

GNA		102
JOB NO.:	84002	
DATE LOGGED:	6/7/84	
LOG NO.:	H116	12/70
FILE:	11.1 Tech. Files	
CROSS REF. FILE	11.1 Tech. Files Log	

116  
2/7

FIS-4R

REFINED RESPONSE SPECTRA  
FOR

SERVICE WATER  
INTAKE STRUCTURE

COMANCHE PEAK  
STEAM ELECTRIC STATION  
NUCLEAR POWER PLANT

8411060420 840620  
PDR ADOCK 05000445  
A PDR

GIBBS & HILL

RECEIVED DECEMBER '82

JUN 7 1984

CYGNA - SAN FRANCISCO

## CPSES

### REFINED RESPONSE SPECTRA FOR SERVICE WATER INTAKE STRUCTURE

Presented herewith are the refined floor response spectra for the S.W. Intake structure (references 2 and 3) based on existing response spectra (reference 1) and developed primarily for as-built piping analysis. These response spectra have been refined based upon improved curve smoothing techniques by use of computer, instead of by hand. Therefore, undue hand smoothing and digitizing have been eliminated. Also, improved interpolation has been used at lumped masses based on time history responses. The results are plotted in terms of accelerations versus frequencies for ease of use.

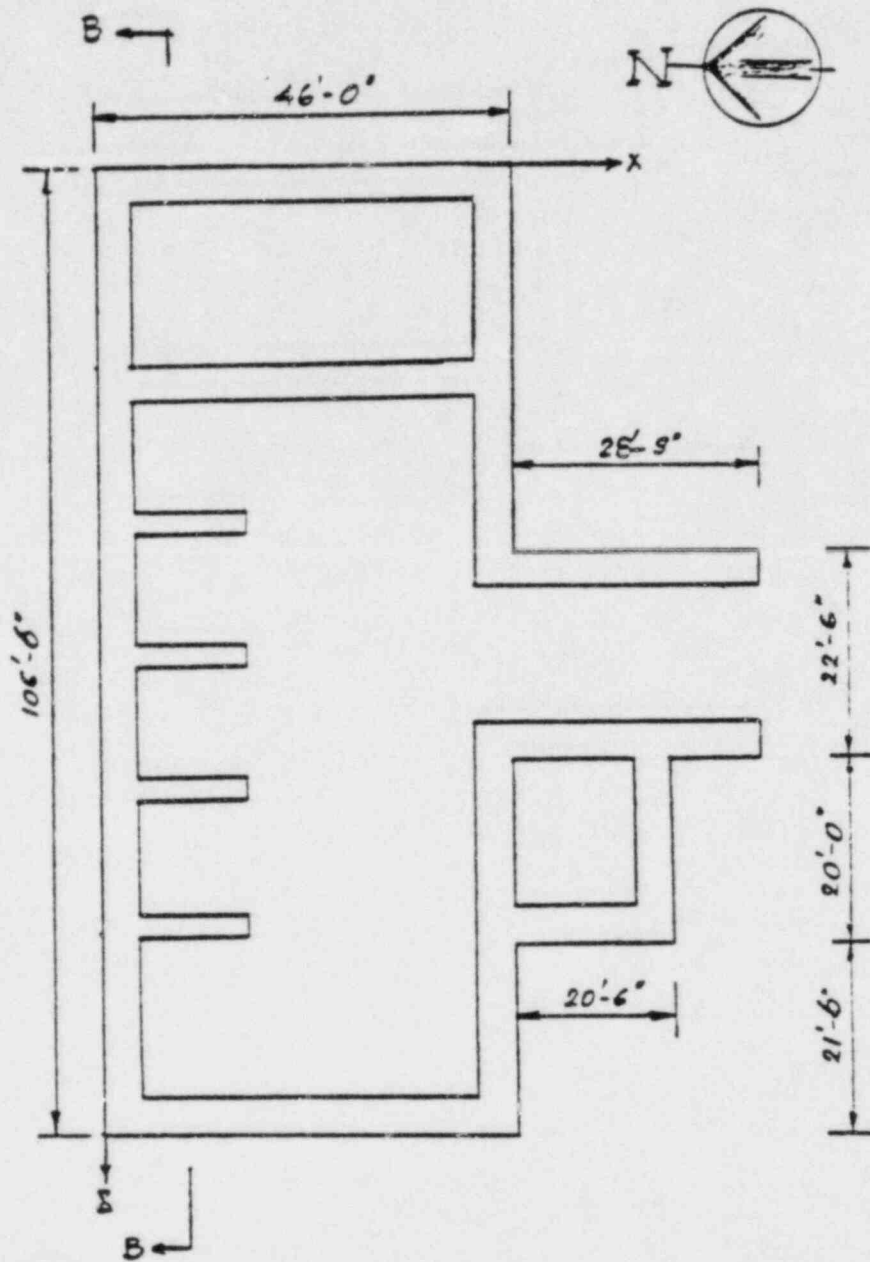
The results are presented in figures 1358-B through 1363-B and 1349-B through 1354-B which are summarized in Table no. 2. Also the digitized values of the same spectra are included at the end of the book.

Each figure refers to a specific floor of the building, and contains three curves labeled Ax, Ay and Az, which represent the spectral accelerations in the x, y and z orthogonal directions respectively due to the combined effect of three simultaneous earthquakes at the specified % damping. Please note that Az and Ax are in the east-west and the north-south directions respectively while Ay is in the vertical direction based upon the plant's general coordinate system.

All spectra presented in this report include the coupling effects of non-symmetric structure. The curves shown are for the most critical location of the floor, considering the combined effect of translation and rotation.

#### References:

1. "Instructure Response Spectra for S.W. Intake Structure," Gibbs & Hill report no. FIS-2R, June 1976.
2. "TUSI - Refined Response Spectra for S.W. Intake Structure," calculation book no. FIS-2C, Rev. 0
3. "TUSI - Computer Output for S.W. Intake Structure," computer output file no. FMI-1P Set 4, Rev. 0.



PLAN VIEW EL. 752'-0"

**TUSI**  
S.W. INTAKE STRUCTURE

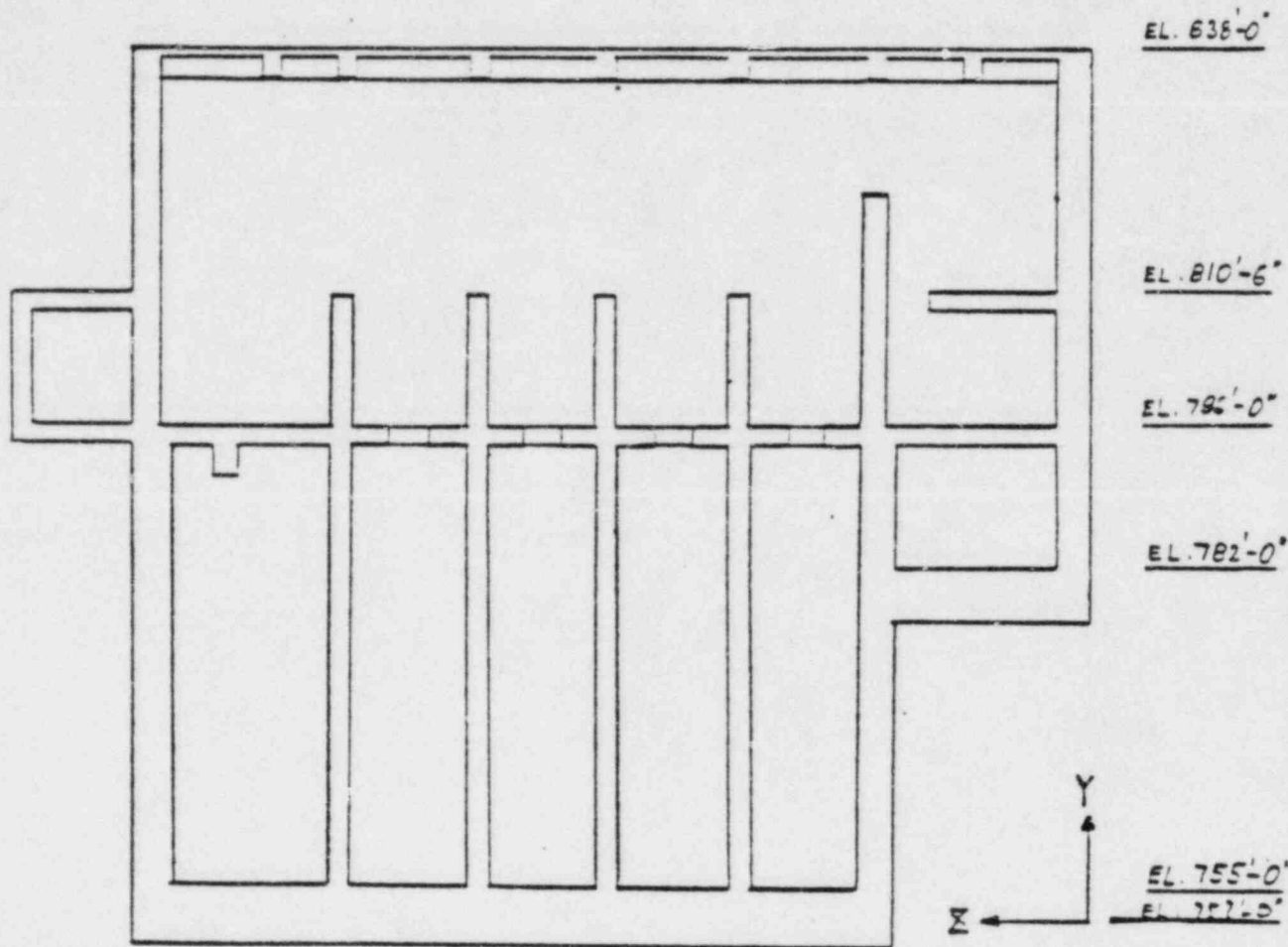
**Gibbs & Hill, Inc.**  
ENGINEERS, ARCHITECTS, CONTRACTORS  
1949 T901

SCALE - 1/32" = 1'-0"

SKETCH 1.

NO.	DATE	BY	CHKD	APP'D	REVISION	ISSUED FOR

JOB NO. 2-2-57



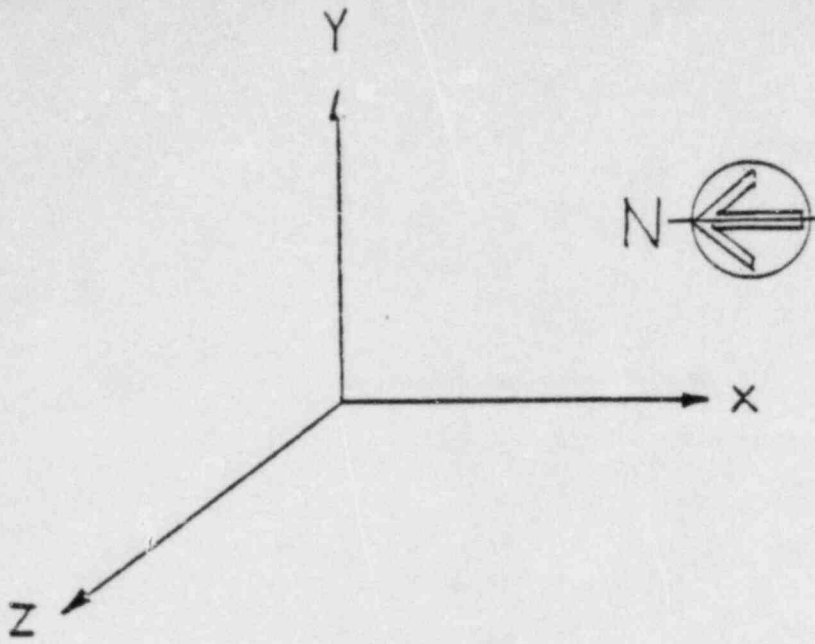
SECTION B-B

TUSI  
S.W. INTAKE STRUCTURE

DATE	DWG	ENG	ISS	APPROVAL	ISSUED FOR

Gibbs & Hill, Inc.  
ENGINEERS, ARCHITECTS, CONTRACTORS, INC.  
NEW YORK  
JOB NO. 3323-4

SCALE - 1/32" = 1'-0"  
SKETCH 2

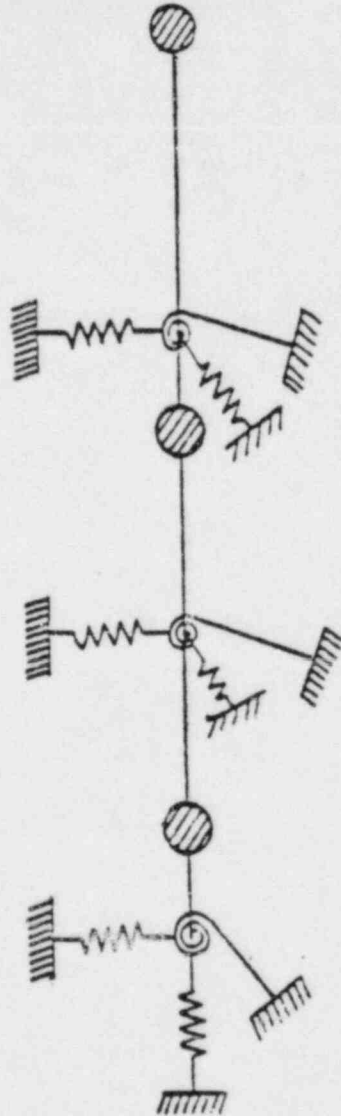


1

2

3

DYNAMIC MODEL



TUSI  
S.W. INTAKE STRUCTURE

Gibbs & Hill, Inc.  
ENGINEER: MICHAEL CONTRACTING  
REV 10/04

SCALE -  
SKETCH 3

NO.	DATE	BY	CHKD	APP'D	ISSUED FOR

FIG NO. 2322-A

### NODAL COORDINATE

MASS NO.	X (FT.)	Y (FT.)	Z (FT.)
1	21.95	72.36	53.13
2	26.87	36.02	57.97
3	29.63	10.70	59.62
BASE SOIL SPRING	29.52	1.57	54.83
EMBEDDED SOIL SPRING	LOWER   style="text-align: center;">17.90	24.00	64.25
	UPPER   style="text-align: center;">6.95	39.86	53.25

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**TUSI**

SERVICE WATER INTAKE STRUCTURE

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**CHAS. E. MILLER CO.**  
ENGINEER, PEACOCK CONTRACTORS  
NEW YORK
SCALE -

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TABLE 1

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JOB NO. 2525

## SUMMARY OF REFINED FLOOR RESPONSE SPECTRA

FIGURE NO.	FLOOR ELEVATION	DAMPING %	EARTHQUAKE	TYPE OF MOTION
1358-B	838.00 FT.	1	1/2 SSE	TRANSL. & ROT.
1359-B	796.00 FT.	1	1/2 SSE	TRANSL. & ROT.
1360-B	755.00 FT.	1	1/2 SSE	TRANSL. & ROT.
1361-B	838.00 FT.	2	1/2 SSE	TRANSL. & ROT.
1362-B	796.00 FT.	2	1/2 SSE	TRANSL. & ROT.
1363-B	755.00 FT.	2	1/2 SSE	TRANSL. & ROT.
1349-B	838.00 FT.	2	SSE	TRANSL. & ROT.
1350-B	796.00 FT.	2	SSE	TRANSL. & ROT.
1351-B	755.00 FT.	2	SSE	TRANSL. & ROT.
1352-B	838.00 FT.	3	SSE	TRANSL. & ROT.
1353-B	796.00 FT.	3	SSE	TRANSL. & ROT.
1354-B	755.00 FT.	3	SSE	TRANSL. & ROT.

