

ITEM 14

116  
117

CYGNA FSB-5R	
JOB NO. :	87042
DATE LOGGED:	6/7/84
LOG NO. :	#116 (1/2)
FILE:	11.1 Tech. Files
CROSS REF. FILE	11.1 Tech. Files, log

REFINED RESPONSE SPECTRA  
FOR

SAFEGUARDS BUILDING

COMANCHE PEAK  
STEAM ELECTRIC STATION  
NUCLEAR POWER PLANT

GIBBS & HILL

RECEIVED

NOVEMBER '82

JUN 7 1984

CYGNA - SAN FRANCISCO

8411060415 840620  
PDR ADOCK 09J00445  
A PDR

## CPSES

### REFINED RESPONSE SPECTRA FOR SAFEGUARDS BUILDING

Presented herewith are the refined floor response spectra for the safeguards building (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.

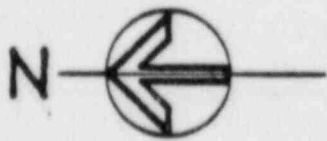
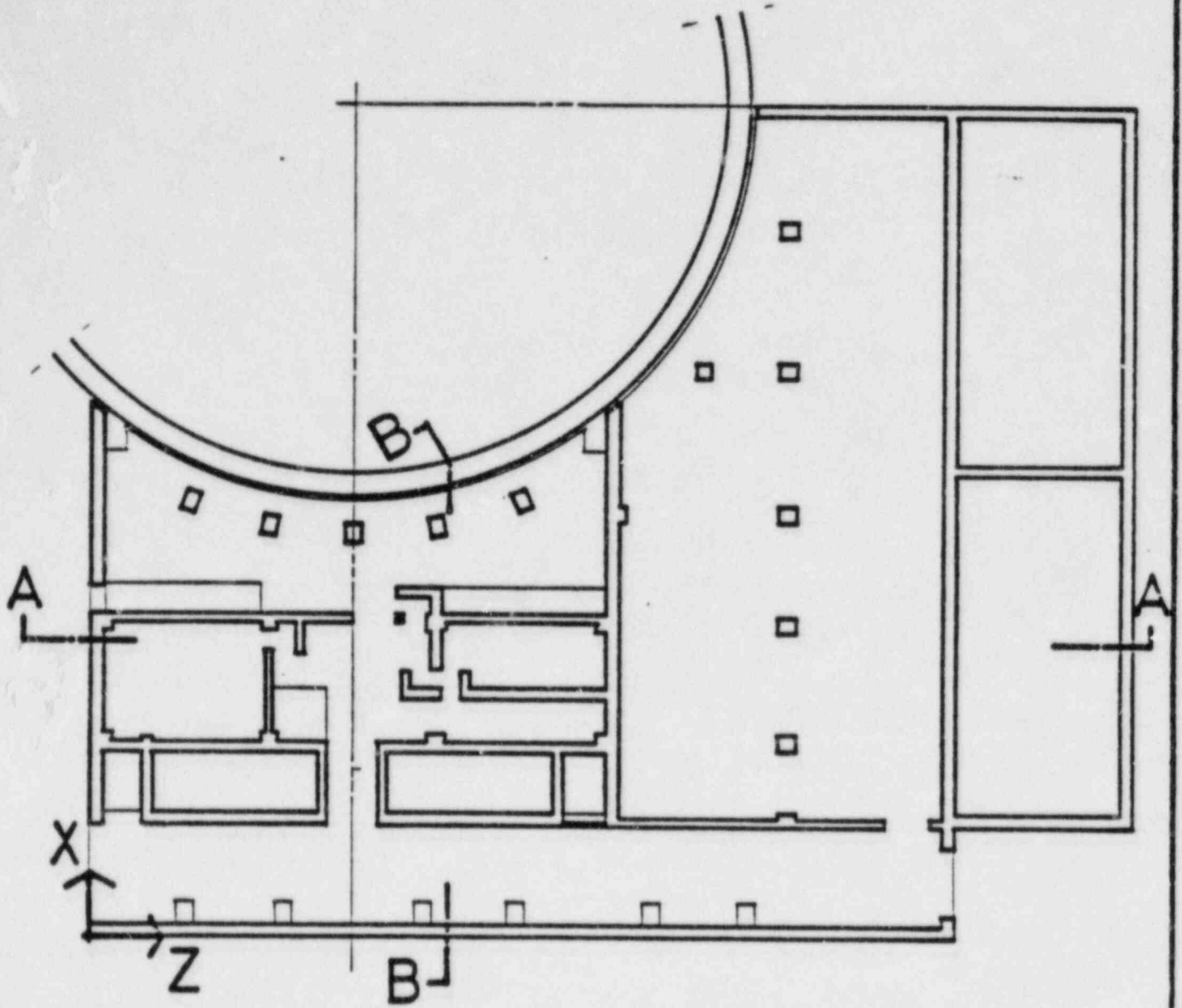
The results are presented in figures 451-B through 458-B, 1385-B through 1392-B and 1409-B through 1424-B which are summarized in Table nos. 2 and 3. Also the digitized values of the same spectra are also included at the end of the book.

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 Ax and Az 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 Safeguards Building," Gibbs & Hill report no. FSB-3R, May 1976 and FSB-4R, Jan. 1977.
2. "TUSI - Refined Response Spectra for Safeguards Building," calculation book no. FSB-1C, Rev. 0.
3. "TUSI - Computer Output for Safeguards Building Refined Response Spectra," computer output file no. FMI-1P Set 1, Rev. 0.



NOTE: ORIGIN OF COORDINATES  
IS AT ELEVATION 0.00'

# TUSI

SAFEGUARDS BUILDING

**Gibbs & Hill, Inc.**  
ENGINEERS, DESIGNERS, CONTRACTORS  
NEW YORK

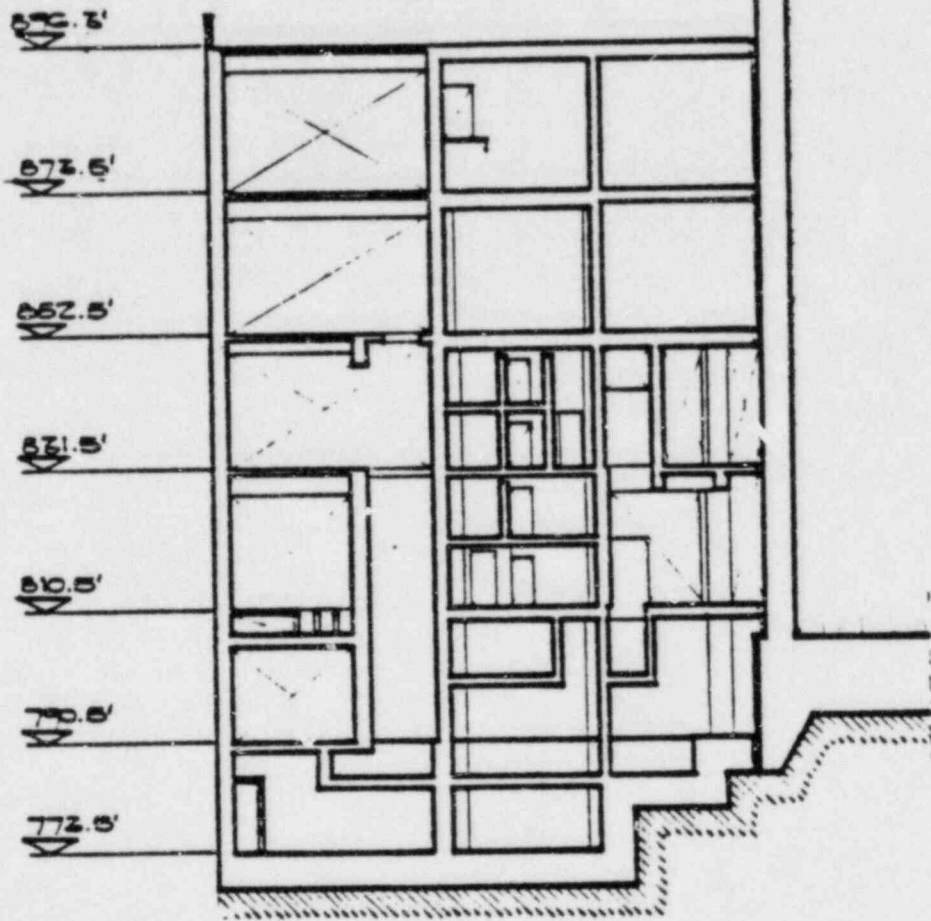
SCALE - 1" = 30'

JOB NO. 2823-A

SKETCH 1

DATE	BY	CHECKED	DATE	BY	DATE	BY	DATE	BY	DATE	BY
APPROVALS										
REVISIONS										





SECTION B-B

**TUSI**  
SAFEGUARDS BLDG.

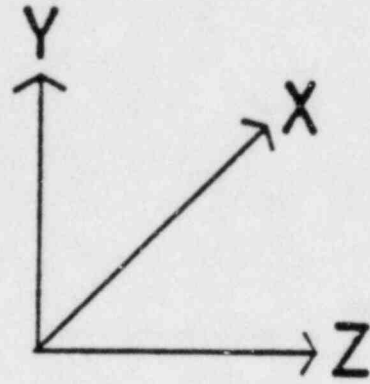
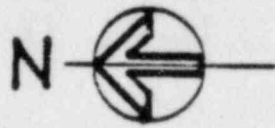
**Gibbs & Hill, Inc.**  
ENGINEER, ARCHITECT, CONSTRUCTION  
NEW YORK

SCALE - 1" = 30'

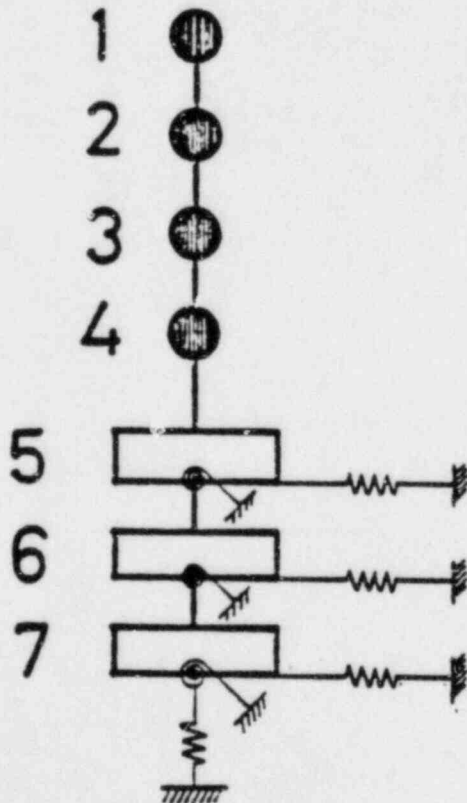
SKETCH 3

DATE	BY	CHKD	ISS	SCALE	PROJECT	DATE	BY	CHKD	ISS
APPROVALS									
ISSUED FOR									

JOB NO. 2323-A



COORDINATE SYSTEM



DYNAMIC MODEL

**TUSI**  
SAFEGUARDED BLDG.

*Gibbs & Hill, Inc.*  
ENGINEERS, DESIGNERS, CONSTRUCTORS  
NEW YORK

SCALE: -

SKETCH# 4

DATE	BY	CHKD	APP	DATE	BY	CHKD	APP

NODAL COORDINATE			
MASS POINT	X (ft)	Y (ft)	Z (ft)
1	48.55	893.19	25.04
2	52.00	872.40	7.80
3	54.11	851.80	82.00
4	58.00	831.34	77.09
5	61.01	809.47	106.87
6	44.15	789.08	09.87
7	31.09	772.53	47.74

**TUSI**

SAFEGUARDED BUDG.

**Gibbs & Hill, Inc.**  
ENGINEER, DESIGNER, CONTRACTOR  
OFFICE

SCALE -  
  
**TABLE 1**

JOB NO. 2323-A

SUBJECT														
DESIGN NO.	DATE	BY	CHKD.	REV.										
APPROVALS:														

7

SUMMARY OF REFINED FLOOR RESPONSE SPECTRA

FIGURE NO.	FLOOR ELEVATION	DAMPING %	EARTHQUAKE	TYPE OF MOTION
1409-B	896.50 FT.	1	1/2 SSE	TRANSL. & ROT.
1410-B	873.50 FT.	1	1/2 SSE	TRANSL. & ROT.
1411-B	852.50 FT.	1	1/2 SSE	TRANSL. & ROT.
1412-B	831.50 FT.	1	1/2 SSE	TRANSL. & ROT.
1413-B	810.50 FT.	1	1/2 SSE	TRANSL. & ROT.
1414-B	790.50 FT.	1	1/2 SSE	TRANSL. & ROT.
1415-B	785.50 FT.	1	1/2 SSE	TRANSL. & ROT.
1416-B	773.50 FT.	1	1/2 SSE	TRANSL. & ROT.
1417-B	896.50 FT.	2	1/2 SSE	TRANSL. & ROT.
1418-B	873.50 FT.	2	1/2 SSE	TRANSL. & ROT.
1419-B	852.50 FT.	2	1/2 SSE	TRANSL. & ROT.
1420-B	831.50 FT.	2	1/2 SSE	TRANSL. & ROT.
1421-B	810.50 FT.	2	1/2 SSE	TRANSL. & ROT.
1422-B	790.50 FT.	2	1/2 SSE	TRANSL. & ROT.
1423-B	785.50 FT.	2	1/2 SSE	TRANSL. & ROT.
1424-B	773.50 FT.	2	1/2 SSE	TRANSL. & ROT.

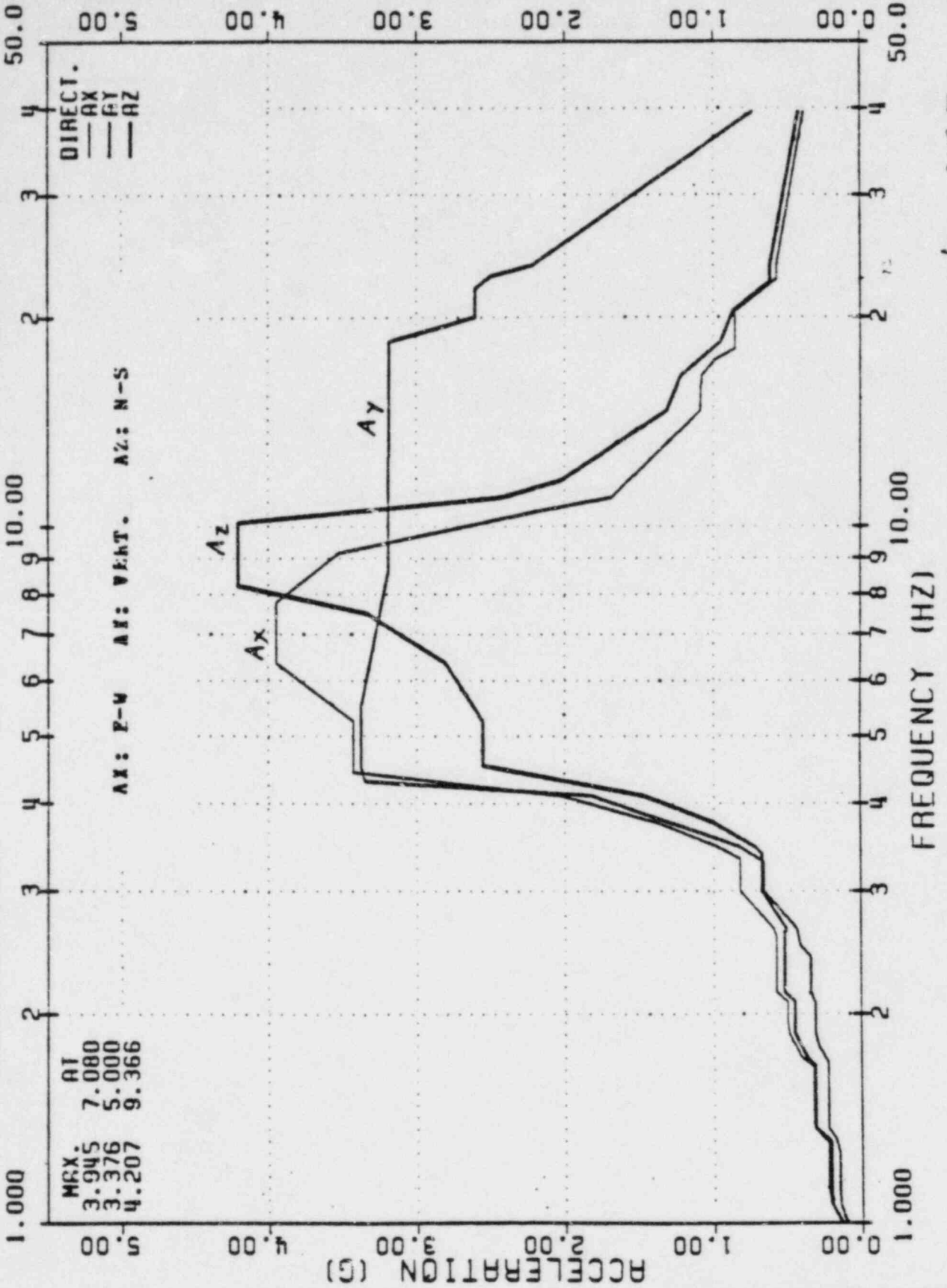

<p><b>TUSI</b></p> <p>SAFEGUARDS BUILDING</p> <p><b>Gibbs &amp; Hill Inc.</b></p> <p>ENGINEER, ARCHITECT, CONTRACTOR</p> <p>NEW YORK</p> <p>NEW YORK 2523</p>	<p>TABLE 2</p>
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TUSI-REFINED RESPONSE SPECTRA FOR SAFEGUARDS BLDG.  
 FLOOR RESPONSE SPECTRA FOR 1/2 SSE,  
 FIGURE NO. 1410-B

DAMPING = 0.01  
 AT ELEVATION 873.50 FEET



el. 873.5  
 1/2 SSE

TUSI-SAFEGUARDS BLDG.

REFINED RESPONSE SPECTRA

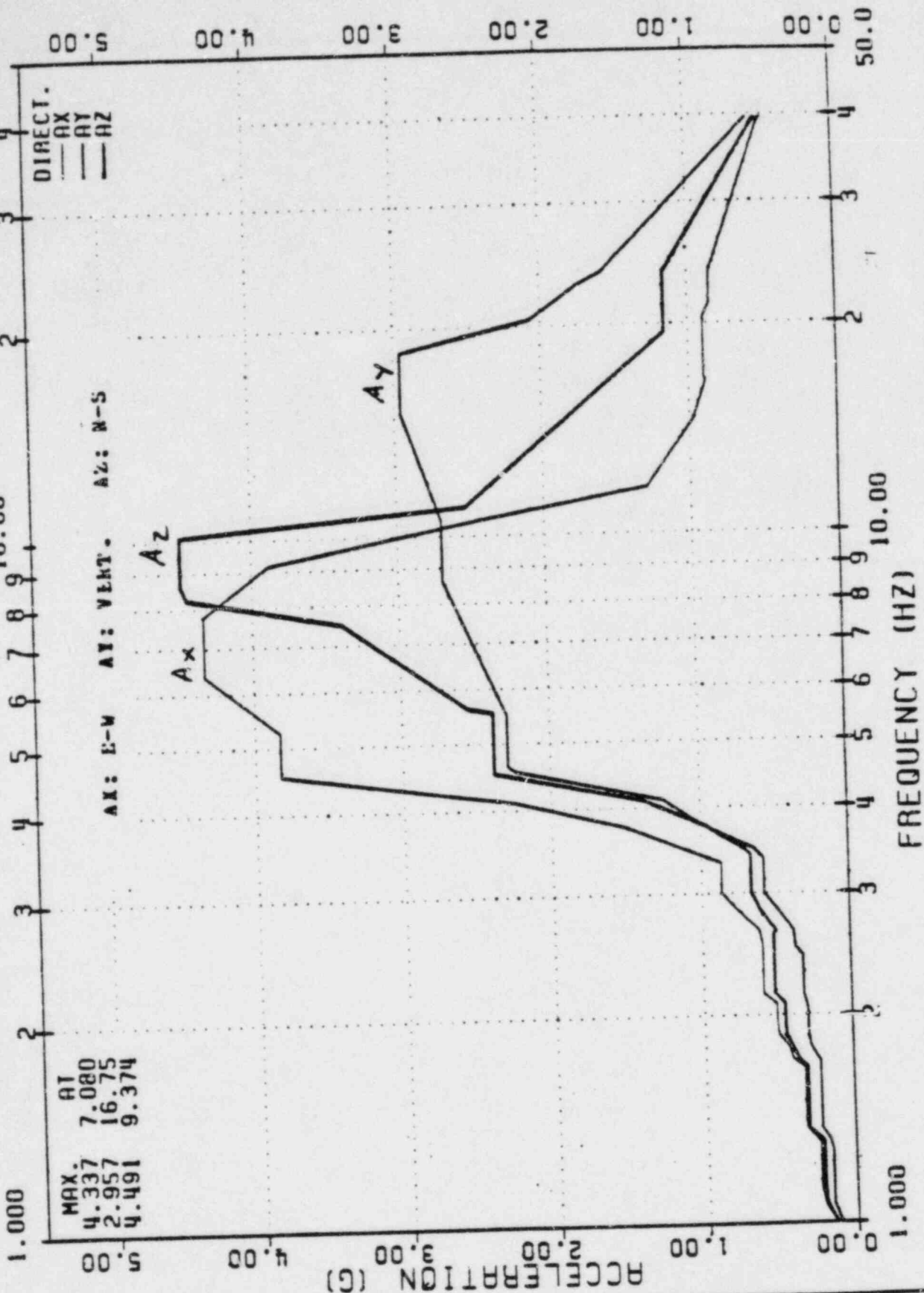
GIBBS & HILL, INC.  
 ENGINEERS, DESIGNERS, CONSTRUCTORS

FIGURE - 1410-B

JOB NO. 2323

# TUSI-REFINED RESPONSE SPECTRA FOR SAFEGUARDS BLDG.

FLOOR RESPONSE SPECTRA FOR 1/2 SSEI  
 DAMPING = 0.01  
 AT ELEVATION 896.50 FEET  
 FIGURE NO. 1409-B



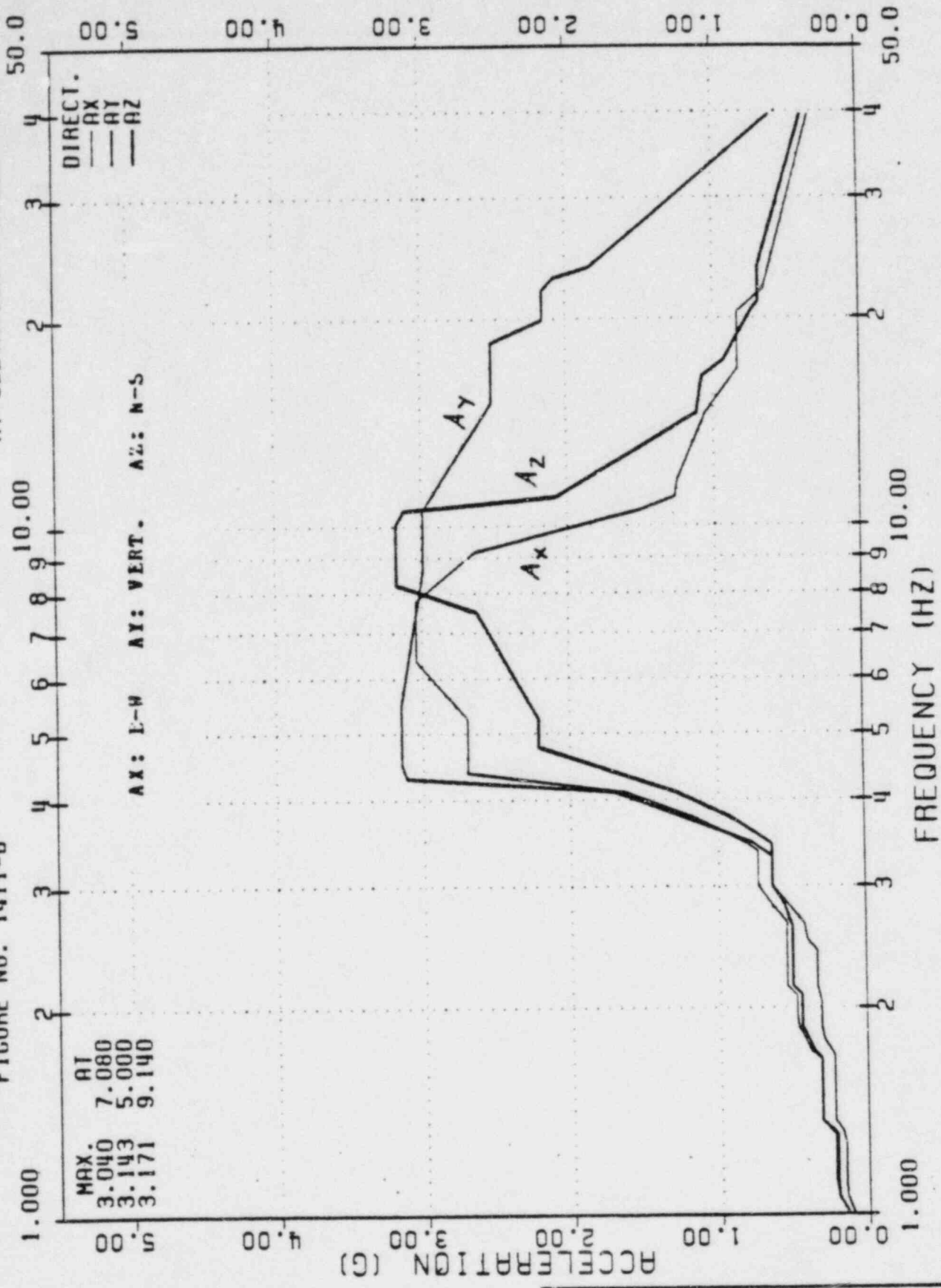
TUSI-SAFEGUARDS BLDG.	
REFINED RESPONSE SPECTRA	
GIBBS & HILL, INC.	
ENGINEERS, DESIGNERS, CONTRACTORS	
2323	FIGURE-1409-B

el 896.5

TUSI-REFINED RESPONSE SPECTRA FOR SAFEGUARDS BLDG.

FLOOR RESPONSE SPECTRA FOR 1/2 SSEI  
 FIGURE NO. 1411-B

DAMPING = 0.01  
 AT ELEVATION 852.50 FEET



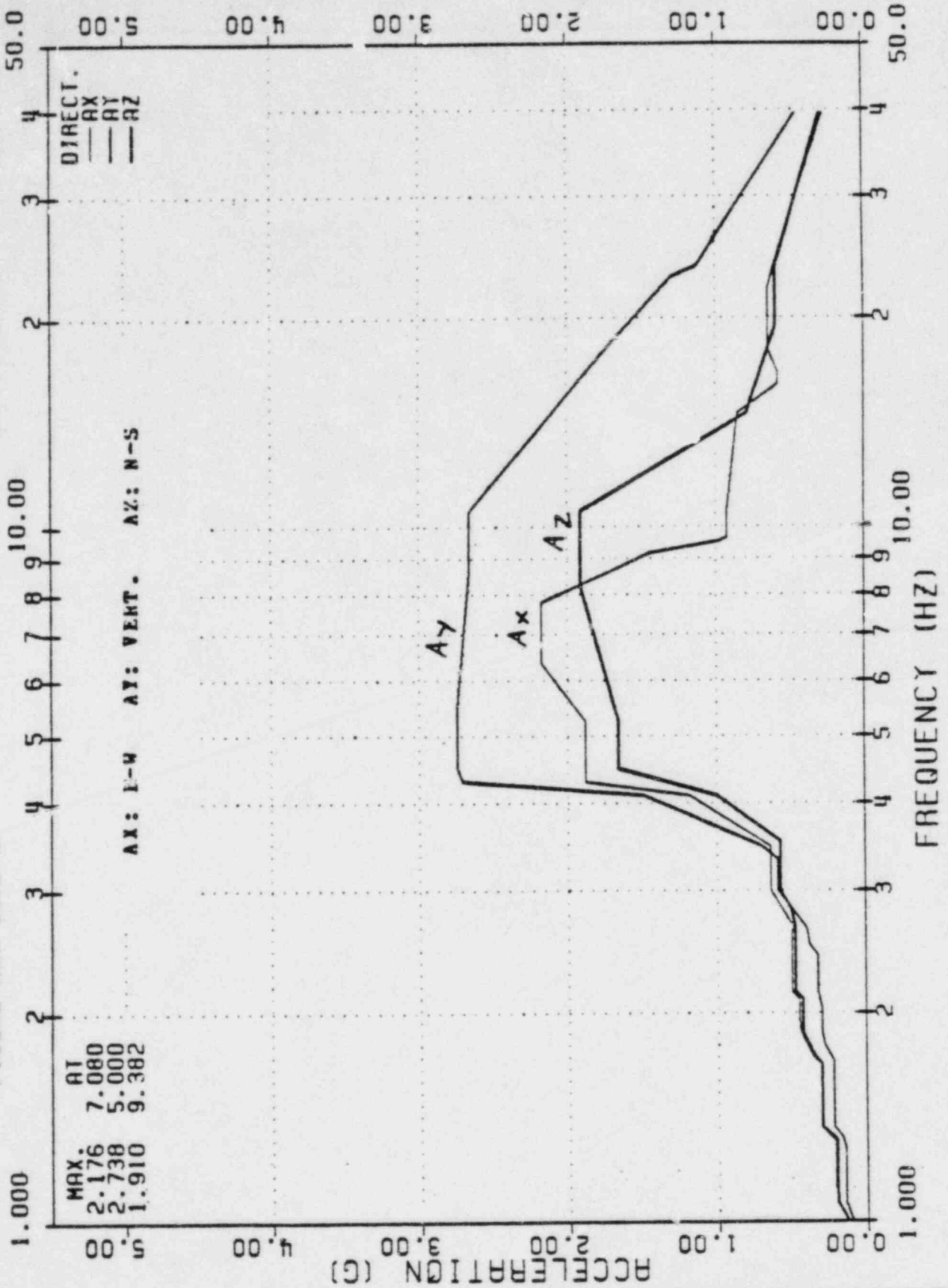
TUSI-SAFEGUARDS BLDG.	
REFINED RESPONSE SPECTRA	
GIBBS & HILL, INC. ENGINEERS, DESIGNERS, CONSTRUCTORS NEW YORK	
JOB NO. 2323	FIGURE-1411-B

ISSUE NO.	DATE	PLTU. CHNG.	BY	APPROVAL	ISSUED FOR
0	11/28	RDP	WT		

TUSI-REFINED RESPONSE SPECTRA FOR SAFEGUARDS BLDG.

