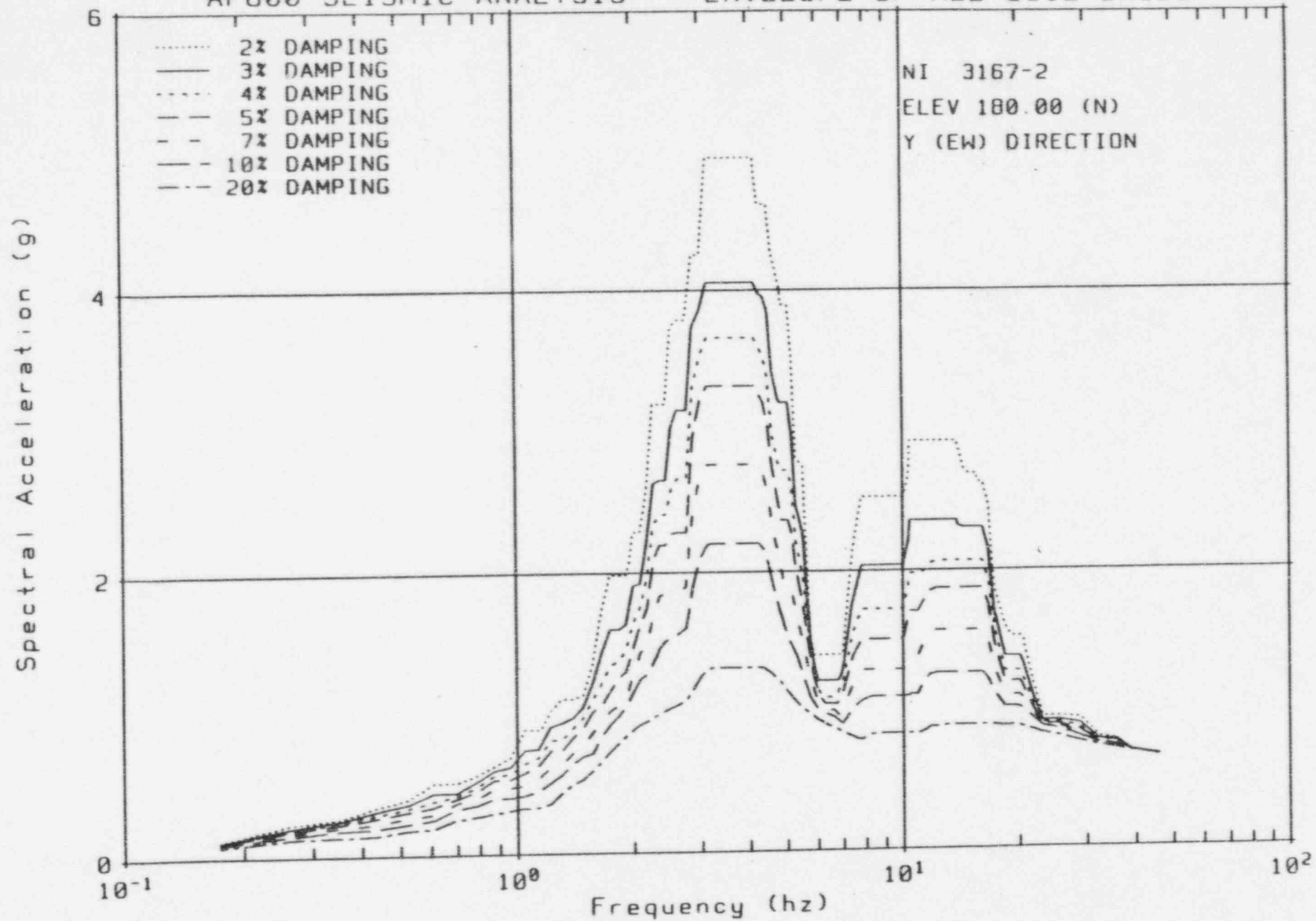
Spectral Acceleration (g)

- 2% DAMPING
- 3% DAMPING
- 4% DAMPING
- — 5% DAMPING
- - - 7% DAMPING
- — 10% DAMPING
- - - 20% DAMPING

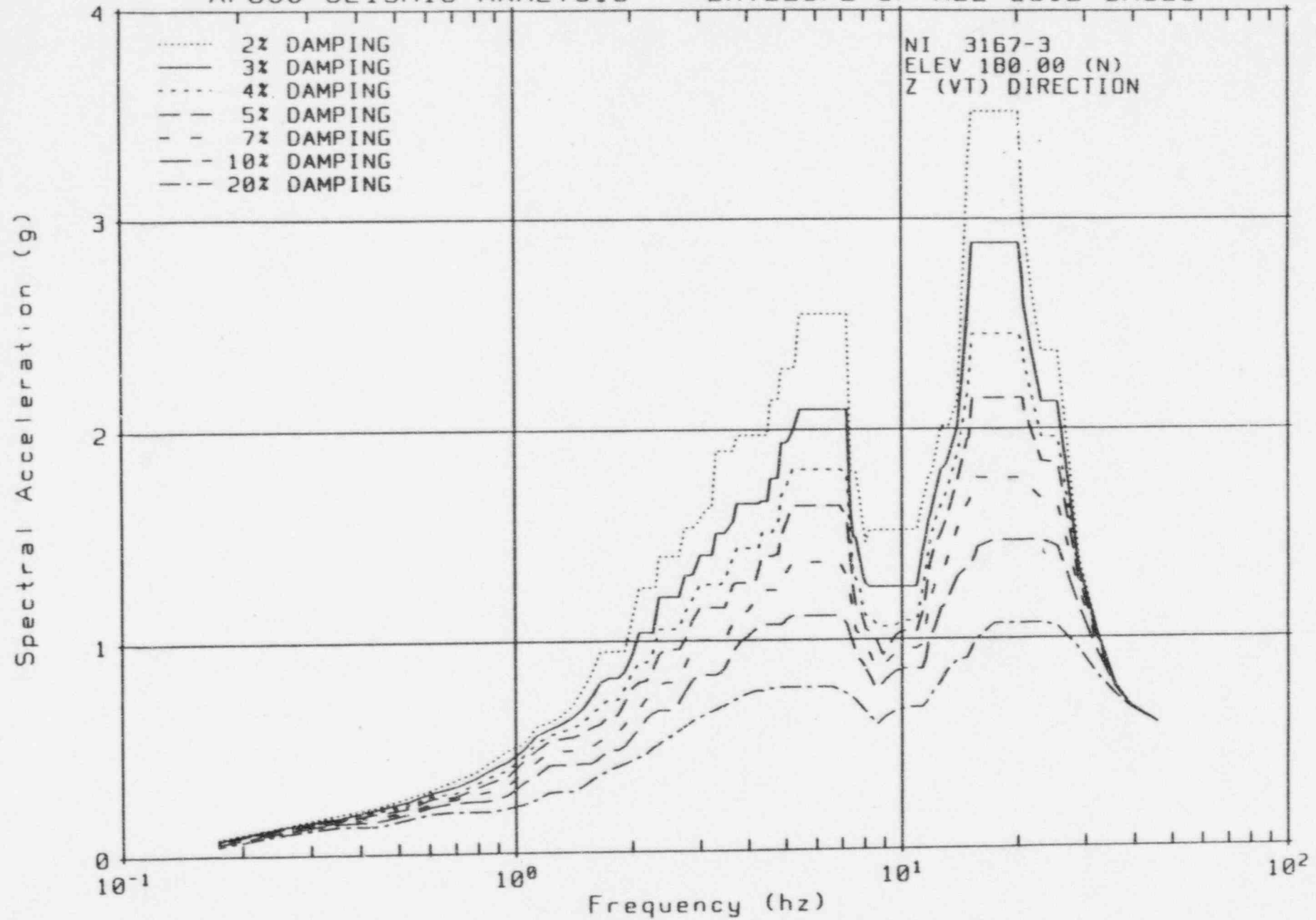
NI 3167-1
ELEV 180.00 (N)
X (NS) DIRECTION