TUSI

SERVICE WATER INTAKE STRUCT.

Robert C. McLean, Inc.

SEISMIC ENGINEERS

1000 P STREET, N.W.

WASHINGTON, D.C. 20004

SCALE -

TABLE 2

AS SHOWN

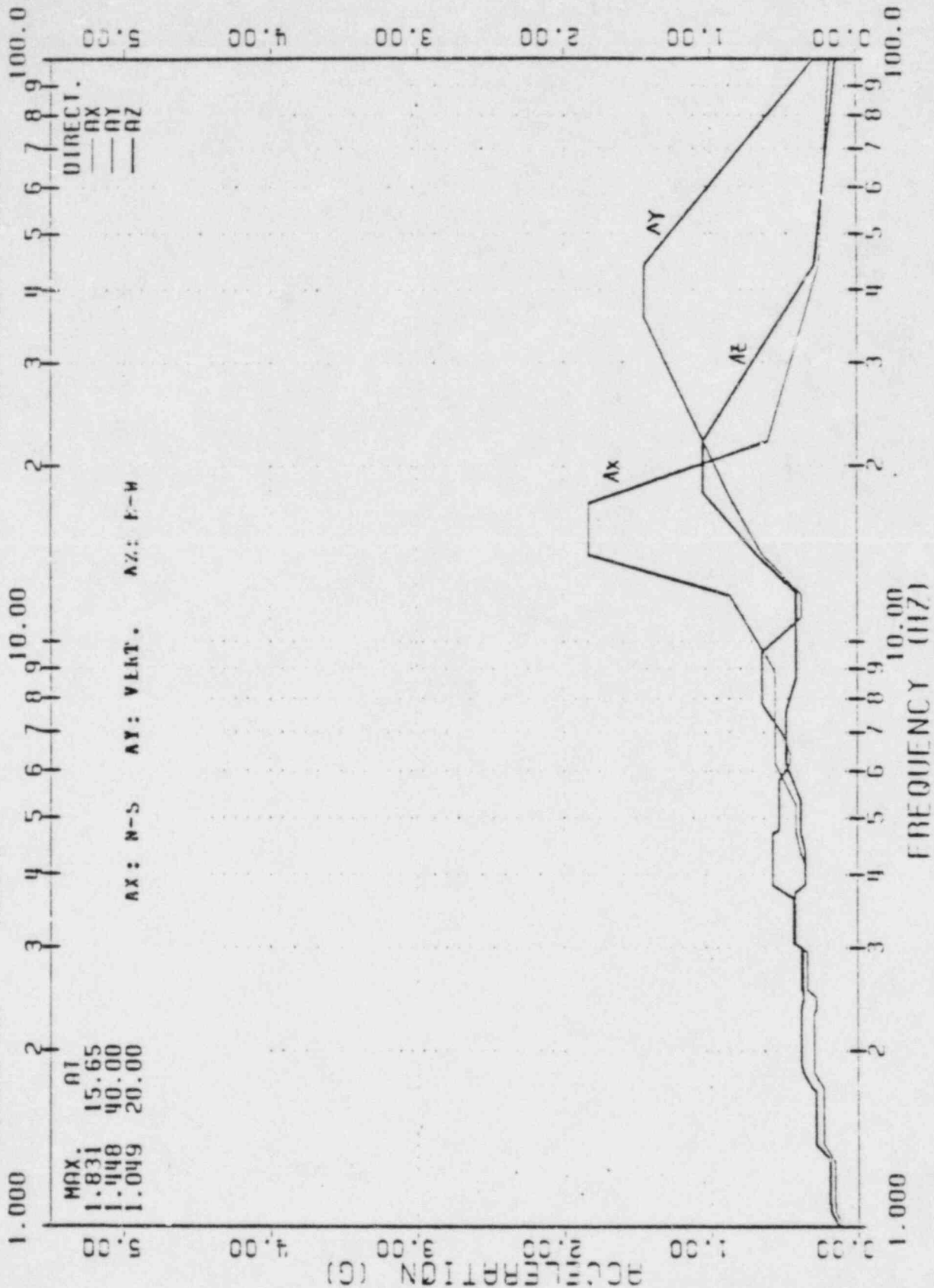
# TUSI-REFINED RESPONSE SPECTRA FOR S. W. INTAKE STR

FLOOR RESPONSE SPECTRA FOR 1/2SSE;

FIGURE NO. 1358-B

DAMPING = 0.01

AT ELEVATION 838.00



TUSI-S.W.INTAKE STR.

REFINED RESPONSE SPECTRA

GIBBS & HILL, INC.

ENGINEERS, DESIGNERS, CONTRACTORS

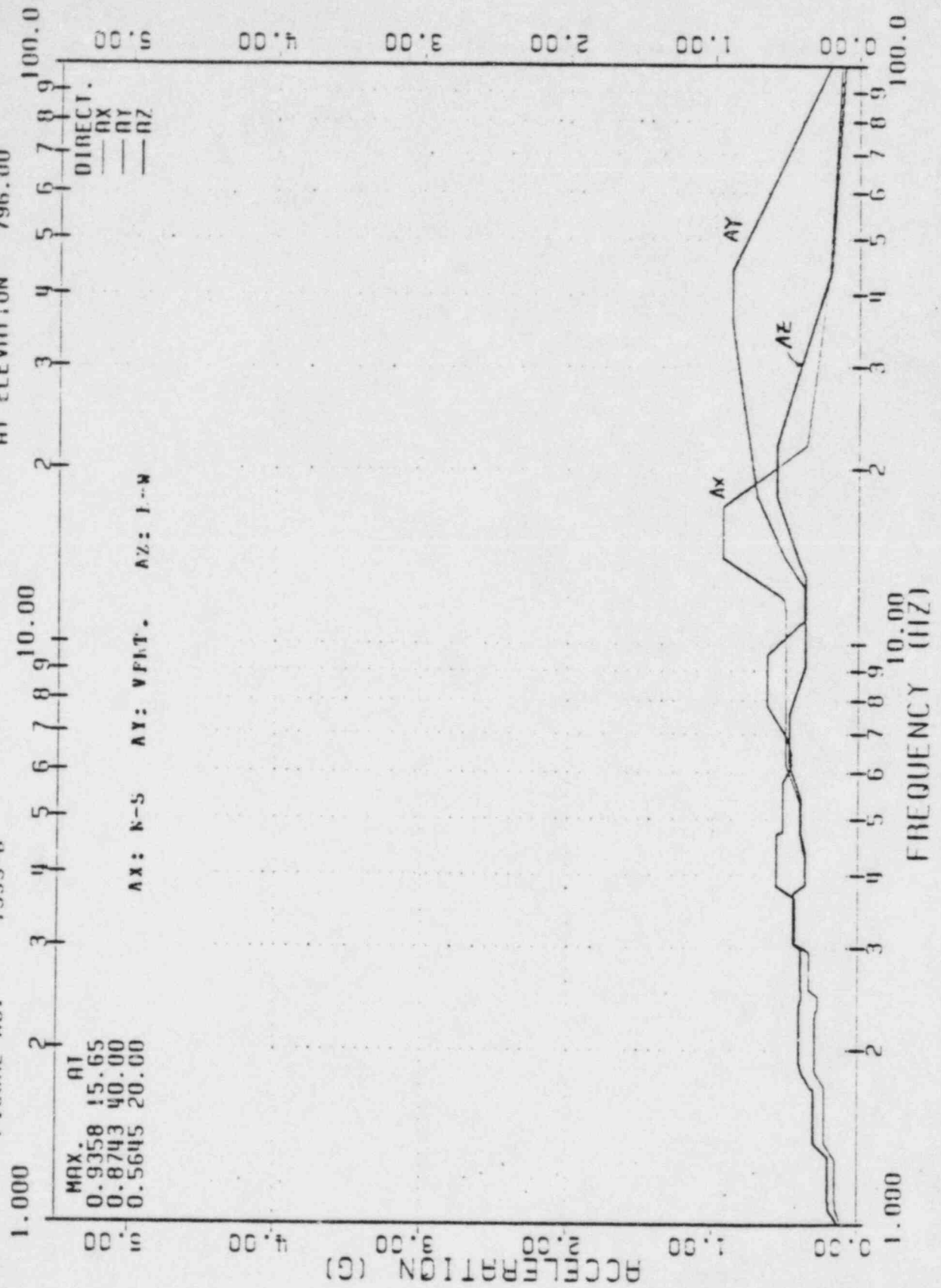
ISSUE NO. 2828

FIGURE-1358-B



TUSI-REFINED RESPONSE SPECTRA FOR S. W. INTAKE STR  
 FLOOR RESPONSE SPECTRA FOR 1/25 SSE;  
 FIGURE NO. 1359-B

DAMPING = 0.01  
 AT ELEVATION 796.00

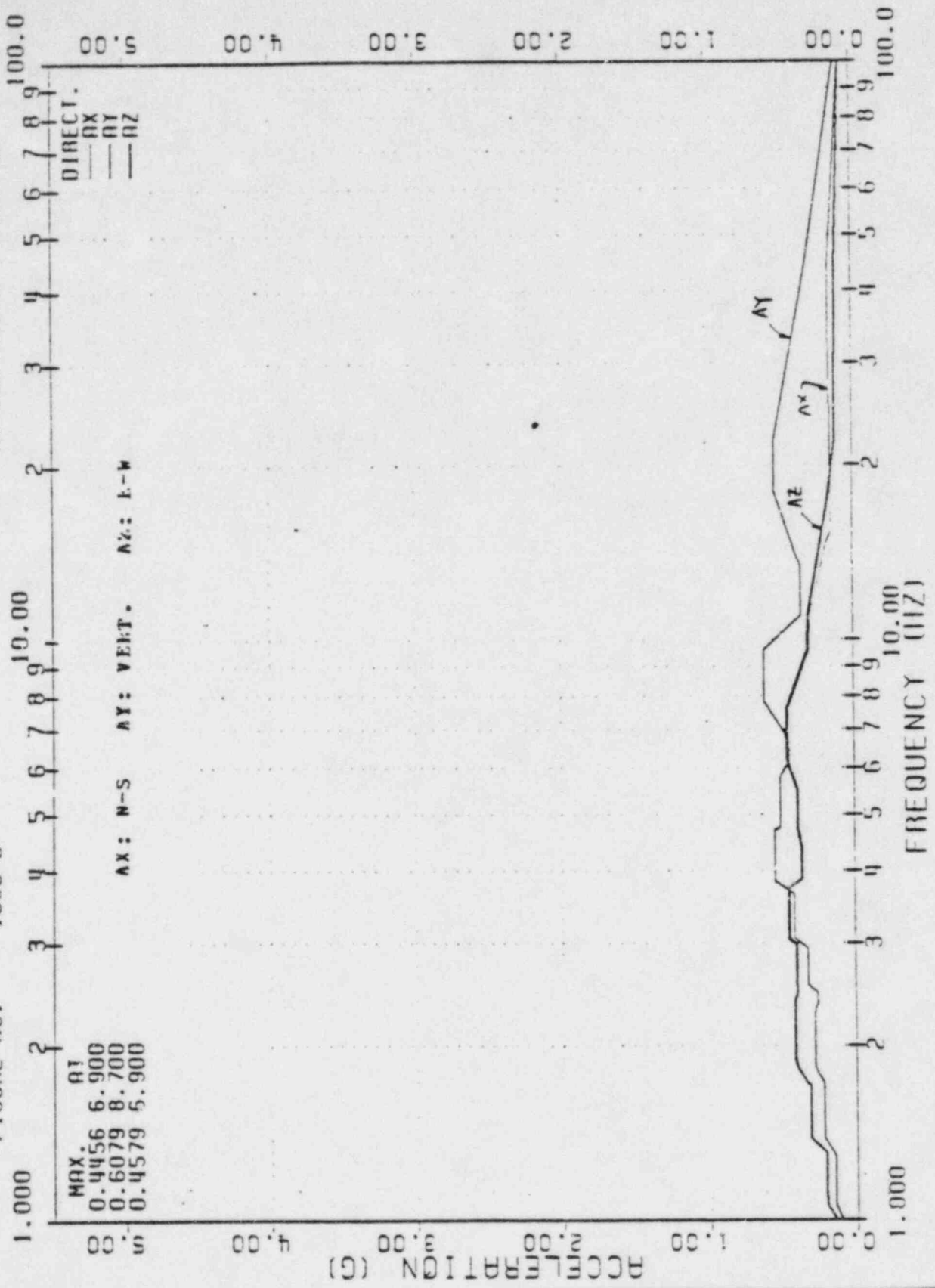


AX: N-S AY: VERT. AZ: E-W

TUSI-S.W.INTAKE STR.	
REFINED RESPONSE SPECTRA	
GIBBS & HILL, INC.	
ENGINEERS, DESIGNERS, CONSTRUCTORS	
ISSUED FOR	FIGURE-1359-B
JOB NO. 2325	