FLOOR RESPONSE SPECTRA FOR 1/2 SSE;  
 FIGURE NO. 1412-B

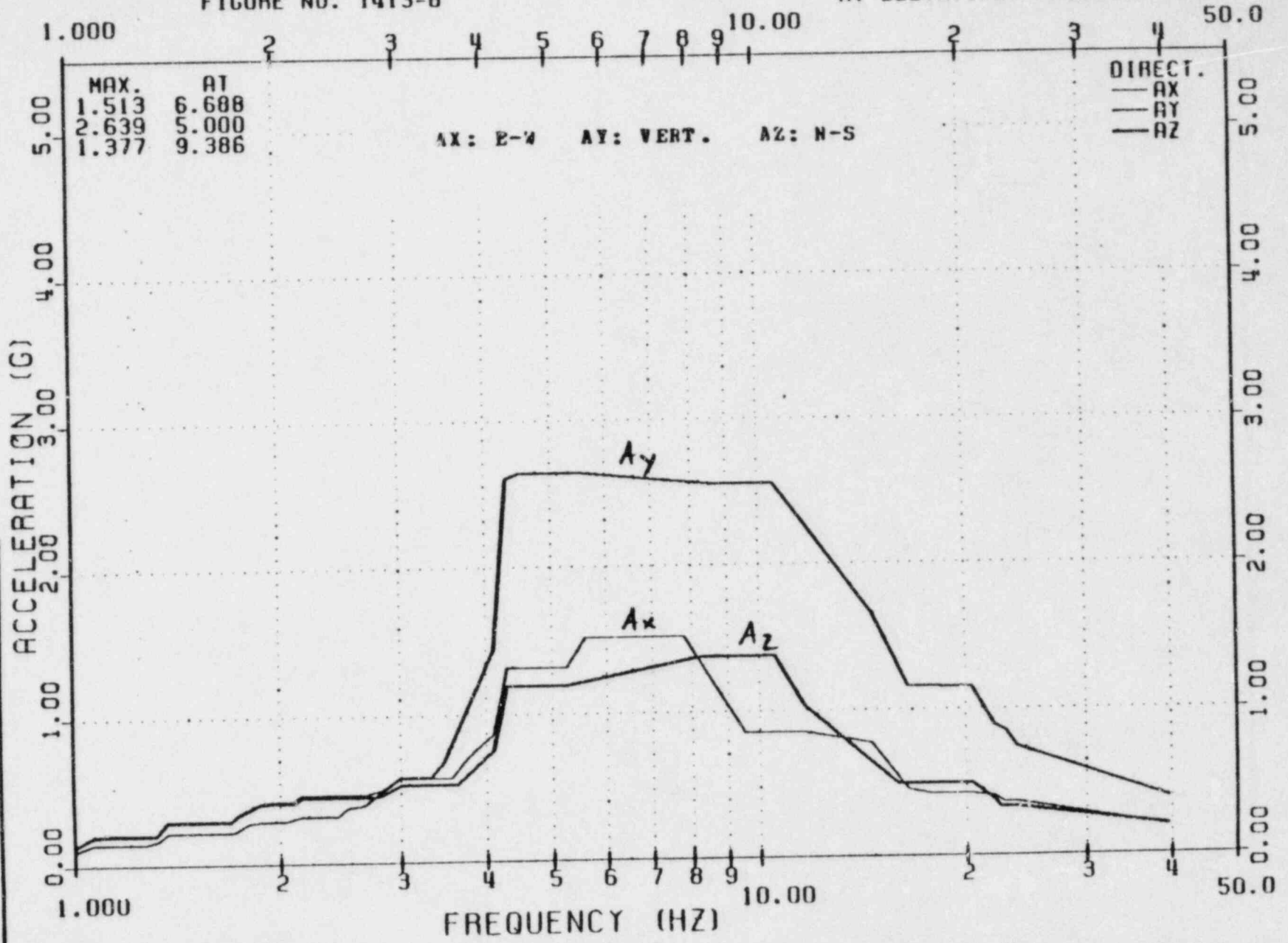
DAMPING = 0.01  
 AT ELEVATION 831.50 FEET



TUSI-SAFEGUARDS BLDG.  
 REFINED RESPONSE SPECTRA  
 GIBBS & HILL, INC.  
 ENGINEERS, DESIGNERS, CONSTRUCTORS  
 NEW YORK  
 JOB NO. 2323

TUSI-REFINED RESPONSE SPECTRA FOR SAFEGUARDS BLDG.  
 FLOOR RESPONSE SPECTRA FOR 1/2 SSE;  
 FIGURE NO. 1413-B

DAMPING = 0.01  
 AT ELEVATION 810.50 FEET



TUSI-SAFEGUARDS BLDG.

REFINED RESPONSE SPECTRA

GIBBS & HILL, INC.

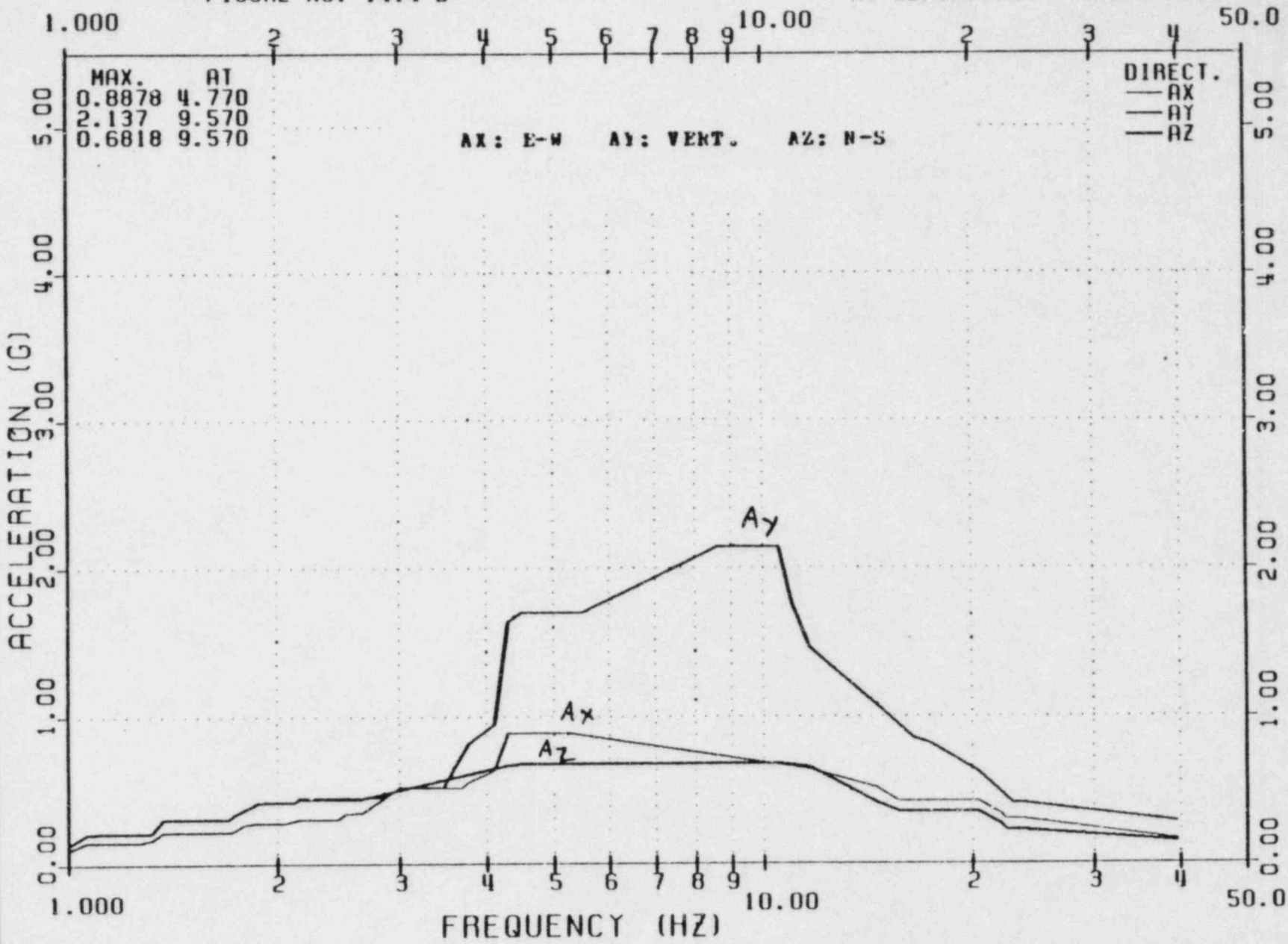
ENGINEERS, DESIGNERS, CONTRACTORS

JOB NO. 2323

FIGURE-1413-B

TUSI-REFINED RESPONSE SPECTRA FOR SAFEGUARDS BLDG.  
 FLOOR RESPONSE SPECTRA FOR 1/2 SSE;  
 FIGURE NO. 1414-B

DAMPING = 0.01  
 AT ELEVATION 790.50 FEET

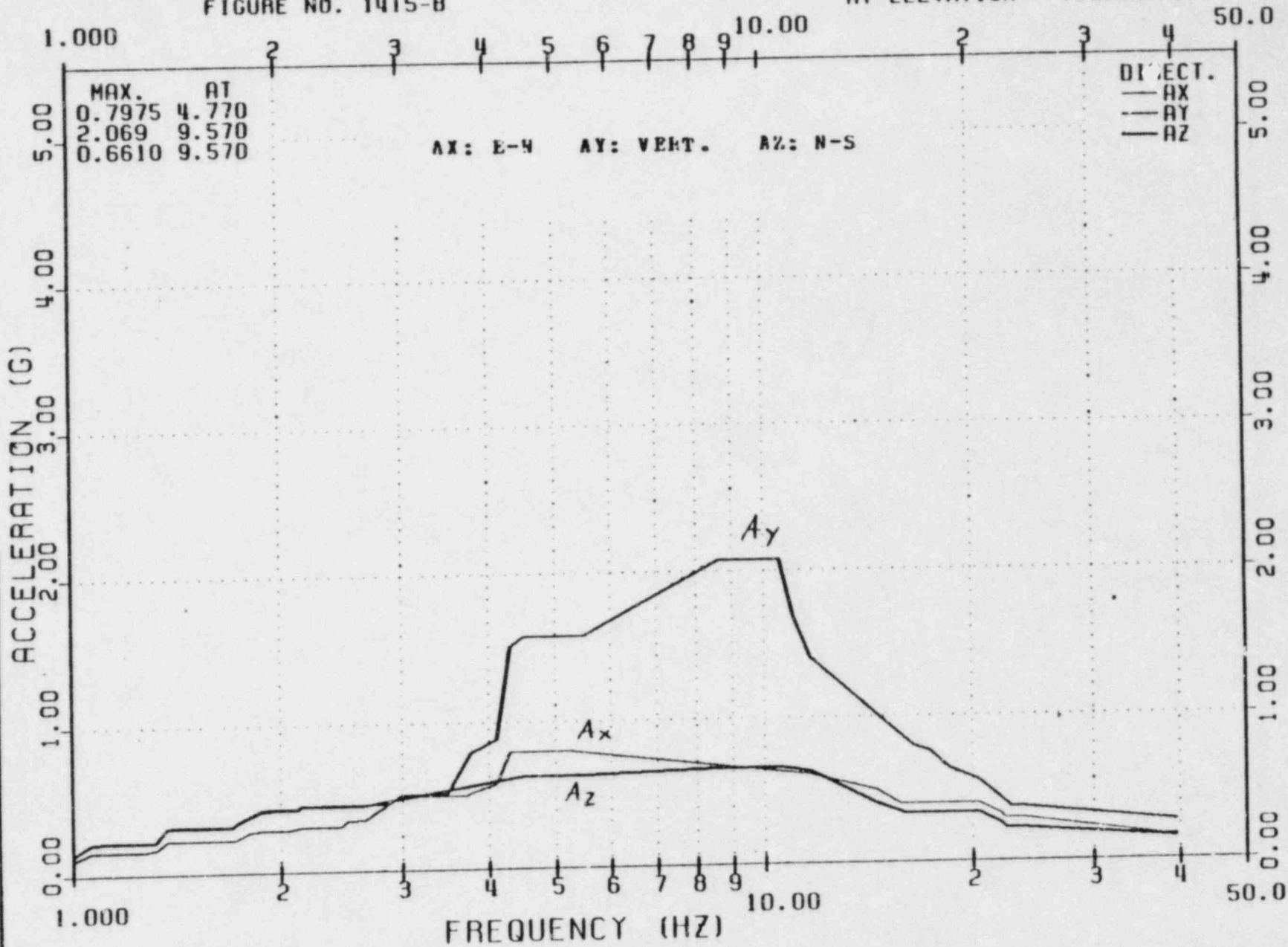


0 11 28 40 P. 11/27  
 TUSI-REFINED RESPONSE SPECTRA FOR SAFEGUARDS BLDG.  
 ENGINEERS, DESIGNERS, CONSTRUCTORS  
 GIBBS & HILL, INC.  
 REFINED RESPONSE SPECTRA  
 TUSI-SAFEGUARDS BLDG.  
 JOB NO. 2323  
 FIGURE-1414-B

TUSI-REFINED RESPONSE SPECTRA FOR SAFEGUARDS BLDG.  
 FLOOR RESPONSE SPECTRA FOR 1/2 SSE;  
 FIGURE NO. 1415-B

DAMPING = 0.01

AT ELEVATION 785.50 FEET



TUSI-SAFEGUARDS BLDG.

REFINED RESPONSE SPECTRA

GIBBS & HILL, INC.

ENGINEERS, DESIGNERS, CONSTRUCTORS

JOB NO. 2323

FIGURE-1415-B

5 11/18/80

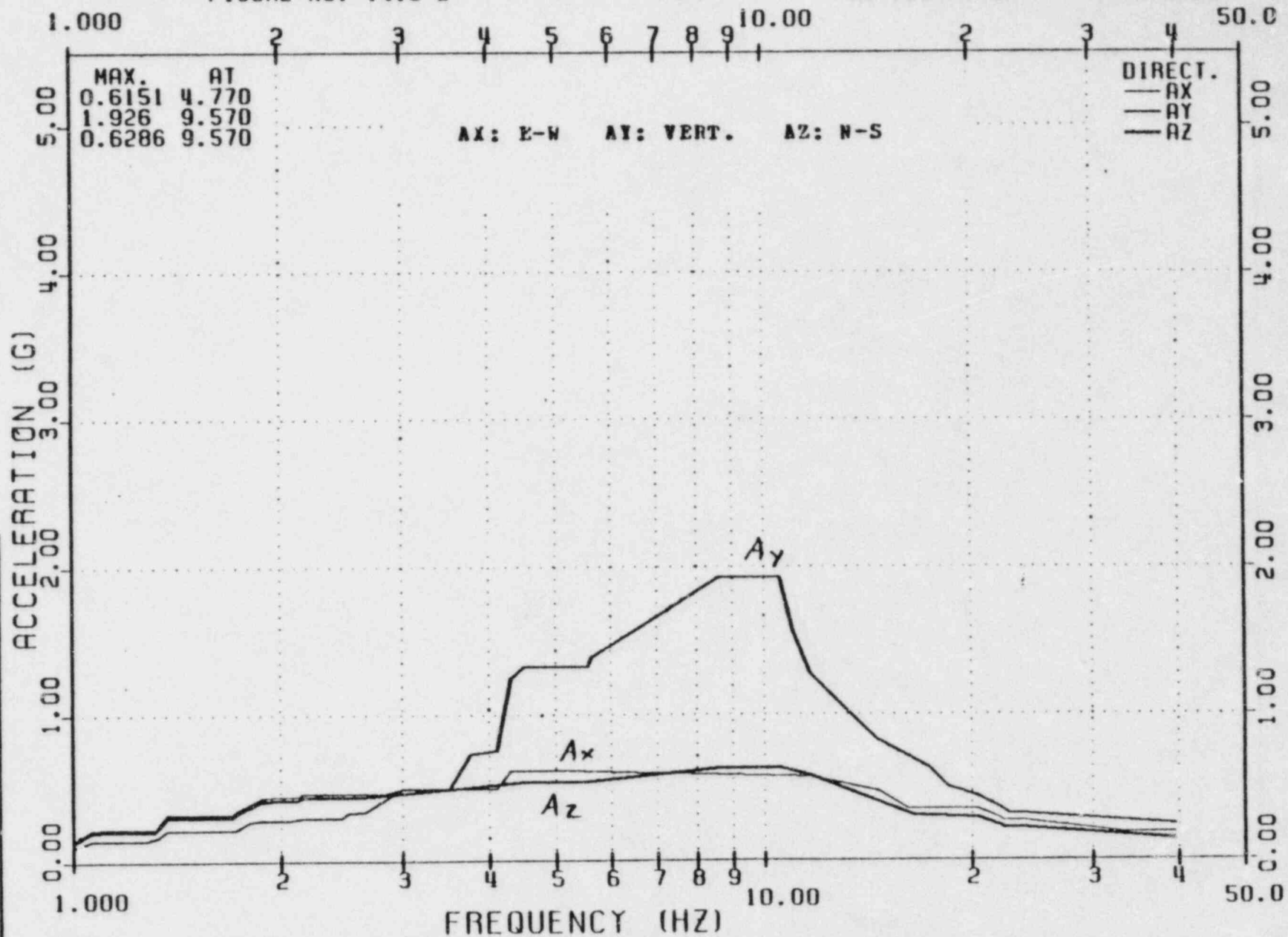
ISSUED FOR APPROVAL

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TUSI-REFINED RESPONSE SPECTRA FOR SAFEGUARDS BLDG.  
 FLOOR RESPONSE SPECTRA FOR 1/2 SSE;  
 FIGURE NO. 1416-B

DAMPING = 0.01  
 AT ELEVATION 773.50 FEET

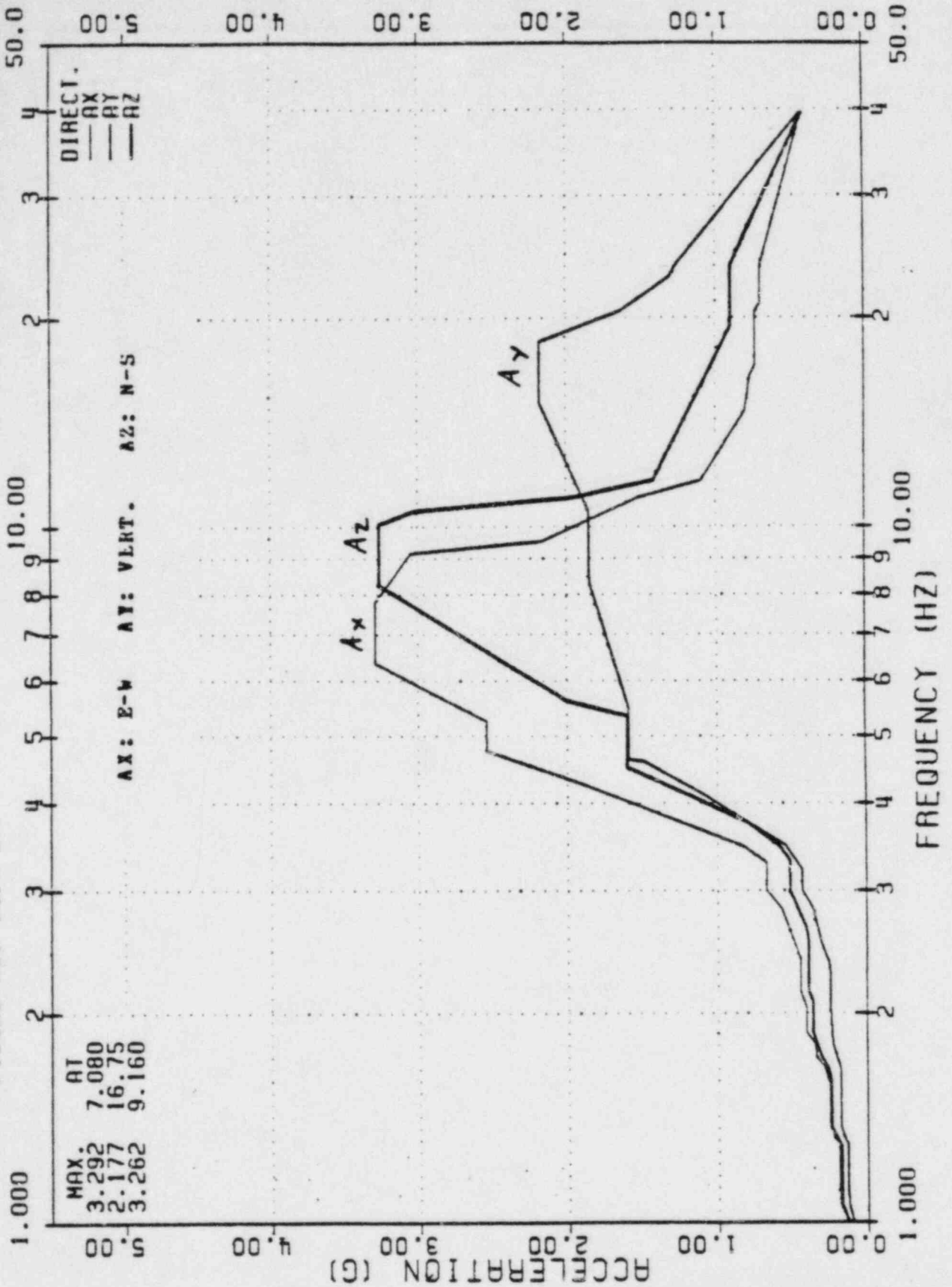


0 11/18/81  
 ISSUED DATE 11/18/81  
 ISSUED FOR  
 TUSI-REFINED RESPONSE SPECTRA FOR SAFEGUARDS BLDG.  
 FIGURE NO. 1416-B  
 GIBBS & HILL, INC.  
 ENGINEERS, DESIGNERS, CONSTRUCTORS  
 AND ARCHITECTS  
 JOB NO. 2323

TUSI-REFINED RESPONSE SPECTRA FOR SAFEGUARDS BLDG.

FLOOR RESPONSE SPECTRA FOR 1/2 SSE;  
FIGURE NO. 1417-B

DAMPING = 0.02  
AT ELEVATION 896.50 FEET



TUSI-SAFEGUARDS BLDG.

REFINED RESPONSE SPECTRA

GIBBS & HILL, INC.  
ENGINEERS, DESIGNERS, CONSTRUCTORS

FIGURE-1417-B

JOB NO. 2323

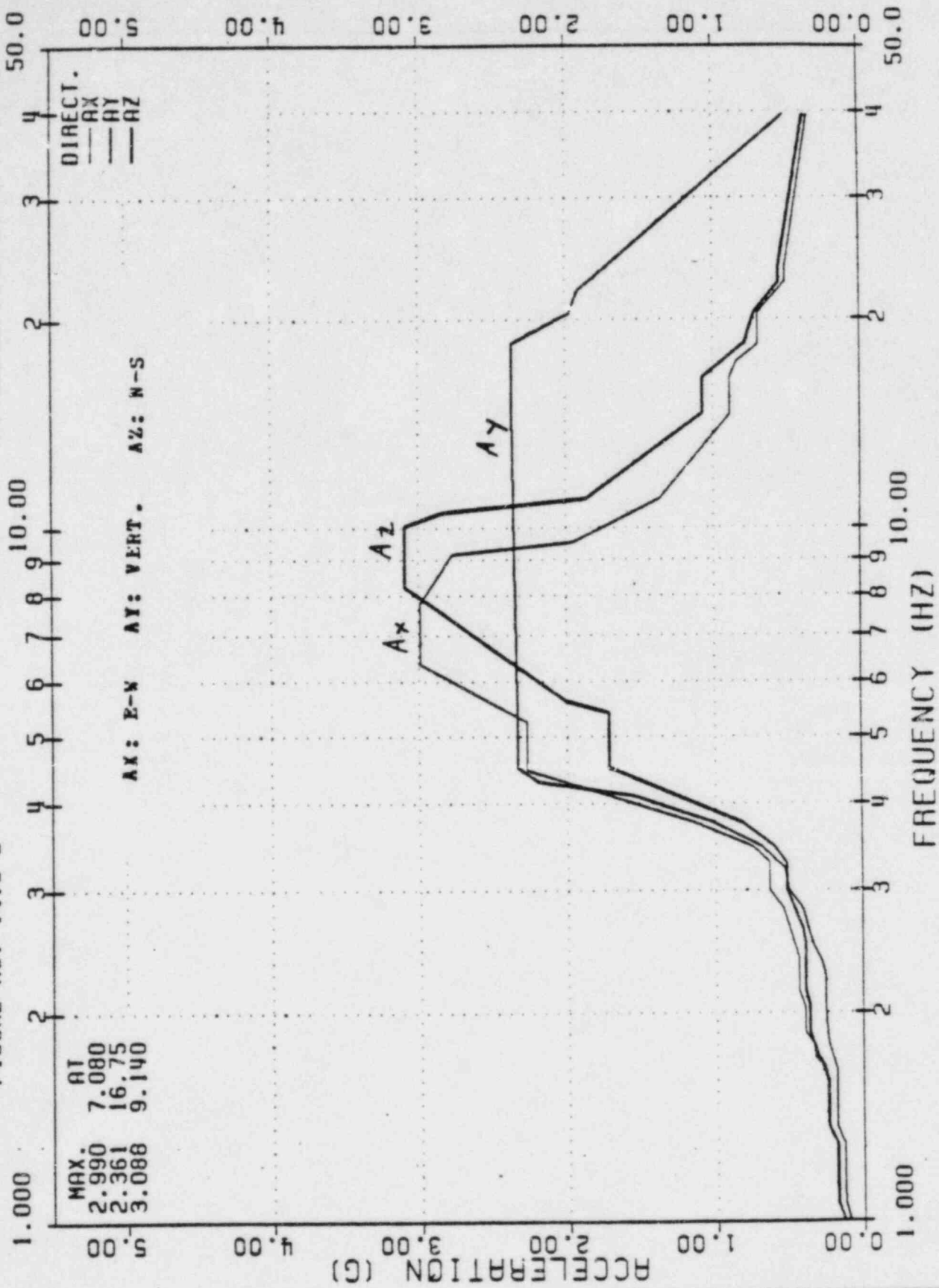
ISSUED FOR

ISSUE NO. DATE PLT'D. CHKD. SQD. RECD. STYCL. DESK. D.L.C. REV. 1. M.B.S. EXP. P.A. APPROVED

TUSI-REFINED RESPONSE SPECTRA FOR SAFEGUARDS BLDG.

FLOOR RESPONSE SPECTRA FOR 1/2 SSE;  
FIGURE NO. 1418-B

DAMPING = 0.02  
AT ELEVATION 873.50 FEET



TUSI-SAFEGUARDS BLDG.