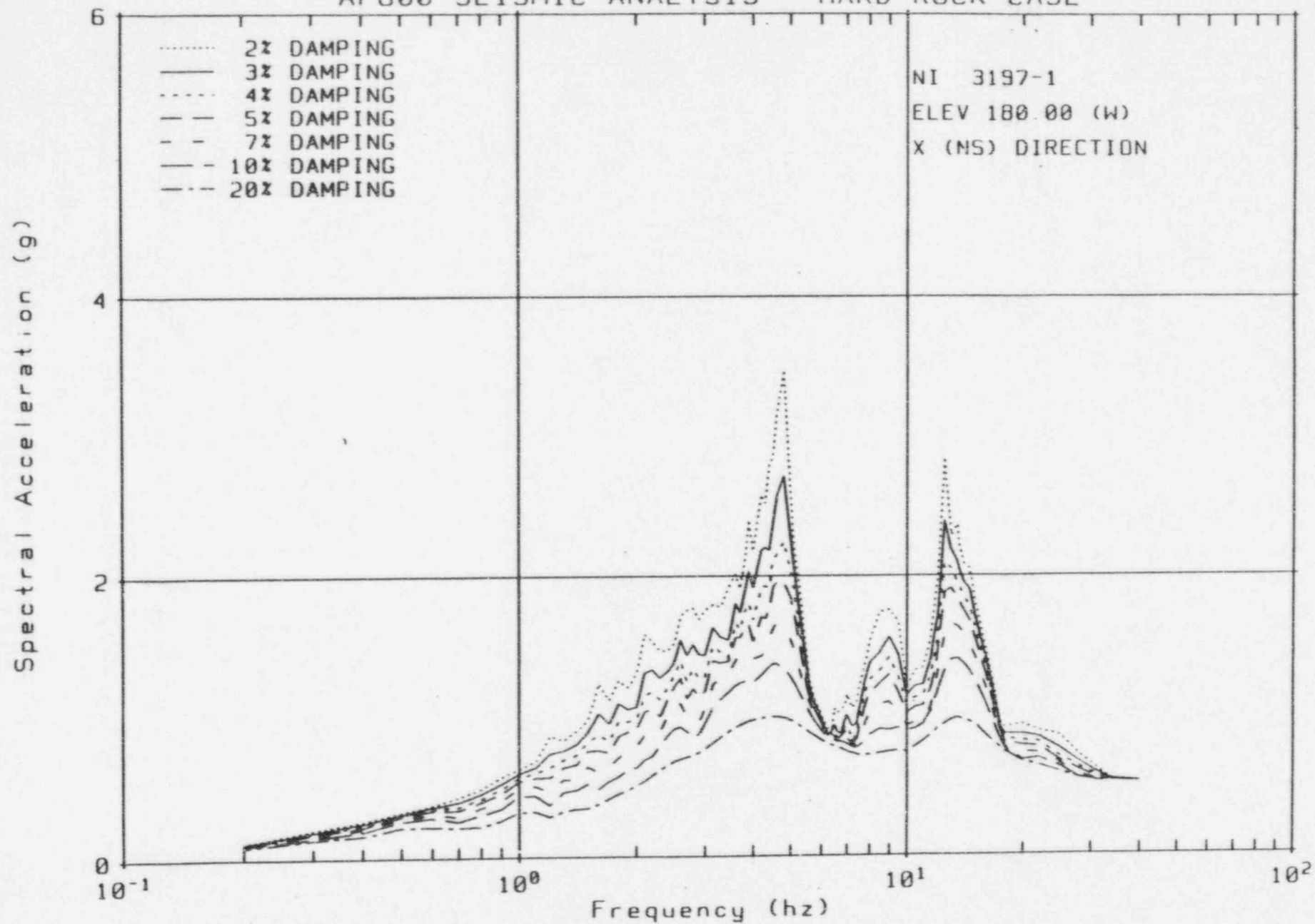
AP600 SEISMIC ANALYSIS - ENVELOPE OF ALL SOIL CASES



AP600 SEISMIC ANALYSIS - ENVELOPE OF ALL SOIL CASES



AP600 SEISMIC ANALYSIS - HARD ROCK CASE

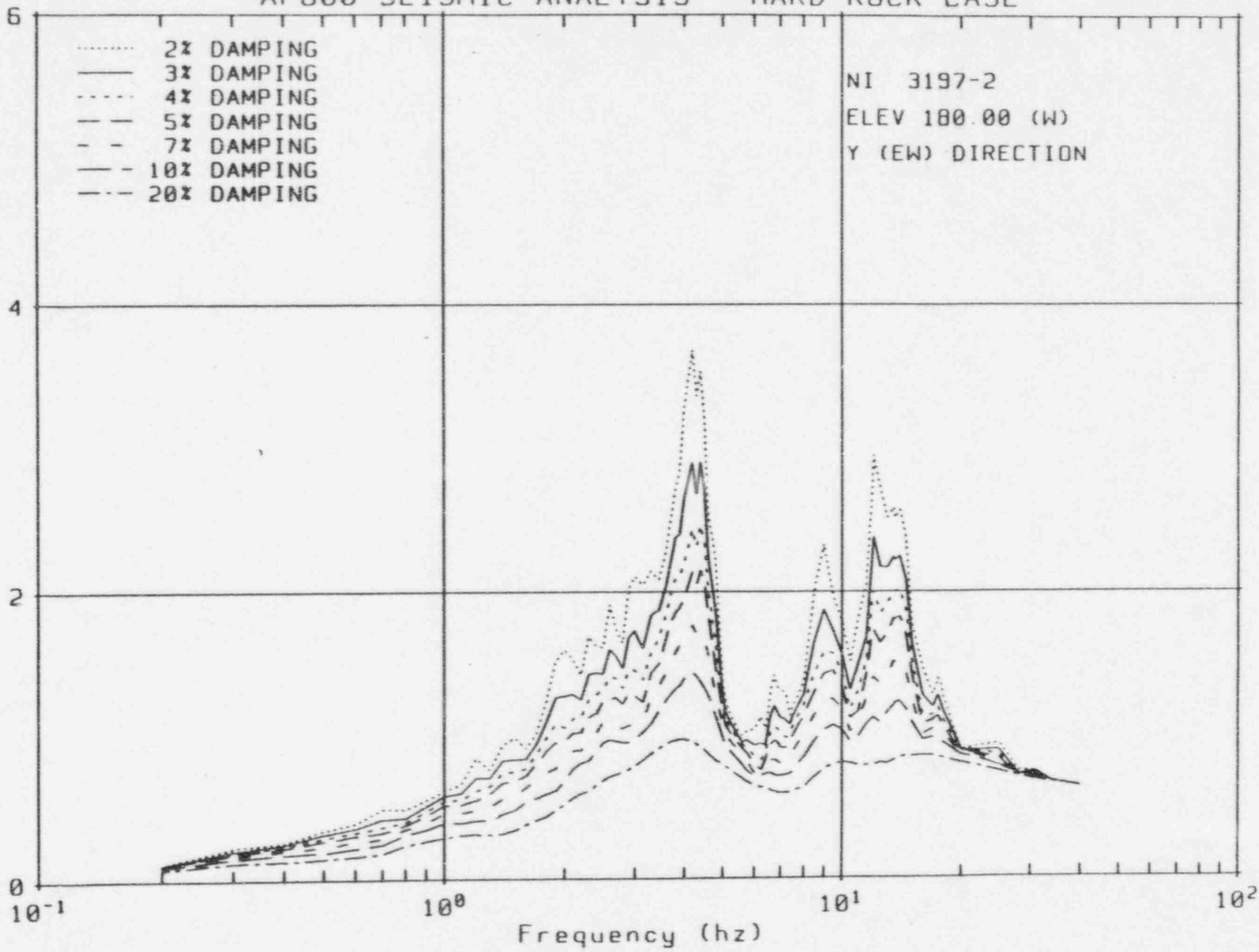


AP600 SEISMIC ANALYSIS - HARD ROCK CASE