**TUSI-REFINED RESPONSE SPECTRA FOR S. W. INTAKE STR**  
**FLOOR RESPONSE SPECTRA FOR 1/255SE;**  
**FIGURE NO. 1360-B**

DAMPING = 0.01  
 AT ELEVATION 755.00



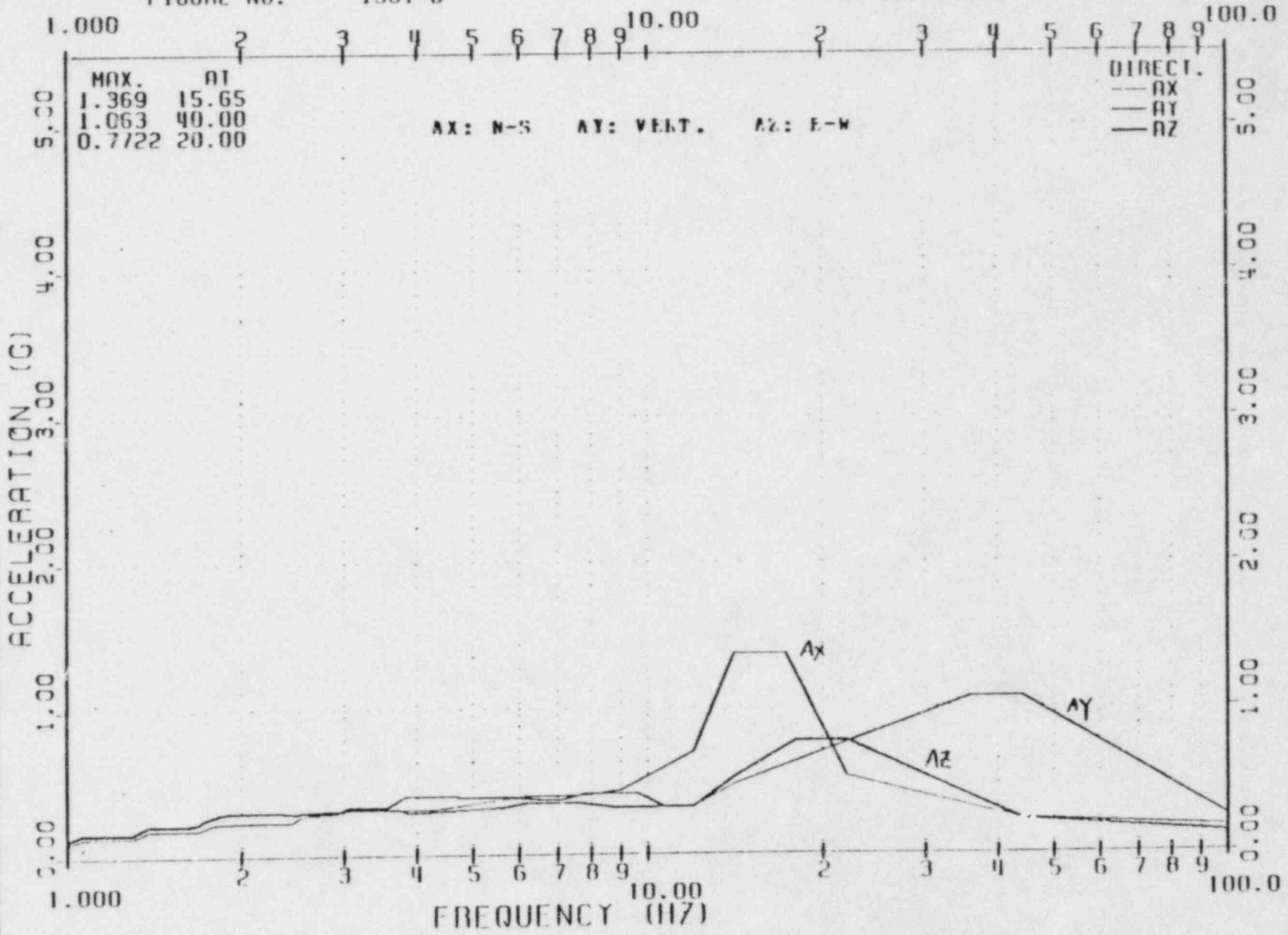
MAX. AT  
 0.4456 6.900  
 0.6079 8.700  
 0.4579 5.900

AX: N-S AY: VERT. AZ: E-W

	<b>TUSI-S.W. INTAKE STR.</b>	
	<b>REFINED RESPONSE SPECTRA</b>	
	<b>GIBBS &amp; HILL, INC.</b>	
	<small>ENGINEERS, DESIGNERS, CONSTRUCTORS</small>	
	JOB NO. <b>2523</b>	<b>FIGURE-1360-B</b>
<small>ISSUE NO. DATE PLT.G.C.M.L.</small>	<small>ISSUED FOR</small>	

TUSI-REFINED RESPONSE SPECTRA FOR S. W. INTAKE STR  
 FLOOR RESPONSE SPECTRA FOR 1/2SSE;  
 FIGURE NO. 1361-B

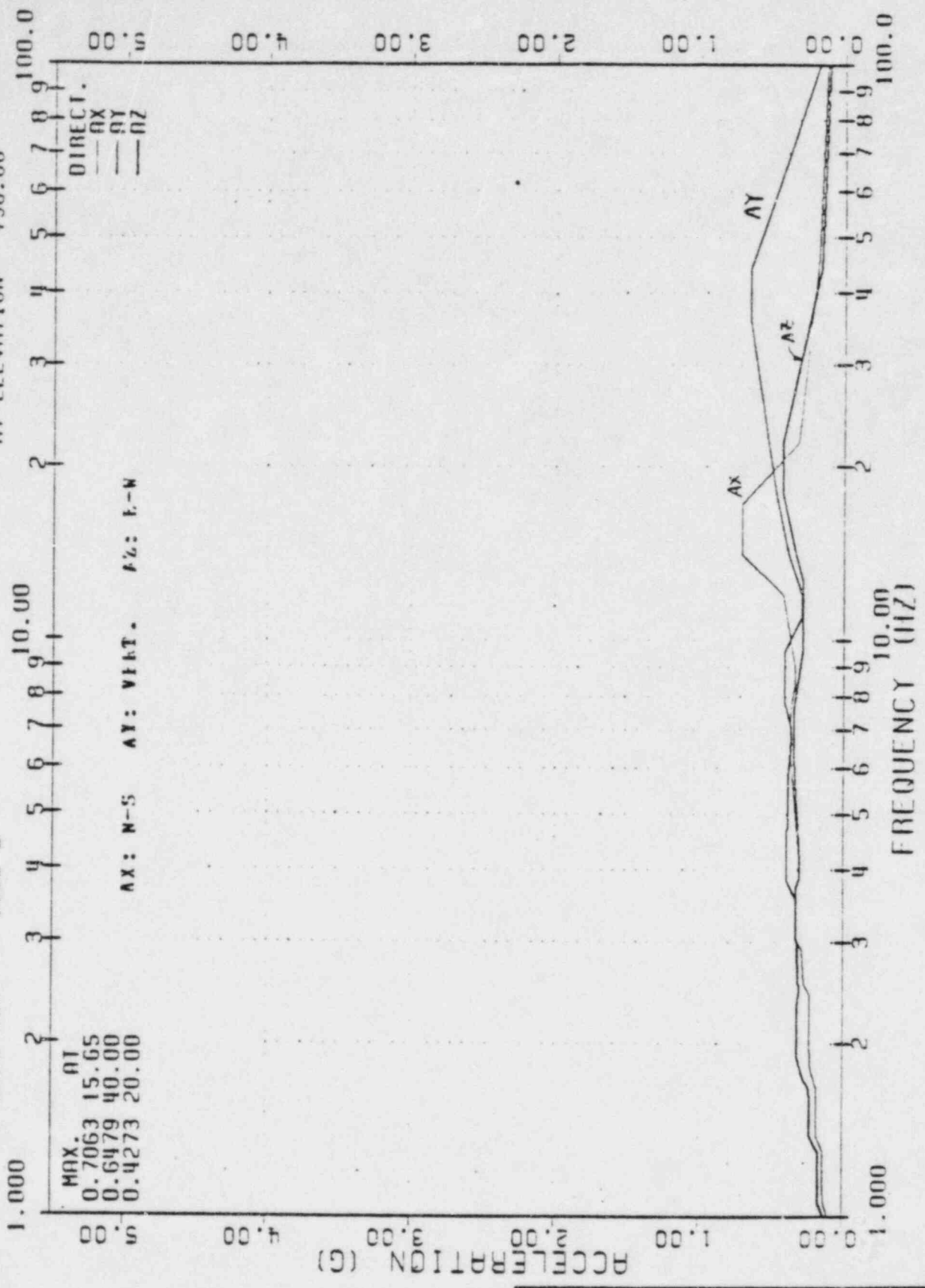
DAMPING = 0.02  
 AT ELEVATION 838.00



TUSI-S.W. INTAKE STR.  
 REFINED RESPONSE SPECTRA  
 GIBBS & HILL, INC.  
 ENGINEERS, DESIGNERS, CONSTRUCTORS  
 225 N. 23rd St.  
 FIGURE-1361-B

TUSI-REFINED RESPONSE SPECTRA FOR S. W. INTAKE STR  
 FLOOR RESPONSE SPECTRA FOR 1/255SE;  
 FIGURE NO. 1362 B

DAMPING = 0.02  
 AT ELEVATION 796.00



MAX. AT  
 0.7063 15.65  
 0.6479 40.00  
 0.4273 20.00

AX: N-S AY: E-W AZ: DIRECT.

TUSI-S.W. INTAKE STR.	
REFINED RESPONSE SPECTRA	
GIBBS & HILL, INC.	
<small>ENGINEERS, DESIGNERS, CONSTRUCTORS SINCE 1904</small>	
JOB NO. 2323	FIGURE-1362-B