REFINED RESPONSE SPECTRA

GIBBS & HILL, INC.  
ENGINEERS, DESIGNERS, CONSTRUCTORS

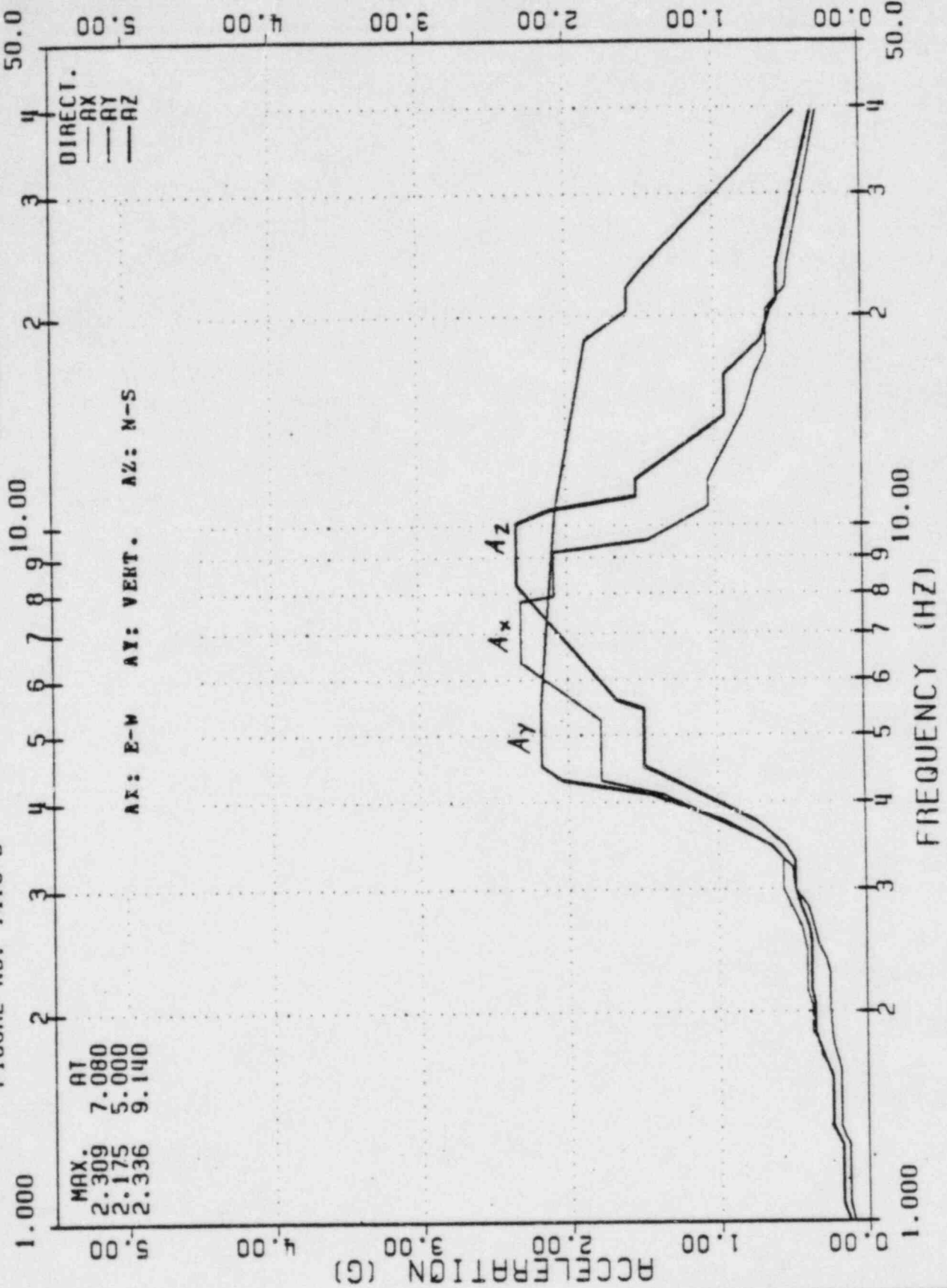
FIGURE-1418-B

JOB NO. 2323

TUSI-REFINED RESPONSE SPECTRA FOR SAFEGUARDS BLDG.

FLOOR RESPONSE SPECTRA FOR 1/2 SSE1  
 FIGURE NO. 1419-B

DAMPING = 0.02  
 AT ELEVATION 852.50 FEET

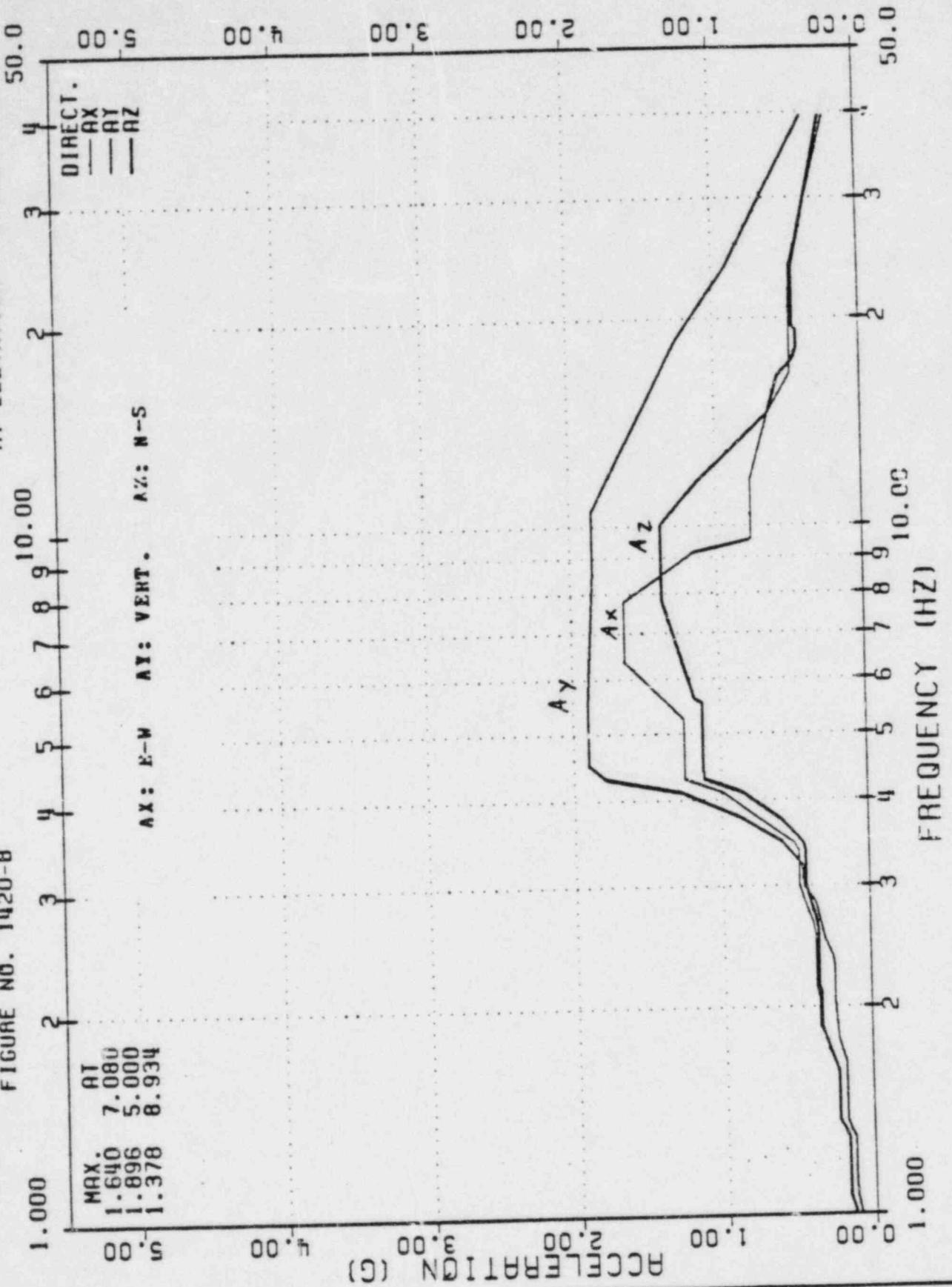


TUSI-SAFEGUARDS BLDG.	
REFINED RESPONSE SPECTRA	
GIBBS & HILL, INC. <small>ENGINEERS, DESIGNERS, CONSTRUCTORS</small>	
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11/68 ROP WT	JOB NO. 2323
APPROVALS	FIGURE-1419-B

# TUSI-REFINED RESPONSE SPECTRA FOR SAFEGUARDS BLDG.

FLOOR RESPONSE SPECTRA FOR 1/2 SSE;  
FIGURE NO. 1420-B

DAMPING = 0.02  
AT ELEVATION 831.50 FEET



MAX.	AT
1.640	7.080
1.896	5.000
1.378	8.934

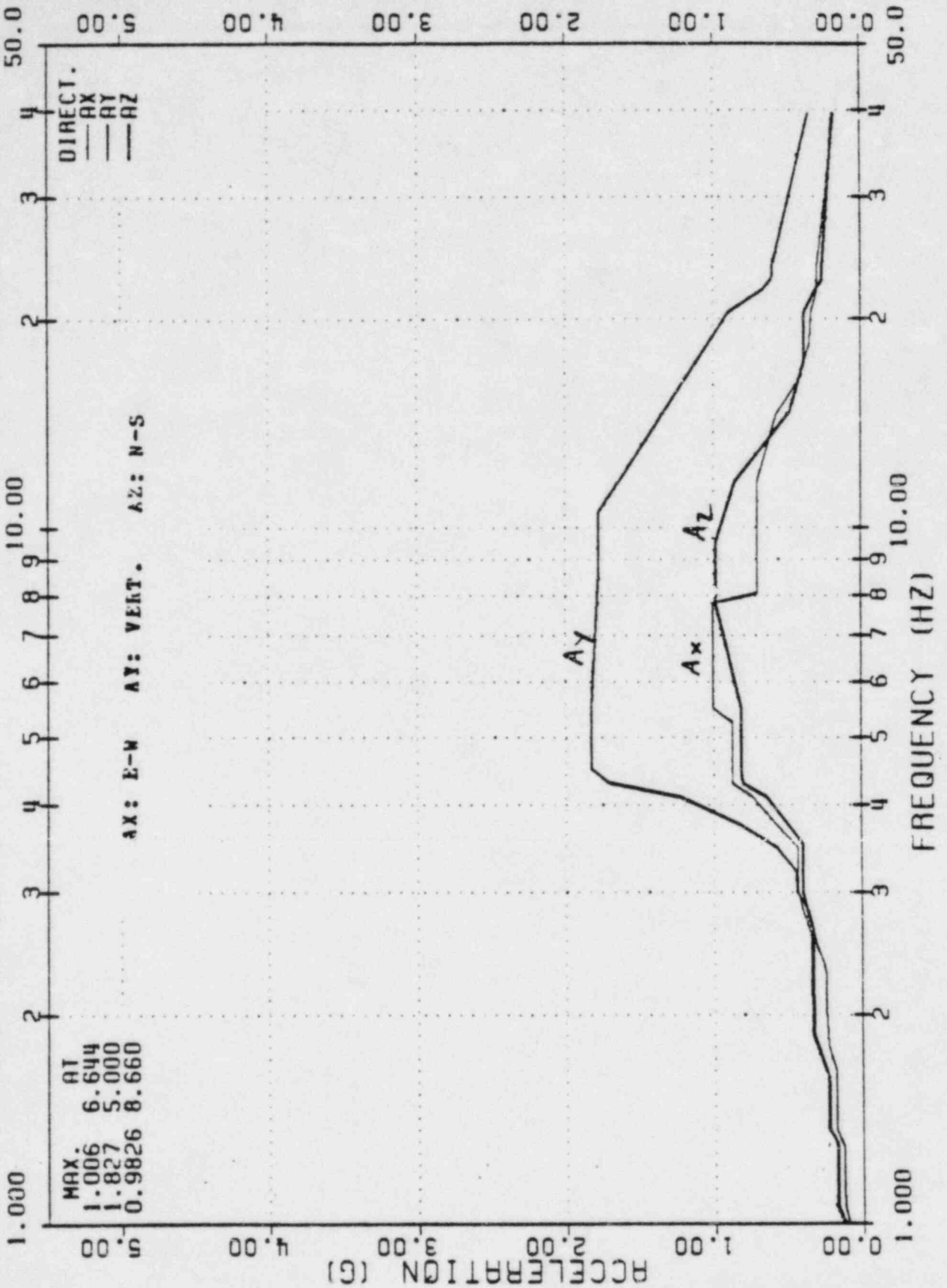
AX: E-W AY: VERT. AZ: N-S

TUSI-SAFEGUARDS BLDG.	
REFINED RESPONSE SPECTRA	
GIBBS & HILL, INC.	
ENGINEERS, DESIGNERS, CONSTRUCTORS	
ISSUE NO.	DATE PLTD. CHRG. 300.
ISSUED FOR	APPROVALS
JOB NO. 2323	FIGURE-1420-B

TUSI-REFINED RESPONSE SPECTRA FOR SAFEGUARDS BLDG.

FLOOR RESPONSE SPECTRA FOR 1/2 SSE;  
FIGURE NO. 1421-B

DAMPING = 0.02  
AT ELEVATION 810.50 FEET



TUSI-SAFEGUARDS BLDG.

REFINED RESPONSE SPECTRA

GIBBS & HILL, INC.  
ENGINEERS, DESIGNERS, CONSTRUCTORS

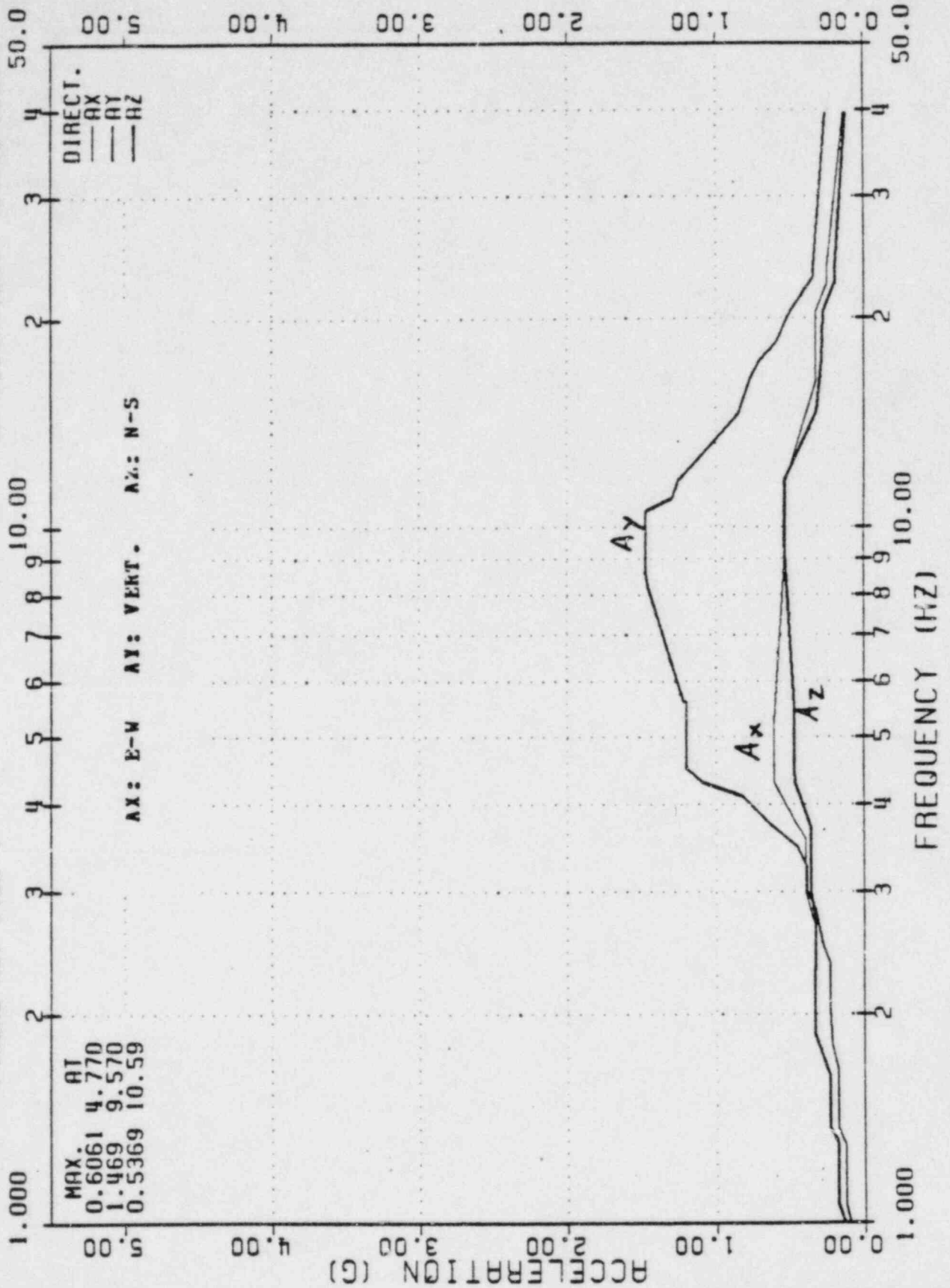
FIGURE-1421-B

JOB NO. 2323

TUSI-REFINED RESPONSE SPECTRA FOR SAFEGUARDS BLDG.

FLOOR RESPONSE SPECTRA FOR 1/2 SSE;  
FIGURE NO. 1422-B

DAMPING = 0.02  
AT ELEVATION 790.50 FEET



TUSI-SAFEGUARDS BLDG.

REFINED RESPONSE SPECTRA

GIBBS & HILL, INC.

ENGINEERS, DESIGNERS, CONSTRUCTORS

MEMPHIS, TENN.

FIGURE-1422-B

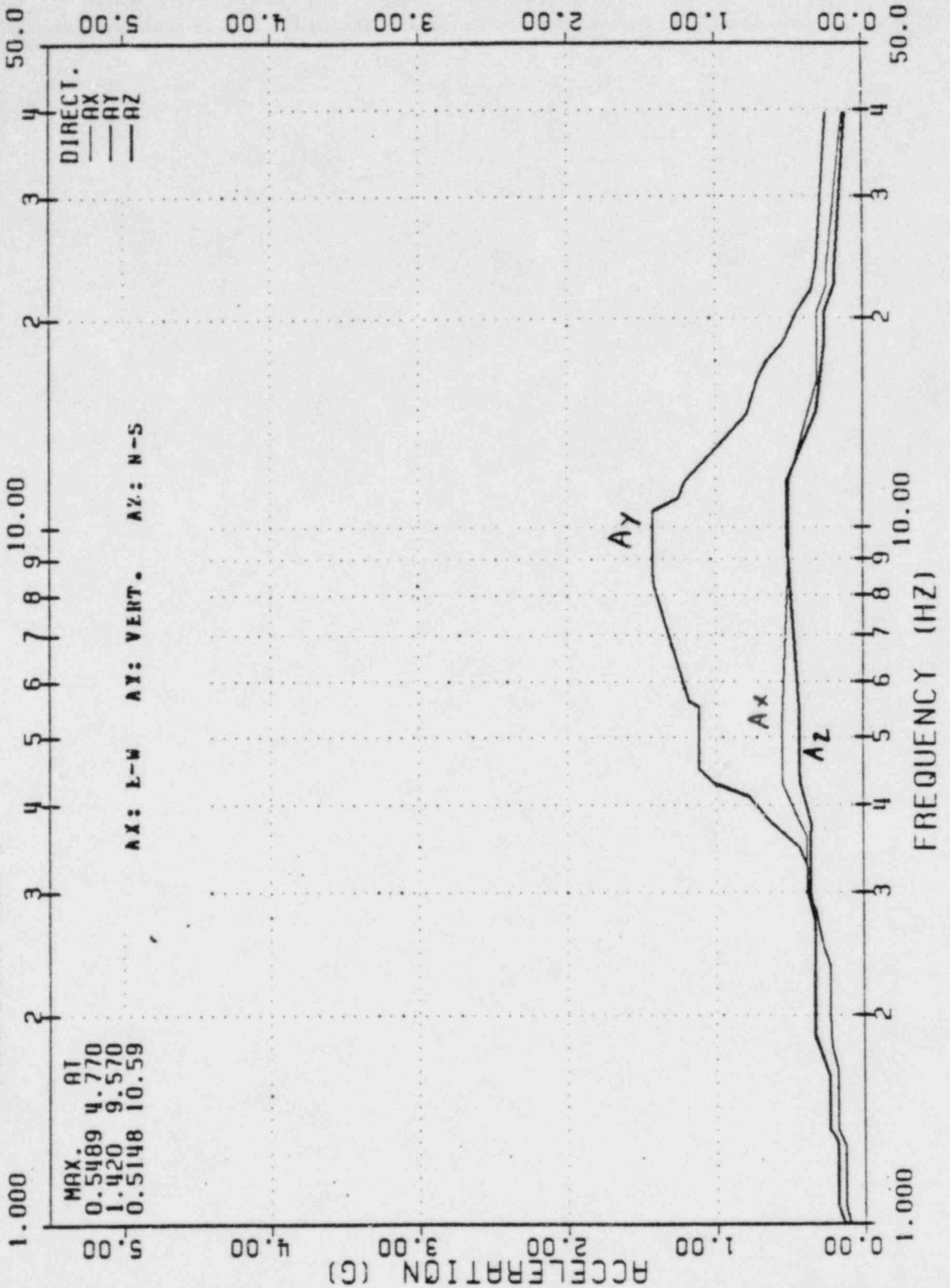
JOB NO. 2323

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TUSI-REFINED RESPONSE SPECTRA FOR SAFEGUARDS BLDG.

FLOOR RESPONSE SPECTRA FOR 1/2 SSE;  
 FIGURE NO. 1423-B

DAMPING = 0.02  
 AT ELEVATION 785.50 FEET



TUSI-SAFEGUARDS BLDG.

REFINED RESPONSE SPECTRA

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

FIGURE-1423-B

JOB NO. 2323

ISSUE NO. DATE PLTD. CHRD. LOR

APPROVALS

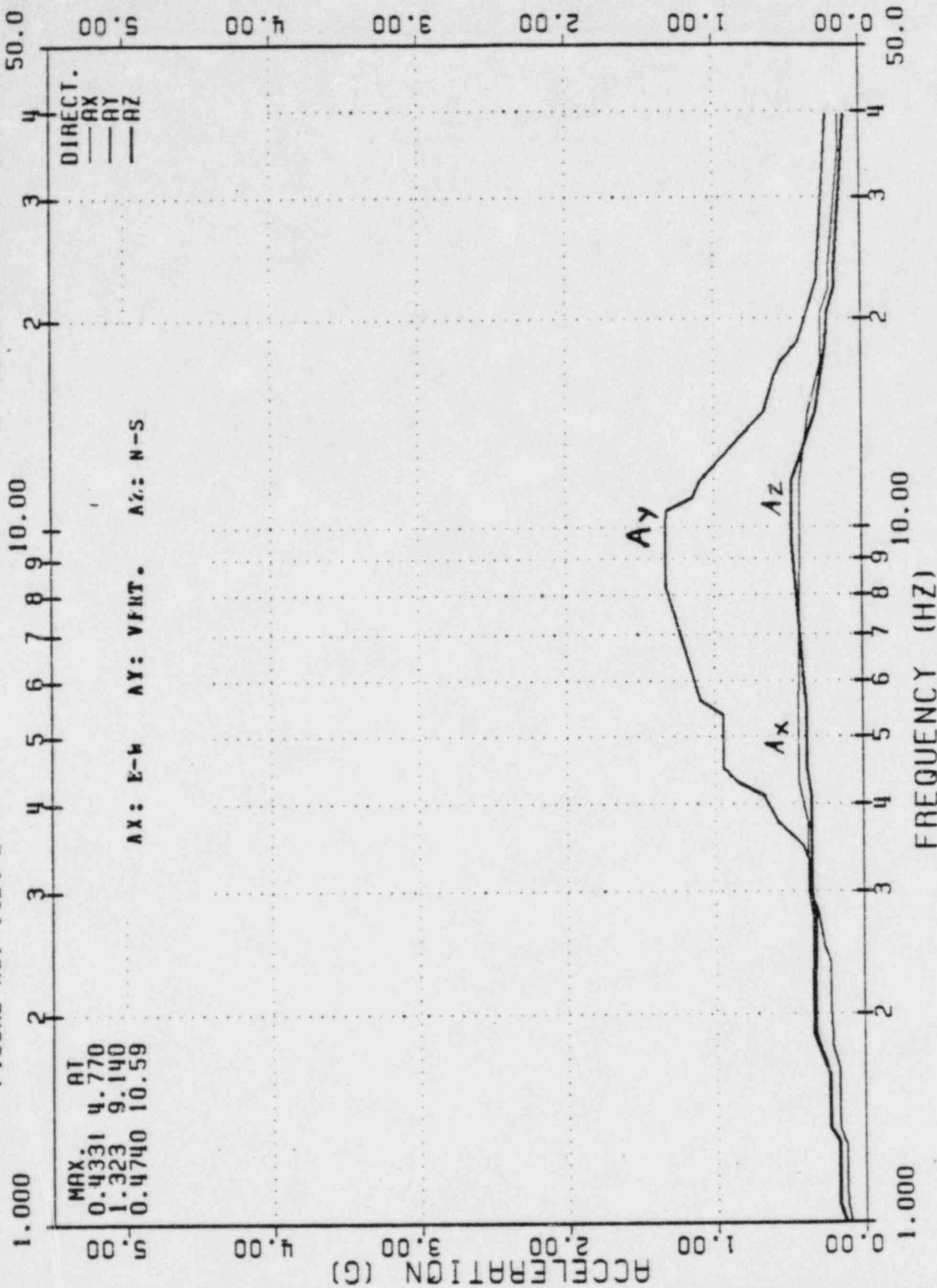
ISSUED FOR



TUSI-REFINED RESPONSE SPECTRA FOR SAFEGUARDS BLDG.

FLOOR RESPONSE SPECTRA FOR 1/2 SSE;  
 FIGURE NO. 1424-B

DAMPING = 0.02  
 AT ELEVATION 773.50 FEET



TUSI-SAFEGUARDS BLDG.

REFINED RESPONSE SPECTRA

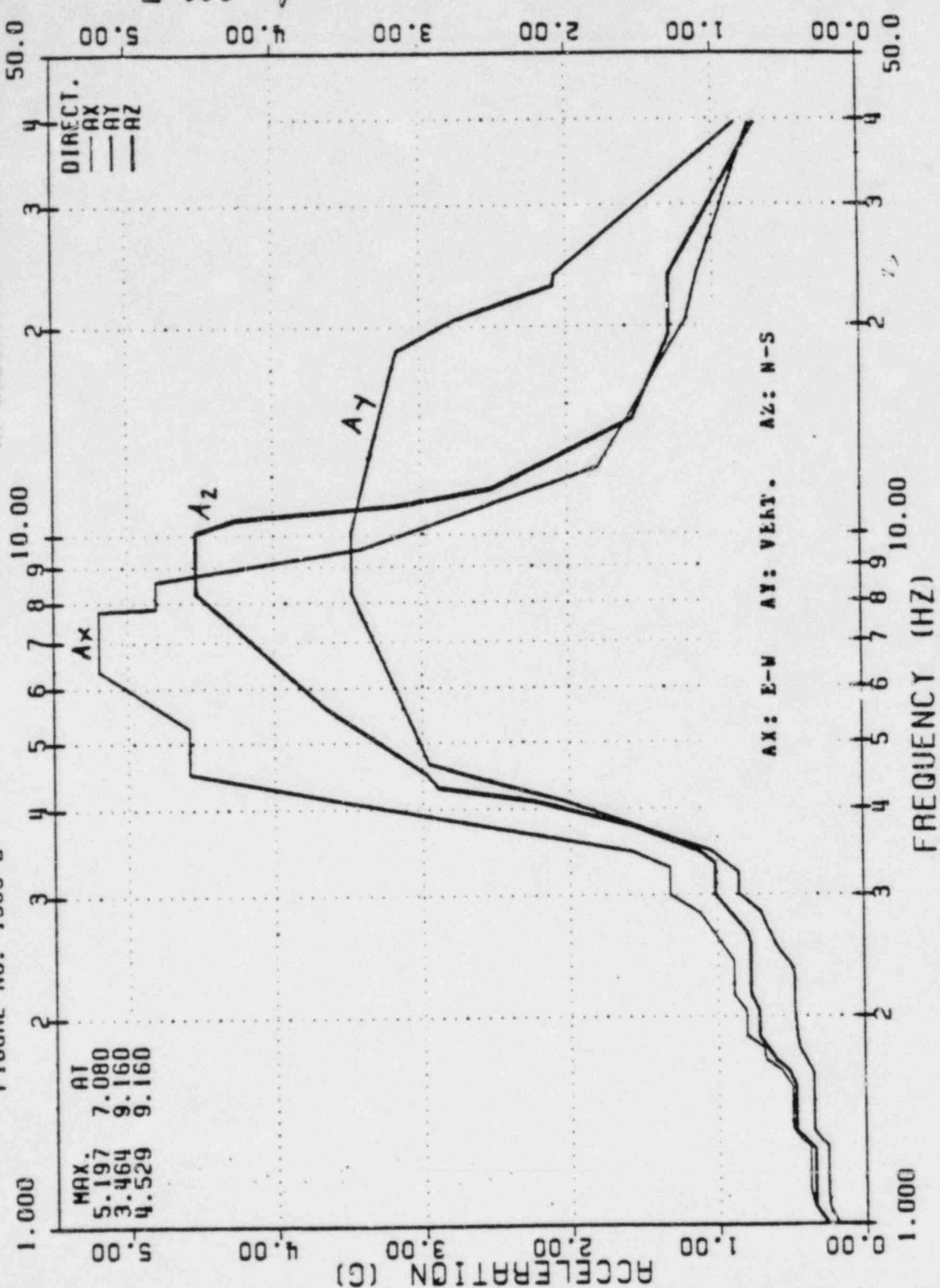
GIBBS & HILL, INC.  
 ENGINEERS, DESIGNERS, CONSTRUCTORS  
 NEW YORK

FIGURE-1424-B

JOB NO. 2323

TUSI-REFINED RESPONSE SPECTRA FOR SAFEGUARDS BLDG.