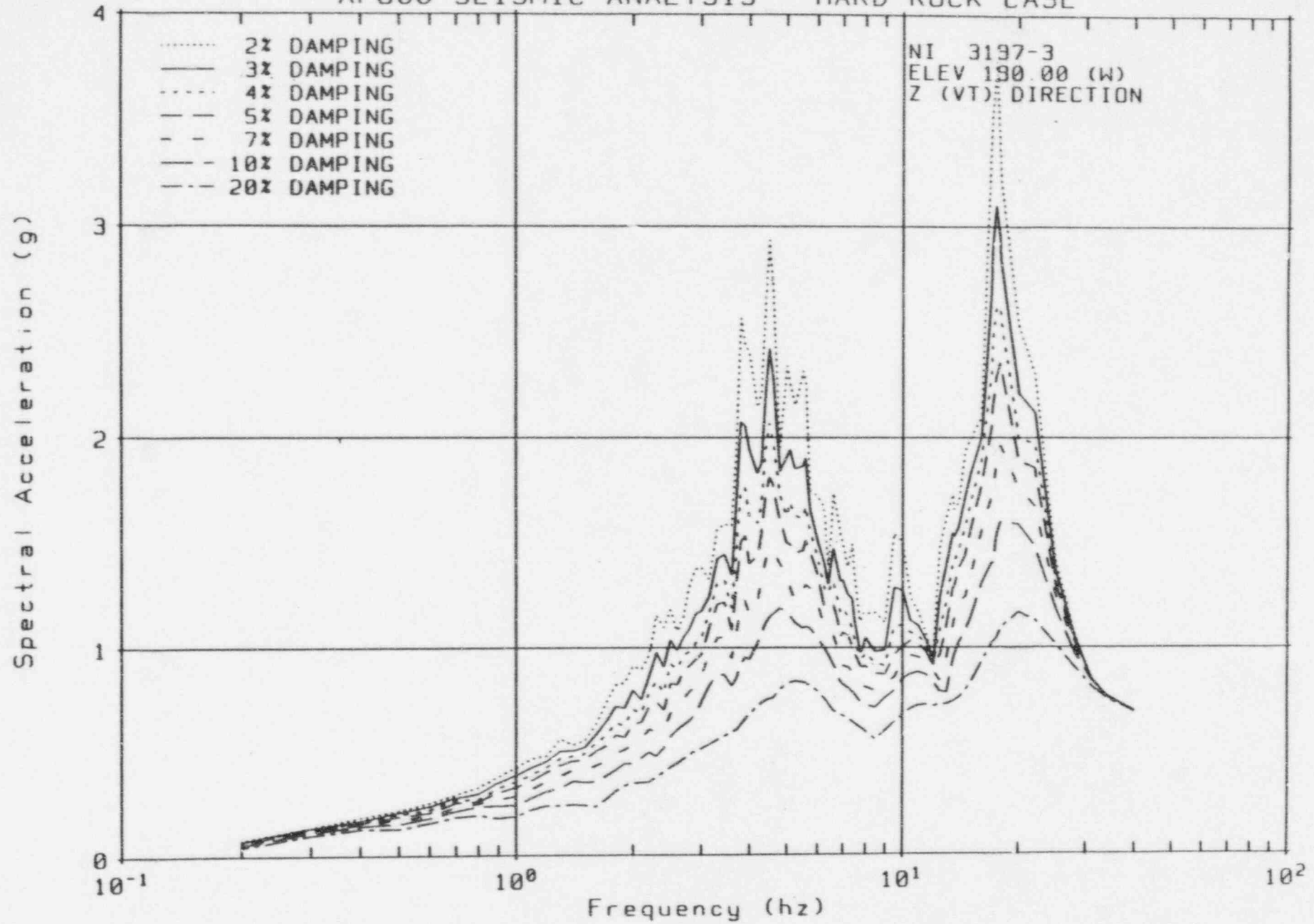
Spectral Acceleration (g)

- 2% DAMPING
- 3% DAMPING
- 4% DAMPING
- 5% DAMPING
- - - 7% DAMPING
- 10% DAMPING
- - - 20% DAMPING

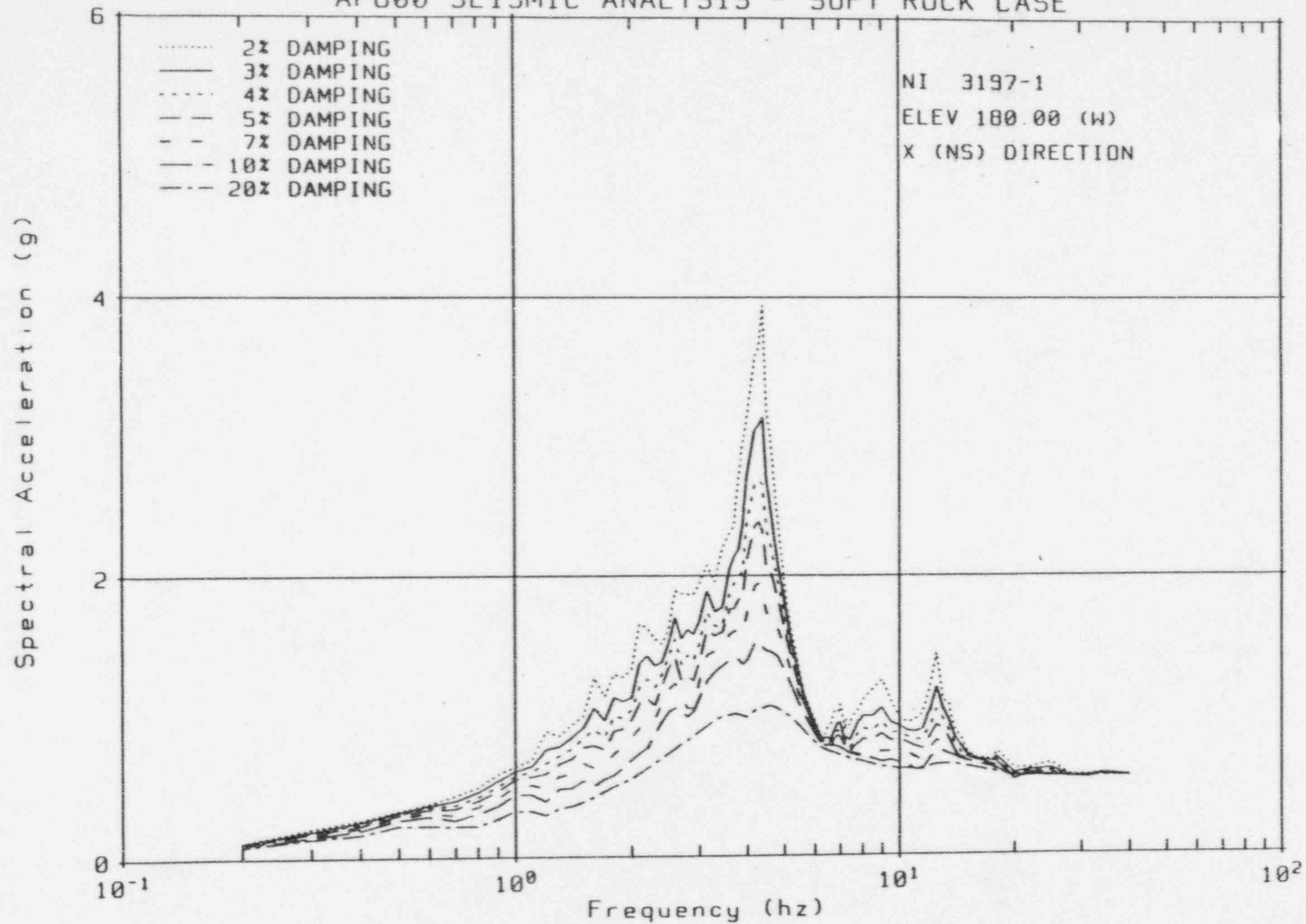
NI 3197-2
ELEV 180.00 (W)
Y (EW) DIRECTION