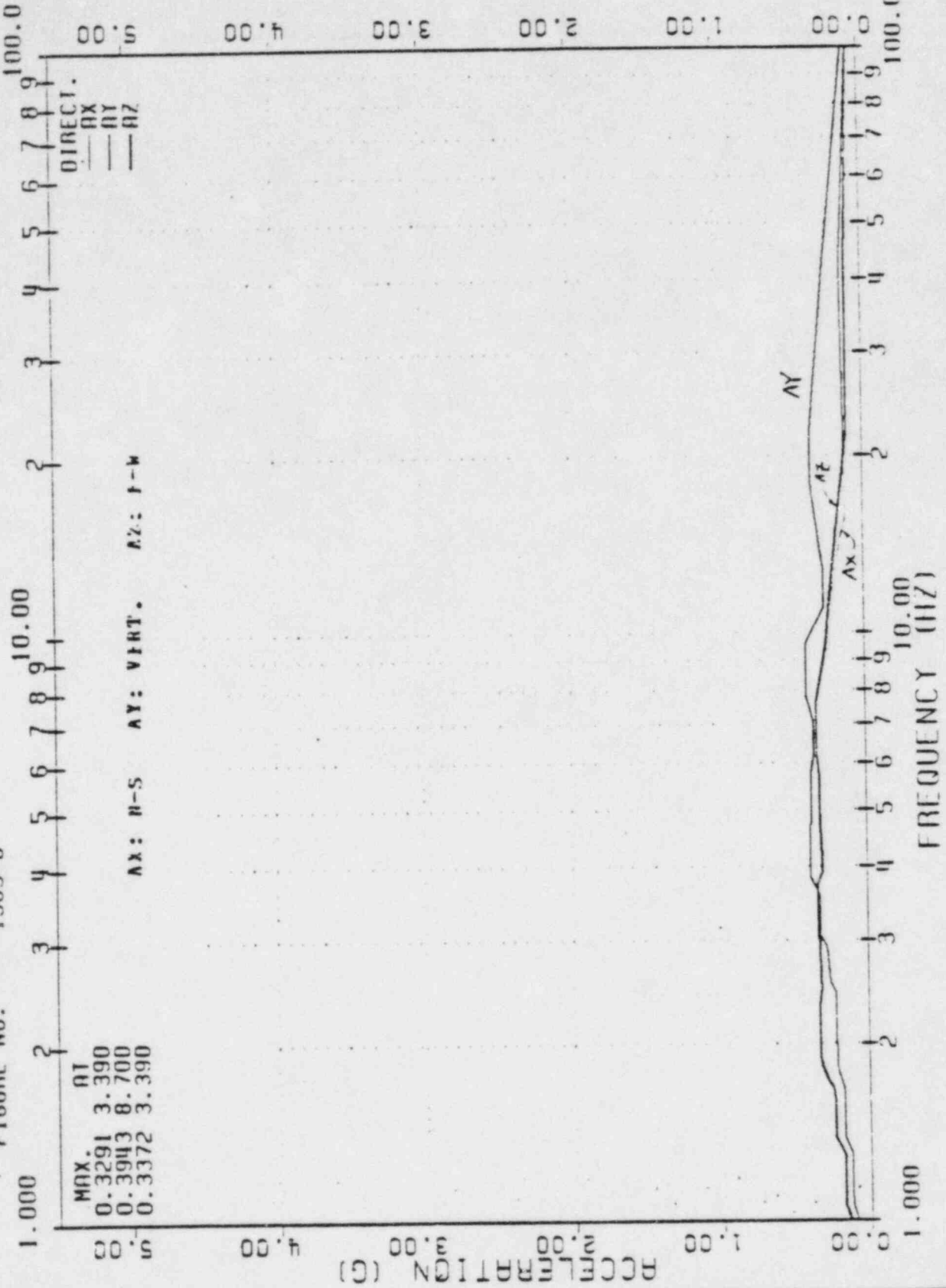
TUSI-REFINED RESPONSE SPECTRA FOR S. W. INTAKE STR

FLOOR RESPONSE SPECTRA FOR 1/255E1

FIGURE NO. 1363-B

DAMPING = 0.02

AT ELEVATION 755.00



MAX. AT  
 0.3291 3.390  
 0.3943 8.700  
 0.3372 3.390

AX: N-S AY: VERT. AZ: F-W

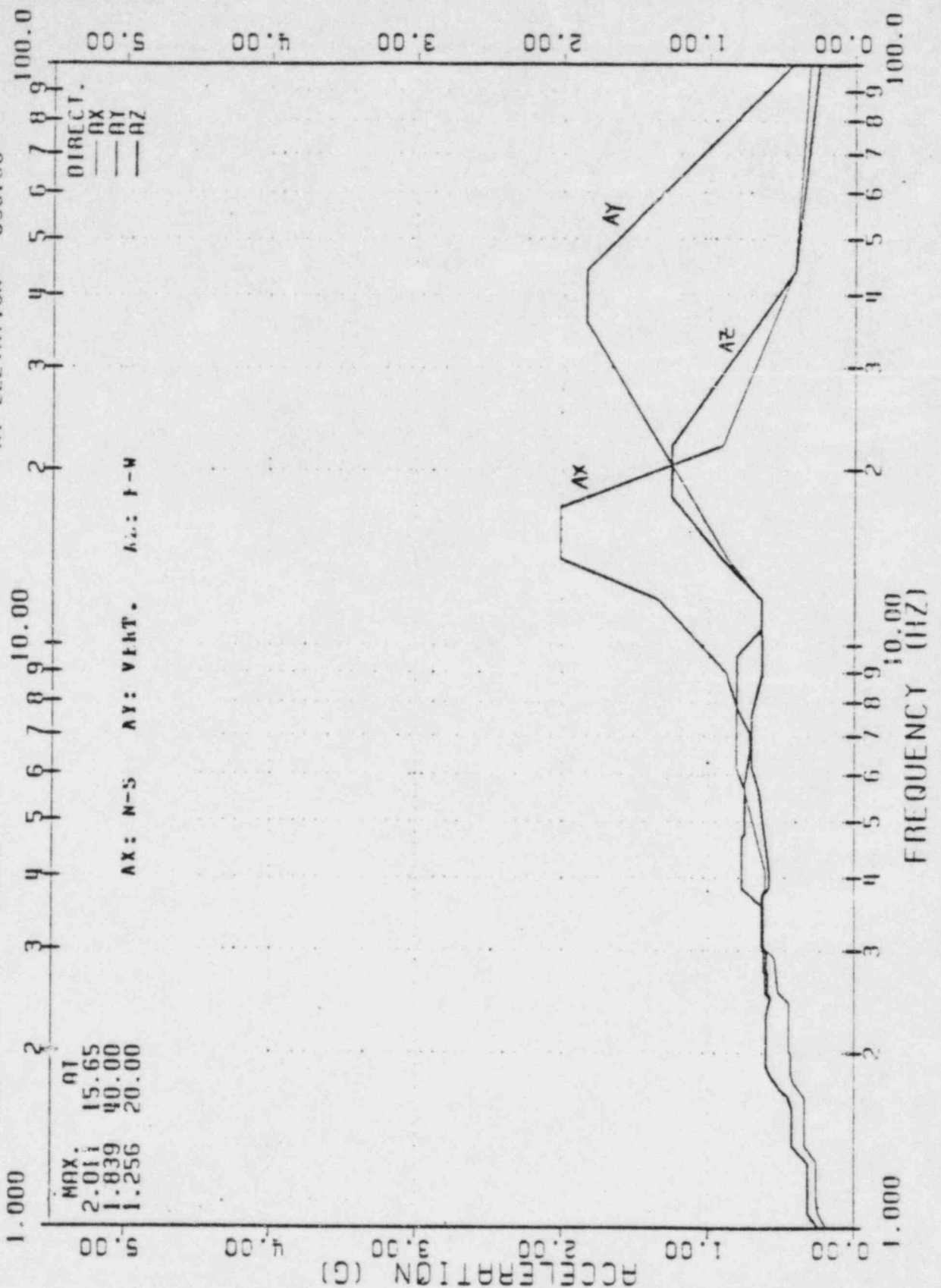
DIRECT.  
 - - - AX  
 - - - AY  
 - - - AZ

TUSI-S.W. INTAKE STR.	
REFINED RESPONSE SPECTRA	
GIBBS & HILL, INC. ENGINEERS, DESIGNERS, CONSTRUCTORS NEW YORK	
JOB NO. 2325	FIGURE-1363-B

# TUSI-REFINED RESPONSE SPECTRA FOR S. W. INTAKE STR

FLOOR RESPONSE SPECTRA FOR SSE;  
 DAMPING = 0.02  
 AT ELEVATION 838.00

FIGURE NO. 1349-B



TUSI-S.W. INTAKE STR.

REFINED RESPONSE SPECTRA

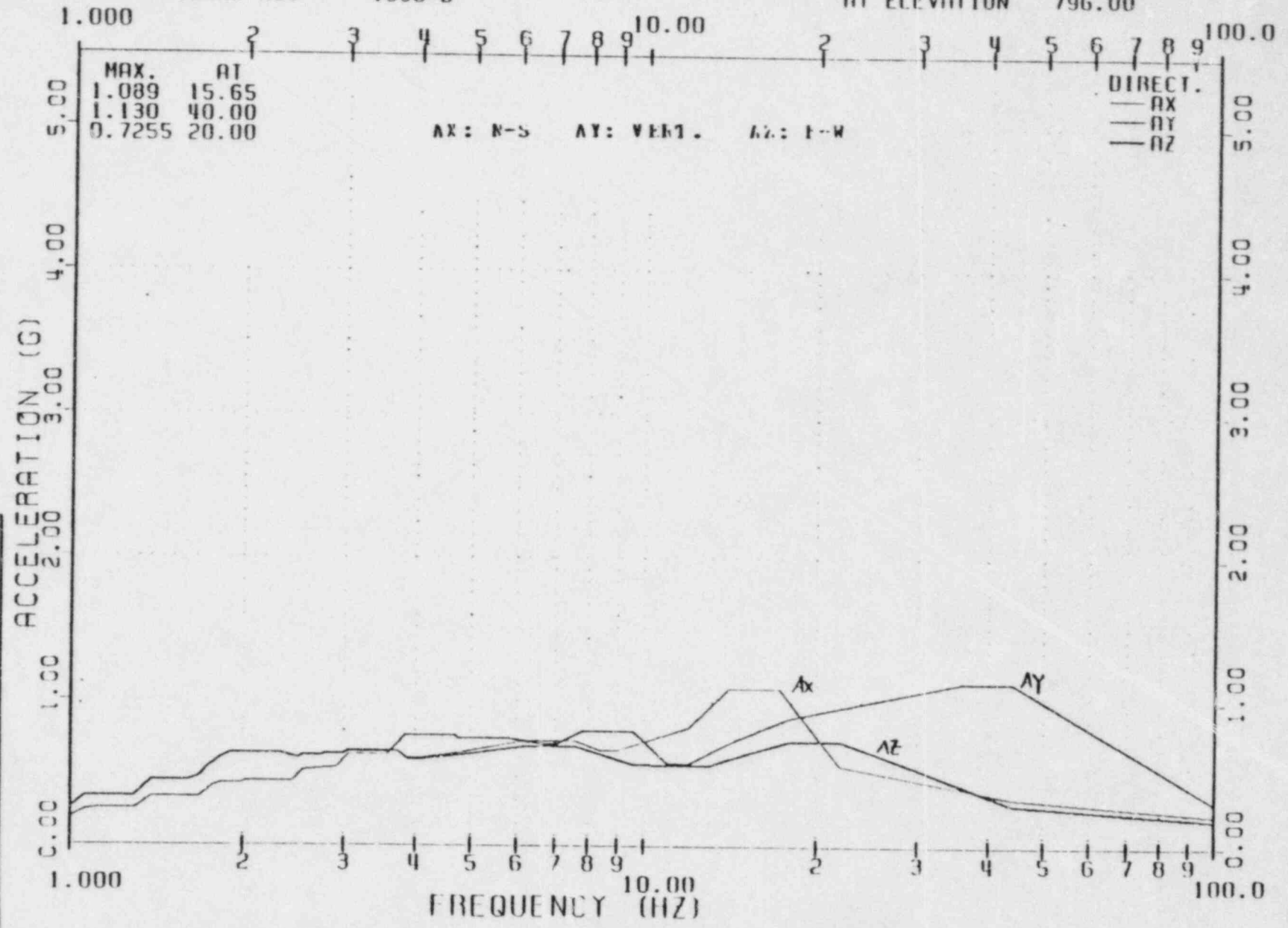
GIBBS & HILL, INC.  
 ENGINEERS, DESIGNERS, CONSTRUCTORS

FIGURE-1349-B

JOB NO. 2323

TUSI-REFINED RESPONSE SPECTRA FOR S. W. INTAKE STR  
 FLOOR RESPONSE SPECTRA FOR SSE;  
 FIGURE NO. 1350-B

DAMPING = 0.02  
 AT ELEVATION 796.00

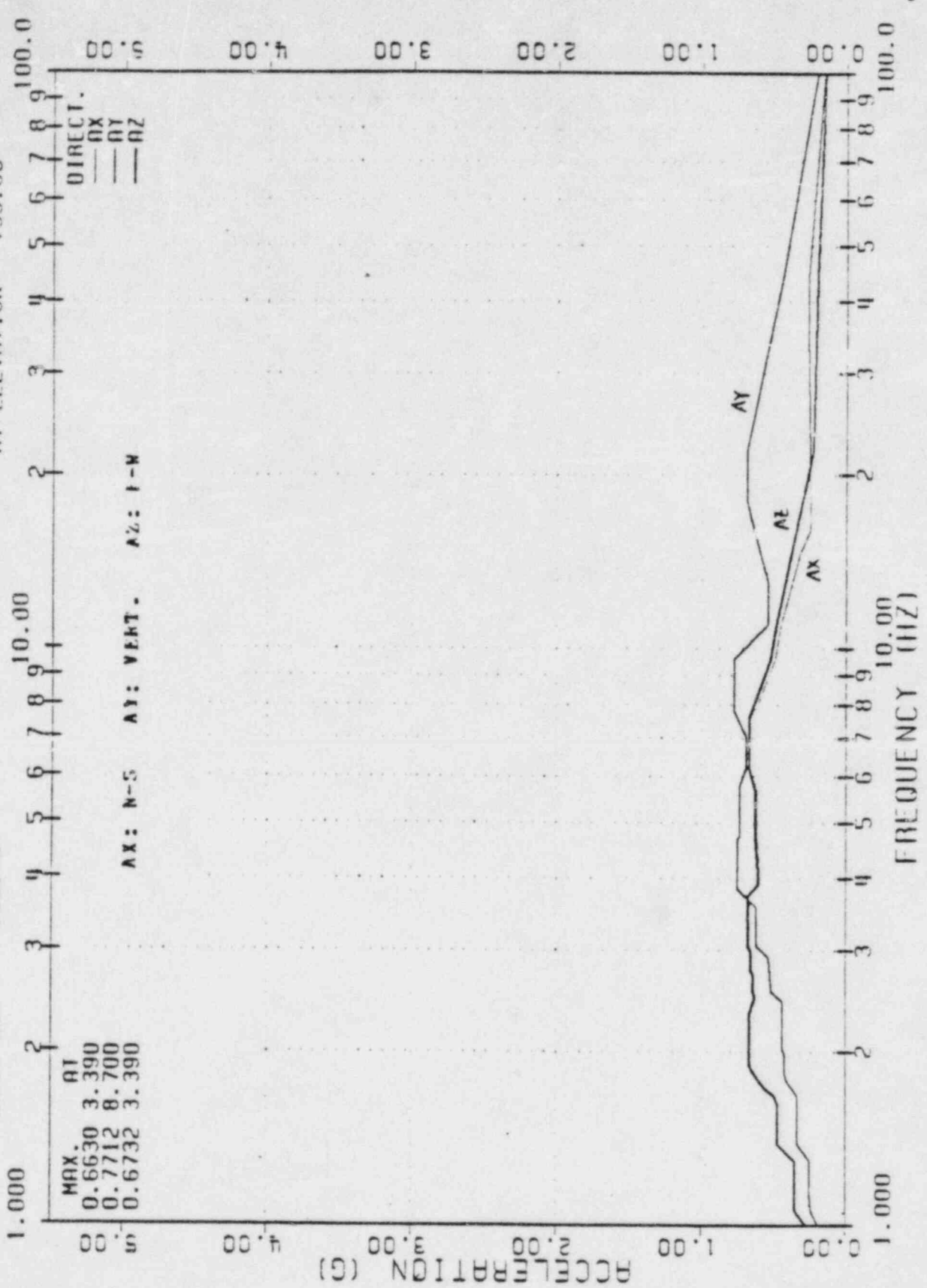


TUSI-REFINED RESPONSE SPECTRA FOR S. W. INTAKE STR.  
 ENGINEERS, DESIGNERS, CONTRACTORS  
 GIBBS & HILL, INC.  
 JOB NO. 2323  
 FIGURE-1350-B  
 SUBJECT PWA

TUSI-REFINED RESPONSE SPECTRA FOR S. W. INTAKE STR

FLOOR RESPONSE SPECTRA FOR SSE;  
 FIGURE NO. 1351-B

DAMPING = 0.02  
 AT ELEVATION 755.00



TUSI-S.W. INTAKE STR.	
REFINED RESPONSE SPECTRA	
GIBBS & HILL, INC.	
ENGINEERS, DESIGNERS, CONSTRUCTORS	
JOB NO. 2323	FIGURE-1351-B