FLOOR RESPONSE SPECTRA FOR SSE;  
 DAMPING = 0.02  
 AT ELEVATION 896.50 FEET  
 FIGURE NO. 1385-B



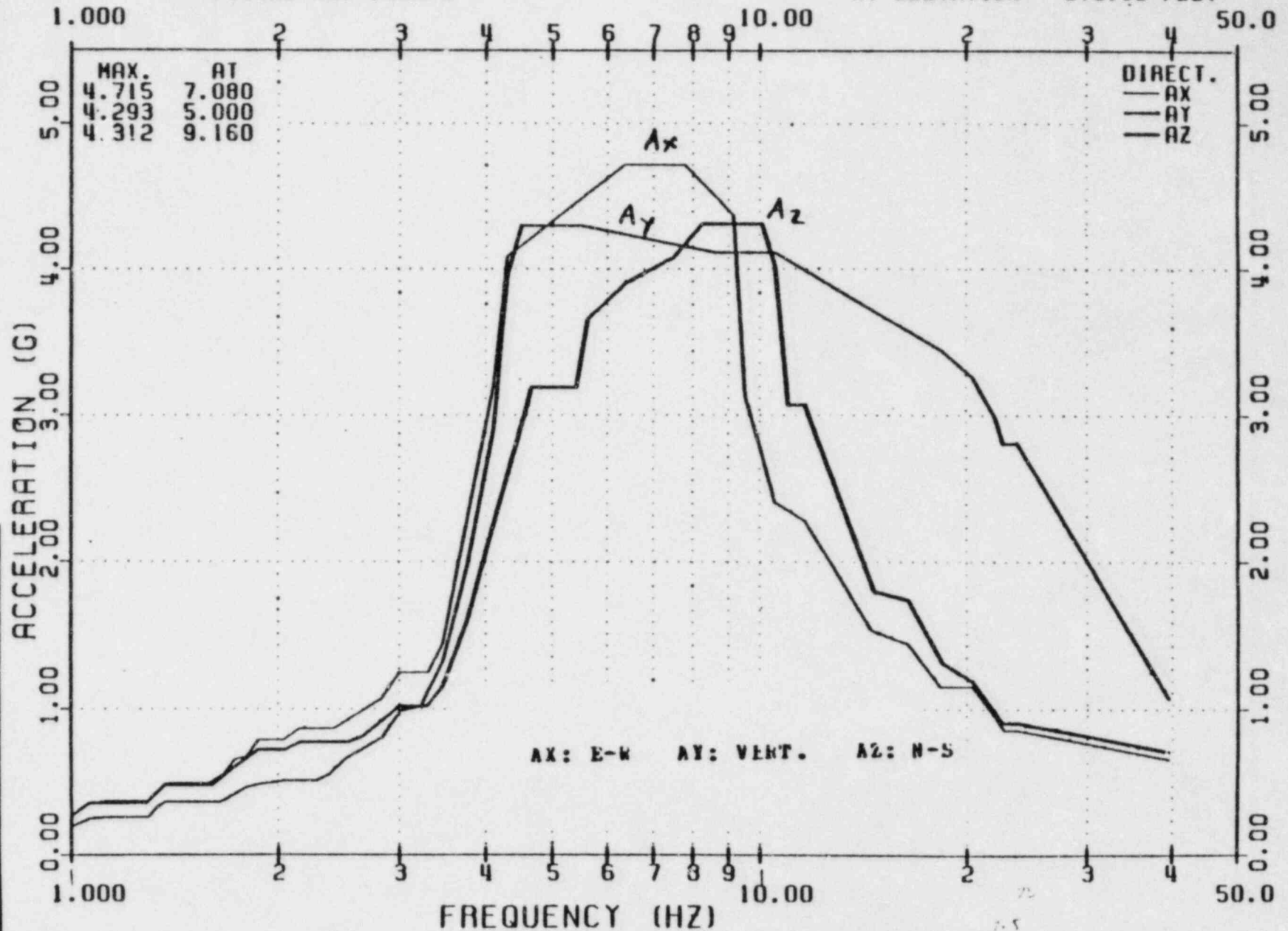
el. 896.5 SSE

TUSI-SAFEGUARDS BLDG.	
REFINED RESPONSE SPECTRA	
GIBBS & HILL, INC.	
ENGINEERS, DESIGNERS, CONSTRUCTORS	
NEW YORK	
JOB NO. 2323	FIGURE-1385-B

DATE	PLT. CHG.	NO.	ISSUED FOR

TUSI-REFINED RESPONSE SPECTRA FOR SAFEGUARDS BLDG.  
 FLOOR RESPONSE SPECTRA FOR SSE;  
 FIGURE NO. 1386-B

DAMPING = 0.02  
 AT ELEVATION 873.50 FEET



el. 873.5  
 SSE

0 11/18/88  
 1386-B  
 1988-08-01

TUSI-REFINED RESPONSE SPECTRA FOR SAFEGUARDS BLDG.

REFINED RESPONSE SPECTRA

GIBBS & HILL, INC.  
 ENGINEERS, DESIGNERS, CONSTRUCTORS

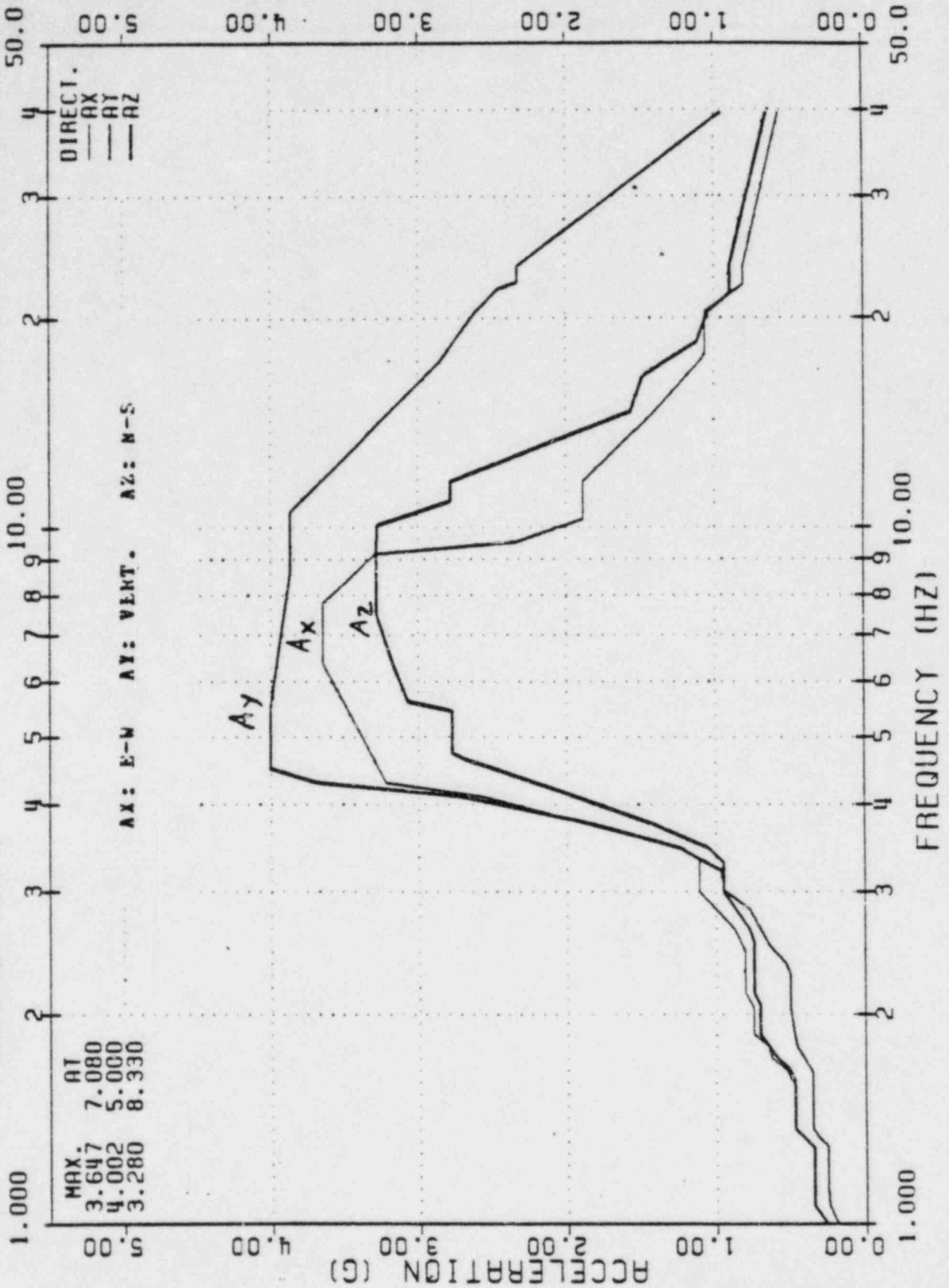
JAN 14, 2375

FIGURE-1386-B

# TUSI-REFINED RESPONSE SPECTRA FOR SAFEGUARDS BLDG.

FLOOR RESPONSE SPECTRA FOR SSE;  
FIGURE NO. 1387-B

DAMPING = 0.02  
AT ELEVATION 852.50 FEET



TUSI-SAFEGUARDS BLDG.

REFINED RESPONSE SPECTRA

GIBBS & HILL, INC.  
ENGINEERS, DESIGNERS, CONSTRUCTORS

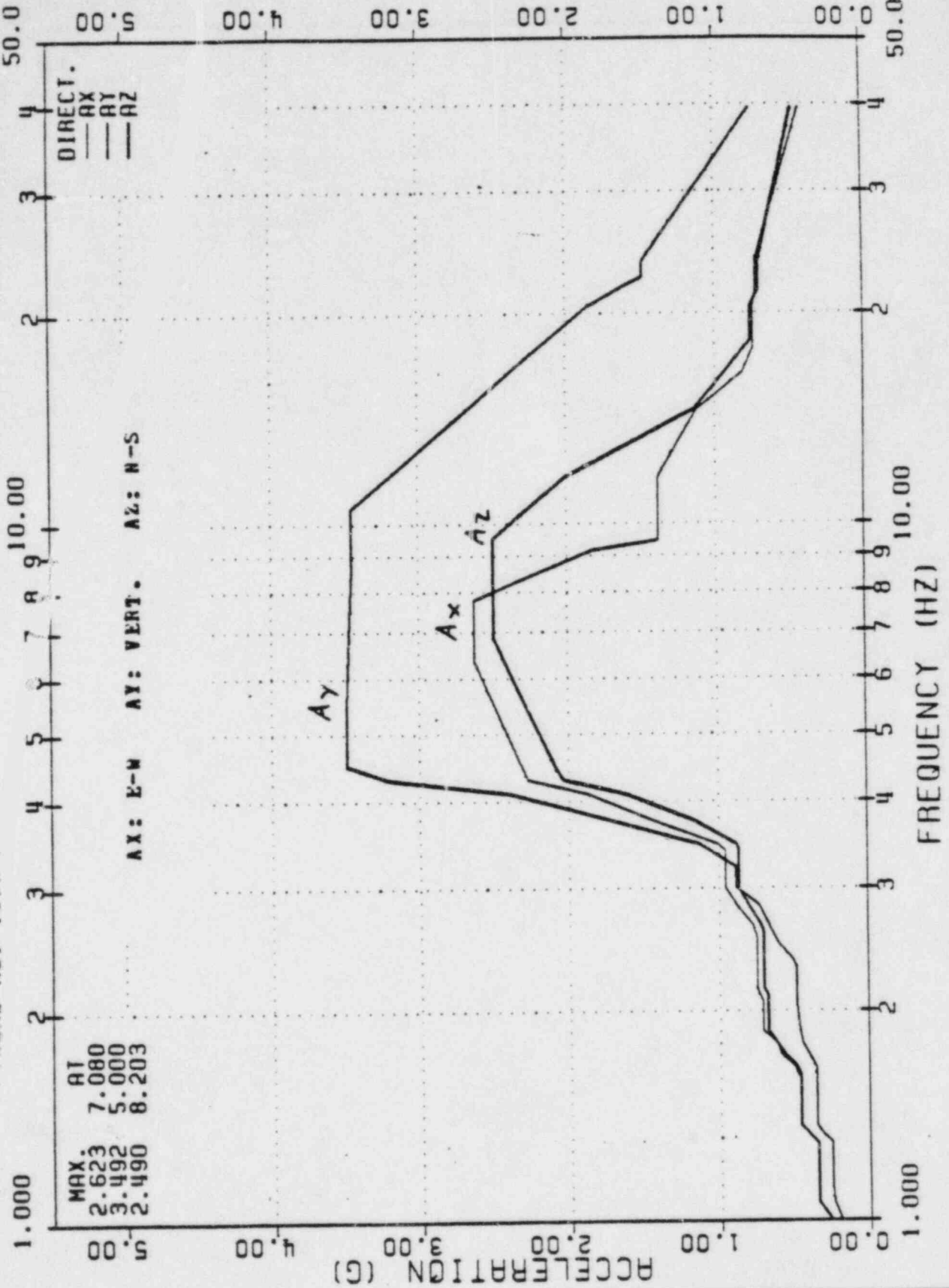
FIGURE-1387-B

JOB NO. 2323

# TUSI-REFINED RESPONSE SPECTRA FOR SAFEGUARDS BLDG.

FLOOR RESPONSE SPECTRA FOR SSE;  
FIGURE NO. 1388-B

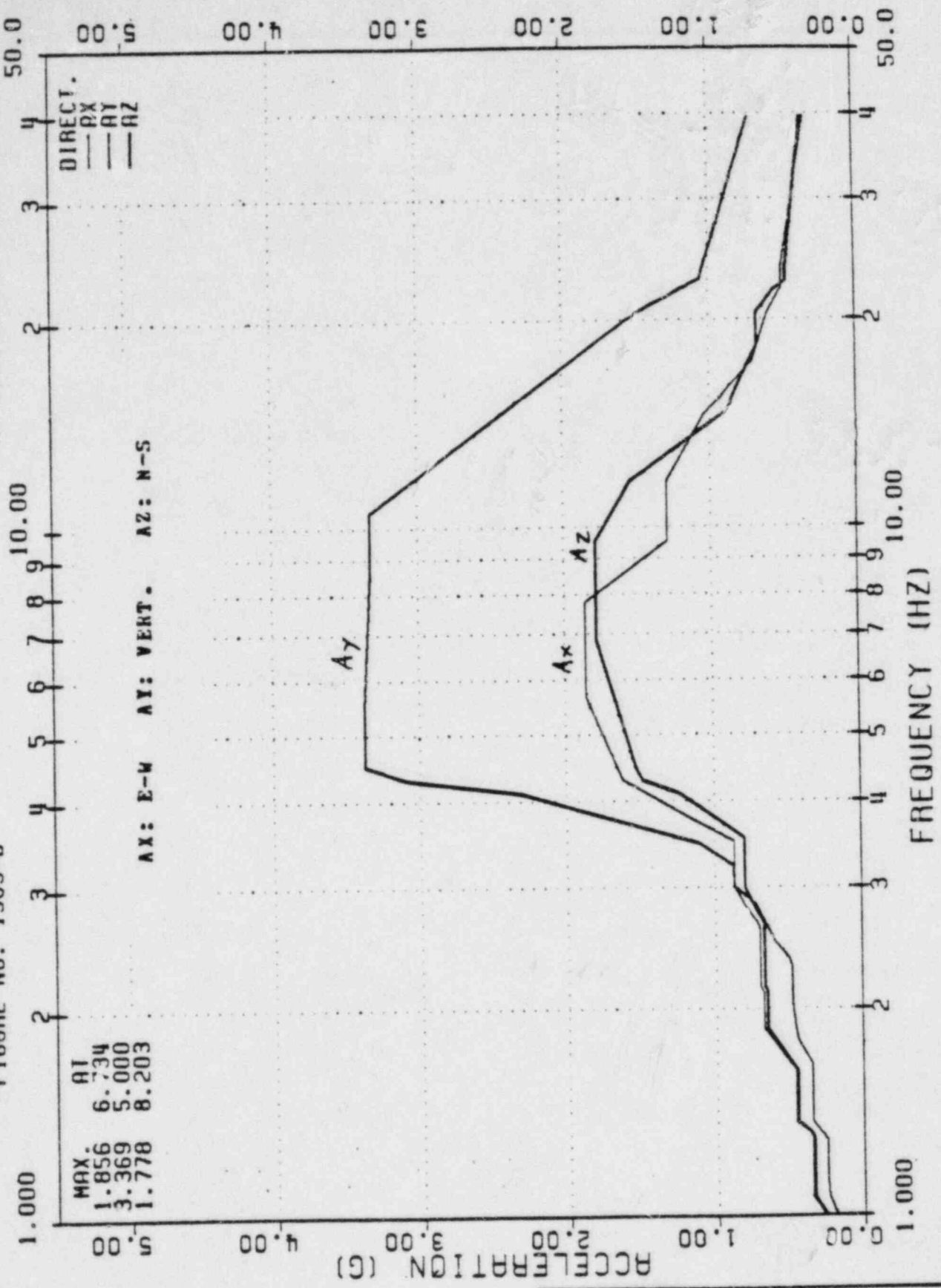
DAMPING = 0.02  
AT ELEVATION 831.50 FEET



TUSI-SAFEGUARDS BLDG.	
REFINED RESPONSE SPECTRA	
GIBBS & HILL, INC.	
ENGINEERS, DESIGNERS, CONSTRUCTORS	
JOB NO. 2323	FIGURE-1388-B

# TUSI-REFINED RESPONSE SPECTRA FOR SAFEGUARDS BLDG.

FLOOR RESPONSE SPECTRA FOR SSE;  
 DAMPING = 0.02  
 AT ELEVATION 810.50 FEET  
 FIGURE NO. 1389-B



TUSI-SAFEGUARDS BLDG.	
REFINED RESPONSE SPECTRA	
GIBBS & HILL, INC.	
ENGINEERS, DESIGNERS, CONSTRUCTORS	
ISSUE NO.	DATE
PLD.	CHKD.
APPROVALS	ISSUED FOR
JOB NO. 2323	FIGURE-1389-B

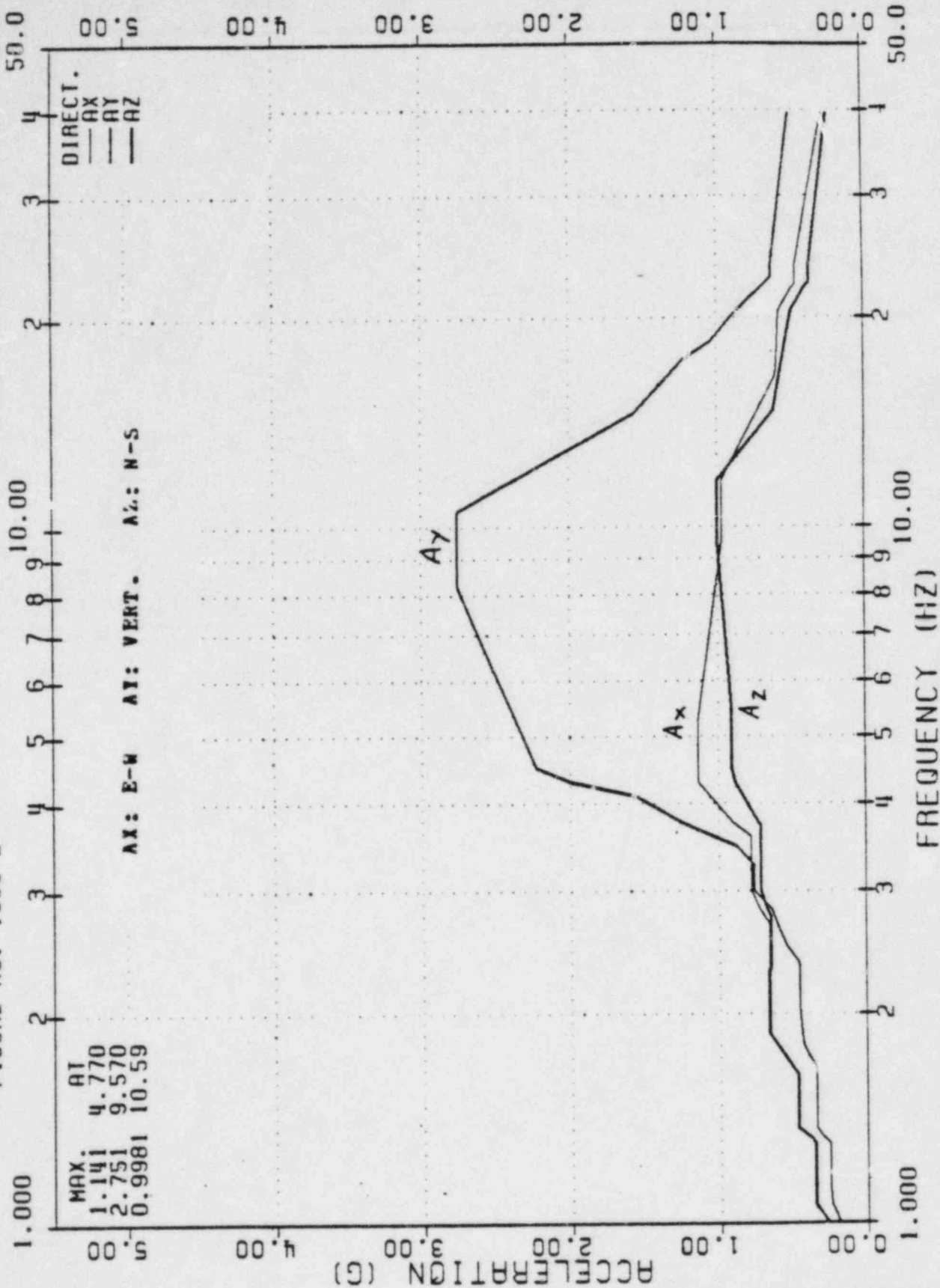
ISSUE NO. DATE PLD. CHKD. APPROVALS

ISSUED FOR

# TUSI-REFINED RESPONSE SPECTRA FOR SAFEGUARDS BLDG.

FLOOR RESPONSE SPECTRA FOR SSE;  
FIGURE NO. 1390-B

DAMPING = 0.02  
AT ELEVATION 790.50 FEET



TUSI-SAFEGUARDS BLDG.

REFINED RESPONSE SPECTRA

GIBBS & HILL, INC.

ENGINEERS, DESIGNERS, CONSTRUCTORS

JOB NO. 2323

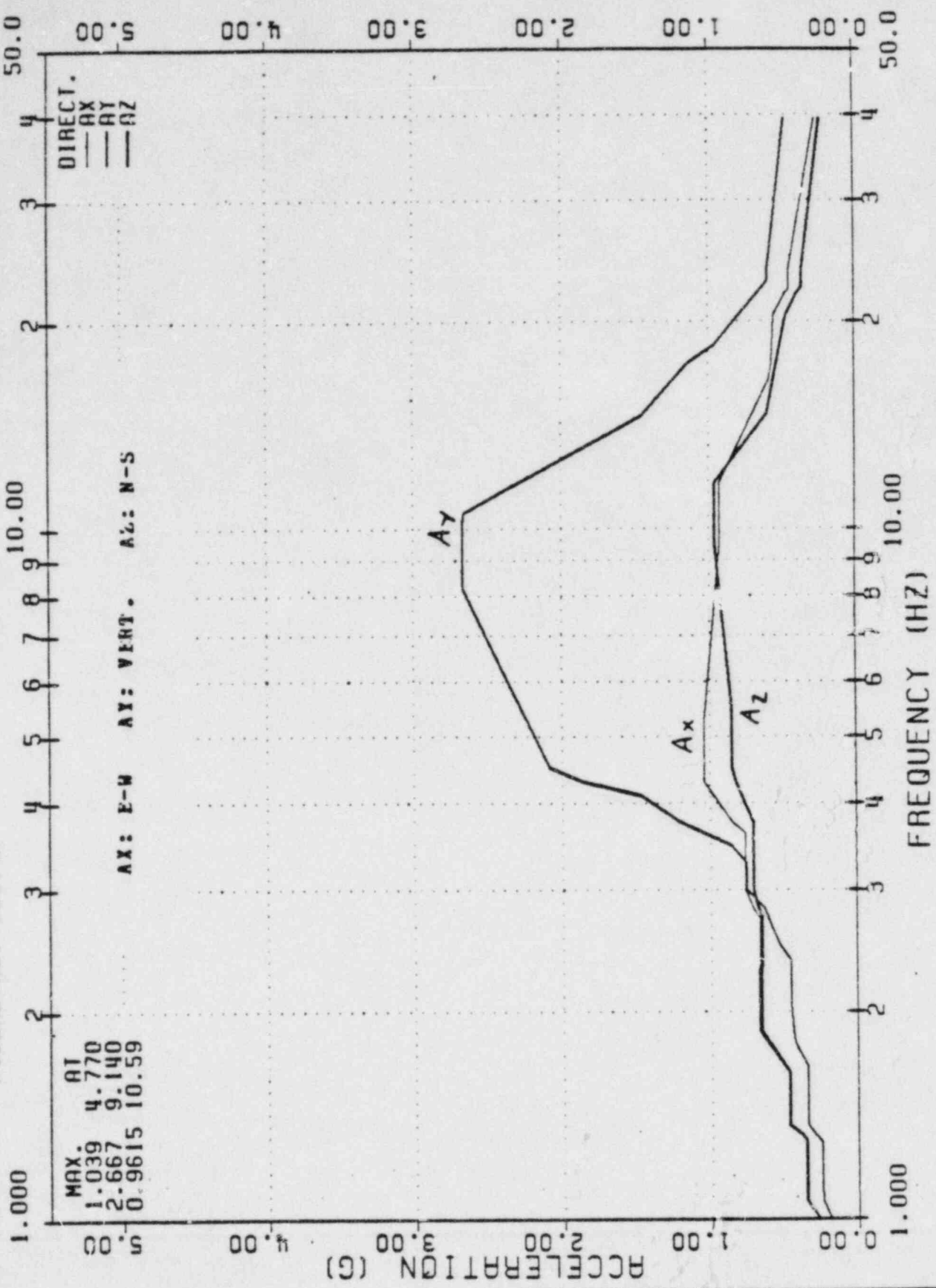
FIGURE-1390-B

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APPROVALS

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TUSI-REFINED RESPONSE SPECTRA FOR SAFEGUARDS BLDG.  
 FLOOR RESPONSE SPECTRA FOR SSE;  
 DAMPING = 0.02  
 AT ELEVATION 785.50 FEET  
 FIGURE NO. 1391-B

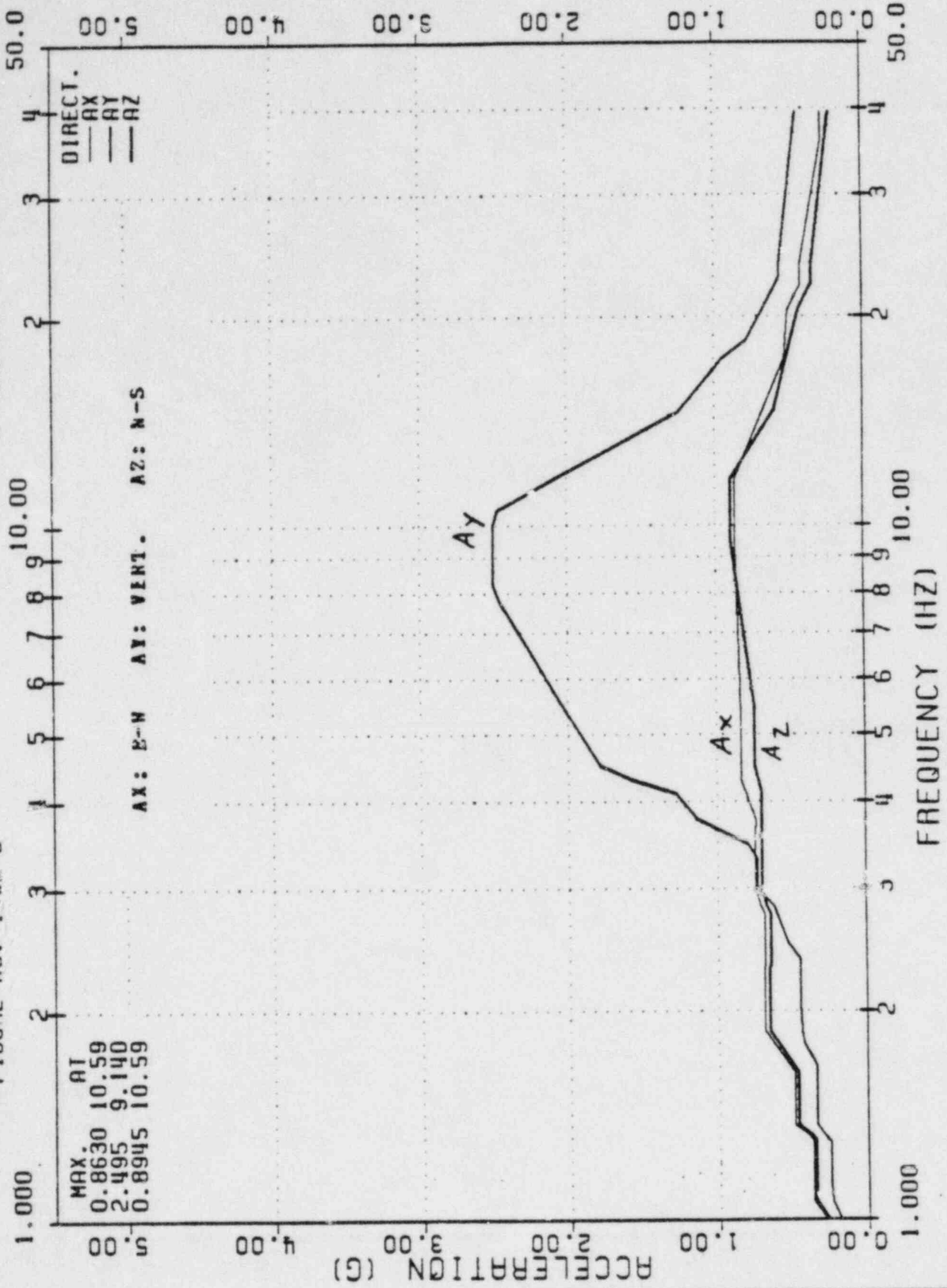


TUSI-SAFEGUARDS BLDG.	
REFINED RESPONSE SPECTRA	
GIBBS & HILL, INC.	
ENGINEERS, DESIGNERS, CONSTRUCTORS	
JOB NO. 2323	
FIGURE-1391-B	



TUSI-REFINED RESPONSE SPECTRA FOR SAFEGUARDS BLDG.