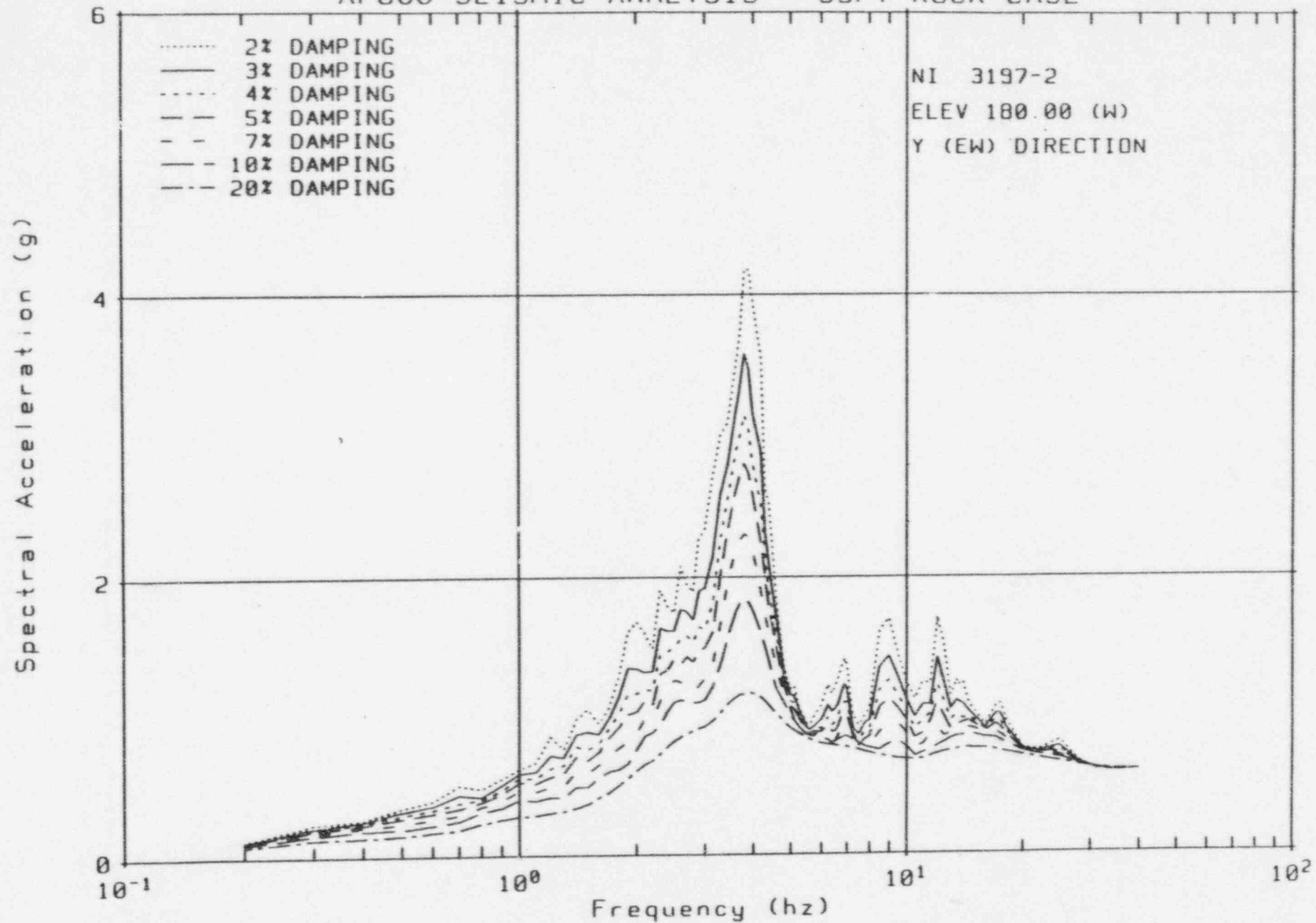
AP600 SEISMIC ANALYSIS - HARD ROCK CASE



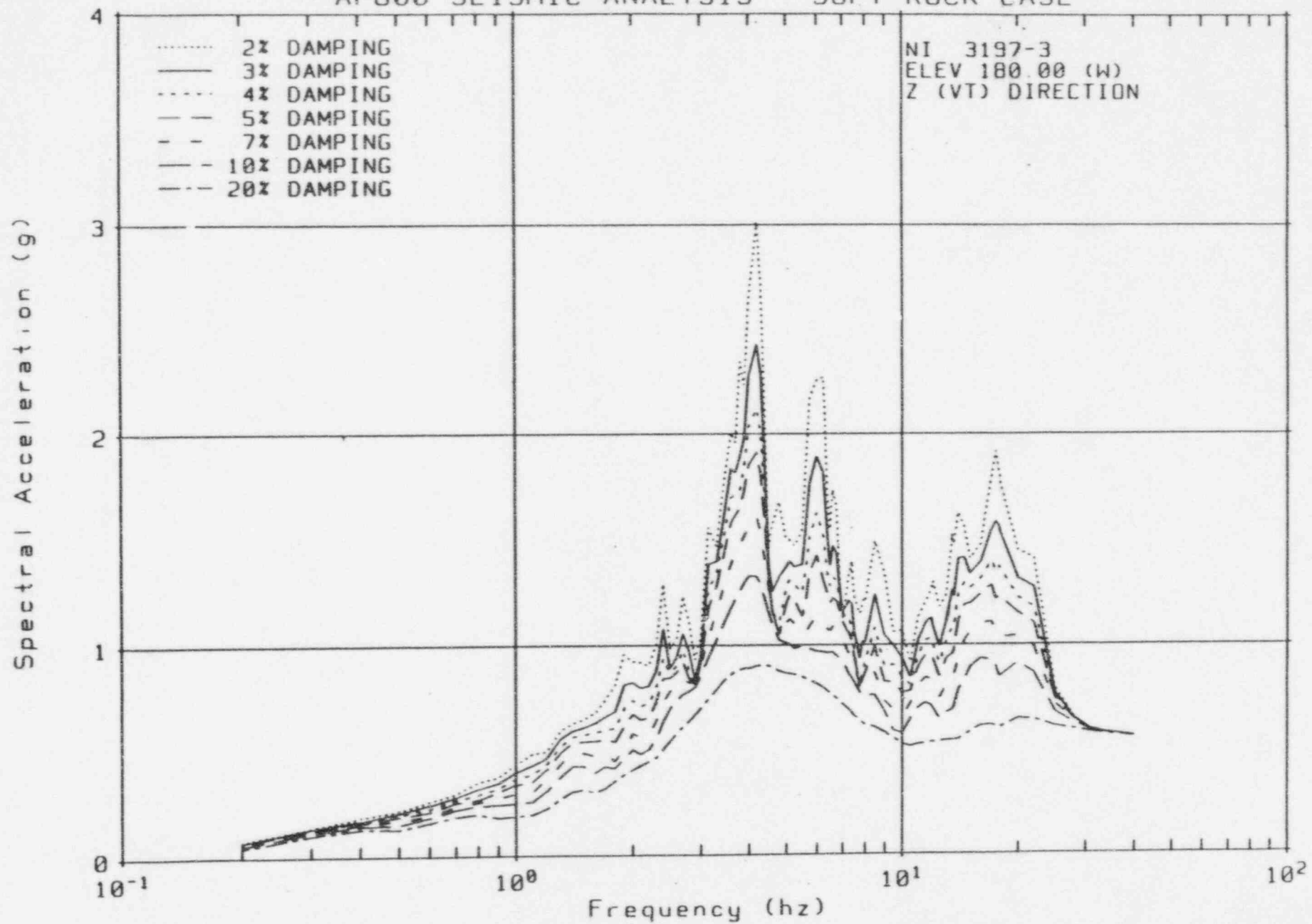
AP600 SEISMIC ANALYSIS - SOFT ROCK CASE



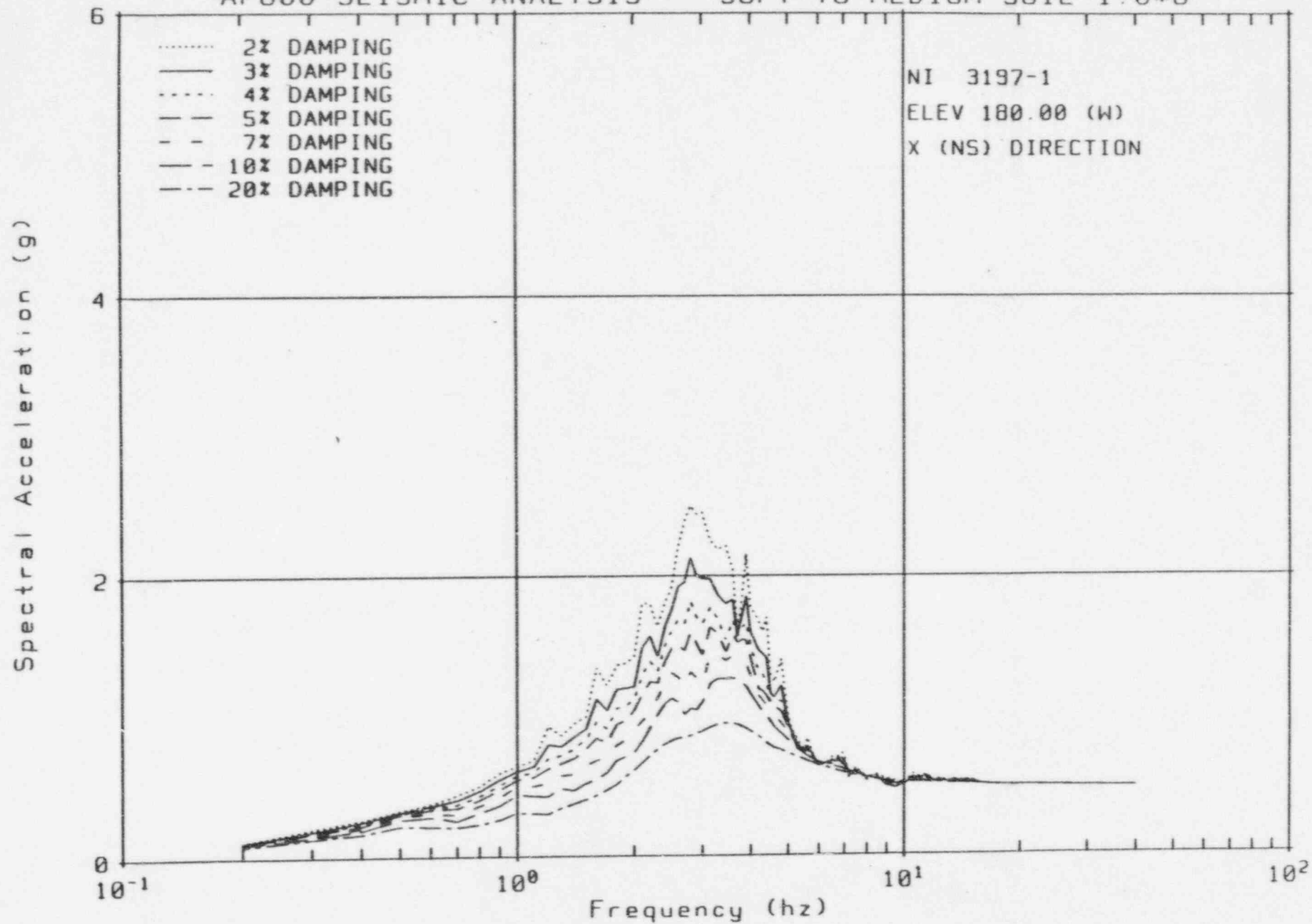