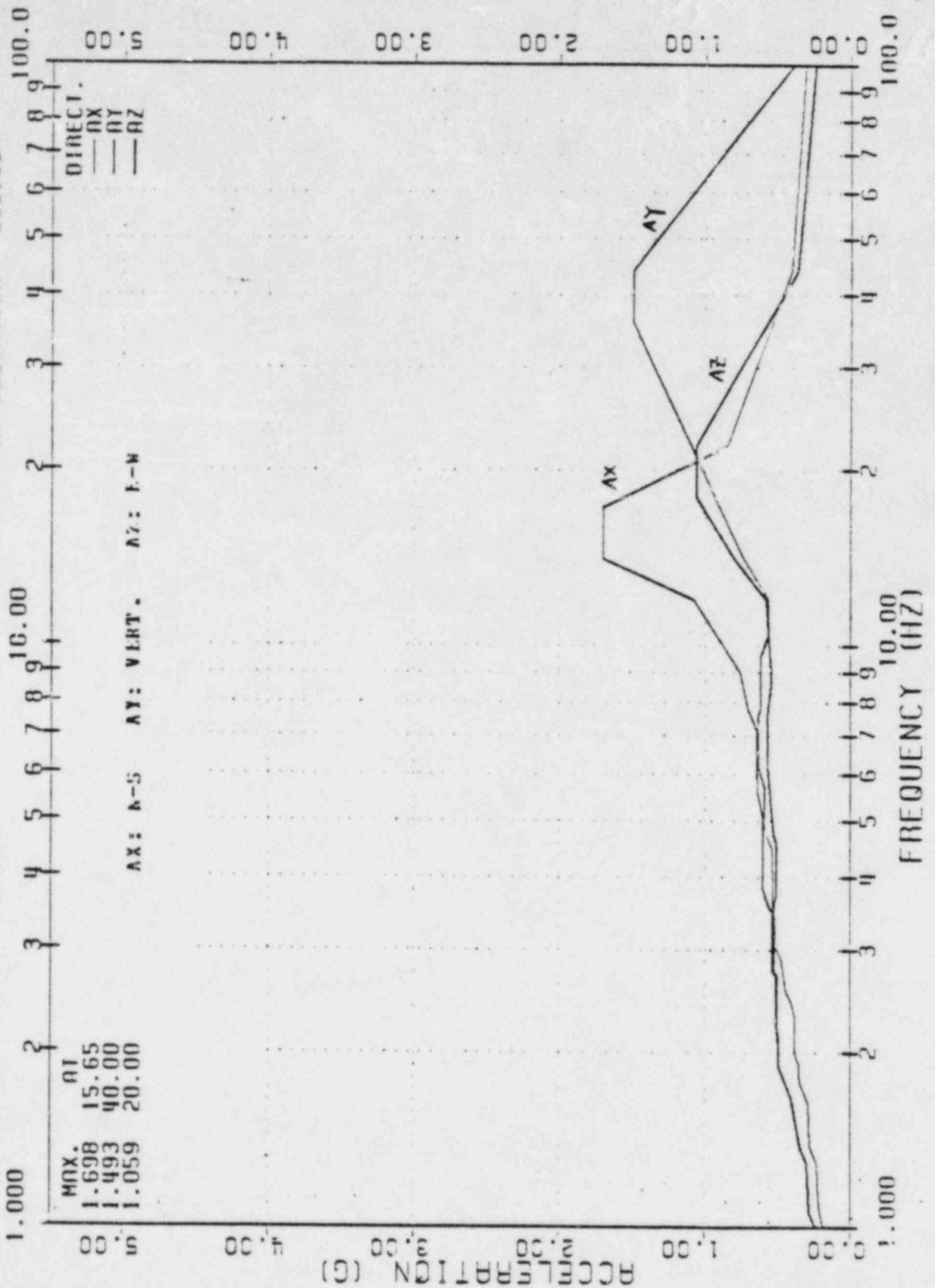
TUSI-REFINED RESPONSE SPECTRA FOR S. W. INTAKE STR

FLOOR RESPONSE SPECTRA FOR SSE;

DAMPING = 0.03

AT ELEVATION 038.00

FIGURE NO. 1352-B



MAX. AT  
 1.698 15.65  
 1.493 40.00  
 1.059 20.00

AX: N-S AY: VERT. AZ: E-W

TUSI-S.W.INTAKE STR.

REFINED RESPONSE SPECTRA

GIBBS & HILL, INC.  
 ENGINEERS, DESIGNERS, CONSTRUCTORS

FIGURE-1352-B

JOB NO. 2325

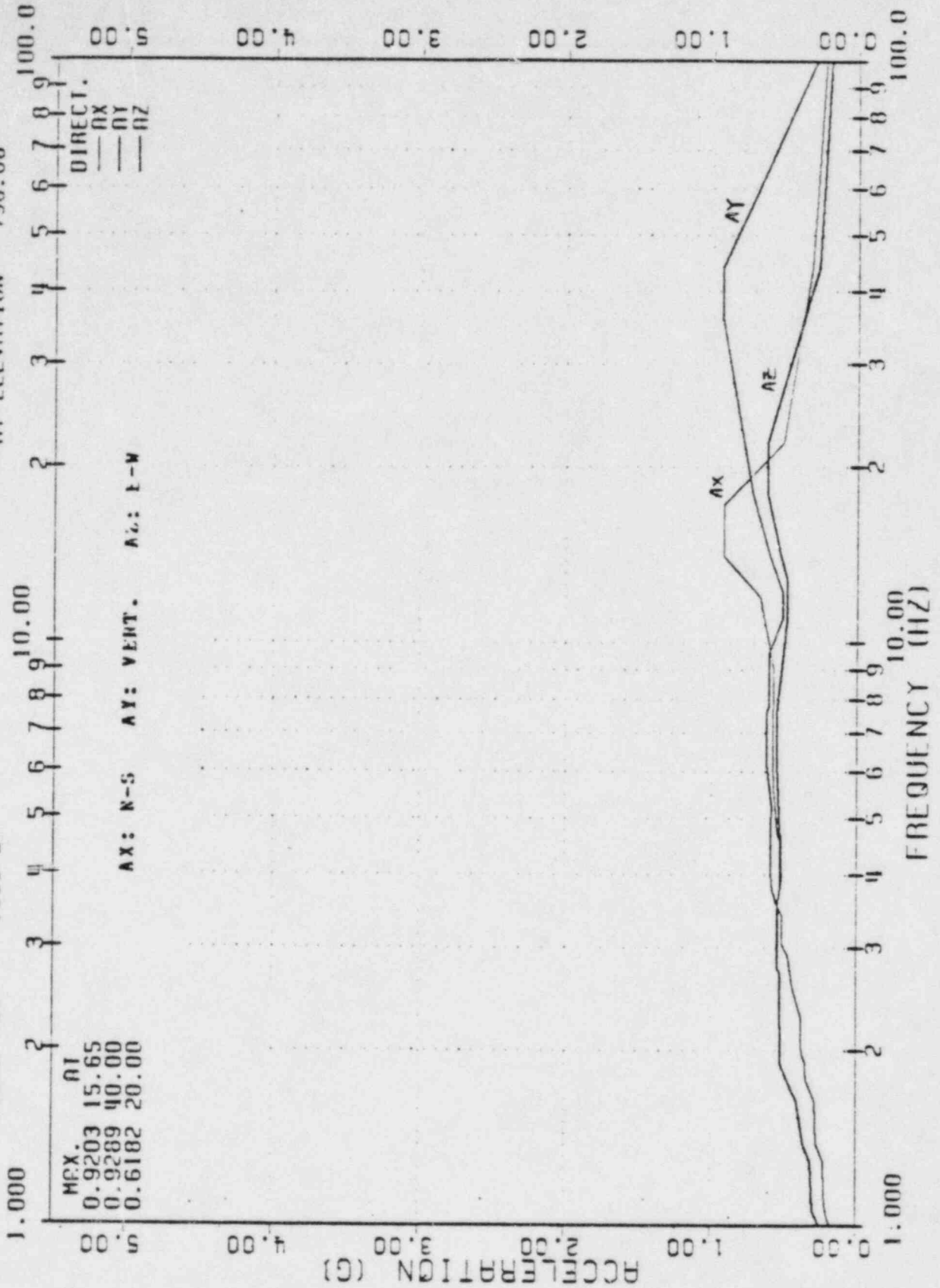
TUSI-REFINED RESPONSE SPECTRA FOR S. W. INTAKE STR

FLOOR RESPONSE SPECTRA FOR SSE:

FIGURE NO. 1353-B

DAMPING = 0.03

AT ELEVATION 796.00



TUSI-S.W. INTAKE STR.

REFINED RESPONSE SPECTRA

GIBBS & HILL, INC.  
 ENGINEERS, DESIGNERS, CONSTRUCTORS  
 NEW YORK

JOB NO. 2323

FIGURE-1353-B

TUSI-REFINED RESPONSE SPECTRA FOR S. W. INTAKE STR

FLOOR RESPONSE SPECTRA FOR SSE;

DAMPING = 0.03

AT ELEVATION 755.00

FIGURE NO. 1354-B DIRECTION

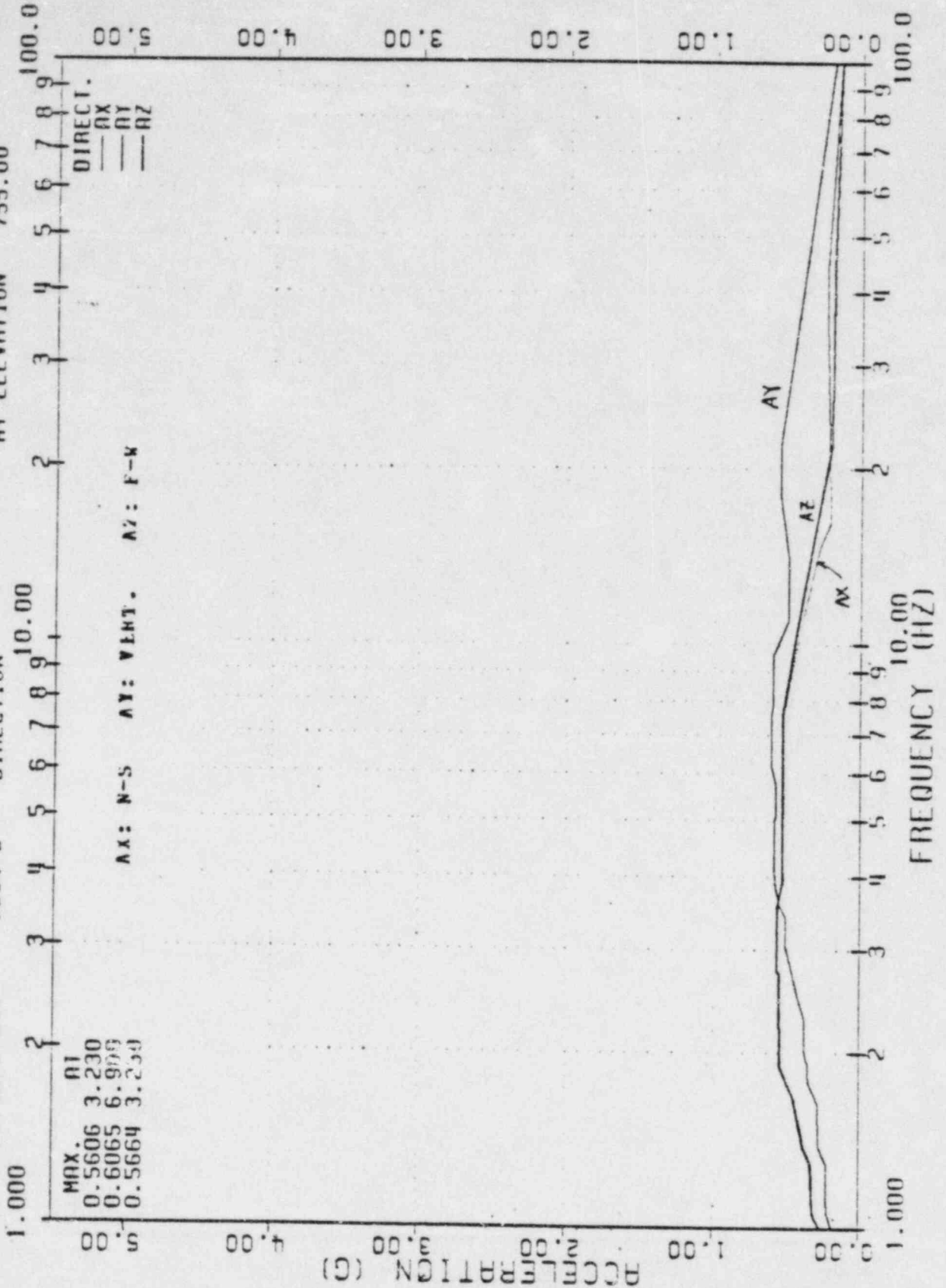
10.00

100.0

MAX. AT  
 0.5606 3.230  
 0.6065 6.975  
 0.5664 3.230

AX: N-S AY: VENT. AZ: F-W

DIRECT.  
 — AX  
 — AY  
 — AZ



TUSI-S.W. INTAKE STR.

REFINED RESPONSE SPECTRA

GIBBS & HILL, INC.  
 ENGINEERS, DESIGNERS, CONSTRUCTORS

JOB NO. 2525

FIGURE-1354-B

1254-C DATE PLTD. CHAS. W. 1952

ISSUED FOR

1  
1  
1

1001-REFINED RESPONSE SPECTRA FOR S. W. INTAKE STRUCTURE ;  
FLOOR RESPONSE SPECTRA FOR 1/25SE; COMPONENT AX ; DAMPING = 0.01  
FIGURE NO. 1358-B DIRECTION 1 AT ELEVATION 838.06

BROADBAND SPECTRUM FOR NODE=1358	DEGREE OF FREEDOM =	NUMBER OF GRIDS =	DAMPING VALUE =	SET NO. =					
1	0.9900	0.12800	2	0.9450	0.13340	3	1.0620	0.13340	0.010
5	1.1250	0.18950	6	1.3056	0.18950	7	1.3860	0.28760	0.18300
9	1.1280	0.31130	10	1.8360	0.37200	11	1.8990	0.38700	0.28760
13	2.3870	0.38460	14	2.4383	0.37470	15	2.5242	0.37470	0.38530
17	2.9966	0.38530	18	3.0510	0.43000	19	3.7290	0.43000	0.35670
21	4.1465	0.35670	22	4.3920	0.39030	23	4.7340	0.41870	0.41870
25	6.2100	0.55810	26	8.8265	0.55816	27	9.0600	0.56970	0.86290
29	14.0850	1.83130	30	17.2150	1.83130	31	22.0000	0.60660	0.86290
33	110.0000	0.16920							0.25700

2  
2  
2

1001-REFINED RESPONSE SPECTRA FOR S. W. INTAKE STRUCTURE ;  
FLOOR RESPONSE SPECTRA FOR 1/25SE; COMPONENT AY ; DAMPING = 0.01  
FIGURE NO. 1358-B DIRECTION 2 AT ELEVATION 838.00

BROADBAND SPECTRUM FOR NODE=1358	DEGREE OF FREEDOM =	NUMBER OF GRIDS =	DAMPING VALUE =	SET NO. =					
1	1.0000	0.10967	2	1.0103	0.10967	3	1.0620	0.15110	0.010
5	1.2908	0.15510	6	1.3060	0.23200	7	1.6940	0.23200	0.15510
9	1.7280	0.23070	10	1.7820	0.26680	11	1.8360	0.29570	0.23070
13	2.3210	0.29630	14	2.3469	0.28270	15	2.4651	0.28270	0.29570
17	2.9292	0.33050	18	3.0510	0.43670	19	3.6383	0.43670	0.33850
21	4.6860	0.57520	22	4.7542	0.52860	23	5.7860	0.52860	0.57520
25	6.4431	0.45640	26	6.9210	0.50246	27	7.8300	0.60410	0.45640
29	11.0000	0.37570	30	12.0654	0.37570	31	14.0850	0.63960	0.60410
33	36.0000	1.44790	34	44.0000	1.44790	35	110.0000	0.14730	0.88090