FLOOR RESPONSE SPECTRA FOR SSE;  
 DAMPING = 0.02  
 AT ELEVATION 773.50 FEET  
 FIGURE NO. 1392-B

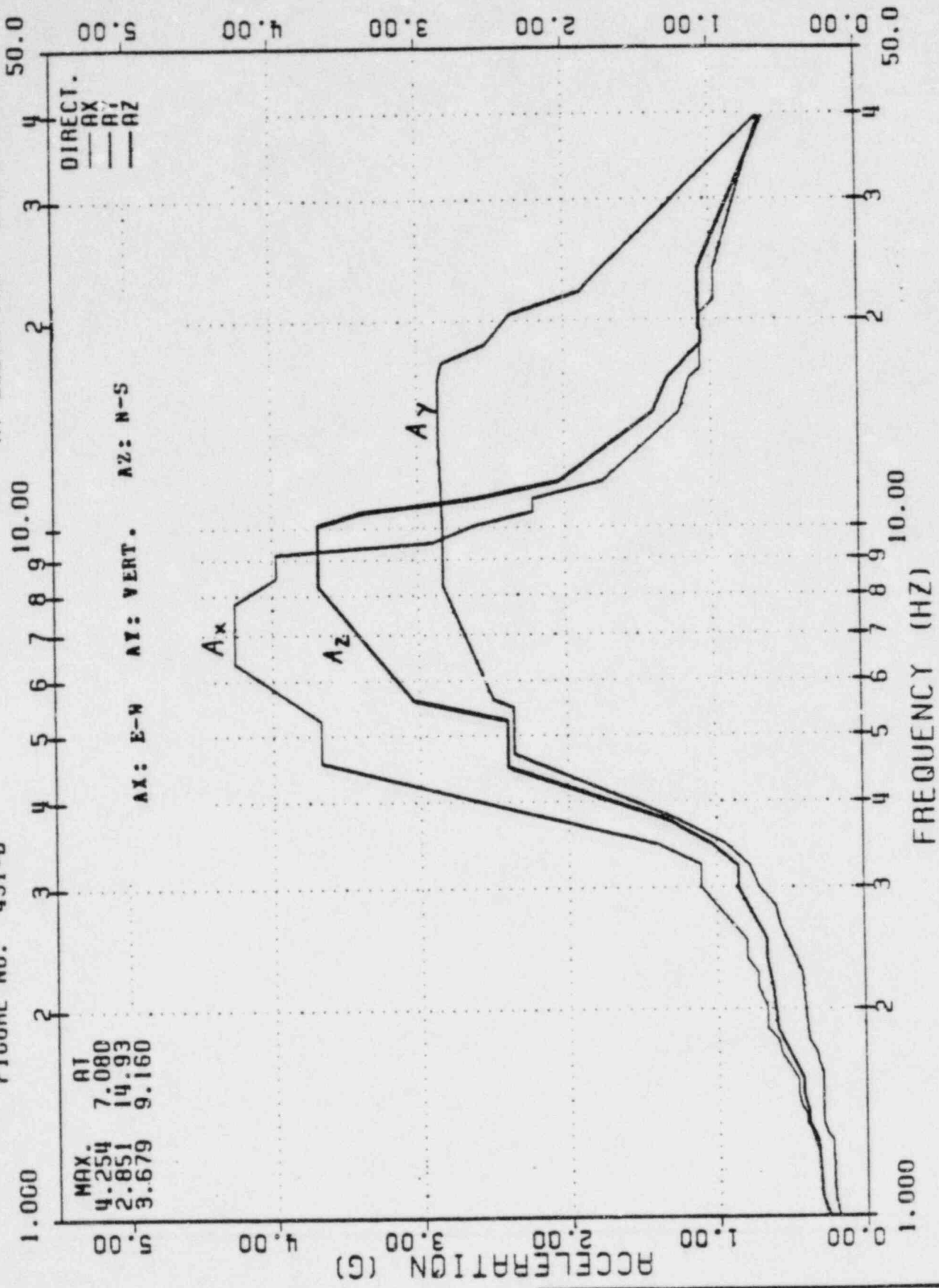


TUSI-SAFEGUARDS BLDG.	
REFINED RESPONSE SPECTRA	
GIBBS & HILL, INC.	
ENGINEERS, DESIGNERS, CONSTRUCTORS	
JOB NO. 2323	FIGURE-1392-B

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11/69		ADP	WT		

TUSI-REFINED RESPONSE SPECTRA FOR SAFEGUARDS BLDG.  
 FLOOR RESPONSE SPECTRA FOR SSE;  
 FIGURE NO. 451-B

DAMPING = 0.03  
 AT ELEVATION 896.50 FEET

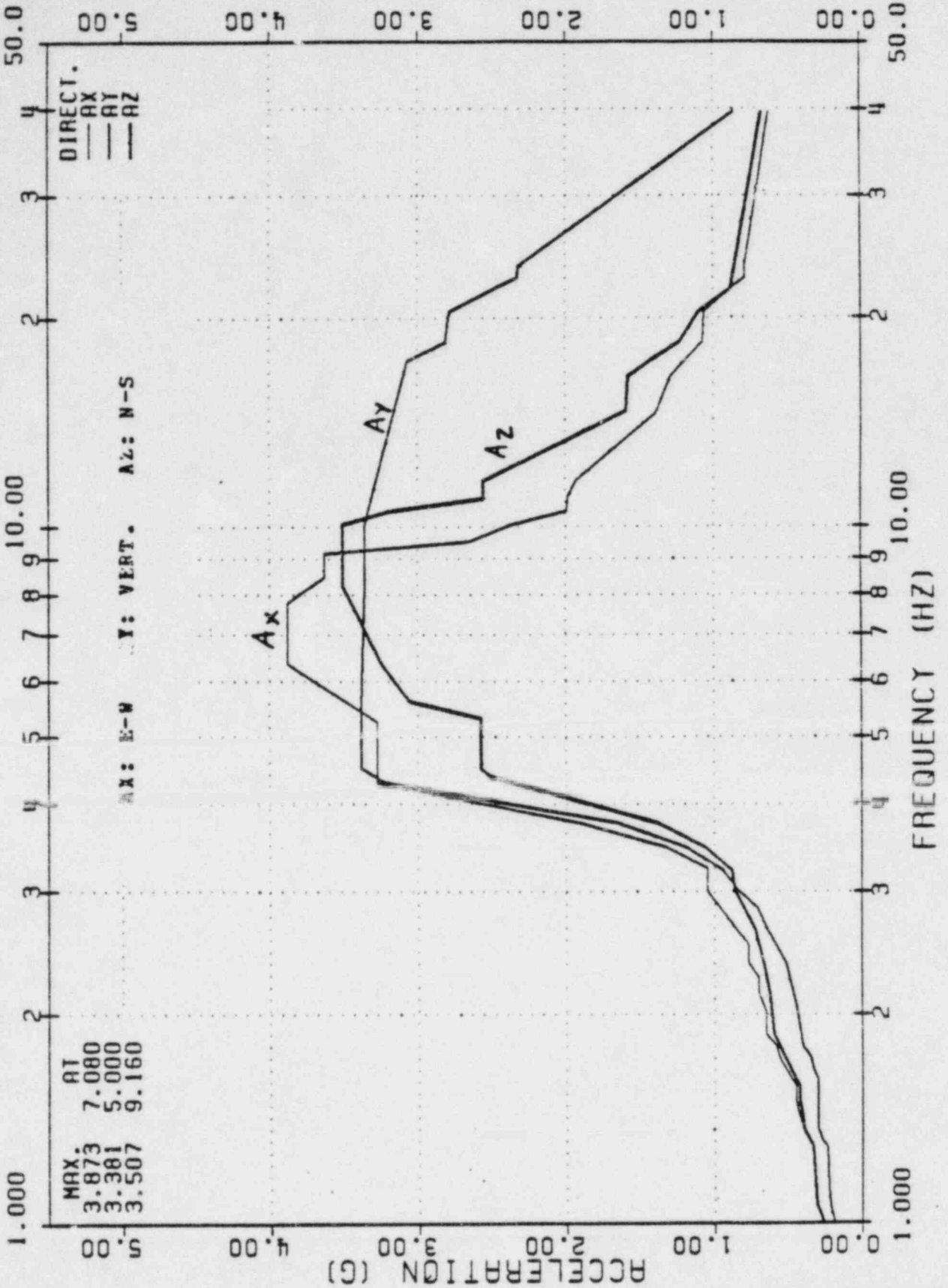


TUSI-SAFEGUARDS BLDG.	
REFINED RESPONSE SPECTRA	
GIBBS & HILL, INC. ENGINEERS, DESIGNERS, CONSTRUCTORS NEW YORK	
ISSUED FOR	JOB NO. 2323
FIGURE-451-B	

# TUSI-REFINED RESPONSE SPECTRA FOR SAFEGUARDS BLDG.

FLOOR RESPONSE SPECTRA FOR SSE;  
 FIGURE NO. 452-B

DAMPING = 0.03  
 AT ELEVATION 873.50 FEET



TUSI-SAFEGUARDS BLDG.	
REFINED RESPONSE SPECTRA	
GIBBS & HILL, INC. ENGINEERS, DESIGNERS, CONSTRUCTORS	
ISSUED FOR	JOB NO. 2323
FIGURE - 452-B	

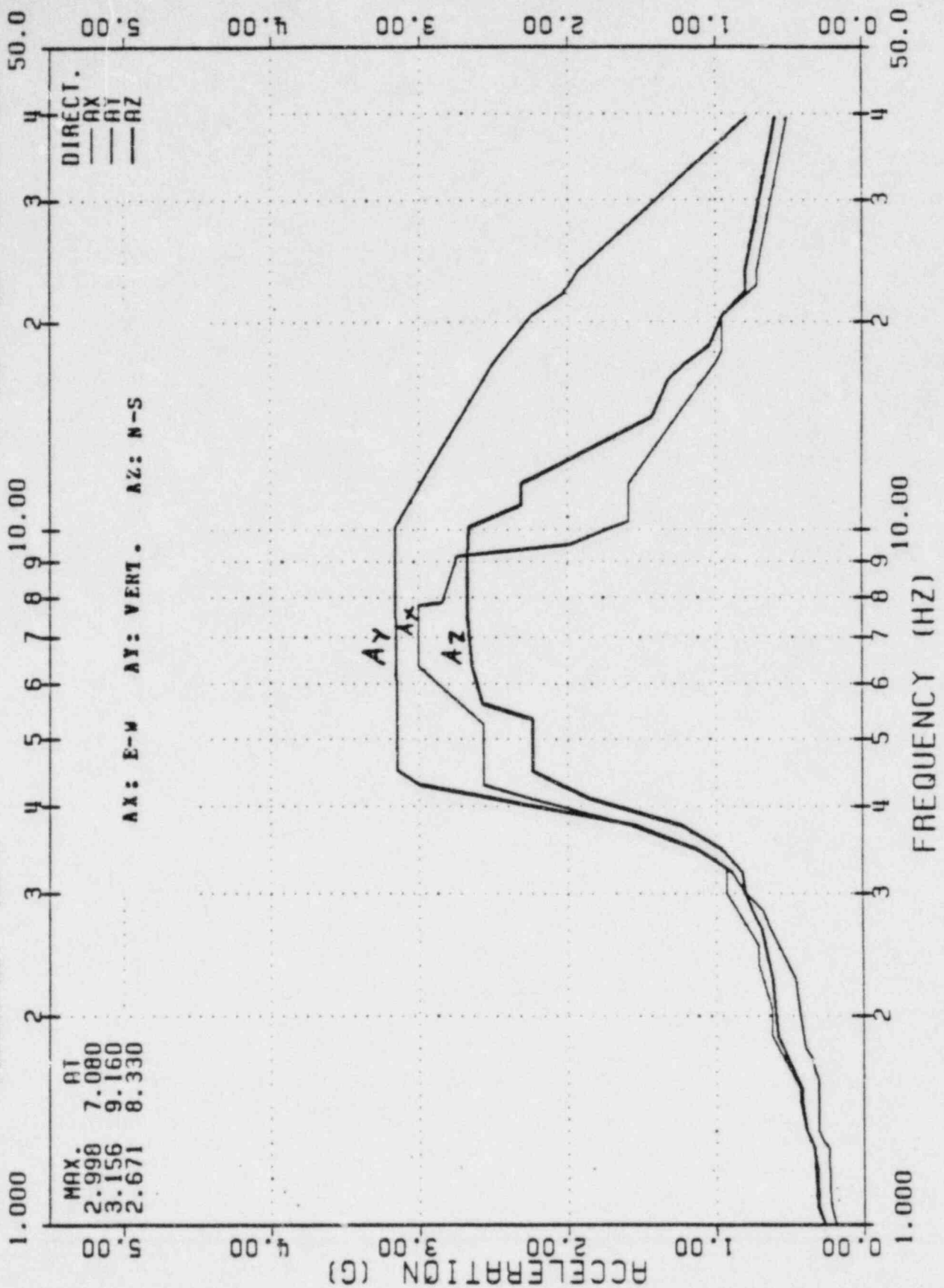
TUSI-REFINED RESPONSE SPECTRA FOR SAFEGUARDS BLDG.

FLOOR RESPONSE SPECTRA FOR SSE,

FIGURE NO. 453-B

DAMPING = 0.03

AT ELEVATION 852.50 FEET



MAX. AT  
 2.998 7.080  
 3.156 9.160  
 2.671 8.330

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

TUSI-SAFEGUARDS BLDG.

REFINED RESPONSE SPECTRA

GIBBS & HILL, INC.  
 ENGINEERS, DESIGNERS, CONSTRUCTORS

JOB NO. 2323

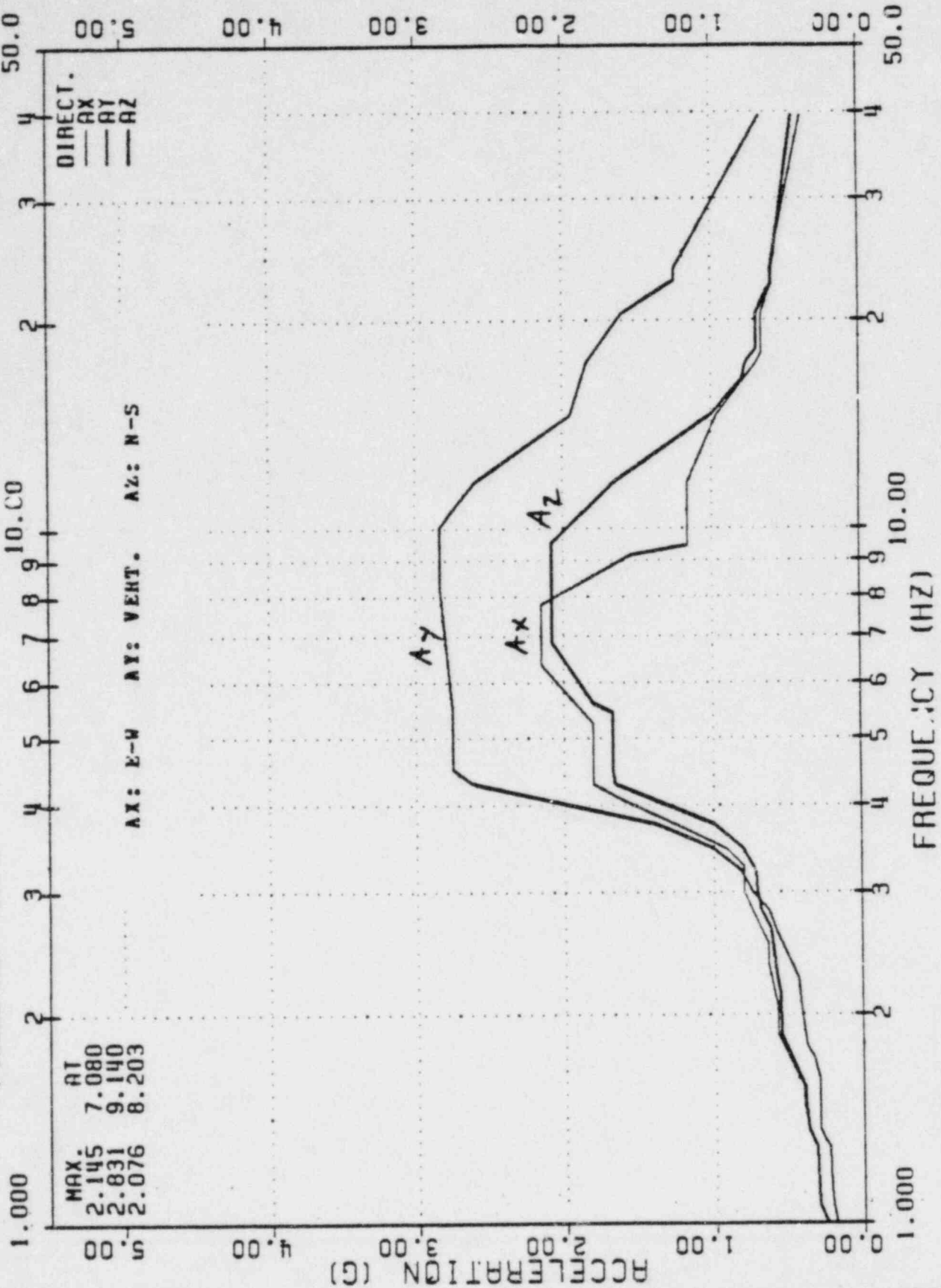
FIGURE-453-B

0 11/20/68 ADP WY

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ISSUED FOR

TUSI-REFINED RESPONSE SPECTRA FOR SAFEGUARDS BLDG.  
 FLOOR RESPONSE SPECTRA FOR SSE;  
 DAMPING = 0.03  
 AT ELEVATION 831.50 FEET  
 FIGURE NO. 454-B

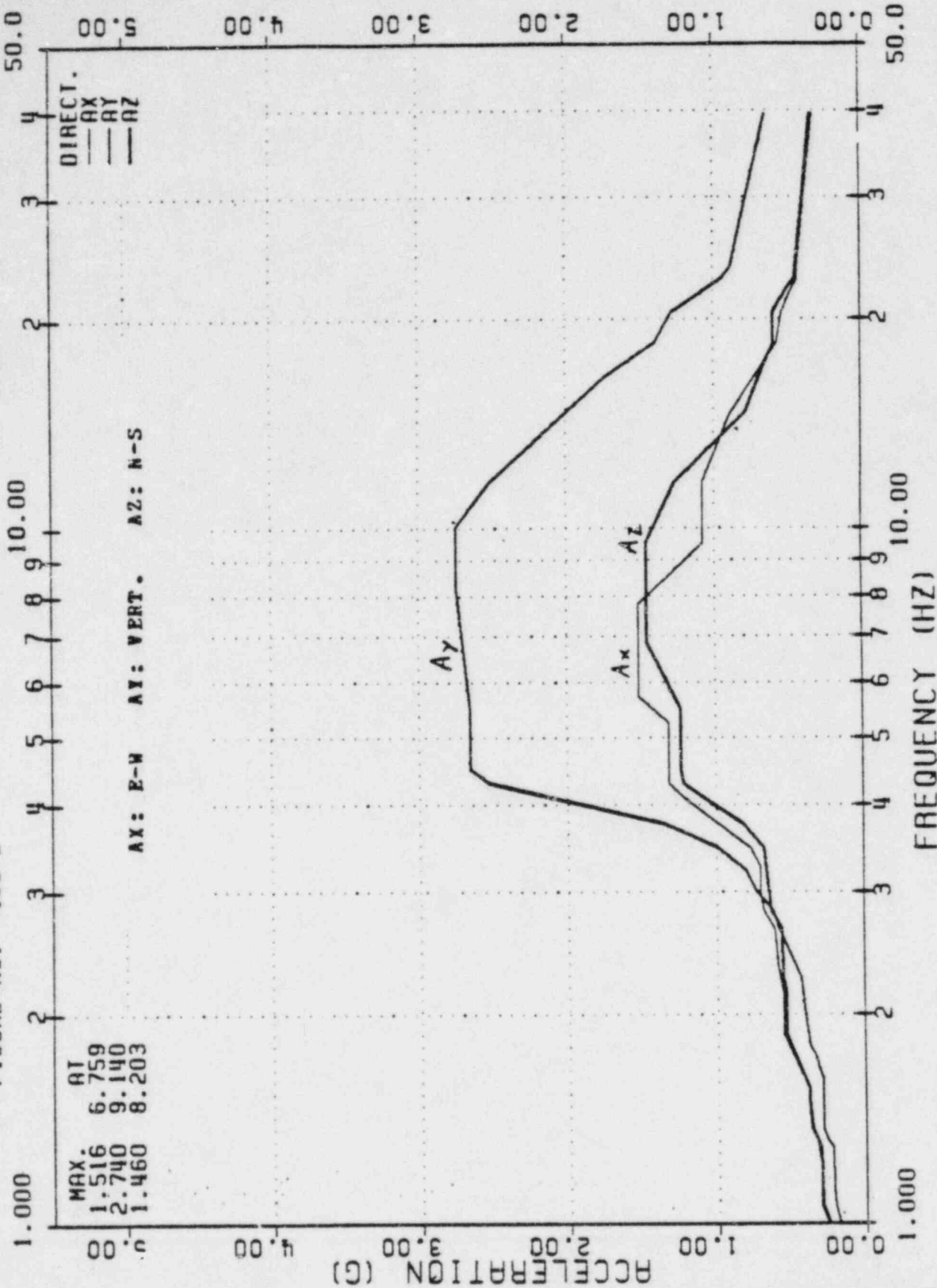


TUSI-SAFEGUARDS BLDG.	
REFINED RESPONSE SPECTRA	
GIBBS & HILL, INC. ENGINEERS, DESIGNERS, CONSTRUCTORS	
ISSUED FOR	JOB NO. 2323
FIGURE-454-B	

# TUSI-REFINED RESPONSE SPECTRA FOR SAFEGUARDS BLDG.

FLOOR RESPONSE SPECTRA FOR SSE;  
FIGURE NO. 455-B

DAMPING = 0.03  
AT ELEVATION 810.50 FEET



MAX. AT  
1.516 6.759  
2.740 9.140  
1.460 8.203

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

DIRECT.  
— AX  
— AY  
— AZ

TUSI-SAFEGUARDS BLDG.

REFINED RESPONSE SPECTRA

GIBBS & HILL, INC.

ENGINEERS, DESIGNERS, CONSTRUCTORS

REV. 10/60

FIGURE-455-B

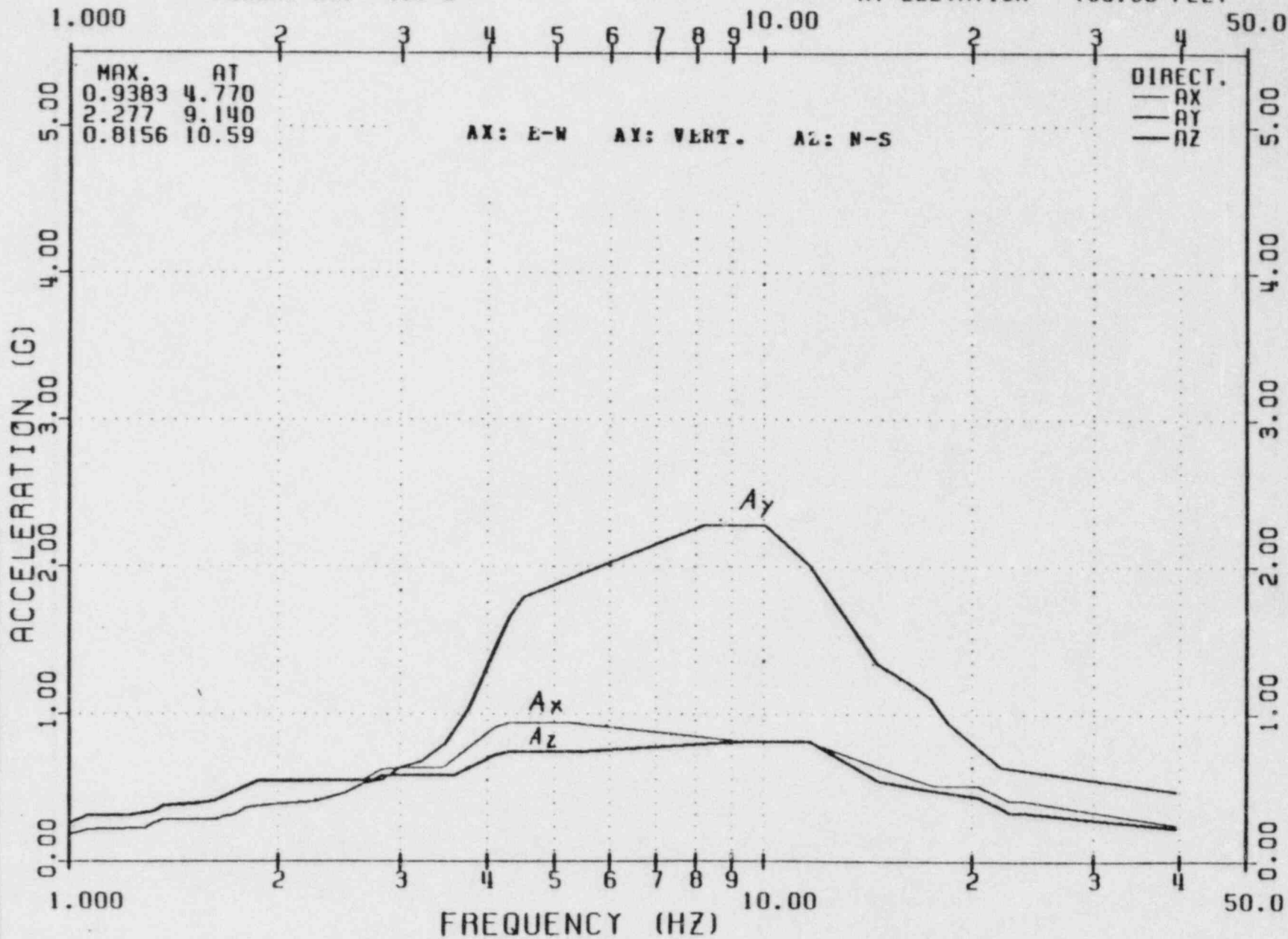
ISSUE NO. DATE PLTD. CHKD. 900.

CON. SYM. TECH. SPEC. RES. ST. BLDG. DIV. P.A.

ISSUED FOR

JOB NO. 2323

TUSI-REFINED RESPONSE SPECTRA FOR SAFEGUARDS BLDG.  
 FLOOR RESPONSE SPECTRA FOR SSE, DAMPING = 0.03  
 FIGURE NO. 456-B AT ELEVATION 790.50 FEET



TUSI-SAFEGUARDS BLDG.

REFINED RESPONSE SPECTRA

GIBBS & HILL, INC.