AP600 SEISMIC ANALYSIS - SOFT ROCK CASE



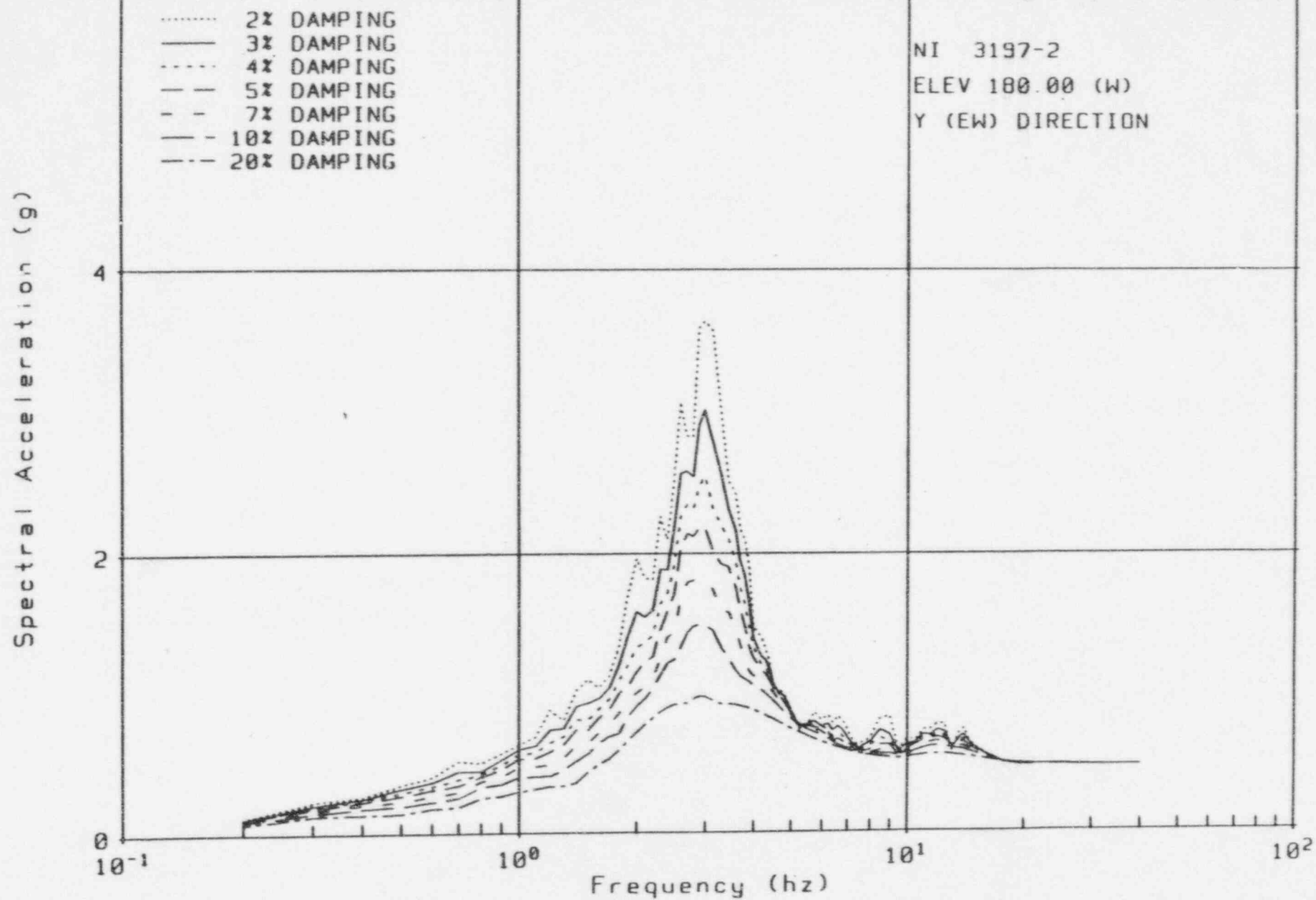
AP600 SEISMIC ANALYSIS - SOFT ROCK CASE



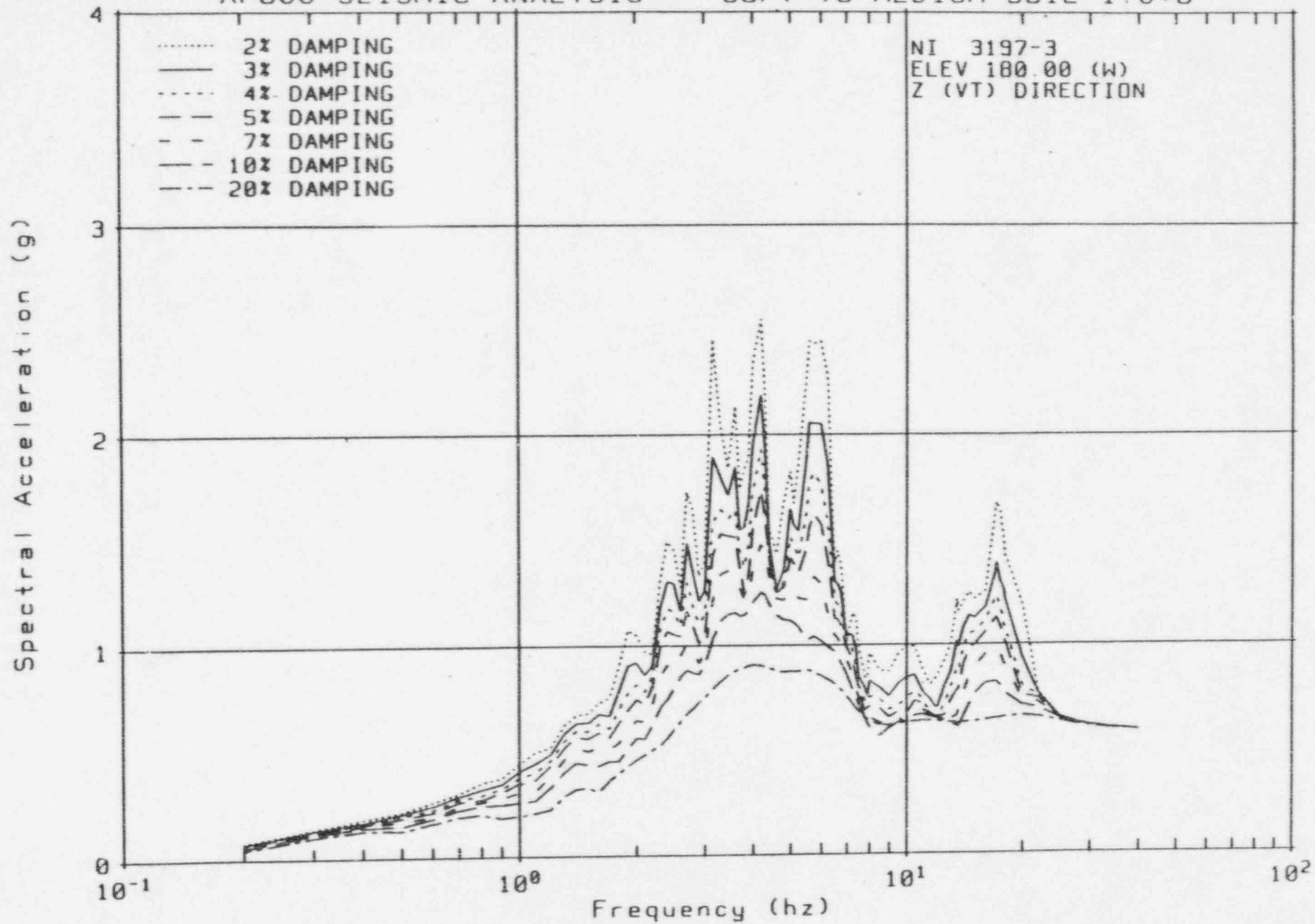
AP600 SEISMIC ANALYSIS - SOFT TO MEDIUM SOIL 1.0*G