3  
3  
3

1001-REFINED RESPONSE SPECTRA FOR S. W. INTAKE STRUCTURE ;  
FLOOR RESPONSE SPECTRA FOR 1/25SE; COMPONENT AZ ; DAMPING = 0.01  
FIGURE NO. 1358-B DIRECTION 3 AT ELEVATION 838.00

BROADBAND SPECTRUM FOR NODE=1358	DEGREE OF FREEDOM =	NUMBER OF GRIDS =	DAMPING VALUE =	SET NO. =					
1	0.9090	0.12780	2	0.9450	0.13350	3	1.0098	0.13350	0.010
5	1.1250	0.18890	6	1.3055	0.18890	7	1.3866	0.28680	0.18370
9	1.7280	0.31160	10	1.8360	0.36880	11	1.8990	0.38350	0.28680
13	2.3870	0.38140	14	2.4481	0.36950	15	2.5279	0.36950	0.38350
17	2.9939	0.37680	18	3.0510	0.42290	19	3.7290	0.42290	0.37680
21	4.3920	0.35710	22	4.7340	0.38520	23	5.3586	0.38520	0.35710
25	7.5900	0.48670	26	8.6643	0.41460	27	12.1550	0.41460	0.48670
29	18.0000	1.04280	30	22.0000	1.04280	31	44.0000	0.29110	0.68090

4  
4  
4

1001-REFINED RESPONSE SPECTRA FOR S. W. INTAKE STRUCTURE ;  
FLOOR RESPONSE SPECTRA FOR 1/25SE; COMPONENT AX ; DAMPING = 0.01  
FIGURE NO. 1359-B DIRECTION 1 AT ELEVATION 796.00

BROADBAND SPECTRUM FOR NODE=1359	DEGREE OF FREEDOM =	NUMBER OF GRIDS =	DAMPING VALUE =	SET NO. =					
1	0.9000	0.13320	2	0.9450	0.13910	3	1.0097	0.13910	0.010
5	1.1250	0.19720	6	1.3058	0.19720	7	1.3860	0.29870	0.19160
9	1.7280	0.32440	10	1.8360	0.38390	11	1.8990	0.39890	0.29870

13	2.3870	0.39710	14	2.4507	4.38400	15	2.5296	0.38400	16	2.5180	0.39020
17	2.9952	0.39020	18	3.0510	0.43640	19	3.7290	0.43640	20	3.0719	0.35410
21	4.1948	0.35410	22	4.3920	0.37260	23	4.7340	0.39940	24	5.3608	0.39940
25	6.2100	0.50100	26	11.3826	0.50100	27	11.9970	0.51650	28	14.0850	0.93580
29	17.2150	0.93580	30	22.0000	0.35700	31	44.0000	0.20616	32	110.0000	0.11460

TUST-REFINED RESPONSE SPECTRA FOR S. W. INTAKE STRUCTURE ;  
 FLOOR RESPONSE SPECTRA FOR 1/2SSE; COMPONENT AY ; DAMPING = 0.01  
 FIGURE NO. 1359-B DIRECTION 2 AT ELEVATION 796.00

BROADBAND SPECTRUM FOR NODE=1359											
1	1.0000	0.10757	2	1.0077	0.10757	3	1.0620	0.14690	4	1.1250	0.15100
5	1.2911	0.15100	6	1.3660	0.22540	7	1.7274	0.22540	8	1.7280	0.22590
9	1.7820	0.26000	10	1.8360	0.28880	11	2.2440	0.28880	12	2.3210	0.28330
13	2.3484	0.27110	14	2.4583	0.27110	15	2.5380	0.33110	16	2.9385	0.33110
17	3.0510	0.42470	18	3.6396	0.42470	19	3.3440	0.55990	20	4.6860	0.55990
21	4.7529	0.51610	22	5.7860	0.51610	23	6.1730	0.44890	24	6.4572	0.44890
25	6.9210	0.48940	26	7.8300	0.62550	27	9.5700	0.62550	28	11.0000	0.36360
29	12.5032	0.36360	30	14.0850	0.50280	31	18.0000	0.69770	32	36.0000	0.87430
33	44.0000	0.87430	34	110.0000	0.11400						

TUST-REFINED RESPONSE SPECTRA FOR S. W. INTAKE STRUCTURE ;  
 FLOOR RESPONSE SPECTRA FOR 1/2SSE; COMPONENT AZ ; DAMPING = 0.01  
 FIGURE NO. 1359-B DIRECTION 3 AT ELEVATION 796.00

BROADBAND SPECTRUM FOR NODE=1359											
1	0.9000	0.13440	2	0.9450	0.14040	3	1.0097	0.14040	4	1.0620	0.19300
5	1.1250	0.19830	6	1.3056	0.19830	7	1.3860	0.30100	8	1.7073	0.30100
9	1.7280	0.32590	10	1.8360	0.38520	11	1.8990	0.40020	12	2.3210	0.40020
13	2.3870	0.39840	14	2.4547	0.38440	15	2.5298	0.38440	16	2.5380	0.39040
17	2.9934	0.39040	18	3.0510	0.43890	19	3.7290	0.43890	20	3.8596	0.36190
21	4.3920	0.36190	22	4.7340	0.38870	23	5.4223	0.38870	24	6.2100	0.47210
25	7.5900	0.47210	26	9.1514	0.36210	27	13.0267	0.36210	28	14.0850	0.41730
29	18.0000	0.56450	30	22.0000	0.56450	31	44.0000	0.19260	32	110.0000	0.09130

TUST-REFINED RESPONSE SPECTRA FOR S. W. INTAKE STRUCTURE ;  
 FLOOR RESPONSE SPECTRA FOR 1/2SSE; COMPONENT AX ; DAMPING = 0.01  
 FIGURE NO. 1360-B DIRECTION 1 AT ELEVATION 755.00

BROADBAND SPECTRUM FOR NODE=1360											
1	0.9000	0.13850	2	0.9450	0.14480	3	1.0098	0.14480	4	1.0620	0.010
5	1.1250	0.20480	6	1.3059	0.20480	7	1.3860	0.30980	8	1.7081	0.30980
9	1.7280	0.33470	10	1.8360	0.39560	11	1.8990	0.41080	12	2.3210	0.41080
13	2.3870	0.40940	14	2.4615	0.39320	15	2.5353	0.39320	16	2.5380	0.39510
17	2.9937	0.39510	18	3.0510	0.44280	19	3.7290	0.44280	20	3.8742	0.35690
21	4.3920	0.35690	22	4.7340	0.38230	23	5.5165	0.38230	24	6.2100	0.44560
25	7.5900	0.44560	26	9.1514	0.29870	27	11.0000	0.29870	28	14.6630	0.18220
29	15.3977	0.14600	30	18.0000	0.14600	31	36.0000	0.15830	32	44.0000	0.15830
33	110.0000	0.06570									

TUST-REFINED RESPONSE SPECTRA FOR S. W. INTAKE STRUCTURE ;  
 FLOOR RESPONSE SPECTRA FOR 1/2SSE; COMPONENT AY ; DAMPING = 0.01  
 FIGURE NO. 1360-B DIRECTION 2 AT ELEVATION 755.00

BROADBAND SPECTRUM FOR NODE=1360											
1	1.0000	0.10757	2	1.0097	0.10757	3	1.0620	0.14690	4	1.1250	0.15100
5	1.2911	0.15100	6	1.3860	0.21910	7	1.7251	0.21910	8	1.7280	0.22150

9	1.7620	0.25360	10	1.8360	0.26240	11	2.2440	0.28200	12	2.3210	0.27290
13	2.3528	0.26070	14	2.4516	0.26070	15	2.5380	0.32410	16	2.9377	0.32410
17	3.0510	0.41330	18	3.6413	0.41330	19	3.8340	0.54500	20	4.6860	0.54500
21	4.7512	0.50420	22	5.7860	0.50420	23	6.1613	0.44180	24	6.4709	0.44180
25	6.9210	0.47710	26	7.8300	0.60190	27	9.5700	0.60700	28	11.0000	0.35290
29	13.4219	0.35290	30	14.0850	0.20170	31	16.0000	0.53020	32	22.0000	0.53020
33	44.0000	0.3460	34	110.0000	0.08250						

JUST-RETIRED RESPONSE SPECTRA FOR S. W. INTAKE STRUCTURE ;  
 FLOOR RESPONSE SPECTRA FOR 1/25SE ; COMPONENT A7 ; DAMP:RG = 0.01  
 FIGURE NO. 1360-B DIRECTION 3 AT ELEVATION 755.00

BROADBAND SPECTRUM FOR MODE=1360											
1	0.9000	0.14220	2	0.9450	0.14840	3	1.0097	0.14840	4	1.0620	0.20320
5	1.1250	0.20880	6	1.3054	0.20880	7	1.3660	0.31700	8	1.7080	0.31740
9	1.7280	0.34250	10	1.8360	0.40380	11	1.8990	0.41910	12	2.3210	0.41910
13	2.3870	0.41760	14	2.4604	0.40160	15	2.5350	0.40100	16	2.5380	0.40370
17	2.9918	0.40370	18	3.0510	0.45450	19	3.7290	0.45400	20	3.8735	0.36660
21	4.3920	0.36660	22	4.7340	0.39200	23	5.5010	0.39200	24	6.2100	0.45790
25	7.5900	0.45790	26	9.5700	0.31280	27	11.0000	0.31100	28	17.2150	0.17060
29	22.0000	0.11300	30	44.0000	0.10880	31	110.0000	0.06500			

SET NO. = 9

NO. OF SPECTRA = 1

DAMPING VALUE =

NUMBER OF GRIDS = 31

JUST-REFINED RESPONSE SPECTRA FOR S. W. INTAKE STRUCTURE ; DAMPING = 0.02  
 FLOOR RESPONSE SPECTRA FOR 1/25SE; COMPONENT AX 1 ; DAMPING = 0.02  
 FIGURE NO. 1361-B DIRECTION 1 AT ELEVATION 838.00

BROADBAND SPECTRUM FOR MODE=1361	DEGREE OF FREEDOM =	NUMBER OF GRIDS =	DAMPING VALUE =	SET NO. =
1 0.9060	0.9450	3	0.12470	1
5 1.2924	1.3860	7	0.21376	1
9 1.7280	1.8360	11	0.30410	1
13 2.4750	2.4852	15	0.30580	1
17 2.7720	3.0058	19	0.31700	1
21 4.7340	6.2100	23	0.40410	1
25 11.9970	14.0850	27	0.90000	1
29 44.0000	110.0000	31	22.00000	1
	0.23330	30	1.76930	1
	0.16920		0.53220	1

JUST-REFINED RESPONSE SPECTRA FOR S. W. INTAKE STRUCTURE ; DAMPING = 0.02  
 FLOOR RESPONSE SPECTRA FOR 1/25SE; COMPONENT AX 2 ; DAMPING = 0.02  
 FIGURE NO. 1361-B DIRECTION 2 AT ELEVATION 838.00

BROADBAND SPECTRUM FOR MODE=1361	DEGREE OF FREEDOM =	NUMBER OF GRIDS =	DAMPING VALUE =	SET NO. =
1 0.9000	0.9990	3	0.12960	2
5 1.2982	1.3860	7	0.17810	2
9 1.8360	2.0250	11	0.23170	2
13 2.9070	3.0510	15	0.33100	2
17 4.6860	4.7366	19	0.39350	2
21 7.0897	7.8300	23	0.41650	2
25 11.9970	14.0850	27	0.41620	2
29 44.0000	110.0000	31	36.00000	2
	0.14730		1.06280	2

JUST-REFINED RESPONSE SPECTRA FOR S. W. INTAKE STRUCTURE ; DAMPING = 0.02  
 FLOOR RESPONSE SPECTRA FOR 1/25SE; COMPONENT AX 3 ; DAMPING = 0.02  
 FIGURE NO. 1361-B DIRECTION 3 AT ELEVATION 838.00

BROADBAND SPECTRUM FOR MODE=1361	DEGREE OF FREEDOM =	NUMBER OF GRIDS =	DAMPING VALUE =	SET NO. =
1 0.9000	0.9450	3	0.12490	3
5 1.2925	1.3860	7	0.21270	3
9 1.7280	1.8360	11	0.28940	3
13 2.4750	2.5004	15	0.29780	3
17 2.7720	2.9823	19	0.29780	3
21 3.8507	4.0950	23	0.31380	3
25 7.5900	8.7846	27	0.32620	3
29 14.0850	18.0000	31	0.32060	3
33 110.0000	110.0000	30	0.77220	3
	0.11910		0.12490	3
	0.15870		0.21270	3
	0.25290		0.30230	3
	0.28820		0.29780	3
	0.30320		0.29780	3
	0.29310		0.31380	3
	0.35320		0.32620	3
	0.52330		0.32060	3
	0.11910		0.77220	3

JUST-REFINED RESPONSE SPECTRA FOR S. W. INTAKE STRUCTURE ; DAMPING = 0.02  
 FLOOR RESPONSE SPECTRA FOR 1/25SE; COMPONENT AX 1 ; DAMPING = 0.02  
 FIGURE NO. 1362-B DIRECTION 1 AT ELEVATION 796.00

BROADBAND SPECTRUM FOR MODE=1362	DEGREE OF FREEDOM =	NUMBER OF GRIDS =	DAMPING VALUE =	SET NO. =
1 0.9000	0.9450	3	0.13010	4
5 1.2928	1.3860	7	0.22190	4
9 1.7280	1.8360	11	0.30880	4
13 2.4750	2.5017	15	0.29950	4
	0.29950		0.30920	4

17	2.7720	0.31470	18	2.9952	0.31470	19	3.0510	0.32310	20	3.7290	0.32310
21	3.8646	0.29970	22	4.0950	0.29970	23	6.2100	0.36410	24	7.5900	0.36410
25	8.3699	0.33360	26	9.0000	0.33360	27	11.9970	0.42040	28	14.0850	0.42040
29	17.2150	0.70630	30	22.0000	0.31300	31	44.0000	0.10520	32	110.0000	0.11460

TWO-REFINED RESPONSE SPECTRA FOR S. W. INTAKE STRUCTURE ;  
 FLOOR RESPONSE SPECTRA FOR 1/25SS; COMPONENT AY ; DAMPING = 0.02  
 FIGURE NO. 1362-B AT ELEVATION 796.00 SET NO. = 5  
 NO. OF SPECIRA = 1