ENGINEERS, DESIGNERS, CONSTRUCTORS

JOB NO. 2323

FIGURE-456-B

ISSUED FOR

APPROVED

DATE

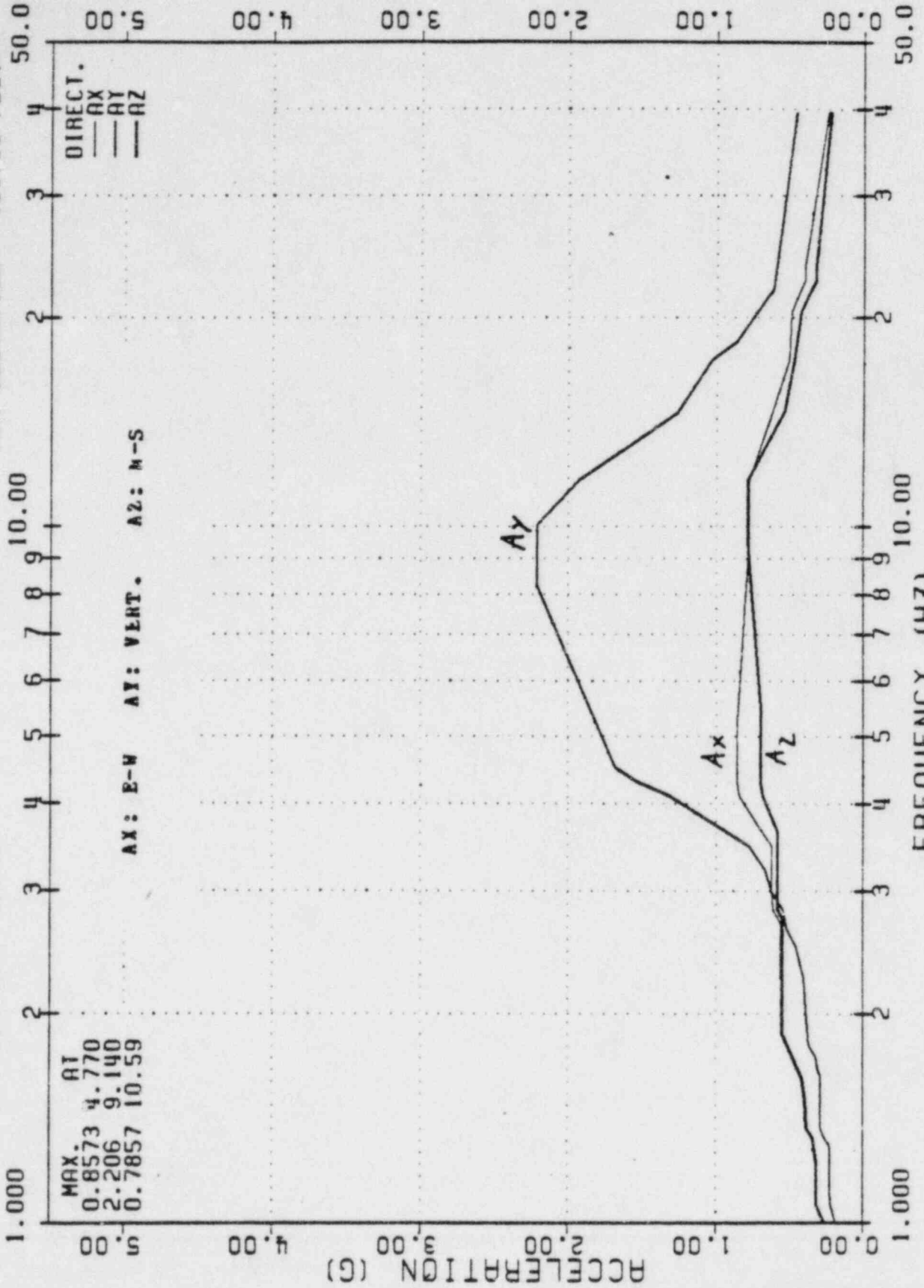
17-48

TUSI-REFINED RESPONSE SPECTRA FOR SAFEGUARDS BLDG.

FLOOR RESPONSE SPECTRA FOR SSE;  
FIGURE NO. 457-B

DAMPING = 0.03

AT ELEVATION 785.50 FEET



TUSI-SAFEGUARDS BLDG.	
REFINED RESPONSE SPECTRA	
GIBBS & HILL, INC. ENGINEERS, DESIGNERS, CONSTRUCTORS	
ISSUED FOR	JOB NO. 2523
FIGURE-457-B	

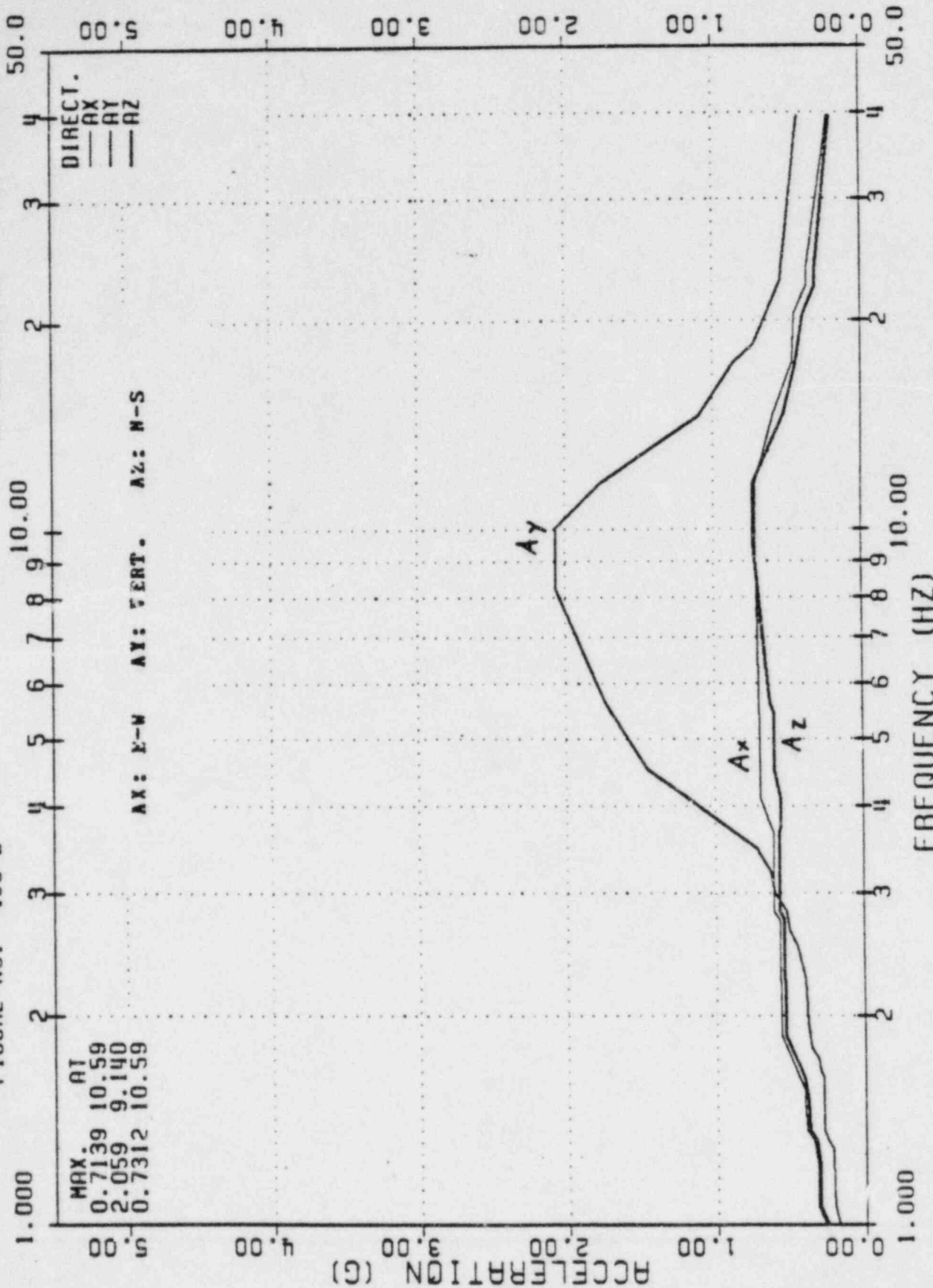
ISSUE NO.	DATE PLD. CHNG.	BY	APPROVALS



# TUSI-REFINED RESPONSE SPECTRA FOR SAFEGUARDS BLDG.

FLOOR RESPONSE SPECTRA FOR SSE;  
 FIGURE NO. 458-B

DAMPING = 0.03  
 AT ELEVATION 773.50 FEET



TUSI-SAFEGUARDS BLDG.

REFINED RESPONSE SPECTRA

GIBBS & HILL, INC.  
 ENGINEERS, DESIGNERS, CONSTRUCTORS

FIGURE-458-3

JOB NO. 2323

ISSUED FOR

ISSUE NO. DATE PLTD. CWD. LOR. MOD. STRUCT. MECH. ELEC. MEAS. INSTR. ENGR. P.E. APPROVALS

TUSI-REFINED RESPONSE SPECTRA FOR SAFEGUARDS BLDG.;  
 FLOOR RESPONSE SPECTRA FOR 1/2 SSE; COMPONENT AX; DAMPING = 0.01  
 FIGURE NO. 1409-B DIRECTION 1 AT ELEVATION 896.50 FEET

SET NO. = 1  
 NO. OF SPECTRA = 1

BROADENED SPECTRUM FOR NODE=1409			DEGREE OF FREEDOM = 1			NUMBER OF GRIDS = 37			DAMPING VALUE = 0.010		
1	0.9000	0.14538	2	0.9450	0.15046	3	1.0108	0.15046	4	1.0620	0.21172
5	1.1250	0.23630	6	1.3057	0.23630	7	1.3680	0.32232	8	1.4040	0.32924
9	1.6735	0.32924	10	1.7280	0.41244	11	1.8000	0.43376	12	1.8720	0.49944
13	1.9530	0.50966	14	2.0745	0.50966	15	2.1420	0.59374	16	2.5227	0.59374
17	2.6460	0.61600	18	2.8170	0.74958	19	2.9970	0.86280	20	3.3107	0.86280
21	3.7530	1.50382	22	4.0950	2.24268	23	4.5420	3.83232	24	5.2470	3.83232
25	6.3720	4.33686	26	7.7880	4.33686	27	9.1630	3.88526	28	10.5270	2.43864
29	11.6490	1.29832	30	14.5530	0.97472	31	16.4230	0.88786	32	16.6053	0.88786
33	16.6950	0.89764	34	20.4050	0.89764	35	21.3947	0.85412	36	23.7050	0.85412
37	39.5000	0.48880									

TUSI-REFINED RESPONSE SPECTRA FOR SAFEGUARDS BLDG.;  
 FLOOR RESPONSE SPECTRA FOR 1/2 SSE; COMPONENT AX; DAMPING = 0.01  
 FIGURE NO. 1410-B DIRECTION 1 AT ELEVATION 873.50 FEET

SET NO. = 2  
 NO. OF SPECTRA = 1

BROADENED SPECTRUM FOR NODE=1410			DEGREE OF FREEDOM = 1			NUMBER OF GRIDS = 37			DAMPING VALUE = 0.010		
1	0.9000	0.14380	2	0.9450	0.14864	3	1.0108	0.14864	4	1.0620	0.20930
5	1.1250	0.23144	6	1.3050	0.23144	7	1.3680	0.32040	8	1.4040	0.32566
9	1.6751	0.32566	10	1.7280	0.40280	11	1.8720	0.48924	12	1.9530	0.49884
13	2.0760	0.49884	14	2.1420	0.57560	15	2.5666	0.57560	16	2.6460	0.59274
17	2.8170	0.71188	18	2.9970	0.81768	19	3.3298	0.81768	20	3.4650	0.97150
21	3.7530	1.38136	22	4.0950	2.02218	23	4.4380	3.42834	24	5.2470	3.42834
25	6.3720	3.94510	26	7.7880	3.94510	27	9.1630	3.52488	28	10.5270	2.17094
29	11.0000	1.68640	30	14.6630	1.08770	31	16.4230	1.07946	32	17.3470	0.98708
33	17.9978	0.85080	34	20.4050	0.85080	35	22.7088	0.57060	36	23.7050	0.57060
37	39.5000	0.38391									

TUSI-REFINED RESPONSE SPECTRA FOR SAFEGUARDS BLDG.;  
 FLOOR RESPONSE SPECTRA FOR 1/2 SSE; COMPONENT AX; DAMPING = 0.01  
 FIGURE NO. 1411-B DIRECTION 1 AT ELEVATION 852.50 FEET

SET NO. = 3  
 NO. OF SPECTRA = 1

BROADENED SPECTRUM FOR NODE=1411			DEGREE OF FREEDOM = 1			NUMBER OF GRIDS = 36			DAMPING VALUE = 0.010		
1	0.9000	0.14074	2	0.9450	0.14558	3	1.0106	0.14558	4	1.0620	0.20468
5	1.1250	0.22382	6	1.3057	0.22382	7	1.3680	0.31326	8	1.4040	0.31728
9	1.6790	0.31728	10	1.7280	0.38298	11	1.8720	0.46576	12	1.9530	0.47490
13	2.0796	0.47490	14	2.1420	0.53996	15	2.6180	0.53996	16	2.6205	0.53734
17	2.6460	0.53734	18	2.8170	0.64108	19	2.9970	0.72756	20	3.3594	0.72756
21	3.4650	0.81474	22	3.7530	1.14650	23	4.0950	1.62364	24	4.3790	2.69490
25	5.2470	2.69490	26	6.3720	3.04048	27	7.7880	3.04048	28	9.1630	2.63722
29	10.5270	1.51108	30	11.0000	1.26902	31	11.6490	1.24878	32	14.5530	1.05688
33	16.8241	0.83198	34	20.4050	0.83198	35	22.0000	0.65176	36	39.5000	0.32875

TUSI-REFINED RESPONSE SPECTRA FOR SAFEGUARDS BLDG.;  
 FLOOR RESPONSE SPECTRA FOR 1/2 SSE; COMPONENT AX; DAMPING = 0.01  
 FIGURE NO. 1412-B DIRECTION 1 AT ELEVATION 831.50 FEET

SET NO. = 4  
 NO. OF SPECTRA = 1

BROADENED SPECTRUM FOR NODE=1412 DEGREE OF FREEDOM = 1 NUMBER OF GRIDS = 37 DAMPING VALUE = 0.010

1	0.9000	0.13746	2	0.9450	0.14234	3	1.0100	0.14234	4	1.0620	0.19970
5	1.1250	0.21552	6	1.3066	0.21552	7	1.3680	0.30418	8	1.4040	0.30742
9	1.6846	0.30742	10	1.7280	0.36220	11	1.8720	0.44080	12	1.9530	0.44816
13	2.0870	0.44816	14	2.1420	0.49918	15	2.6180	0.49918	16	2.6347	0.48282
17	2.6460	0.48282	18	2.8170	0.56292	19	2.9970	0.63916	20	3.4668	0.63916
21	4.0950	1.18490	22	4.2930	1.88088	23	5.2470	1.88088	24	6.3720	2.17580
25	7.7880	2.17580	26	9.1630	1.44062	27	9.5260	0.97948	28	9.6552	0.92446
29	10.5270	0.92446	30	14.5530	0.85178	31	14.6630	0.83106	32	15.9984	0.58246
33	16.6950	0.58246	34	18.0000	0.64424	35	22.0000	0.64424	36	23.7050	0.60492
37	39.5000	0.26318									

TUSI-REFINED RESPONSE SPECTRA FOR SAFEGUARDS BLDG.; SET NO. = 5  
 FLOOR RESPONSE SPECTRA FOR 1/2 SSE; COMPONENT AX; DAMPING = 0.01  
 FIGURE NO. 1413-B DIRECTION 1 AT ELEVATION 810.50 FEET NO. OF SPECTRA = 1

BROADENED SPECTRUM FOR NODE=1413			DEGREE OF FREEDOM = 1		NUMBER OF GRIDS = 35		DAMPING VALUE = 0.010				
1	0.9000	0.14076	2	0.9450	0.14598	3	1.0090	0.14598	4	1.0620	0.20616
5	1.1250	0.21274	6	1.3127	0.21274	7	1.3230	0.22520	8	1.3680	0.30683
9	1.4040	0.30728	10	1.6951	0.30728	11	1.7280	0.34430	12	1.8720	0.42216
13	1.9530	0.42858	14	2.0936	0.42858	15	2.1420	0.46900	16	2.6810	0.46900
17	2.8170	0.50228	18	2.9970	0.57568	19	3.5610	0.57568	20	3.7530	0.70766
21	4.0950	0.87012	22	4.2930	1.31594	23	5.2470	1.31594	24	5.5889	1.51340
25	7.7880	1.51340	26	9.5310	0.85374	27	11.6490	0.85374	28	14.5530	0.77466
29	16.4230	0.45598	30	17.7355	0.42312	31	20.4050	0.42312	32	22.0000	0.40400
33	22.6687	0.36626	34	23.7050	0.36626	35	39.5000	0.19465			

TUSI-REFINED RESPONSE SPECTRA FOR SAFEGUARDS BLDG.; SET NO. = 6  
 FLOOR RESPONSE SPECTRA FOR 1/2 SSE; COMPONENT AX; DAMPING = 0.01  
 FIGURE NO. 1414-B DIRECTION 1 AT ELEVATION 790.50 FEET NO. OF SPECTRA = 1

BROADENED SPECTRUM FOR NODE=1414			DEGREE OF FREEDOM = 1		NUMBER OF GRIDS = 32		DAMPING VALUE = 0.010				
1	0.9000	0.14412	2	0.9450	0.14942	3	1.0075	0.14942	4	1.0620	0.21336
5	1.1250	0.21836	6	1.3127	0.21836	7	1.3230	0.23086	8	1.3680	0.31484
9	1.4040	0.31542	10	1.6986	0.31542	11	1.7280	0.34742	12	1.8720	0.42518
13	1.9530	0.43226	14	2.1141	0.43226	15	2.1420	0.45328	16	2.8094	0.45328
17	2.8170	0.45474	18	2.9970	0.52032	19	3.6823	0.52032	20	3.7530	0.55578
21	4.0950	0.63316	22	4.2930	0.88776	23	5.2470	0.88776	24	11.6490	0.63976
25	14.5530	0.51266	26	14.6630	0.50532	27	15.5974	0.42350	28	20.4050	0.42350
29	22.0000	0.34236	30	22.3240	0.30562	31	23.7050	0.30562	32	39.5000	0.16612

TUSI-REFINED RESPONSE SPECTRA FOR SAFEGUARDS BLDG.; SET NO. = 7  
 FLOOR RESPONSE SPECTRA FOR 1/2 SSE; COMPONENT AX; DAMPING = 0.01  
 FIGURE NO. 1415-B DIRECTION 1 AT ELEVATION 785.50 FEET NO. OF SPECTRA = 1

BROADENED SPECTRUM FOR NODE=1415			DEGREE OF FREEDOM = 1		NUMBER OF GRIDS = 34		DAMPING VALUE = 0.010				
1	0.9000	0.14514	2	0.9450	0.15050	3	1.0076	0.15050	4	1.0620	0.21470
5	1.1250	0.21974	6	1.3125	0.21974	7	1.3230	0.23270	8	1.3680	0.31710
9	1.4040	0.31770	10	1.6987	0.31770	11	1.7280	0.34996	12	1.8720	0.42812
13	1.9530	0.43554	14	2.1141	0.43554	15	2.1420	0.45668	16	2.6180	0.45668
17	2.6317	0.45668	18	2.8170	0.45668	19	2.9970	0.50728	20	3.7209	0.50728
21	3.7530	0.52208	22	4.0950	0.58154	23	4.2930	0.79746	24	5.2470	0.79746
25	11.6490	0.61072	26	14.5530	0.49326	27	14.6630	0.48694	28	15.6808	0.40230
29	20.4050	0.40230	30	22.0000	0.32566	31	22.2777	0.29660	32	23.7050	0.29660
33	38.0623	0.16630	34	39.5000	0.16630						

TUSI-REFINED RESPONSE SPECTRA FOR SAFEGUARDS BLDG.; SET NO. = 8  
 FLOOR RESPONSE SPECTRA FOR 1/2 SSE; COMPONENT AX; DAMPING = 0.01

FIGURE NO. 1416-B      DIRECTION 1      AT ELEVATION 773.50 FEET      NO. OF SPECTRA = 1

BROADENED SPECTRUM FOR NODE=1416      DEGREE OF FREEDOM = 1      NUMBER OF GRIDS = 35      DAMPING VALUE = 0.010

1	0.9000	0.14818	2	0.9450	0.15374	3	1.0077	0.15374	4	1.0620	0.21872
5	1.1250	0.22400	6	1.3121	0.22400	7	1.3230	0.23806	8	1.3680	0.32382
9	1.4040	0.32450	10	1.6988	0.32450	11	1.7280	0.35742	12	1.8720	0.43680
13	1.9530	0.44498	14	2.1140	0.44498	15	2.1420	0.46668	16	2.6180	0.46668
17	2.6484	0.46668	18	2.8170	0.46668	19	2.9970	0.49704	20	3.6630	0.49704
21	3.7438	0.49704	22	3.7530	0.49704	23	4.0950	0.49704	24	4.2930	0.61508
25	5.2470	0.61508	26	11.6490	0.57140	27	14.5530	0.47424	28	14.6630	0.46854
29	16.1220	0.35158	30	20.4050	0.35158	31	22.0000	0.28460	32	22.1642	0.27100
33	23.7050	0.27100	34	33.2937	0.18530	35	39.5000	0.18530			

TUSI-REFINED RESPONSE SPECTRA FOR SAFEGUARDS BLDG.;      SET NO. = 9  
 FLOOR RESPONSE SPECTRA FOR 1/2 SSE; COMPONENT AY; DAMPING = 0.01  
 FIGURE NO. 1409-B      DIRECTION 2      AT ELEVATION 896.50 FEET      NO. OF SPECTRA = 1

BROADENED SPECTRUM FOR NODE=1409      DEGREE OF FREEDOM = 2      NUMBER OF GRIDS = 32      DAMPING VALUE = 0.010

1	1.0000	0.10580	2	1.0052	0.10580	3	1.0620	0.15020	4	1.1250	0.15134
5	1.2742	0.15134	6	1.3230	0.16894	7	1.3680	0.22240	8	1.7106	0.22240
9	1.7280	0.23416	10	1.8000	0.27994	11	1.8720	0.29366	12	2.0373	0.29366
13	2.1420	0.31910	14	2.4323	0.31910	15	2.5020	0.36932	16	2.6460	0.38118
17	2.9970	0.57588	18	3.3605	0.57588	19	3.4650	0.63142	20	3.7530	0.98146
21	4.0950	1.25136	22	4.5450	2.23988	23	4.6160	2.28418	24	5.5000	2.28418
25	8.6130	2.69390	26	10.5270	2.69390	27	15.0750	2.95694	28	18.4250	2.95694
29	20.4050	2.06934	30	22.8690	1.74600	31	23.7050	1.59050	32	39.5000	0.57387

TUSI-REFINED RESPONSE SPECTRA FOR SAFEGUARDS BLDG.;      SET NO. = 10  
 FLOOR RESPONSE SPECTRA FOR 1/2 SSE; COMPONENT AY; DAMPING = 0.01  
 FIGURE NO. 1410-B      DIRECTION 2      AT ELEVATION 873.50 FEET      NO. OF SPECTRA = 1

BROADENED SPECTRUM FOR NODE=1410      DEGREE OF FREEDOM = 2      NUMBER OF GRIDS = 33      DAMPING VALUE = 0.010

1	0.9000	0.10200	2	0.9450	0.10218	3	1.0012	0.10218	4	1.0620	0.14706
5	1.1250	0.15036	6	1.2625	0.15036	7	1.3230	0.17434	8	1.3680	0.22408
9	1.6998	0.22408	10	1.7280	0.24424	11	1.8000	0.29188	12	1.8720	0.30958
13	2.0651	0.30958	14	2.1420	0.34250	15	2.4116	0.34250	16	2.5020	0.41148
17	2.6460	0.43442	18	2.9970	0.66064	19	3.2875	0.66064	20	3.4650	0.82602
21	4.0950	1.82616	22	4.2930	3.34458	23	4.5000	3.37630	24	5.5000	3.37630
25	8.6130	3.18408	26	10.5270	3.18408	27	15.0750	3.18058	28	18.4250	3.18058
29	20.0085	2.60014	30	22.0000	2.60014	31	22.8690	2.50148	32	23.7050	2.22054
33	39.5000	0.72874									

TUSI-REFINED RESPONSE SPECTRA FOR SAFEGUARDS BLDG.;      SET NO. = 11  
 FLOOR RESPONSE SPECTRA FOR 1/2 SSE; COMPONENT AY; DAMPING = 0.01  
 FIGURE NO. 1411-B      DIRECTION 2      AT ELEVATION 852.50 FEET      NO. OF SPECTRA = 1

BROADENED SPECTRUM FOR NODE=1411      DEGREE OF FREEDOM = 2      NUMBER OF GRIDS = 33      DAMPING VALUE = 0.010

1	0.9000	0.10126	2	0.9450	0.10130	3	1.0014	0.10130	4	1.0620	0.14624
5	1.1250	0.14934	6	1.2673	0.14934	7	1.3230	0.17116	8	1.3680	0.22184
9	1.7009	0.22184	10	1.7280	0.24080	11	1.8000	0.28864	12	1.8720	0.30490
13	2.0339	0.30490	14	2.1420	0.33230	15	2.4128	0.33230	16	2.5020	0.39666
17	2.6460	0.41964	18	2.9970	0.63218	19	3.2953	0.63218	20	3.4650	0.77624
21	4.0950	1.70000	22	4.2930	3.10870	23	4.5000	3.14260	24	5.5000	3.14260
25	8.6130	2.98344	26	10.5270	2.98344	27	15.0750	2.51156	28	18.4250	2.51156
29	19.8848	2.15500	30	22.0000	2.15500	31	22.8690	2.07800	32	23.7050	1.83446
33	39.5000	0.59278									

TUSI-REFINED RESPONSE SPECTRA FOR SAFEGUARDS BLDG.; SET NO. = 12  
 FLOOR RESPONSE SPECTRA FOR 1/2 SSE; COMPONENT AY; DAMPING = 0.01  
 FIGURE NO. 1412-B DIRECTION 2 AT ELEVATION 831.50 FEET NO. OF SPECTRA = 1

BROADENED SPECTRUM FOR NODE=1412 DEGREE OF FREEDOM = 2 NUMBER OF GRIDS = 28 DAMPING VALUE = 0.010

1	0.9000	0.10044	2	1.0018	0.10044	3	1.0620	0.14474	4	1.1250	0.14732
5	1.2703	0.14732	6	1.3230	0.16676	7	1.3680	0.21972	8	1.7061	0.21972
9	1.8000	0.27996	10	1.8720	0.29366	11	2.0260	0.29366	12	2.1420	0.32048
13	2.4194	0.32048	14	2.5020	0.37634	15	2.6460	0.39430	16	2.9970	0.59096
17	3.3115	0.59096	18	3.4650	0.69912	19	4.0950	1.48982	20	4.2930	2.70352
21	4.5000	2.73810	22	5.5000	2.73810	23	8.6130	2.65744	24	10.5270	2.65744
25	18.4250	1.69746	26	22.8690	1.29426	27	23.7050	1.12578	28	39.5000	0.45008

TUSI-REFINED RESPONSE SPECTRA FOR SAFEGUARDS BLDG.; SET NO. = 13  
 FLOOR RESPONSE SPECTRA FOR 1/2 SSE; COMPONENT AY; DAMPING = 0.01  
 FIGURE NO. 1413-B DIRECTION 2 AT ELEVATION 810.50 FEET NO. OF SPECTRA = 1

BROADENED SPECTRUM FOR NODE=1413 DEGREE OF FREEDOM = 2 NUMBER OF GRIDS = 32 DAMPING VALUE = 0.010

1	1.0000	0.10104	2	1.0024	0.10104	3	1.0620	0.14494	4	1.1250	0.14586
5	1.2673	0.14586	6	1.3230	0.16648	7	1.3680	0.21968	8	1.7088	0.21968
9	1.8000	0.27968	10	1.8720	0.29242	11	2.0315	0.29242	12	2.1420	0.31772
13	2.4205	0.31772	14	2.5020	0.37352	15	2.6460	0.38918	16	2.9970	0.58192
17	3.3172	0.58192	18	3.4650	0.68296	19	4.0950	1.43992	20	4.2930	2.60038
21	4.5000	2.63868	22	5.5000	2.63868	23	8.6130	2.55092	24	10.5270	2.55092
25	14.5530	1.66366	26	14.6630	1.64042	27	16.4230	1.15640	28	20.4050	1.15244
29	22.0000	0.88688	30	22.8690	0.84504	31	23.7050	0.74136	32	39.5000	0.39196

TUSI-REFINED RESPONSE SPECTRA FOR SAFEGUARDS BLDG.; SET NO. = 14  
 FLOOR RESPONSE SPECTRA FOR 1/2 SSE; COMPONENT AY; DAMPING = 0.01  
 FIGURE NO. 1414-B DIRECTION 2 AT ELEVATION 790.50 FEET NO. OF SPECTRA = 1

BROADENED SPECTRUM FOR NODE=1414 DEGREE OF FREEDOM = 2 NUMBER OF GRIDS = 34 DAMPING VALUE = 0.010

1	1.0000	0.10528	2	1.0067	0.10528	3	1.0620	0.14882	4	1.1250	0.14926
5	1.2722	0.14926	6	1.3230	0.16776	7	1.3680	0.21904	8	1.7167	0.21904
9	1.8000	0.27280	10	1.8720	0.28166	11	2.0412	0.28166	12	2.1420	0.30266
13	2.4385	0.30266	14	2.5020	0.34266	15	2.6460	0.35078	16	2.9970	0.52022
17	3.4563	0.52022	18	3.4650	0.52308	19	3.7530	0.81018	20	4.0950	0.94318
21	4.2930	1.63046	22	4.5000	1.69684	23	5.5000	1.69684	24	8.6130	2.13744
25	10.5270	2.13744	26	11.0000	1.75290	27	11.6490	1.46678	28	14.5530	1.07536
29	16.4230	0.85142	30	17.3470	0.81682	31	20.4050	0.62072	32	22.8690	0.40964
33	23.7050	0.40828	34	39.5000	0.28408						

TUSI-REFINED RESPONSE SPECTRA FOR SAFEGUARDS BLDG.; SET NO. = 15  
 FLOOR RESPONSE SPECTRA FOR 1/2 SSE; COMPONENT AY; DAMPING = 0.01  
 FIGURE NO. 1415-B DIRECTION 2 AT ELEVATION 785.50 FEET NO. OF SPECTRA = 1