AP600 SEISMIC ANALYSIS - SOFT TO MEDIUM SOIL 1.0*G



AP600 SEISMIC ANALYSIS - SOFT TO MEDIUM SOIL 1.0*G



AP600 SEISMIC ANALYSIS - SOFT TO MEDIUM SOIL 2.0*G

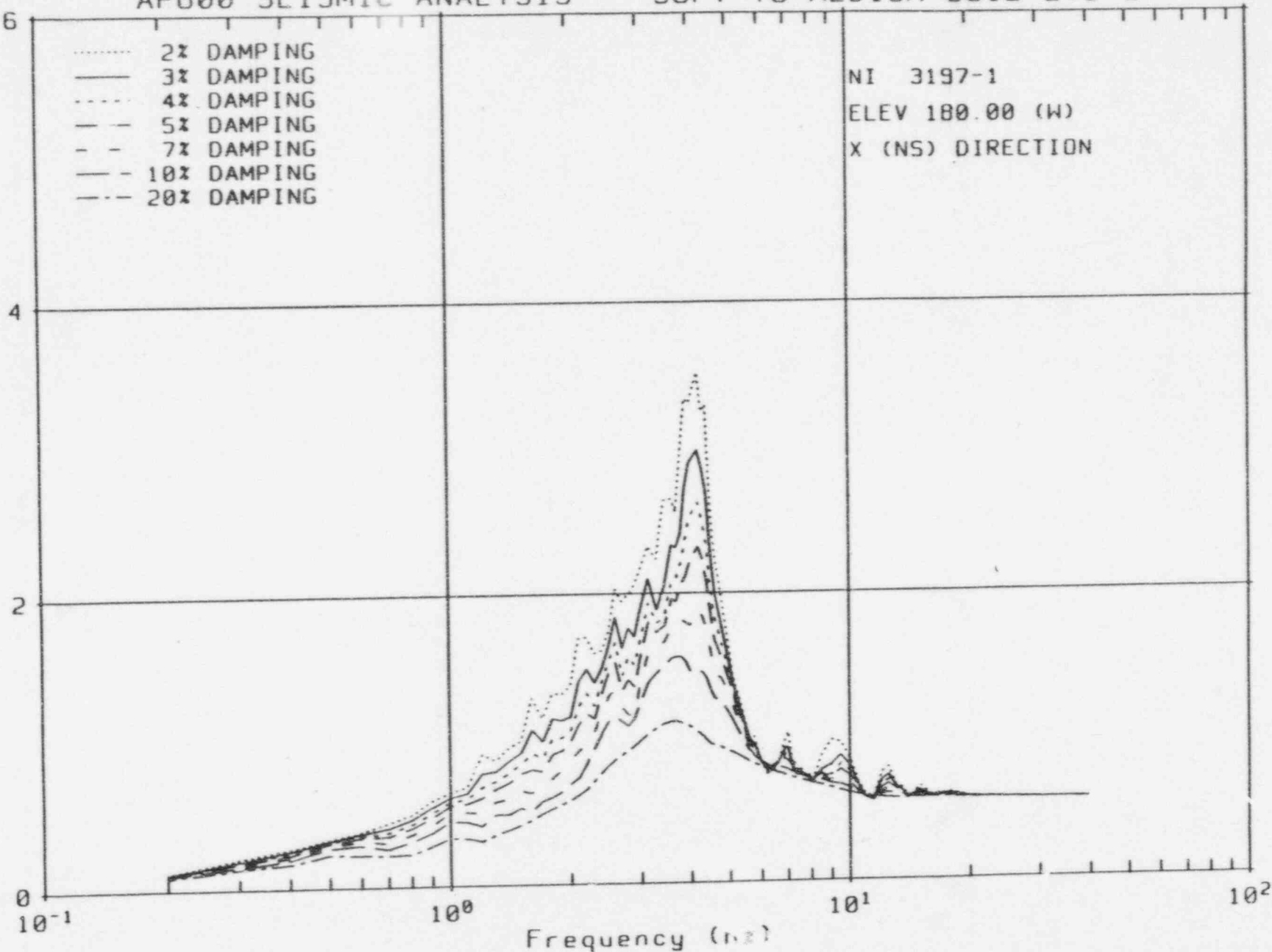
Spectral Acceleration (g)

- 2% DAMPING
- 3% DAMPING
- 4% DAMPING
- 5% DAMPING
- - - 7% DAMPING
- 10% DAMPING
- - - 20% DAMPING

NI 3197-1

ELEV 180.00 (W)