BROADBAND SPECTRUM FOR NODE=1362											
1	0.9000	0.09280	2	0.9930	0.09300	3	1.0620	0.12550	4	1.1250	0.13030
5	1.2985	0.13030	6	1.3860	0.17370	7	1.6740	0.17770	8	1.7820	0.21170
9	1.8360	0.21950	10	2.0250	0.22690	11	2.4408	0.22690	12	2.5380	0.26483
13	2.9970	0.28090	14	3.0510	0.32350	15	3.5559	0.32350	16	3.8340	0.39140
17	4.6860	0.39140	18	4.7355	0.38230	19	5.7860	0.38230	20	6.7019	0.36040
21	7.0591	0.36040	22	7.8300	0.40500	23	9.5700	0.40500	24	10.9735	0.28590
25	11.9970	0.28590	26	14.0850	0.37830	27	18.0000	0.47160	28	36.0000	0.64790
29	44.0000	0.64790	30	110.0000	0.11460						

TWO-REFINED RESPONSE SPECTRA FOR S. W. INTAKE STRUCTURE ;  
 FLOOR RESPONSE SPECTRA FOR 1/25SS; COMPONENT AZ ; DAMPING = 0.02  
 FIGURE NO. 1362-B AT ELEVATION 796.00 SET NO. = 6  
 NO. OF SPECIRA = 1

BROADBAND SPECTRUM FOR NODE=1362											
1	0.9000	0.12610	2	0.9450	0.13140	3	1.0045	0.13140	4	1.0620	0.16680
5	1.2928	0.16680	6	1.3860	0.22300	7	1.6102	0.22300	8	1.6830	0.23570
9	1.7200	0.26470	10	1.8360	0.30250	11	1.8990	0.31610	12	2.3210	0.31610
13	2.4750	0.30085	14	2.5089	0.30080	15	2.5380	0.30830	16	2.7363	0.30830
17	2.7720	0.31410	18	2.9849	0.31410	19	3.0510	0.32430	20	3.7290	0.32430
21	3.8689	0.29900	22	4.0950	0.29900	23	4.7340	0.31090	24	6.2100	0.34230
25	7.5900	0.34230	26	9.5700	0.27940	27	11.0000	0.27940	28	12.6535	0.27930
29	14.0850	0.33080	30	18.0000	0.42730	31	22.0000	0.42730	32	44.0000	0.16110
33	110.0000	0.09130									

TWO-REFINED RESPONSE SPECTRA FOR S. W. INTAKE STRUCTURE ;  
 FLOOR RESPONSE SPECTRA FOR 1/25SS; COMPONENT AX ; DAMPING = 0.02  
 FIGURE NO. 1363-B AT ELEVATION 755.00 SET NO. = 7  
 NO. OF SPECIRA = 1

BROADBAND SPECTRUM FOR NODE=1363											
1	0.9000	0.12980	2	0.9450	0.13540	3	1.0047	0.13540	4	1.0620	0.17220
5	1.2932	0.17220	6	1.3860	0.23010	7	1.6137	0.23010	8	1.6830	0.24240
9	1.7200	0.27120	10	1.7820	0.29110	11	1.8360	0.31020	12	1.8990	0.32440
13	2.3210	0.32040	14	2.4750	0.30780	15	2.5190	0.30780	16	2.5380	0.31270
17	2.7345	0.31270	18	2.7720	0.31900	19	2.9852	0.31900	20	3.0510	0.32910
21	3.7290	0.32910	22	3.9047	0.29630	23	4.0950	0.29630	24	4.7340	0.30420
25	6.2100	0.32530	26	7.5900	0.32530	27	9.5700	0.24950	28	11.0000	0.22880
29	14.6630	0.15229	30	15.5227	0.11960	31	18.0000	0.11960	32	36.0000	0.14240
33	44.0000	0.14240									

TWO-REFINED RESPONSE SPECTRA FOR S. W. INTAKE STRUCTURE ;  
 FLOOR RESPONSE SPECTRA FOR 1/25SS; COMPONENT AY ; DAMPING = 0.02  
 FIGURE NO. 1363-B AT ELEVATION 755.00 SET NO. = 8  
 NO. OF SPECIRA = 1

BROADBAND SPECTRUM FOR NODE=1363											
1	0.9000	0.09080	2	0.9930	0.09100	3	1.0620	0.12150	4	1.1250	0.12630
5	1.2985	0.12630	6	1.3860	0.16950	7	1.6755	0.16950	8	1.7820	0.20540
9	1.8360	0.21510	10	1.9802	0.21510	11	2.0250	0.22240	12	2.4425	0.22240



13	2.5380	0.25600	14	2.9070	0.27360	15	3.0510	0.31630	16	3.5583	0.31630
17	3.8340	0.37950	18	4.6860	0.37950	19	4.7346	0.37150	20	5.7860	0.37150
21	6.1919	0.34870	22	7.0298	0.34870	23	7.8300	0.39430	24	9.5700	0.39430
25	11.0000	0.26930	26	12.8636	0.26930	27	14.0850	0.29570	28	18.0000	0.35210
29	22.0000	0.35210	30	44.0000	0.24310	31	110.0000	0.08250			

TWISTED RESPONSE SPECTRA FOR S. W. INTAKE STRUCTURE ;  
 FLOOR RESPONSE SPECTRA FOR 1/2SSE; COMPONENT AZ ; DAMPING = 0.02  
 FIGURE NO. 1363-B DIRECTION 3 AT ELEVATION 755.00

SET NO. = 9

NO. OF SPECTRA = 1

BROADENED SPECTRUM FOR NODE=1363			DEGREE OF FREEDOM = 3			NUMBER OF GRIDS = 32			DAMPING VALUE = 0.020		
1	0.9000	0.11350	2	0.9450	0.13900	3	1.0046	0.13900	4	1.0620	0.17600
5	1.2930	0.17600	6	1.3860	0.23420	7	1.6132	0.23420	8	1.6830	0.24670
9	1.7280	0.27870	10	1.8360	0.31790	11	1.8990	0.33220	12	2.3210	0.33220
13	2.4750	0.31570	14	2.5173	0.31570	15	2.5380	0.32110	16	2.7348	0.32110
17	2.7720	0.32740	18	2.9874	0.32740	19	3.0510	0.33720	20	3.7290	0.33720
21	3.8962	0.30470	22	4.0950	0.30470	23	4.7340	0.31360	24	5.6929	0.31360
25	6.2100	0.33170	26	7.5900	0.33170	27	9.5700	0.25790	28	11.0000	0.23900
29	14.6630	0.18590	30	21.8310	0.10330	31	44.0000	0.10330	32	110.0000	0.06570

JUST-RFINED RESPONSE SPECTRA FOR S. W. INTAKE STRUCTURE ;  
 FLOOR RESPONSE SPECTRA FOR SSE; COMPONENT AX ; DAMPING = 0.02  
 FIGURE NO. 1349-B DIRECTION 1 AT ELEVATION 838.00

FIGURE NO.	1349-B	DIRECTION	1	AT ELEVATION	838.00	SFT NO. =	1
BROADBAND SPECTRUM FOR NODE=1349-B	DEGREE OF FREEDOM =	1	NUMBER OF GRIDS =	32	DAMPING VALUE =	0.020	
1	0.9000	0.24010	2	0.9450	0.24990	4	1.0620
5	1.2921	0.31820	6	1.3860	0.42890	8	1.6830
9	1.7280	0.51090	10	1.8360	0.58470	12	2.3210
13	2.4750	0.58360	14	2.4822	0.58360	16	2.7450
17	2.7720	0.62560	18	3.0006	0.62560	20	3.7290
21	3.8115	0.61580	22	4.0950	0.61580	24	6.2100
25	7.8640	0.81170	26	9.0000	0.87930	28	14.0850
29	17.2150	2.01130	30	22.0000	0.90860	32	110.0000
							0.29930

JUST-RFINED RESPONSE SPECTRA FOR S. W. INTAKE STRUCTURE ;  
 FLOOR RESPONSE SPECTRA FOR SSE; COMPONENT AX ; DAMPING = 0.02  
 FIGURE NO. 1349-B DIRECTION 2 AT ELEVATION 838.00

FIGURE NO.	1349-B	DIRECTION	2	AT ELEVATION	838.00	SET NO. =	2
BROADBAND SPECTRUM FOR NODE=1349-B	DEGREE OF FREEDOM =	2	NUMBER OF GRIDS =	30	DAMPING VALUE =	0.020	
1	0.9000	0.18390	2	0.9990	0.18550	4	1.1250
5	1.2992	0.25310	6	1.3860	0.33700	8	1.7820
9	1.8360	0.42920	10	1.9856	0.42920	12	2.4311
13	2.5380	0.52010	14	2.9070	0.54260	16	3.5694
17	3.8340	0.77690	18	4.6860	0.77080	20	5.7860
21	6.5892	0.71610	22	7.0600	0.71610	24	9.5700
25	10.6642	0.68030	26	11.9970	0.64030	28	36.0000
29	44.0000	1.83920	30	110.0000	0.26220	28	1.83920

JUST-RFINED RESPONSE SPECTRA FOR S. W. INTAKE STRUCTURE ;  
 FLOOR RESPONSE SPECTRA FOR SSE; COMPONENT AX ; DAMPING = 0.02  
 FIGURE NO. 1349-B DIRECTION 3 AT ELEVATION 838.00

FIGURE NO.	1349-B	DIRECTION	3	AT ELEVATION	838.00	SFT NO. =	3
BROADBAND SPECTRUM FOR NODE=1349-B	DEGREE OF FREEDOM =	3	NUMBER OF GRIDS =	34	DAMPING VALUE =	0.020	
1	0.9000	0.23990	2	0.9450	0.25010	4	1.0620
5	1.2923	0.31740	6	1.3860	0.42640	8	1.6830
9	1.7280	0.50510	10	1.7820	0.54210	12	1.8990
13	2.3210	0.60340	14	2.4750	0.57500	16	2.5380
17	2.7378	0.59430	18	2.7720	0.60470	20	3.0510
21	3.7290	0.62620	22	3.8574	0.58320	24	5.6250
25	6.2100	0.70550	26	7.5900	0.70550	28	9.0000
29	11.9970	0.64240	30	14.0850	0.91240	28	22.0000
33	44.0000	0.41050	34	110.0000	0.22430	32	1.25630

JUST-RFINED RESPONSE SPECTRA FOR S. W. INTAKE STRUCTURE ;  
 FLOOR RESPONSE SPECTRA FOR SSE; COMPONENT AX ; DAMPING = 0.02  
 FIGURE NO. 1350-B DIRECTION 1 AT ELEVATION 796.00

FIGURE NO.	1350-B	DIRECTION	1	AT ELEVATION	796.00	SFT NO. =	4
BROADBAND SPECTRUM FOR NODE=1350-B	DEGREE OF FREEDOM =	1	NUMBER OF GRIDS =	33	DAMPING VALUE =	0.020	
1	0.9000	0.24970	2	0.9450	0.26010	4	1.0620
5	1.2925	0.33100	6	1.3860	0.44640	8	1.6830
9	1.7280	0.52970	10	1.8360	0.60410	12	2.3210
13	2.4750	0.60120	14	2.4986	0.60120	16	2.7403

17	2.7720	0.63420	18	2.9945	0.63420	19	3.0510	0.65260	20	3.7290	0.65260
21	3.8628	0.60620	22	4.0950	0.60620	23	4.7340	0.64030	24	6.2100	0.72600
25	7.5300	0.72600	26	8.378	0.66150	27	9.0000	0.66150	28	11.9970	0.82090
29	14.0050	1.08900	30	17.2150	1.08900	31	22.0000	0.55420	32	24.0000	0.33790
33	110.0000	0.21310									

JUST-RFINED RESPONSE SPECTRA FOR S. W. INTAKE STRUCTURE ;  
 FLOOR RESPONSE SPECTRA FOR SSE; COMPONENT AY ; DAMPING = 0.02  
 FIGURE NO. 1350-B DIRECTION 2 AT ELEVATION 796.00

BROADBAND SPECTRUM FOR MODE=1350-B											
1	0.9000	0.18130	2	0.9990	0.18430	3	1.0620	0.23890	4	1.1250	0.24850
5	1.2975	0.24850	6	1.3860	0.33230	7	1.6740	0.33230	8	1.7020	0.40800
9	1.8360	0.42400	10	1.9828	0.42400	11	2.0250	0.43870	12	2.4371	0.43870
13	2.5300	0.51390	14	2.9970	0.53659	15	3.0510	0.62590	16	3.5639	0.62590
17	3.8340	0.75840	18	4.6860	0.75840	19	4.7392	0.74020	20	5.7660	0.74020
21	6.6954	0.69940	22	7.0472	0.69940	23	7.8300	0.78860	24	9.5700	0.78860
25	10.9987	0.56320	26	11.9970	0.56320	27	14.0000	0.71010	28	18.0000	0.88520
29	36.0000	1.13050	30	44.0000	1.13050	31	110.0000	0.21170			

JUST-RFINED RESPONSE SPECTRA FOR S. W. INTAKE STRUCTURE ;  
 FLOOR RESPONSE SPECTRA FOR SSE; COMPONENT AZ ; DAMPING = 0.02  
 FIGURE NO. 1350-B DIRECTION 3 AT ELEVATION 796.00

BROADBAND SPECTRUM FOR MODE=1350-B											
1	0.9000	0.25220	2	0.9450	0.26280	3	1.0046	0.26280	4	1.0620	0.33340
5	1.2925	0.33340	6	1.3860	0.44710	7	1.6087	0.44710	8	1.6830	0.47420
9	1.7280	0.52940	10	1.8360	0.60640	11	1.8990	0.63370	12	2.3210	0.63370
13	2.4750	0.60300	14	2.5098	0.60300	15	2.5380	0.61790	16	2.7376	0.61790
17	2.7720	0.62940	18	2.9844	0.62940	19	3.0510	0.65000	20	3.7290	0.65000
21	3.8840	0.59460	22	4.0950	0.59460	23	4.7340	0.61810	24	6.2100	0.68390
25	7.5900	0.68390	26	9.5700	0.55940	27	11.0000	0.55480	28	13.0373	0.55480
29	14.0050	0.60090	30	18.0000	0.72550	31	22.0000	0.72550	32	44.0000	0.29540
33	110.0000	0.17700									

JUST-RFINED RESPONSE SPECTRA FOR S. W. INTAKE STRUCTURE ;  
 FLOOR RESPONSE SPECTRA FOR SSE; COMPONENT AX ; DAMPING = 0.02  
 FIGURE NO. 1351-B DIRECTION 1 AT ELEVATION 755.00