BROADENED SPECTRUM FOR NODE=1415 DEGREE OF FREEDOM = 2 NUMBER OF GRIDS = 34 DAMPING VALUE = 0.010

1	1.0000	0.10512	2	1.0067	0.10512	3	1.0620	0.14810	4	1.1250	0.14854
5	1.2723	0.14854	6	1.3230	0.16686	7	1.3680	0.21840	8	1.7173	0.21840
9	1.8000	0.27146	10	1.8720	0.28038	11	2.0453	0.28038	12	2.1420	0.30034
13	2.4409	0.30034	14	2.5020	0.33858	15	2.6460	0.34574	16	2.9970	0.51258
17	3.4736	0.51258	18	3.7530	0.78262	19	4.0950	0.88074	20	4.2930	1.50536
21	4.5000	1.57742	22	5.5000	1.57742	23	8.6130	2.06900	24	10.5270	2.06900
25	11.0000	1.69104	26	11.6490	1.40398	27	16.4230	0.78896	28	17.3470	0.75280
29	18.4250	0.63972	30	20.4050	0.55510	31	22.0000	0.42798	32	22.7173	0.36914
33	23.7050	0.36914	34	39.5000	0.26709						

TUSI-REFINED RESPONSE SPECTRA FOR SAFEGUARDS BLDG. ;  
 FLOOR RESPONSE SPECTRA FOR 1/2 SSE; COMPONENT AY ; DAMPING = 0.01  
 FIGURE NO. 1416-B DIRECTION 2 AT ELEVATION 773.50 FEET

SET NO. = 16  
 NO. OF SPECTRA = 1

BROADENED SPECTRUM FOR NODE=1416				DEGREE OF FREEDOM = 2		NUMBER OF GRIDS = 35		DAMPING VALUE = 0.010			
1	1.0000	0.10430	2	1.0068	0.10430	3	1.0620	0.14568	4	1.1250	0.14612
5	1.2725	0.14612	6	1.3230	0.16396	7	1.3680	0.21576	8	1.7166	0.21576
9	1.8000	0.26864	10	1.8720	0.27792	11	2.0549	0.27792	12	2.1420	0.29560
13	2.4457	0.29560	14	2.5020	0.33042	15	2.6460	0.33556	16	2.9970	0.49736
17	3.4988	0.49736	18	3.7530	0.72732	19	4.0950	0.75012	20	4.2930	1.23862
21	4.5000	1.32496	22	5.5507	1.32496	23	5.6250	1.38566	24	8.6130	1.92600
25	10.5270	1.92600	26	11.0000	1.56276	27	11.6490	1.27638	28	14.5530	0.82122
29	17.3470	0.62276	30	18.4250	0.49872	31	20.4050	0.43420	32	22.0000	0.35474
33	22.6652	0.31522	34	23.7050	0.31522	35	39.5000	0.23831			

TUSI-REFINED RESPONSE SPECTRA FOR SAFEGUARDS BLDG. ;  
 FLOOR RESPONSE SPECTRA FOR 1/2 SSE; COMPONENT AZ ; DAMPING = 0.01  
 FIGURE NO. 1409-B DIRECTION 3 AT ELEVATION 896.50 FEET

SET NO. = 17  
 NO. OF SPECTRA = 1

BROADENED SPECTRUM FOR NODE=1409				DEGREE OF FREEDOM = 3		NUMBER OF GRIDS = 34		DAMPING VALUE = 0.010			
1	0.9000	0.14012	2	0.9450	0.14572	3	1.0105	0.14572	4	1.0620	0.20238
5	1.1250	0.20860	6	1.3063	0.20860	7	1.3230	0.22746	8	1.3680	0.31130
9	1.6809	0.31130	10	1.7280	0.37192	11	1.8720	0.44780	12	1.9530	0.45354
13	2.0794	0.45354	14	2.1420	0.51848	15	2.6180	0.51848	16	2.6317	0.50334
17	2.6460	0.50334	18	2.8170	0.59990	19	2.9970	0.66456	20	3.4039	0.66456
21	3.4650	0.69990	22	3.7530	0.96642	23	4.0950	1.38224	24	4.5200	2.38082
25	5.5316	2.38082	26	5.6250	2.55092	27	7.4970	3.39182	28	8.2260	4.45126
29	8.6130	4.49072	30	10.1360	4.49072	31	11.0000	2.53370	32	19.3950	1.16362
33	23.7050	1.16362	34	39.5000	0.52073						

TUSI-REFINED RESPONSE SPECTRA FOR SAFEGUARDS BLDG. ;  
 FLOOR RESPONSE SPECTRA FOR 1/2 SSE; COMPONENT AZ ; DAMPING = 0.01  
 FIGURE NO. 1410-B DIRECTION 3 AT ELEVATION 873.50 FEET

SET NO. = 18  
 NO. OF SPECTRA = 1

BROADENED SPECTRUM FOR NODE=1410				DEGREE OF FREEDOM = 3		NUMBER OF GRIDS = 39		DAMPING VALUE = 0.010			
1	0.9000	0.14206	2	0.9450	0.14694	3	1.0085	0.14694	4	1.0620	0.20546
5	1.1250	0.21096	6	1.3056	0.21096	7	1.3230	0.23034	8	1.3680	0.31352
9	1.6816	0.31352	10	1.7280	0.37246	11	1.8720	0.44968	12	1.9530	0.45140
13	2.0776	0.45140	14	2.1420	0.51852	15	2.6180	0.51852	16	2.6253	0.51052
17	2.6460	0.51052	18	2.8170	0.59490	19	2.9970	0.67348	20	3.3871	0.67348
21	3.4650	0.72196	22	3.7530	1.00502	23	4.0950	1.46366	24	4.5270	2.54918
25	5.2470	2.54918	26	6.3720	2.80640	27	7.4970	3.33556	28	8.2260	4.20428
29	8.6130	4.20690	30	10.1200	4.20690	31	11.0000	2.42364	32	11.6490	2.02700
33	14.6630	1.31510	34	16.4230	1.22068	35	18.4250	0.94540	36	20.4050	0.86654
37	22.4726	0.61436	38	23.7050	0.61436	39	39.5000	0.41937			

TUSI-REFINED RESPONSE SPECTRA FOR SAFEGUARDS BLDG. ;  
 FLOOR RESPONSE SPECTRA FOR 1/2 SSE; COMPONENT AZ ; DAMPING = 0.01  
 FIGURE NO. 1411-B DIRECTION 3 AT ELEVATION 852.50 FEET

SET NO. = 19  
 NO. OF SPECTRA = 1

BROADENED SPECTRUM FOR NODE=1411				DEGREE OF FREEDOM = 3		NUMBER OF GRIDS = 35		DAMPING VALUE = 0.010			
1	0.9000	0.14074	2	0.9450	0.14560	3	1.0093	0.14560	4	1.0620	0.20424
5	1.1250	0.20946	6	1.3066	0.20946	7	1.3230	0.22780	8	1.3680	0.30962
9	1.6842	0.30962	10	1.7280	0.36140	11	1.8720	0.44010	12	1.9530	0.44120
13	2.0828	0.44120	14	2.1420	0.49942	15	2.6162	0.49942	16	2.8170	0.55742
17	2.9970	0.63564	18	3.4375	0.63564	19	3.4650	0.64906	20	3.7530	0.89918
21	4.0950	1.28586	22	4.7700	2.21044	23	5.2470	2.21044	24	7.4970	2.62580
25	8.2260	3.17140	26	10.0540	3.17140	27	10.5270	3.11322	28	11.0000	2.07540

29	14.5530	1.11406	30	16.4230	1.07698	31	17.3470	0.92316	32	20.4050	0.74204
33	21.0848	0.68610	34	23.7050	0.68610	35	39.5000	0.37810			

TUSI-REFINED RESPONSE SPECTRA FOR SAFEGUARDS BLDG.; SET NO. = 20  
 FLOOR RESPONSE SPECTRA FOR 1/2 SSE; COMPONENT AZ; DAMPING = 0.01  
 FIGURE NO. 1412-B DIRECTION 3 AT ELEVATION 831.50 FEET NO. OF SPECTRA = 1

BROADENED SPECTRUM FOR NODE=1412 DEGREE OF FREEDOM = 3 NUMBER OF GRIDS = 27 DAMPING VALUE = 0.010

1	0.9000	0.13658	2	0.9450	0.14146	3	1.0074	0.14146	4	1.0620	0.19990
5	1.1250	0.20668	6	1.3096	0.20668	7	1.3230	0.22166	8	1.3680	0.30134
9	1.6877	0.30134	10	1.7280	0.34636	11	1.8720	0.42350	12	1.9530	0.42690
13	2.0913	0.42690	14	2.1420	0.47252	15	2.6668	0.47252	16	2.8170	0.50700
17	2.9970	0.57742	18	3.5194	0.57742	19	4.0950	1.00142	20	4.4900	1.66112
21	5.2470	1.66112	22	8.2363	1.91000	23	10.5270	1.91000	24	14.5530	0.78860
25	19.3950	0.59544	26	23.7050	0.59544	27	39.5000	0.28538			

TUSI-REFINED RESPONSE SPECTRA FOR SAFEGUARDS BLDG.; SET NO. = 21  
 FLOOR RESPONSE SPECTRA FOR 1/2 SSE; COMPONENT AZ; DAMPING = 0.01  
 FIGURE NO. 1413-B DIRECTION 3 AT ELEVATION 810.50 FEET NO. OF SPECTRA = 1

BROADENED SPECTRUM FOR NODE=1413 DEGREE OF FREEDOM = 3 NUMBER OF GRIDS = 31 DAMPING VALUE = 0.010

1	0.9000	0.13488	2	0.9450	0.13980	3	1.0081	0.13980	4	1.0620	0.19858
5	1.1250	0.20334	6	1.3110	0.20334	7	1.3230	0.21682	8	1.3680	0.29474
9	1.4040	0.29534	10	1.6927	0.29534	11	1.7280	0.33352	12	1.8720	0.40940
13	1.9530	0.41496	14	2.0991	0.41496	15	2.1420	0.44966	16	2.7407	0.44966
17	2.8170	0.46404	18	2.9970	0.52796	19	3.6281	0.52796	20	4.0950	0.75984
21	4.2930	1.19710	22	5.2470	1.19710	23	8.2440	1.37655	24	10.5270	1.37655
25	11.6490	1.03108	26	15.8867	0.49496	27	20.4050	0.49496	28	22.0000	0.38094
29	22.4241	0.32798	30	23.7050	0.32798	31	39.5000	0.19784			

TUSI-REFINED RESPONSE SPECTRA FOR SAFEGUARDS BLDG.; SET NO. = 22  
 FLOOR RESPONSE SPECTRA FOR 1/2 SSE; COMPONENT AZ; DAMPING = 0.01  
 FIGURE NO. 1414-B DIRECTION 3 AT ELEVATION 790.50 FEET NO. OF SPECTRA = 1

BROADENED SPECTRUM FOR NODE=1414 DEGREE OF FREEDOM = 3 NUMBER OF GRIDS = 30 DAMPING VALUE = 0.010

1	0.9000	0.14208	2	0.9450	0.14750	3	1.0079	0.14750	4	1.0620	0.20928
5	1.1250	0.21428	6	1.3124	0.21428	7	1.3230	0.22700	8	1.3680	0.30986
9	1.4040	0.31054	10	1.6992	0.31054	11	1.7280	0.34150	12	1.8720	0.41812
13	1.9530	0.42516	14	2.1136	0.42516	15	2.1420	0.44622	16	2.6180	0.44622
17	4.2930	0.67054	18	4.5000	0.68176	19	5.5000	0.68176	20	8.6130	0.68176
21	10.5270	0.68178	22	11.0000	0.67228	23	11.6490	0.65304	24	14.5530	0.41454
25	15.6862	0.35730	26	20.4050	0.35730	27	22.0000	0.27036	28	22.4445	0.22758
29	23.7050	0.22758	30	39.5000	0.15095						

TUSI-REFINED RESPONSE SPECTRA FOR SAFEGUARDS BLDG.; SET NO. = 23  
 FLOOR RESPONSE SPECTRA FOR 1/2 SSE; COMPONENT AZ; DAMPING = 0.01  
 FIGURE NO. 1415-B DIRECTION 3 AT ELEVATION 785.50 FEET NO. OF SPECTRA = 1

BROADENED SPECTRUM FOR NODE=1415 DEGREE OF FREEDOM = 3 NUMBER OF GRIDS = 30 DAMPING VALUE = 0.010

1	0.9000	0.14166	2	0.9450	0.14706	3	1.0079	0.14706	4	1.0620	0.20866
5	1.1250	0.21364	6	1.3123	0.21364	7	1.3230	0.22654	8	1.3680	0.30890
9	1.4040	0.30958	10	1.6991	0.30958	11	1.7280	0.34062	12	1.8720	0.41676
13	1.9530	0.42400	14	2.1137	0.42400	15	2.1420	0.44498	16	2.6180	0.44498
17	4.2930	0.61358	18	4.5000	0.63252	19	5.5000	0.63252	20	8.6130	0.66098
21	10.5270	0.66098	22	11.0000	0.64800	23	11.6490	0.62776	24	14.5530	0.40646
25	15.9554	0.33740	26	20.4050	0.33740	27	22.0000	0.25862	28	22.3809	0.22526
29	23.7050	0.22526	30	39.5000	0.14807						

TUSI-REFINED RESPONSE SPECTRA FOR SAFEGUARDS BLDG.; DAMPING = 0.01  
 FLOOR RESPONSE SPECTRA FOR 1/2 SSE, COMPONENT AZ; AT ELEVATION 773.50 FEET  
 FIGURE NO. 1416-B DIRECTION 3

SET NO. = 24

NO. OF SPECTRA = 1

BROADENED SPECTRUM FOR MODE=1416	DEGREE OF FREEDOM =	NUMBER OF GRIDS = 27	DAMPING VALUE =
1 0.9000	0.9450	3 1.0079	4 1.0620
5 1.1250	1.3120	7 1.3230	8 1.3680
9 1.4040	1.6989	11 1.7280	12 1.8720
13 1.9530	2.1139	15 2.1420	16 2.6180
17 4.5000	5.5000	19 8.6130	20 10.5270
21 11.6490	16.4230	23 20.4050	24 22.0000
25 22.1959	23.7050	27 39.5000	0.010
			0.20554
			0.30420
			0.41026
			0.43854
			0.62862
			0.23338



TUSI-REFINED RESPONSE SPECTRA FOR SAFEGUARDS BLDG.; SET NO. = 1  
 FLOOR RESPONSE SPECTRA FOR 1/2 SSE; COMPONENT AX; DAMPING = 0.02  
 FIGURE NO. 1417-B DIRECTION 1 AT ELEVATION 896.50 FEET NO. OF SPECTRA = 1

BROADENED SPECTRUM FOR NODE=1417				DEGREE OF FREEDOM = 1		NUMBER OF GRIDS = 39		DAMPING VALUE = 0.020			
1	0.9000	0.13712	2	0.9450	0.14146	3	1.0099	0.14146	4	1.0620	0.17814
5	1.1250	0.19222	6	1.2978	0.19222	7	1.3230	0.21820	8	1.3680	0.24560
9	1.4040	0.25106	10	1.5809	0.25106	11	1.6110	0.26476	12	1.6650	0.28656
13	1.7280	0.34070	14	1.8000	0.34478	15	1.8720	0.40414	16	2.0274	0.40414
17	2.1420	0.44740	18	2.3825	0.44740	19	2.8170	0.56980	20	2.9970	0.66938
21	3.2788	0.66938	22	3.4650	0.81878	23	3.7530	1.23970	24	4.2570	1.88408
25	4.7530	2.54164	26	5.2470	2.54164	27	6.3720	3.29158	28	7.7880	3.29158
29	9.1630	3.04428	30	9.5260	2.16606	31	11.0000	1.52172	32	11.6490	1.10222
33	14.6630	0.80246	34	16.4230	0.16598	35	17.0253	0.73018	36	20.4050	0.73018
37	20.9605	0.69670	38	23.7050	0.69670	39	39.5000	0.41309			

TUSI-REFINED RESPONSE SPECTRA FOR SAFEGUARDS BLDG.; SET NO. = 2  
 FLOOR RESPONSE SPECTRA FOR 1/2 SSE; COMPONENT AX; DAMPING = 0.02  
 FIGURE NO. 1418-B DIRECTION 1 AT ELEVATION 873.50 FEET NO. OF SPECTRA = 1

BROADENED SPECTRUM FOR NODE=1418				DEGREE OF FREEDOM = 1		NUMBER OF GRIDS = 39		DAMPING VALUE = 0.020			
1	0.9000	0.13564	2	0.9450	0.13990	3	1.0089	0.13990	4	1.0620	0.17610
5	1.1250	0.18808	6	1.2958	0.18808	7	1.3230	0.21358	8	1.3680	0.24384
9	1.4040	0.24894	10	1.5841	0.24894	11	1.6650	0.28174	12	1.7280	0.33222
13	1.8000	0.34050	14	1.8720	0.39490	15	2.0285	0.39490	16	2.1420	0.43320
17	2.3915	0.43320	18	2.8170	0.54086	19	2.9970	0.63308	20	3.2894	0.63308
21	3.4650	0.74934	22	3.7530	1.14002	23	4.0950	1.70262	24	4.4680	2.26966
25	5.2470	2.26966	26	6.3720	2.98970	27	7.7880	2.98970	28	9.1630	2.76842
29	9.5260	1.96006	30	11.0000	1.36552	31	11.6490	1.27102	32	14.5628	0.88336
33	16.4230	0.88336	34	17.3470	0.84140	35	18.3560	0.69328	36	20.4050	0.69328
37	22.5648	0.50460	38	23.7050	0.50460	39	39.5000	0.34502			

TUSI-REFINED RESPONSE SPECTRA FOR SAFEGUARDS BLDG.; SET NO. = 3  
 FLOOR RESPONSE SPECTRA FOR 1/2 SSE; COMPONENT AX; DAMPING = 0.02  
 FIGURE NO. 1419-B DIRECTION 1 AT ELEVATION 852.50 FEET NO. OF SPECTRA = 1

BROADENED SPECTRUM FOR NODE=1419				DEGREE OF FREEDOM = 1		NUMBER OF GRIDS = 39		DAMPING VALUE = 0.020			
1	0.9000	0.13260	2	0.9450	0.13692	3	1.0084	0.13692	4	1.0620	0.17244
5	1.1250	0.18096	6	1.2939	0.18096	7	1.3230	0.20526	8	1.3680	0.23800
9	1.4040	0.24172	10	1.5900	0.24172	11	1.6650	0.26890	12	1.7280	0.31624
13	1.8000	0.32570	14	1.8720	0.37668	15	2.0422	0.37668	16	2.1420	0.40466
17	2.4452	0.40466	18	2.6460	0.44194	19	2.9970	0.56126	20	3.3203	0.56126
21	3.4650	0.63526	22	4.0950	1.36642	23	4.2930	1.78114	24	5.2470	1.78114
25	6.3720	2.30944	26	7.7880	2.30944	27	7.9101	2.08414	28	9.1630	2.08414
29	9.5260	1.45398	30	10.5270	1.08088	31	10.6652	1.04466	32	11.6490	1.04466
33	14.5530	0.80222	34	16.4230	0.71932	35	17.7716	0.64350	36	20.4050	0.64350
37	22.0000	0.51016	38	23.7050	0.49916	39	39.5000	0.29497			

TUSI-REFINED RESPONSE SPECTRA FOR SAFEGUARDS BLDG.; SET NO. = 4  
 FLOOR RESPONSE SPECTRA FOR 1/2 SSE; COMPONENT AX; DAMPING = 0.02  
 FIGURE NO. 1420-B DIRECTION 1 AT ELEVATION 831.50 FEET NO. OF SPECTRA = 1

BROADENED SPECTRUM FOR NODE=1420				DEGREE OF FREEDOM =		1		NUMBER OF GRIDS =		36		DAMPING VALUE =		0.020	
1	0.9000	0.12934	2	0.9450	0.13364	3	1.0067	0.13364	4	1.0620	0.17012				
5	1.1250	0.17314	6	1.2908	0.17314	7	1.3680	0.23048	8	1.4040	0.23332				
9	1.5986	0.23332	10	1.6650	0.25516	11	1.7280	0.29624	12	1.8000	0.30974				
13	1.8720	0.35450	14	2.0558	0.35450	15	2.1420	0.37292	16	2.5312	0.37292				
17	2.6460	0.38786	18	2.8170	0.43802	19	2.9970	0.48208	20	3.3693	0.48208				
21	3.4650	0.51518	22	4.0950	0.99242	23	4.2930	1.24732	24	5.2470	1.24732				
25	6.3720	1.63990	26	7.7880	1.63990	27	9.1630	1.15678	28	9.5260	0.77752				
29	9.5918	0.75790	30	11.6490	0.75790	31	14.5530	0.63144	32	16.5960	0.47394				
33	22.0000	0.47394	34	22.1080	0.47040	35	23.7050	0.47040	36	39.5000	0.21382				

TUSI-REFINED RESPONSE SPECTRA FOR SAFEGUARDS BLDG.; SET NO. = 5  
 FLOOR RESPONSE SPECTRA FOR 1/2 SSE; COMPONENT AX; DAMPING = 0.02  
 FIGURE NO. 1421-B DIRECTION 1 AT ELEVATION 810.50 FEET NO. OF SPECTRA = 1

BROADENED SPECTRUM FOR NODE=1421				DEGREE OF FREEDOM =		1		NUMBER OF GRIDS =		32		DAMPING VALUE =		0.020	
1	0.9000	0.13078	2	0.9450	0.13574	3	1.0032	0.13574	4	1.0620	0.17760				
5	1.3000	0.17760	6	1.3230	0.18912	7	1.3680	0.23398	8	1.6266	0.23398				
9	1.7280	0.28096	10	1.8720	0.33816	11	2.1055	0.33816	12	2.1420	0.34696				
13	2.5791	0.34696	14	2.6460	0.35342	15	2.8170	0.39882	16	2.9970	0.43440				
17	3.4747	0.43440	18	3.7530	0.58268	19	4.0950	0.73780	20	4.2930	0.87516				
21	5.2470	0.87516	22	5.5000	1.00600	23	7.7880	1.00600	24	8.0500	0.70464				
25	11.6490	0.70464	26	14.5530	0.57538	27	16.4230	0.41194	28	18.4250	0.34254				
29	20.4050	0.33358	30	21.9056	0.29354	31	23.7050	0.29354	32	39.5000	0.17294				

TUSI-REFINED RESPONSE SPECTRA FOR SAFEGUARDS BLDG.; SET NO. = 6  
 FLOOR RESPONSE SPECTRA FOR 1/2 SSE; COMPONENT AX; DAMPING = 0.02  
 FIGURE NO. 1422-B DIRECTION 1 AT ELEVATION 790.50 FEET NO. OF SPECTRA = 1

BROADENED SPECTRUM FOR NODE=1422				DEGREE OF FREEDOM =		1		NUMBER OF GRIDS =		26		DAMPING VALUE =		0.020	
1	0.9000	0.13554	2	0.9450	0.14056	3	1.0034	0.14056	4	1.0620	0.18152				
5	1.2993	0.18152	6	1.3230	0.19408	7	1.3680	0.23980	8	1.6298	0.23980				
9	1.8720	0.33942	10	2.2880	0.33942	11	2.3331	0.33418	12	2.6854	0.33418				
13	2.8170	0.36488	14	2.9970	0.39292	15	3.5695	0.39292	16	3.7530	0.45812				
17	4.2930	0.60610	18	5.2470	0.60610	19	9.5310	0.52710	20	11.6490	0.52710				
21	16.1476	0.32740	22	20.4050	0.32740	23	22.0000	0.26614	24	22.3173	0.25146				
25	23.7050	0.25146	26	39.5000	0.13508										

TUSI-REFINED RESPONSE SPECTRA FOR SAFEGUARDS BLDG.; SET NO. = 7  
 FLOOR RESPONSE SPECTRA FOR 1/2 SSE; COMPONENT AX; DAMPING = 0.02  
 FIGURE NO. 1423-B DIRECTION 1 AT ELEVATION 785.50 FEET NO. OF SPECTRA = 1

BROADENED SPECTRUM FOR NODE=1423				DEGREE OF FREEDOM =		1		NUMBER OF GRIDS =		26		DAMPING VALUE =		0.020	
1	0.9000	0.13648	2	0.9450	0.14158	3	1.0034	0.14158	4	1.0620	0.18290				
5	1.2993	0.18290	6	1.3230	0.19554	7	1.3680	0.24172	8	1.6299	0.24172				
9	1.8720	0.34186	10	2.2880	0.34186	11	2.3313	0.33678	12	2.7265	0.33678				
13	2.8170	0.35700	14	2.9970	0.38294	15	3.6035	0.38294	16	3.7530	0.43068				
17	4.2930	0.54886	18	5.2470	0.54886	19	9.5310	0.50048	20	11.6490	0.50048				
21	16.2532	0.31202	22	20.4050	0.31202	23	22.0000	0.25324	24	22.2401	0.24282				
25	23.7050	0.24282	26	39.5000	0.13442										

TUSI-REFINED RESPONSE SPECTRA FOR SAFEGUARDS BLDG.; SET NO. = 8  
 FLOOR RESPONSE SPECTRA FOR 1/2 SSE; COMPONENT AX; DAMPING = 0.02  
 FIGURE NO. 1424-B DIRECTION 1 AT ELEVATION 773.50 FEET NO. OF SPECTRA = 1

BROADENED SPECTRUM FOR NODE=1424				DEGREE OF FREEDOM =		1		NUMBER OF GRIDS =		29		DAMPING VALUE =		0.020	
1	0.9000	0.13922	2	0.9450	0.14452	3	1.0034	0.14452	4	1.0620	0.18708				

5	1.2995	0.18708	6	1.3230	0.19978	7	1.3680	0.24732	8	1.6304	0.24732
9	1.8720	0.34890	10	2.2880	0.34890	11	2.3252	0.34444	12	2.7558	0.34444
13	2.8170	0.35750	14	2.9970	0.37548	15	3.6630	0.37548	16	3.6712	0.37330
17	3.7530	0.37330	18	4.2930	0.43306	19	5.2470	0.43306	20	9.5310	0.42240
21	11.6490	0.42240	22	14.6630	0.35782	23	17.2494	0.27592	24	20.4050	0.27592
25	22.0000	0.22238	26	22.0492	0.22056	27	23.7050	0.22056	28	35.3288	0.14582
29	39.5000	0.14582									

TUSI-REFINED RESPONSE SPECTRA FOR SAFEGUARDS BLDG.; SET NO. = 9  
 FLOOR RESPONSE SPECTRA FOR 1/2 SSE; COMPONENT AY; DAMPING = 0.02  
 FIGURE NO. 1417-B DIRECTION 2 AT ELEVATION 896.50 FEET NO. OF SPECTRA = 1

BROADENED SPECTRUM FOR NODE=1417			DEGREE OF FREEDOM = 2		NUMBER OF GRIDS = 33		DAMPING VALUE = 0.020				
1	0.9000	0.09610	2	0.9990	0.09652	3	1.0620	0.12538	4	1.1250	0.12792
5	1.2916	0.12792	6	1.3230	0.15026	7	1.3680	0.17676	8	1.6583	0.17676
9	1.8000	0.22478	10	1.8720	0.23108	11	2.0430	0.23768	12	2.2879	0.23768
13	2.3670	0.24942	14	2.5020	0.29580	15	2.6460	0.32464	16	2.8170	0.35512
17	2.9970	0.43018	18	3.2130	0.43184	19	3.4650	0.53538	20	4.0950	1.08362
21	4.5830	1.48764	22	4.6200	1.59020	23	5.5000	1.59020	24	8.2260	1.83440
25	8.2440	1.83808	26	8.6130	1.84476	27	10.5270	1.84476	28	15.0750	2.17744
29	18.4250	2.17744	30	20.4050	1.64114	31	22.8690	1.30098	32	23.7050	1.26408
33	39.5000	0.41863									

TUSI-REFINED RESPONSE SPECTRA FOR SAFEGUARDS BLDG.; SET NO. = 10  
 FLOOR RESPONSE SPECTRA FOR 1/2 SSE; COMPONENT AY; DAMPING = 0.02  
 FIGURE NO. 1418-B DIRECTION 2 AT ELEVATION 873.50 FEET NO. OF SPECTRA = 1

BROADENED SPECTRUM FOR NODE=1418			DEGREE OF FREEDOM = 2		NUMBER OF GRIDS = 30		DAMPING VALUE = 0.020				
1	0.9000	0.09516	2	0.9450	0.09608	3	0.9990	0.09666	4	1.0620	0.12398
5	1.1250	0.12920	6	1.2881	0.12920	7	1.3230	0.15558	8	1.3680	0.18132
9	1.6511	0.18132	10	1.8000	0.23538	11	1.8720	0.24518	12	2.0430	0.25552
13	2.2559	0.25552	14	2.3670	0.27896	15	2.5020	0.33350	16	2.6460	0.36940
17	2.8170	0.40696	18	2.9970	0.50034	19	3.2130	0.52274	20	3.4650	0.69178
21	3.7530	1.01930	22	4.0950	1.55634	23	4.2930	2.19720	24	4.5000	2.33164
25	5.5000	2.33164	26	15.0750	2.36138	27	18.4250	2.36138	28	20.4050	1.96794
29	22.0000	1.91624	30	39.5000	0.51225						

TUSI-REFINED RESPONSE SPECTRA FOR SAFEGUARDS BLDG.; SET NO. = 11  
 FLOOR RESPONSE SPECTRA FOR 1/2 SSE; COMPONENT AY; DAMPING = 0.02  
 FIGURE NO. 1419-B DIRECTION 2 AT ELEVATION 852.50 FEET NO. OF SPECTRA = 1