X (NS) DIRECTION

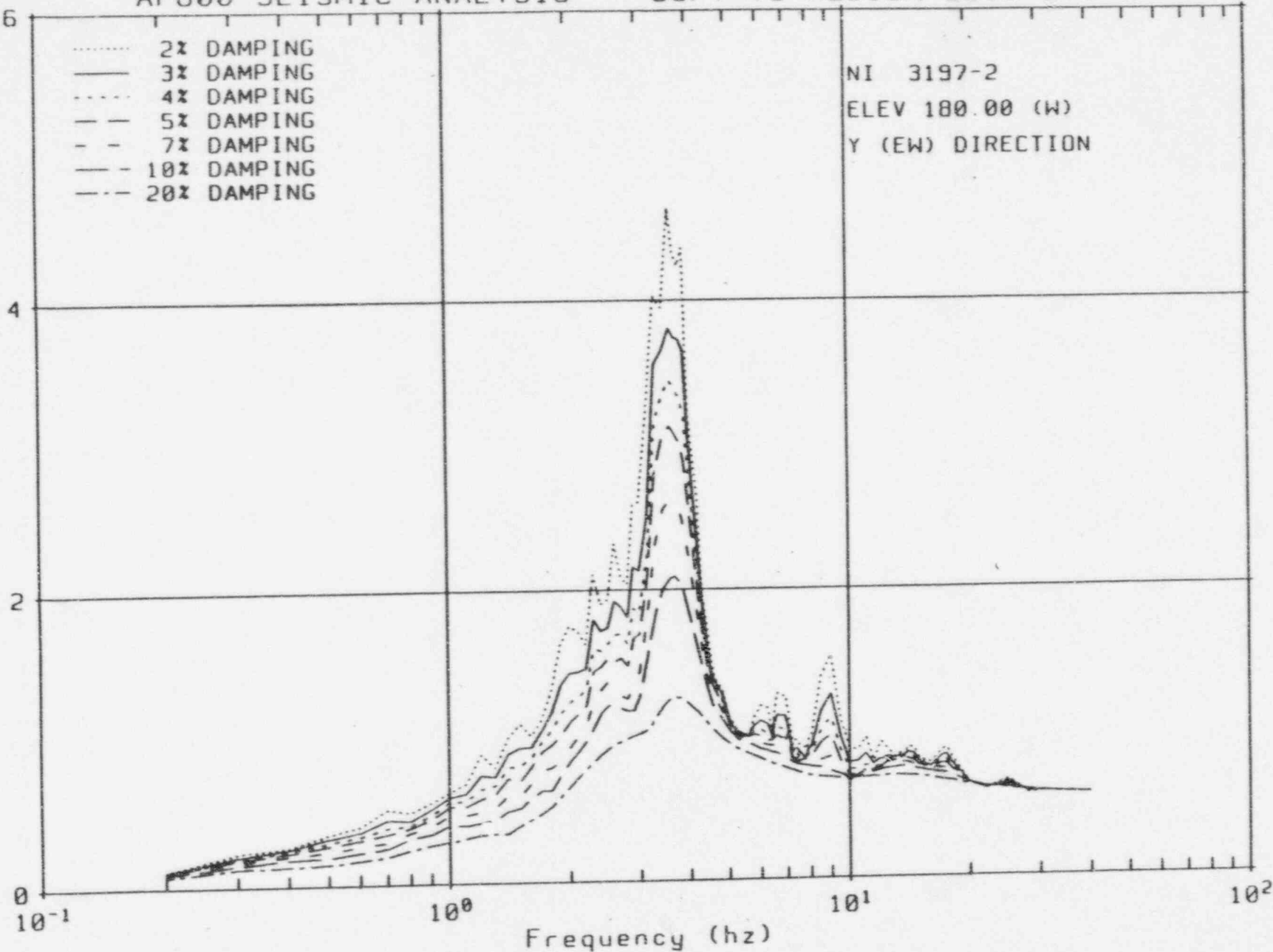


AP600 SEISMIC ANALYSIS - SOFT TO MEDIUM SOIL 2.0*G

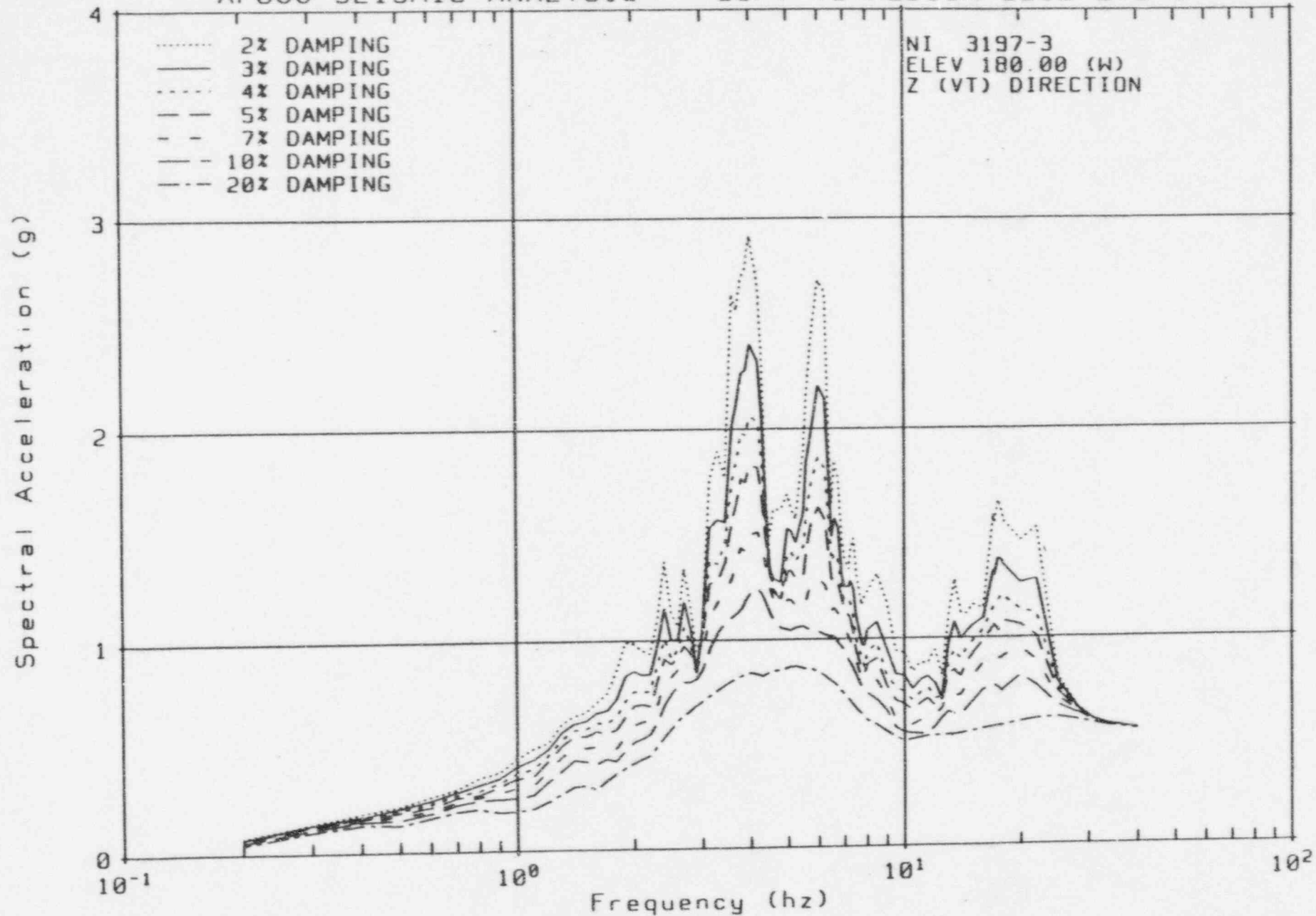
Spectral Acceleration (g)

..... 2% DAMPING
 ——— 3% DAMPING
 4% DAMPING
 - - - 5% DAMPING
 - - - 7% DAMPING
 - - - 10% DAMPING
 - - - 20% DAMPING

NI 3197-2
 ELEV 180.00 (W)
 Y (EW) DIRECTION



AP600 SEISMIC ANALYSIS - SOFT TO MEDIUM SOIL 2.0*G



AP600 SEISMIC ANALYSIS - ENVELOPE OF ALL SOIL CASES

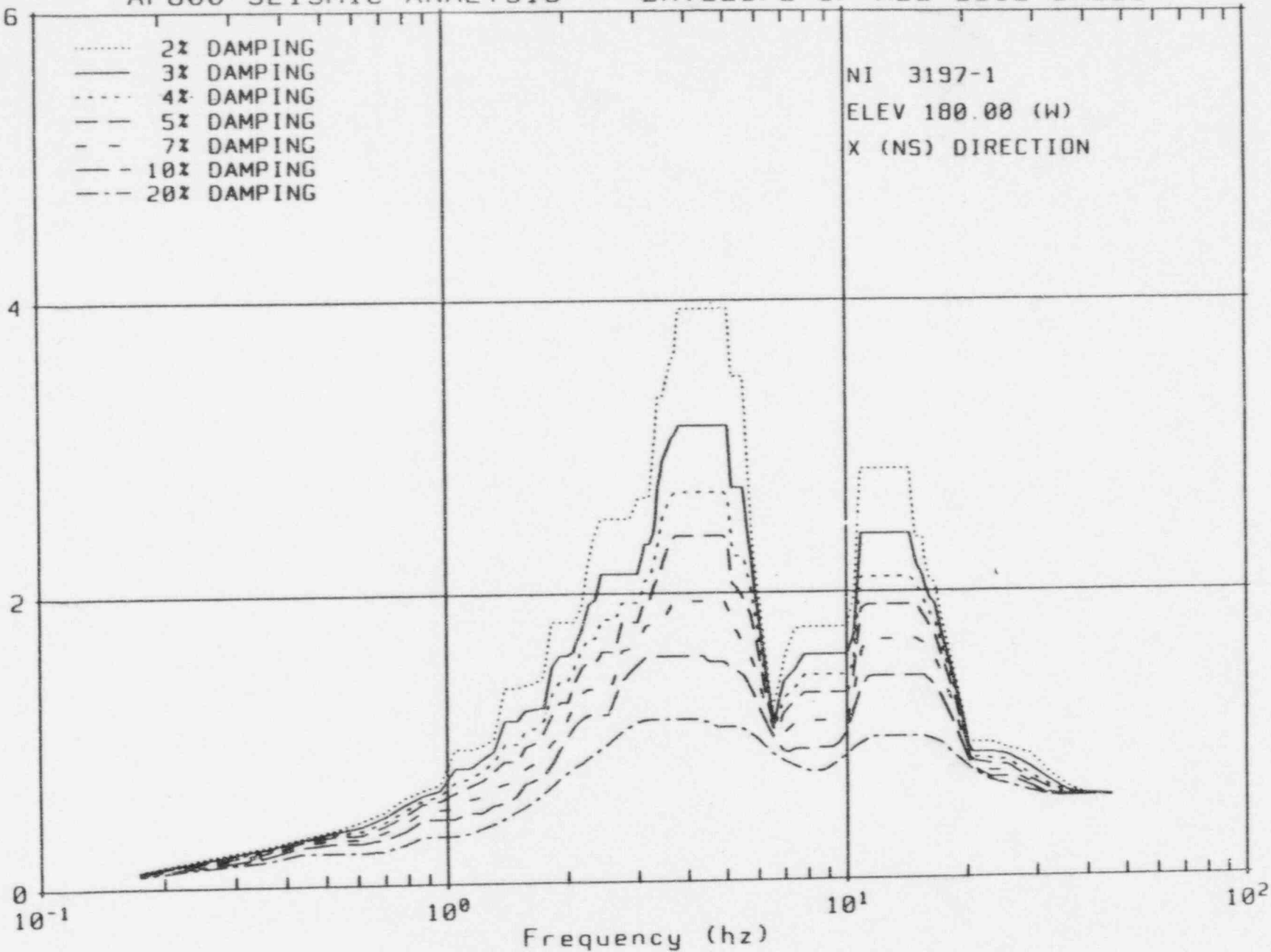
Spectral Acceleration (g)