BROADBAND SPECTRUM FOR MODE=1351-B											
1	0.9000	0.25930	2	0.9450	0.27040	3	1.0047	0.27040	4	1.0620	0.34370
5	1.2926	0.34370	6	1.3860	0.46640	7	1.6207	0.46640	8	1.6830	0.49070
9	1.7280	0.54780	10	1.8360	0.62590	11	1.8990	0.65440	12	2.3210	0.65440
13	2.4750	0.62130	14	2.5204	0.62130	15	2.5380	0.63030	16	2.7342	0.63030
17	2.7720	0.64290	18	2.9845	0.64290	19	3.0510	0.66300	20	3.7290	0.66300
21	3.9066	0.59690	22	4.0950	0.59690	23	4.7340	0.61290	24	5.7616	0.61290
25	6.2100	0.64260	26	7.5900	0.64260	27	9.5700	0.49230	28	11.0000	0.45030
29	14.6630	0.31480	30	16.0483	0.24610	31	10.0000	0.24610	32	36.0000	0.26610
33	44.0000	0.26610	34	110.0000	0.13420						

JUST-RFINED RESPONSE SPECTRA FOR S. W. INTAKE STRUCTURE ;  
 FLOOR RESPONSE SPECTRA FOR SSE; COMPONENT AY ; DAMPING = 0.02  
 FIGURE NO. 1351-B DIRECTION 2 AT ELEVATION 755.00

BROADBAND SPECTRUM FOR MODE=1351-B											
1	0.9000	0.17910	2	0.9990	0.18610	3	1.0620	0.23470	4	1.1250	0.24420
5	1.2956	0.24420	6	1.3860	0.32790	7	1.6740	0.32790	8	1.7020	0.40340

9	1.0360	0.41930	10	1.9799	0.41930	11	2.0250	0.43300	12	2.4423	0.43380
13	2.5380	0.50820	14	2.9070	0.53080	15	3.0510	0.61570	16	3.5582	0.61570
17	3.0300	0.74650	18	4.6860	0.74650	19	4.7358	0.73040	20	5.7860	0.73040
21	6.1912	0.68390	22	7.0363	0.68390	23	7.8300	0.77120	24	9.5700	0.77120
25	11.0000	0.53610	26	13.0819	0.53610	27	14.0850	0.57100	28	18.0000	0.67300
23	22.0000	0.67900	30	44.0000	0.43880	31	110.0000	0.16400			

TUSA-REFINED RESPONSE SPECTRA FOR S. W. INTAKE STRUCTURE ;  
 FLOOR RESPONSE SPECTRA FOR SSI ; COMPONENT AZ ; DAMPING = 0.02  
 FIGURE NO. 1351-B DIRECTION 3 AT ELEVATION 755.00 SET NO. = 9  
 NO. OF SPECTRA = 1

BROADENED SPECTRUM FOR NODE-1351-B											
1	0.9000	0.26670	2	0.9450	0.27780	3	1.0046	0.27780	4	1.0620	0.35160
5	1.2928	0.35160	6	1.3860	0.47130	7	1.6175	0.47130	8	1.6830	0.49570
9	1.7280	0.55310	10	1.8360	0.63400	11	1.8990	0.66330	12	2.3210	0.66330
13	2.4750	0.63030	14	2.5186	0.63030	15	2.5380	0.64100	16	2.7373	0.64100
17	2.7120	0.65360	18	2.9873	0.65360	19	3.0510	0.67320	20	3.7290	0.67320
21	3.9067	0.60580	22	4.0950	0.60580	23	4.7340	0.62350	24	5.6913	0.62350
25	6.2100	0.66290	26	7.5900	0.66290	27	9.5700	0.51860	28	11.0000	0.47810
29	22.0000	0.22550	30	44.0000	0.19820	31	110.0000	0.13270			

JUST-RFINED RESPONSE SPECTRA FOR S. W. INTAKE STRUCTURE ;  
 FLOOR RESPONSE SPECTRA FOR SSE ; COMPONENT AX ; DAMPING = 0.03  
 FIGURE NO. 1352-B DIRECTION 1 AT ELEVATION 838.00

BROADBAND SPECTRUM FOR NODE=1352	DEGREE OF FREEDOM =	NUMBER OF GRIDS = 30	DAMPING VALUE =	SET NO. =
1 0.9000 0.22460 2 0.9450 0.23520 3 0.9990 0.23660 4 1.0620 0.28140				
5 1.2870 0.29430 6 1.3860 0.34550 7 1.6380 0.38880 8 1.6830 0.41380				
9 1.8990 0.49960 10 2.0611 0.49960 11 2.2500 0.51450 12 2.7094 0.51450				
13 2.7720 0.53900 14 3.3880 0.53940 15 3.5730 0.53630 16 4.0730 0.53630				
17 4.0950 0.53810 18 4.4760 0.53810 19 4.340 0.57980 20 5.6250 0.63950				
21 6.2100 0.64550 22 7.1588 0.64550 23 7.8300 0.70360 24 9.0000 0.75510				
25 11.9970 1.08090 26 14.0850 1.69810 27 17.2150 1.69810 28 22.0000 0.84320				
29 44.0000 0.40990 30 110.0000 0.29930				

JUST-RFINED RESPONSE SPECTRA FOR S. W. INTAKE STRUCTURE ;  
 FLOOR RESPONSE SPECTRA FOR SSE ; COMPONENT AY ; DAMPING = 0.03  
 FIGURE NO. 1352-B DIRECTION 2 AT ELEVATION 838.00

BROADBAND SPECTRUM FOR NODE=1352	DEGREE OF FREEDOM =	NUMBER OF GRIDS = 36	DAMPING VALUE =	SET NO. =
1 0.9000 0.17210 2 0.9990 0.17720 3 1.0620 0.20720 4 1.1250 0.21430				
5 1.1970 0.22060 6 1.2870 0.22550 7 1.3860 0.27390 8 1.6380 0.28430				
9 1.6830 0.30390 10 1.7820 0.34340 11 1.8360 0.34930 12 1.9156 0.34930				
13 1.9530 0.36870 14 2.0250 0.38120 15 2.3027 0.38120 16 2.4300 0.39840				
17 2.5380 0.44020 18 2.9070 0.47620 19 3.0510 0.51110 20 3.4163 0.51710				
21 3.6000 0.56380 22 3.8380 0.59880 23 4.0950 0.60220 24 5.0050 0.60220				
25 5.0674 0.59090 26 5.7011 0.59090 27 6.2100 0.63160 28 7.5900 0.63160				
29 7.7814 0.61540 30 9.5700 0.61540 31 10.4810 0.56140 32 11.9970 0.56140				
33 14.0050 0.73180 34 36.0000 1.49280 35 44.0000 1.49280 36 110.0000 0.26220				

JUST-RFINED RESPONSE SPECTRA FOR S. W. INTAKE STRUCTURE ;  
 FLOOR RESPONSE SPECTRA FOR SSE ; COMPONENT AZ ; DAMPING = 0.03  
 FIGURE NO. 1352-B DIRECTION 3 AT ELEVATION 838.00

BROADBAND SPECTRUM FOR NODE=1352	DEGREE OF FREEDOM =	NUMBER OF GRIDS = 30	DAMPING VALUE =	SET NO. =
1 0.9000 0.22380 2 0.9450 0.23470 3 0.9990 0.23570 4 1.0620 0.28070				
5 1.2870 0.29380 6 1.3860 0.34420 7 1.6380 0.40850 8 1.7820 0.45090				
9 1.8990 0.49520 10 2.1108 0.49520 11 2.2500 0.50320 12 2.3400 0.50510				
13 2.7196 0.50510 14 2.7720 0.52580 15 2.9070 0.52610 16 3.5530 0.52610				
17 3.7504 0.51000 18 4.5911 0.51000 19 4.7340 0.52900 20 5.6250 0.55460				
21 6.2100 0.56760 22 7.5900 0.56760 23 8.5227 0.54320 24 9.0000 0.54320				
25 11.9970 0.58240 26 14.0850 0.79320 27 18.0000 1.05860 28 22.0000 1.05860				
29 44.0000 0.36740 30 110.0000 0.22430				

JUST-RFINED RESPONSE SPECTRA FOR S. W. INTAKE STRUCTURE ;  
 FLOOR RESPONSE SPECTRA FOR SSE ; COMPONENT AX ; DAMPING = 0.03  
 FIGURE NO. 1353-B DIRECTION 1 AT ELEVATION 796.00

BROADBAND SPECTRUM FOR NODE=1353	DEGREE OF FREEDOM =	NUMBER OF GRIDS = 30	DAMPING VALUE =	SET NO. =
1 0.9000 0.23340 2 0.9450 0.24470 3 0.9990 0.24600 4 1.0620 0.29270				
5 1.2870 0.30540 6 1.3860 0.35800 7 1.6380 0.40160 8 1.6830 0.42760				
9 1.7820 0.47070 10 1.8990 0.51740 11 2.1072 0.51740 12 2.2500 0.52680				
13 2.7207 0.52680 14 2.7720 0.54840 15 3.3130 0.54840 16 3.5530 0.54720				

17	3.7371	0.53090	18	4.5832	0.53090	19	4.7340	0.54920	20	5.6250	0.51260
21	6.2100	0.58110	22	7.5900	0.58110	23	7.7998	0.51300	24	9.0000	0.51300
25	11.9970	0.67220	26	14.0850	0.92030	27	17.2150	0.92030	28	22.0000	0.51050
29	44.0000	0.32140	30	110.0000	0.21310						

JUST-REFINED RESPONSE SPECTRA FOR S. W. INTAKE STRUCTURE ; DAMPING = 0.03  
 FLOOR RESPONSE SPECTRA FOR SSE; COMPONENT AX ; DAMPING = 0.03  
 FIGURE NO. 1353-B DIRECTION 2 AT ELEVATION 796.00

BROADBAND SPECTRUM FOR NODE=1353											
1	0.9000	0.16950	2	0.9990	0.17460	2	1.0620	0.20610	34	DAMPING VALUE =	0.030
5	1.2870	0.22080	6	1.3860	0.27120	7	1.6380	0.27950	8	1.7820	0.34060
9	1.8360	0.34620	10	1.9170	0.34620	11	1.9530	0.36350	12	2.0250	0.37580
13	2.2874	0.37580	14	2.5380	0.43230	15	2.9070	0.47220	16	3.0510	0.51080
17	3.4109	0.51080	18	3.6000	0.55700	19	3.8340	0.58730	20	4.0950	0.59220
21	5.0050	0.59220	22	5.0521	0.58360	23	5.2164	0.58360	24	6.2100	0.61860
25	7.5900	0.61860	26	7.7112	0.60480	27	9.5700	0.60480	28	11.0000	0.51020
29	12.2066	0.51020	30	14.0850	0.60110	31	18.0000	0.72150	32	36.0000	0.92890
33	44.0000	0.92890	34	110.0000	0.21170						

JUST-REFINED RESPONSE SPECTRA FOR S. W. INTAKE STRUCTURE ; DAMPING = 0.03  
 FLOOR RESPONSE SPECTRA FOR SSE; COMPONENT AZ ; DAMPING = 0.03  
 FIGURE NO. 1353-B DIRECTION 3 AT ELEVATION 796.00

BROADBAND SPECTRUM FOR NODE=1353											
1	0.9000	0.23470	2	0.9450	0.24600	3	0.9990	0.24710	31	DAMPING VALUE =	0.030
5	1.2870	0.30770	6	1.3860	0.36030	7	1.6380	0.40310	8	1.6830	0.42880
9	1.7820	0.47280	10	1.8990	0.51920	11	2.1354	0.51920	12	2.2500	0.52570
13	2.3400	0.52610	14	2.7242	0.52610	15	2.7720	0.54620	16	2.9070	0.54650
17	3.5530	0.54650	18	3.9270	0.51260	19	3.9689	0.51260	20	4.0950	0.52120
21	4.6577	0.52120	22	4.7340	0.52950	23	6.2100	0.54970	24	7.5900	0.54970
25	11.0000	0.48110	26	12.8074	0.48110	27	14.0850	0.52480	28	18.0000	0.61820
29	22.0000	0.61820	30	44.0000	0.27160	31	110.0000	0.17700			

JUST-REFINED RESPONSE SPECTRA FOR S. W. INTAKE STRUCTURE ; DAMPING = 0.03  
 FLOOR RESPONSE SPECTRA FOR SSE; COMPONENT AX ; DAMPING = 0.03  
 FIGURE NO. 1354-B DIRECTION 1 AT ELEVATION 755.00

BROADBAND SPECTRUM FOR NODE=1354											
1	0.9000	0.24220	2	0.9450	0.25410	1	0.9990	0.25520	30	DAMPING VALUE =	0.030
5	1.2870	0.31640	6	1.3860	0.37040	7	1.6380	0.41420	8	1.6830	0.44390
9	1.7820	0.48950	10	1.8990	0.53750	11	2.1730	0.53750	12	2.2500	0.54160
13	2.7307	0.54160	14	2.7720	0.55990	15	2.9070	0.56060	16	3.5530	0.56060
17	3.9270	0.52240	18	4.0679	0.52240	19	4.0950	0.52400	20	5.0050	0.52400
21	5.0510	0.51960	22	5.7860	0.51960	23	7.5900	0.51080	24	11.0000	0.39680
25	14.6630	0.28000	26	16.1116	0.21230	27	18.0000	0.21230	28	36.0000	0.23850
29	44.0000	0.23850	30	110.0000	0.13420						

JUST-REFINED RESPONSE SPECTRA FOR S. W. INTAKE STRUCTURE ; DAMPING = 0.03  
 FLOOR RESPONSE SPECTRA FOR SSE; COMPONENT AX ; DAMPING = 0.03  
 FIGURE NO. 1354-B DIRECTION 2 AT ELEVATION 755.00

BROADBAND SPECTRUM FOR NODE=1354											
1	0.9000	0.16730	2	0.9990	0.17240	2	1.0620	0.20790	34	DAMPING VALUE =	0.030
5	1.2870	0.21640	6	1.3860	0.26880	7	1.6380	0.27500	8	1.7820	0.33810
9	1.8360	0.34160	10	1.9190	0.34360	11	1.9530	0.35870	12	2.0250	0.37100
13	2.2874	0.37100	14	2.5380	0.42490	15	2.6460	0.43880	16	3.0510	0.50490