- 2% DAMPING
- 3% DAMPING
- 4% DAMPING
- — 5% DAMPING
- - - 7% DAMPING
- - 10% DAMPING
- - - 20% DAMPING

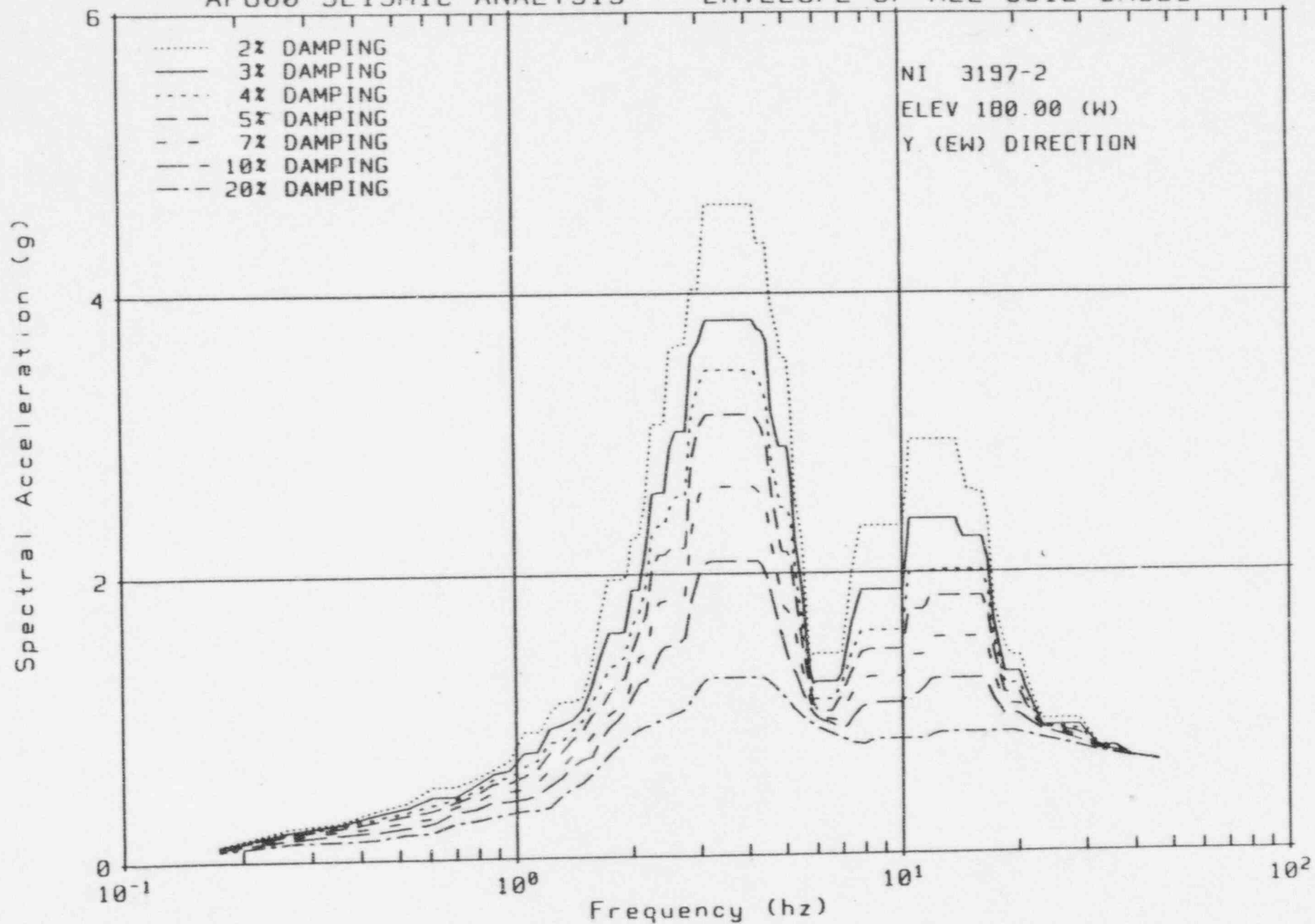
NI 3197-1

ELEV 180.00 (W)

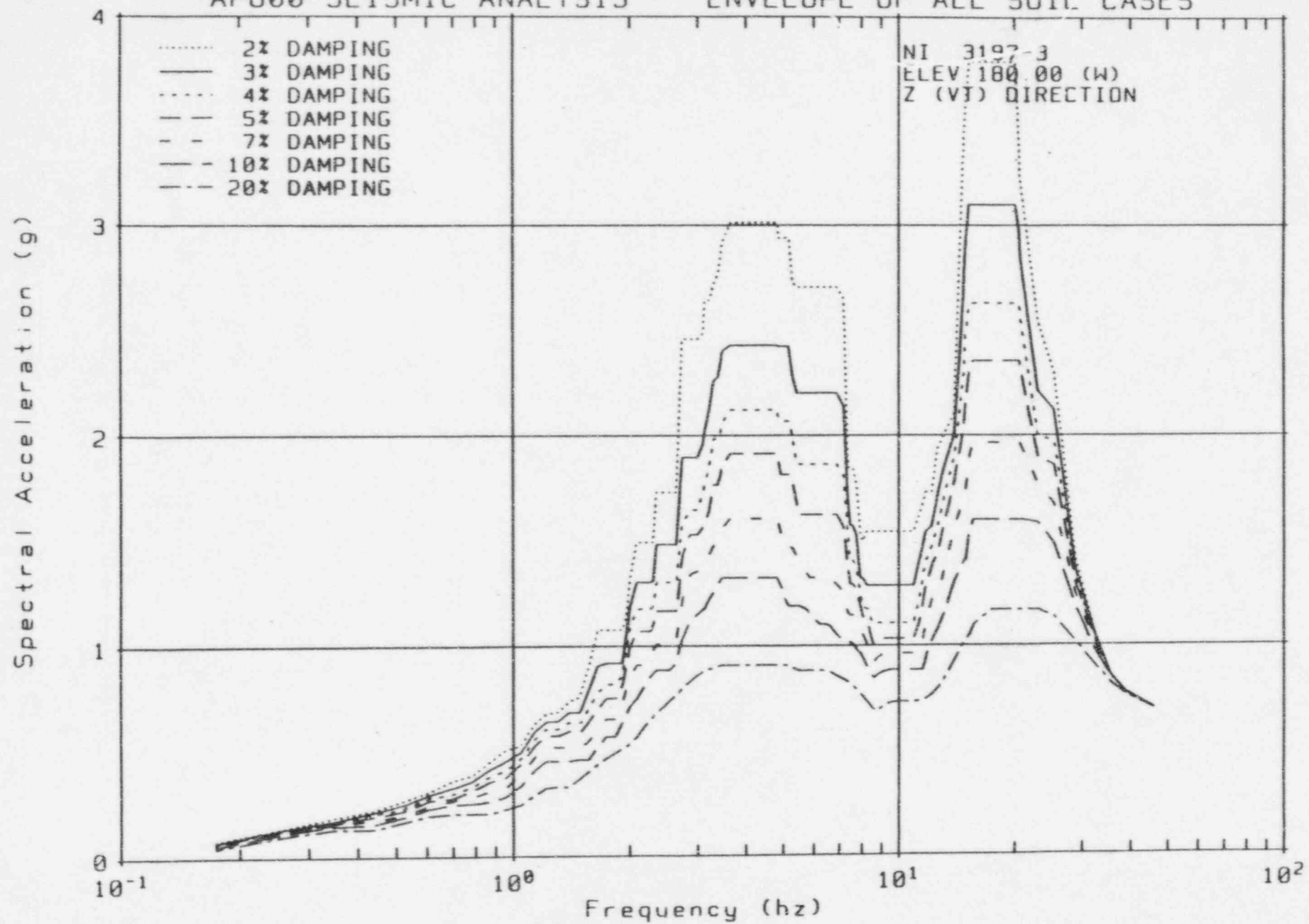
X (NS) DIRECTION



AP600 SEISMIC ANALYSIS - ENVELOPE OF ALL SOIL CASES



AP600 SEISMIC ANALYSIS - ENVELOPE OF ALL SOIL CASES



FLOOR RESPONSE SPECTRA FILES

Explanation of file names and contents.

Example: WS13200

The first two letters identify the following:

HR	Hard rock site
SR	Soft rock site
1G	Soft-to-medium soil site
2G	Upper bound soft-to-medium soil site
WS	Enveloped and widened spectra

1 st digit:	1 X direction
	2 Y direction
	3 Z direction

last four digits: Node number

In each file:

1st column	frequency
2nd column	period
3rd through 9th columns:	2, 3, 4, 5, 7, 10, and 20% damping

Volume in drive A is PCBACKUPC01

Directory of A:\

1G13008	9,801 03-18-96	5:04p
1G23008	9,801 03-18-96	5:04p
1G33008	9,801 03-18-96	5:04p
1G13167	9,801 03-18-96	5:05p
1G23167	9,801 03-18-96	5:05p
1G33167	9,801 03-18-96	5:05p
1G33197	9,801 03-18-96	5:06p
1G23197	9,801 03-18-96	5:06p
1G13197	9,801 03-18-96	5:06p
2G13008	9,801 03-18-96	5:19p
2G23008	9,801 03-18-96	5:19p
2G33008	9,801 03-18-96	5:19p
2G13167	9,801 03-18-96	5:20p
2G23167	9,801 03-18-96	5:20p
2G33167	9,801 03-18-96	5:20p
2G13197	9,801 03-18-96	5:21p
2G23197	9,801 03-18-96	5:21p
HR13008	9,799 03-18-96	5:26p
HR23008	9,799 03-18-96	5:26p
HR33008	9,799 03-18-96	5:26p
HR13167	9,799 03-18-96	5:27p
HR23167	9,799 03-18-96	5:27p
HR33167	9,799 03-18-96	5:27p
HR13197	9,799 03-18-96	5:28p
HR23197	9,799 03-18-96	5:28p
HR33197	9,799 03-18-96	5:28p
SR13008	9,801 03-18-96	5:01p
SR23008	9,801 03-18-96	5:01p
SR33008	9,801 03-18-96	5:01p
SR13167	9,801 03-18-96	5:01p
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SR13197	9,801 03-18-96	5:02p
SR23197	9,801 03-18-96	5:02p
SR33197	9,801 03-18-96	5:02p
WS13008	19,389 03-20-96	9:17a
WS23008	19,389 03-20-96	9:17a
WS33008	19,389 03-20-96	9:17a
WS13167	19,389 03-20-96	9:18a
WS23167	19,389 03-20-96	9:18a
WS33167	19,389 03-20-96	9:18a
WS13197	19,389 05-08-96	10:03a
WS23197	19,389 05-08-96	10:03a
WS33197	19,389 05-08-96	10:03a
2G33197	9,801 03-18-96	5:21p

45 file(s)

527,319 bytes

913,920 bytes free