BROADENED SPECTRUM FOR NODE=1419			DEGREE OF FREEDOM = 2		NUMBER OF GRIDS = 31		DAMPING VALUE = 0.020				
1	0.9000	0.09464	2	0.9450	0.09540	3	0.9993	0.09540	4	1.0620	0.12260
5	1.1250	0.12682	6	1.2888	0.12682	7	1.3230	0.15402	8	1.3680	0.17814
9	1.6507	0.17814	10	1.8000	0.23138	11	1.8720	0.24094	12	2.0430	0.25116
13	2.2683	0.25116	14	2.3670	0.27096	15	2.5020	0.32256	16	2.6460	0.35562
17	2.8170	0.38862	18	2.9970	0.47950	19	3.2130	0.49452	20	3.4650	0.65082
21	3.7530	0.95734	22	4.0950	1.45030	23	4.2930	2.04118	24	4.5000	2.17508
25	5.5000	2.17508	26	10.5270	2.06794	27	18.4250	1.86554	28	20.3498	1.57794
29	22.0000	1.57794	30	23.7050	1.44760	31	39.5000	0.44153			

TUSI-REFINED RESPONSE SPECTRA FOR SAFEGUARDS BLDG.; SET NO. = 12  
 FLOOR RESPONSE SPECTRA FOR 1/2 SSE; COMPONENT AY; DAMPING = 0.02  
 FIGURE NO. 1420-B DIRECTION 2 AT ELEVATION 831.50 FEET NO. OF SPECTRA = 1

BROADENED SPECTRUM FOR NODE=1420			DEGREE OF FREEDOM = 2		NUMBER OF GRIDS = 31		DAMPING VALUE = 0.020				
1	0.9000	0.09336	2	0.9450	0.09396	3	0.9990	0.09436	4	1.0620	0.12166

5	1.1250	0.12542	6	1.2899	0.12542	7	1.3230	0.14918	8	1.3680	0.17582
9	1.6555	0.17582	10	1.8000	0.22424	11	1.8720	0.23130	12	2.0430	0.24330
13	2.2933	0.24330	14	2.3670	0.25596	15	2.5020	0.30394	16	2.6460	0.33524
17	2.8170	0.36456	18	2.9970	0.44582	19	3.2130	0.45568	20	3.4650	0.58566
21	3.7530	0.85918	22	4.0950	1.27104	23	4.2930	1.77882	24	4.5000	1.89584
25	5.5000	1.89584	26	8.6130	1.84640	27	10.5270	1.84640	28	18.4250	1.25768
29	20.4050	1.11868	30	23.7050	0.90476	31	39.5000	0.36621			

TUSI-REFINED RESPONSE SPECTRA FOR SAFEGUARDS BLDG.; SET NO. = 13  
 FLOOR RESPONSE SPECTRA FOR 1/2 SSE; COMPONENT AY; DAMPING = 0.02  
 FIGURE NO. 1421-B DIRECTION 2 AT ELEVATION 810.50 FEET NO. OF SPECTRA = 1

BROADENED SPECTRUM FOR NODE=1421			DEGREE OF FREEDOM = 2		NUMBER OF GRIDS = 31		DAMPING VALUE = 0.020				
1	0.9000	0.09328	2	0.9990	0.09456	3	1.0620	0.12170	4	1.1250	0.12508
5	1.2895	0.12508	6	1.3230	0.14884	7	1.3680	0.17564	8	1.6578	0.17564
9	1.8000	0.22260	10	1.8720	0.23028	11	2.0430	0.24076	12	2.2886	0.24076
13	2.3670	0.25298	14	2.5020	0.30004	15	2.6460	0.33058	16	2.8170	0.35980
17	2.9970	0.43974	18	3.2130	0.44592	19	3.4650	0.57206	20	3.7530	0.83422
21	4.0950	1.22754	22	4.2930	1.70902	23	4.5000	1.82712	24	5.5000	1.82712
25	8.6130	1.77448	26	10.5270	1.77448	27	20.4050	0.89556	28	22.0000	0.66654
29	22.8690	0.60220	30	23.7050	0.60088	31	39.5000	0.34787			

TUSI-REFINED RESPONSE SPECTRA FOR SAFEGUARDS BLDG.; SET NO. = 14  
 FLOOR RESPONSE SPECTRA FOR 1/2 SSE; COMPONENT AY; DAMPING = 0.02  
 FIGURE NO. 1422-B DIRECTION 2 AT ELEVATION 790.50 FEET NO. OF SPECTRA = 1

BROADENED SPECTRUM FOR NODE=1422			DEGREE OF FREEDOM = 2		NUMBER OF GRIDS = 38		DAMPING VALUE = 0.020				
1	0.9000	0.09468	2	0.9990	0.09480	3	1.0620	0.12384	4	1.1250	0.12672
5	1.2937	0.12672	6	1.3230	0.14702	7	1.3680	0.17446	8	1.6686	0.17446
9	1.8000	0.21632	10	1.8720	0.22186	11	2.0430	0.22840	12	2.3375	0.22840
13	2.3670	0.23138	14	2.5020	0.27438	15	2.6460	0.29866	16	2.8170	0.32366
17	2.9970	0.38648	18	3.2514	0.38648	19	3.4650	0.44706	20	3.7530	0.64070
21	4.0950	0.82078	22	4.2930	1.09210	23	4.5000	1.19288	24	5.5894	1.19288
25	5.6250	1.21260	26	8.2260	1.45468	27	8.6130	1.46870	28	10.5270	1.46870
29	11.0000	1.28914	30	11.6490	1.25140	31	14.5530	0.84662	32	16.4230	0.76028
33	17.3470	0.70046	34	18.4250	0.58272	35	20.4050	0.49662	36	22.8690	0.34092
37	23.7050	0.34036	38	39.5000	0.25626						

TUSI-REFINED RESPONSE SPECTRA FOR SAFEGUARDS BLDG.; SET NO. = 15  
 FLOOR RESPONSE SPECTRA FOR 1/2 SSE; COMPONENT AY; DAMPING = 0.02  
 FIGURE NO. 1423-B DIRECTION 2 AT ELEVATION 785.50 FEET NO. OF SPECTRA = 1

BROADENED SPECTRUM FOR NODE=1423			DEGREE OF FREEDOM = 2		NUMBER OF GRIDS = 38		DAMPING VALUE = 0.020				
1	0.9000	0.09430	2	0.9990	0.09444	3	1.0620	0.12326	4	1.1250	0.12612
5	1.2937	0.12612	6	1.3230	0.14630	7	1.3680	0.17362	8	1.6686	0.17362
9	1.8000	0.21554	10	1.8720	0.22040	11	2.0430	0.22664	12	2.3455	0.22664
13	2.3670	0.22862	14	2.5020	0.27058	15	2.6460	0.29450	16	2.8170	0.31872
17	2.9970	0.37984	18	3.2657	0.37984	19	3.4650	0.43202	20	3.7530	0.61738
21	4.0950	0.77022	22	4.2930	1.01356	23	4.5000	1.11230	24	5.5113	1.11230
25	5.6250	1.17546	26	8.2260	1.41208	27	8.6130	1.42040	28	10.5270	1.42040
29	11.0000	1.24328	30	11.6490	1.19918	31	14.5530	0.78740	32	16.4230	0.70408
33	17.3470	0.64682	34	18.4250	0.53262	35	20.4050	0.44624	36	22.0000	0.34582
37	23.7050	0.31746	38	39.5000	0.24471						

TUSI-REFINED RESPONSE SPECTRA FOR SAFEGUARDS BLDG.; SET NO. = 16  
 FLOOR RESPONSE SPECTRA FOR 1/2 SSE; COMPONENT AY; DAMPING = 0.02  
 FIGURE NO. 1424-B DIRECTION 2 AT ELEVATION 773.50 FEET NO. OF SPECTRA = 1

BROADENED SPECTRUM FOR NODE=1424				DEGREE OF FREEDOM = 2		NUMBER OF GRIDS = 36		DAMPING VALUE = 0.020			
1	0.9000	0.09296	2	0.9990	0.09314	3	1.0620	0.12132	4	1.1250	0.12418
5	1.2936	0.12418	6	1.3230	0.14484	7	1.3680	0.17066	8	1.6648	0.17066
9	1.8000	0.21392	10	1.8720	0.21742	11	2.0430	0.22312	12	2.3670	0.22316
13	2.5020	0.26274	14	2.6460	0.28612	15	2.8170	0.30874	16	2.9970	0.36654
17	3.3021	0.36654	18	3.4650	0.40176	19	3.7530	0.57034	20	4.0950	0.66494
21	4.2930	0.84720	22	4.5000	0.94252	23	5.3483	0.94252	24	5.6250	1.09648
25	8.2260	1.32266	26	10.0540	1.32266	27	10.5270	1.31860	28	11.0000	1.14742
29	11.6490	1.09266	30	14.6630	0.65528	31	16.4230	0.58802	32	17.3470	0.53802
33	18.4250	0.43202	34	22.7854	0.29500	35	23.7050	0.29500	36	39.5000	0.22342

TUSI-REFINED RESPONSE SPECTRA FOR SAFEGUARDS BLDG.; SET NO. = 17  
 FLOOR RESPONSE SPECTRA FOR 1/2 SSE; COMPONENT AZ; DAMPING = 0.02  
 FIGURE NO. 1417-B DIRECTION 3 AT ELEVATION 896.50 FEET NO. OF SPECTRA = 1

BROADENED SPECTRUM FOR NODE=1417				DEGREE OF FREEDOM = 3		NUMBER OF GRIDS = 33		DAMPING VALUE = 0.020			
1	0.9000	0.13200	2	0.9450	0.13704	3	1.0074	0.13704	4	1.0620	0.17446
5	1.2772	0.17446	6	1.2870	0.17614	7	1.3680	0.23832	8	1.5906	0.23832
9	1.6110	0.24574	10	1.6650	0.26176	11	1.7280	0.30646	12	1.8720	0.36134
13	2.0737	0.36134	14	2.1420	0.38856	15	2.5239	0.38856	16	2.6460	0.40746
17	2.9970	0.51552	18	3.3055	0.51552	19	3.4650	0.58186	20	3.7530	0.79398
21	4.0950	1.18286	22	4.4930	1.59566	23	4.5000	1.60118	24	5.3336	1.60118
25	5.6250	2.00036	26	8.2440	3.26198	27	10.0760	3.26198	28	10.5270	3.02460
29	11.0000	1.95774	30	11.6490	1.42062	31	19.3950	0.89666	32	23.7050	0.89666
33	39.5000	0.41063									

TUSI-REFINED RESPONSE SPECTRA FOR SAFEGUARDS BLDG.; SET NO. = 18  
 FLOOR RESPONSE SPECTRA FOR 1/2 SSE; COMPONENT AZ; DAMPING = 0.02  
 FIGURE NO. 1418-B DIRECTION 3 AT ELEVATION 873.50 FEET NO. OF SPECTRA = 1

BROADENED SPECTRUM FOR NODE=1418				DEGREE OF FREEDOM = 3		NUMBER OF GRIDS = 38		DAMPING VALUE = 0.020			
1	0.9000	0.13394	2	0.9450	0.13826	3	1.0041	0.13826	4	1.0620	0.17762
5	1.2784	0.17762	6	1.2870	0.17916	7	1.3680	0.24108	8	1.5917	0.24108
9	1.6110	0.24764	10	1.6650	0.26326	11	1.7280	0.30768	12	1.8720	0.36354
13	2.0400	0.36354	14	2.1420	0.38964	15	2.5051	0.38964	16	2.6460	0.41182
17	2.9970	0.51674	18	3.2737	0.51674	19	3.4650	0.60046	20	3.7530	0.82618
21	4.0950	1.25252	22	4.4930	1.70434	23	4.5000	1.71864	24	5.4043	1.71864
25	5.6250	1.99916	26	8.2260	3.08752	27	10.0540	3.08752	28	10.0760	3.08592
29	10.5270	2.83590	30	11.0000	1.86784	31	14.6203	1.07030	32	16.4230	1.07030
33	17.3470	0.93732	34	18.4250	0.78610	35	20.4050	0.72044	36	22.5153	0.54964
37	23.7050	0.54964	38	39.5000	0.37625						

TUSI-REFINED RESPONSE SPECTRA FOR SAFEGUARDS BLDG.; SET NO. = 19  
 FLOOR RESPONSE SPECTRA FOR 1/2 SSE; COMPONENT AZ; DAMPING = 0.02  
 FIGURE NO. 1419-B DIRECTION 3 AT ELEVATION 852.50 FEET NO. OF SPECTRA = 1

BROADENED SPECTRUM FOR NODE=1419				DEGREE OF FREEDOM = 3		NUMBER OF GRIDS = 39		DAMPING VALUE = 0.020			
1	0.9000	0.13262	2	0.9450	0.13692	3	1.0055	0.13692	4	1.0620	0.17544
5	1.2850	0.17644	6	1.2870	0.17678	7	1.3680	0.23798	8	1.5976	0.23798
9	1.6110	0.24218	10	1.7280	0.29786	11	1.8720	0.35354	12	2.0522	0.35354
13	2.1420	0.37424	14	2.5211	0.37424	15	2.6460	0.39112	16	2.8170	0.43826
17	2.9970	0.48184	18	3.2858	0.48184	19	3.4650	0.54258	20	3.7530	0.74034
21	4.0950	1.10166	22	4.4930	1.48058	23	4.5000	1.49116	24	5.4392	1.49116
25	5.6250	1.67742	26	8.2260	2.33590	27	10.0540	2.33590	28	10.0760	2.33046
29	10.5270	2.10614	30	10.9985	1.53230	31	11.6490	1.53230	32	14.3709	0.93116
33	16.4230	0.93116	34	18.4250	0.68092	35	20.4050	0.61670	36	21.0455	0.56862
37	23.7050	0.56862	38	39.5000	0.32791						

TUSI-REFINED RESPONSE SPECTRA FOR SAFEGUARDS BLDG.; SET NO. = 20  
 FLOOR RESPONSE SPECTRA FOR 1/2 SSE; COMPONENT AZ; DAMPING = 0.02  
 FIGURE NO. 1420-B DIRECTION 3 AT ELEVATION 831.50 FEET NO. OF SPECTRA = 1

BROADENED SPECTRUM FOR NODE=1420			DEGREE OF FREEDOM = 3			NUMBER OF GRIDS = 36			DAMPING VALUE = 0.020		
1	0.9000	0.12850	2	0.9450	0.13286	3	1.0024	0.13286	4	1.0620	0.17212
5	1.2893	0.17212	6	1.3230	0.18940	7	1.3680	0.23074	8	1.6075	0.23074
9	1.6110	0.23182	10	1.7280	0.26390	11	1.8720	0.33904	12	2.0974	0.33904
13	2.1420	0.35264	14	2.5740	0.35264	15	2.6460	0.36028	16	2.8170	0.39982
17	2.9970	0.43510	18	3.3814	0.43510	19	3.4650	0.45234	20	3.7530	0.60074
21	4.0950	0.85284	22	4.2930	1.11314	23	4.5000	1.11864	24	5.5370	1.11864
25	5.6250	1.17250	26	7.8150	1.37770	27	10.0540	1.37770	28	11.6490	1.11644
29	14.5530	0.63038	30	16.4230	0.55990	31	17.3470	0.45776	32	18.1017	0.42874
33	19.1658	0.42874	34	19.3950	0.45650	35	23.7050	0.45650	36	39.5000	0.24546

TUSI-REFINED RESPONSE SPECTRA FOR SAFEGUARDS BLDG.; SET NO. = 21  
 FLOOR RESPONSE SPECTRA FOR 1/2 SSE; COMPONENT AZ; DAMPING = 0.02  
 FIGURE NO. 1421-B DIRECTION 3 AT ELEVATION 810.50 FEET NO. OF SPECTRA = 1

BROADENED SPECTRUM FOR NODE=1421			DEGREE OF FREEDOM = 3			NUMBER OF GRIDS = 32			DAMPING VALUE = 0.020		
1	0.9000	0.12682	2	0.9450	0.13134	3	1.0038	0.13134	4	1.0620	0.17058
5	1.2957	0.17058	6	1.3230	0.18410	7	1.3680	0.22502	8	1.6186	0.22502
9	1.7280	0.27230	10	1.8720	0.32708	11	2.1196	0.32708	12	2.1420	0.33246
13	2.6180	0.33246	14	2.6224	0.33144	15	2.6460	0.33144	16	2.8170	0.36902
17	2.9970	0.39792	18	3.5100	0.39792	19	4.0950	0.64628	20	4.2930	0.80502
21	4.5000	0.81508	22	5.5000	0.81508	23	7.7880	0.98260	24	9.5310	0.98260
25	11.6490	0.85444	26	14.6630	0.48316	27	17.3158	0.38310	28	20.4050	0.38310
29	22.0000	0.30416	30	22.7188	0.25952	31	23.7050	0.25952	32	39.5000	0.18371

TUSI-REFINED RESPONSE SPECTRA FOR SAFEGUARDS BLDG.; SET NO. = 22  
 FLOOR RESPONSE SPECTRA FOR 1/2 SSE; COMPONENT AZ; DAMPING = 0.02  
 FIGURE NO. 1422-B DIRECTION 3 AT ELEVATION 790.50 FEET NO. OF SPECTRA = 1

BROADENED SPECTRUM FOR NODE=1422			DEGREE OF FREEDOM = 3			NUMBER OF GRIDS = 28			DAMPING VALUE = 0.020		
1	0.9000	0.13342	2	0.9450	0.13856	3	1.0035	0.13856	4	1.0620	0.17878
5	1.2996	0.17878	6	1.3230	0.19098	7	1.3680	0.23688	8	1.6325	0.23688
9	1.8720	0.33328	10	2.2880	0.33328	11	2.3260	0.32906	12	2.7555	0.32906
13	2.8170	0.34160	14	2.9970	0.36062	15	3.7093	0.36062	16	3.7530	0.37106
17	4.2930	0.46662	18	4.5000	0.47048	19	5.5000	0.47048	20	9.5310	0.53688
21	11.6490	0.53688	22	14.6630	0.32160	23	17.3470	0.28366	24	20.4050	0.27290
25	22.0000	0.21602	26	22.4463	0.19420	27	23.7050	0.19420	28	39.5000	0.12191

TUSI-REFINED RESPONSE SPECTRA FOR SAFEGUARDS BLDG.; SET NO. = 23  
 FLOOR RESPONSE SPECTRA FOR 1/2 SSE; COMPONENT AZ; DAMPING = 0.02  
 FIGURE NO. 1423-B DIRECTION 3 AT ELEVATION 785.50 FEET NO. OF SPECTRA = 1

BROADENED SPECTRUM FOR NODE=1423			DEGREE OF FREEDOM = 3			NUMBER OF GRIDS = 29			DAMPING VALUE = 0.020		
1	0.9000	0.13302	2	0.9450	0.13814	3	1.0035	0.13814	4	1.0620	0.17844
5	1.2997	0.17844	6	1.3230	0.19036	7	1.3680	0.23616	8	1.6321	0.23616
9	1.8720	0.33246	10	2.2880	0.33246	11	2.3262	0.32818	12	2.7556	0.32818
13	2.8170	0.34068	14	2.9970	0.35766	15	3.6630	0.35766	16	3.6639	0.35746
17	3.7530	0.35746	18	4.2930	0.43028	19	4.5000	0.43724	20	5.5000	0.43724
21	9.5310	0.51484	22	11.6490	0.51484	23	14.6630	0.31516	24	18.3931	0.26012
25	20.4050	0.26012	26	22.0000	0.20594	27	22.3702	0.18960	28	23.7050	0.18960
29	39.5000	0.11689									

TUSI-REFINED RESPONSE SPECTRA FOR SAFEGUARDS BLDG.;  
 FLOOR RESPONSE SPECTRA FOR 1/2 SSE; COMPONENT AZ ; DAMPING = 0.02  
 FIGURE NO. 1424-B DIRECTION 3 AT ELEVATION 773.50 FEET

SET NO. = 24  
 NO. OF SPECTRA = 1

BROADENED SPECTRUM FOR NODE=1424				DEGREE OF FREEDOM = 3		NUMBER OF GRIDS = 26		DAMPING VALUE = 0.020			
1	0.9000	0.13096	2	0.9450	0.13600	3	1.0035	0.13600	4	1.0620	0.17628
5	1.3002	0.17628	6	1.3230	0.18740	7	1.3680	0.23252	8	1.6309	0.23252
9	1.8720	0.32782	10	2.2880	0.32782	11	2.3258	0.32354	12	2.7560	0.32354
13	2.8170	0.33578	14	2.9970	0.35232	15	4.0934	0.35232	16	4.5000	0.37752
17	5.5000	0.37752	18	9.5310	0.47404	19	11.6490	0.47404	20	14.6630	0.30804
21	18.4250	0.23898	22	20.4050	0.23224	23	22.0000	0.18402	24	22.1331	0.17974
25	23.7050	0.17974	26	39.5000	0.10393						

TUSI-REFINED RESPONSE SPECTRA FOR SAFEGUARDS BLDG.;  
 FLOOR RESPONSE SPECTRA FOR SSE; COMPONENT AX; DAMPING = 0.02  
 FIGURE NO. 1385-B DIRECTION 1 AT ELEVATION 896.50 FEET

SET NO. = 1  
 NO. OF SPECTRA = 1

BROADENED SPECTRUM FOR NODE=1385				DEGREE OF FREEDOM = 1		NUMBER OF GRIDS = 34		DAMPING VALUE = 0.020			
1	0.9000	0.27235	2	0.9450	0.28146	3	1.0097	0.28146	4	1.0620	0.35375
5	1.1250	0.37778	6	1.2956	0.37778	7	1.3230	0.43132	8	1.3680	0.49125
9	1.4040	0.49881	10	1.5805	0.49881	11	1.6110	0.52535	12	1.6650	0.56818
13	1.7280	0.67846	14	1.8000	0.69073	15	1.8720	0.80593	16	2.0284	0.80593
17	2.1420	0.89101	18	2.3976	0.89101	19	2.8170	1.11937	20	2.9970	1.32121
21	3.2852	1.32121	22	3.4650	1.57359	23	4.0950	3.51906	24	4.5090	4.57880
25	5.2470	4.57880	26	6.3720	5.19709	27	7.7880	5.19709	28	7.8426	4.80270
29	8.5870	4.80270	30	9.5260	3.41739	31	12.5000	1.79000	32	20.4050	1.18284
33	23.7050	1.10842	34	39.5000	0.74359						

TUSI-REFINED RESPONSE SPECTRA FOR SAFEGUARDS BLDG.;  
 FLOOR RESPONSE SPECTRA FOR SSE; COMPONENT AX; DAMPING = 0.02  
 FIGURE NO. 1386-B DIRECTION 1 AT ELEVATION 873.50 FEET

SET NO. = 2  
 NO. OF SPECTRA = 1

BROADENED SPECTRUM FOR NODE=1386				DEGREE OF FREEDOM = 1		NUMBER OF GRIDS = 38		DAMPING VALUE = 0.020			
1	0.9000	0.26921	2	0.9450	0.27883	3	1.0009	0.27883	4	1.0620	0.34969
5	1.1250	0.36990	6	1.2928	0.36990	7	1.3230	0.42210	8	1.3680	0.48946
9	1.4040	0.49525	10	1.5842	0.49525	11	1.6650	0.55888	12	1.7280	0.66202
13	1.8000	0.68090	14	1.8720	0.78795	15	2.0311	0.78795	16	2.1420	0.86252
17	2.4027	0.86252	18	2.8170	1.07126	19	2.9970	1.25116	20	3.3003	1.25116
21	3.4650	1.44194	22	4.0950	3.18773	23	4.2930	4.08626	24	6.3720	4.71484
25	7.7880	4.71484	26	9.1630	4.37043	27	9.5260	3.13039	28	10.0540	2.75635
29	10.5270	2.40316	30	11.6490	2.28169	31	14.5530	1.54119	32	16.4230	1.44537
33	18.2975	1.15517	34	20.4050	1.15517	35	22.0000	0.94385	36	22.6220	0.85500
37	23.7050	0.85500	38	39.5000	0.65953						

TUSI-REFINED RESPONSE SPECTRA FOR SAFEGUARDS BLDG.;  
 FLOOR RESPONSE SPECTRA FOR SSE; COMPONENT AX; DAMPING = 0.02  
 FIGURE NO. 1387-B DIRECTION 1 AT ELEVATION 852.50 FEET

SET NO. = 3  
 NO. OF SPECTRA = 1

BROADENED SPECTRUM FOR NODE=1387				DEGREE OF FREEDOM = 1		NUMBER OF GRIDS = 35		DAMPING VALUE = 0.020			
1	0.9000	0.26359	2	0.9450	0.27311	3	1.0082	0.27311	4	1.0620	0.34313
5	1.1250	0.35693	6	1.2914	0.35693	7	1.3680	0.47685	8	1.4040	0.48076
9	1.5889	0.48076	10	1.6650	0.53624	11	1.7280	0.62937	12	1.8000	0.65250
13	1.8720	0.75144	14	2.0411	0.75144	15	2.1420	0.80724	16	2.4610	0.80724
17	2.6460	0.87458	18	2.9970	1.11095	19	3.3333	1.11095	20	3.4650	1.23181
21	4.0950	2.56338	22	4.2930	3.21900	23	6.3720	3.64732	24	7.7880	3.64732
25	9.1630	3.28908	26	9.5260	2.33529	27	10.2761	1.88610	28	11.6490	1.88610
29	14.5530	1.42158	30	17.3470	1.08807	31	17.7519	1.06005	32	20.4050	1.06005
33	22.3299	0.80650	34	23.7050	0.80650	35	39.5000	0.56272			

TUSI-REFINED RESPONSE SPECTRA FOR SAFEGUARDS BLDG.;  
 FLOOR RESPONSE SPECTRA FOR SSE; COMPONENT AX; DAMPING = 0.02  
 FIGURE NO. 1388-B DIRECTION 1 AT ELEVATION 831.50 FEET

SET NO. = 4  
 NO. OF SPECTRA = 1

BROADENED SPECTRUM FOR NODE=1388				DEGREE OF FREEDOM = 1		NUMBER OF GRIDS = 37		DAMPING VALUE = 0.020			
1	0.9000	0.25692	2	0.9450	0.26633	3	1.0065	0.26633	4	1.0620	0.33895



5	1.1250	0.34210	6	1.2886	0.34210	7	1.3680	0.46224	8	1.4040	0.46524
9	1.5981	0.46524	10	1.6650	0.50959	11	1.7280	0.59147	12	1.8000	0.61900
13	1.8720	0.70836	14	2.0573	0.70836	15	2.1420	0.74325	16	2.5375	0.74325
17	2.6460	0.77108	18	2.8170	0.87330	19	2.9970	0.95727	20	3.3851	0.95727
21	3.4650	1.00373	22	3.7530	1.43772	23	4.0950	1.87200	24	4.2930	2.26421
25	6.3720	2.62320	26	7.7880	2.62320	27	9.1630	1.82559	28	9.4515	1.38705
29	11.6490	1.38705	30	14.5530	1.11766	31	16.4230	0.80643	32	17.3470	0.76112
33	17.7860	0.73559	34	20.4050	0.73559	35	21.4776	0.72203	36	23.7050	0.72203
37	39.5000	0.42166									

TUSI-REFINED RESPONSE SPECTRA FOR SAFEGUARDS BLDG.; SET NO. = 5  
 FLOOR RESPONSE SPECTRA FOR SSE; COMPONENT AX; DAMPING = 0.02  
 FIGURE NO. 1389-B DIRECTION 1 AT ELEVATION 810.50 FEET NO. OF SPECTRA = 1

BROADENED SPECTRUM FOR NODE=1389			DEGREE OF FREEDOM = 1			NUMBER OF GRIDS = 30			DAMPING VALUE = 0.020		
1	0.9000	0.26192	2	0.9450	0.27185	3	1.0034	0.27185	4	1.0620	0.35295
5	1.2999	0.35295	6	1.3230	0.37578	7	1.3680	0.46548	8	1.6260	0.46548
9	1.7280	0.56220	10	1.8720	0.67598	11	2.1045	0.67598	12	2.1420	0.69423
13	2.5899	0.69423	14	2.6460	0.70465	15	2.8170	0.79607	16	2.9970	0.86677
17	3.4886	0.86677	18	3.7530	1.14307	19	4.2930	1.61423	20	5.6803	1.85610
21	7.7880	1.85610	22	9.5310	1.29362	23	11.6490	1.29362	24	14.5530	1.03401
25	17.3470	0.70218	26	20.4050	0.59451	27	22.0000	0.51239	28	22.1195	0.50193
29	23.7050	0.50193	30	39.5000	0.33609						

TUSI-REFINED RESPONSE SPECTRA FOR SAFEGUARDS BLDG.; SET NO. = 6  
 FLOOR RESPONSE SPECTRA FOR SSE; COMPONENT AX; DAMPING = 0.02  
 FIGURE NO. 1390-B DIRECTION 1 AT ELEVATION 790.50 FEET NO. OF SPECTRA = 1

BROADENED SPECTRUM FOR NODE=1390			DEGREE OF FREEDOM = 1			NUMBER OF GRIDS = 27			DAMPING VALUE = 0.020		
1	0.9000	0.26927	2	0.9450	0.27999	3	1.0038	0.27999	4	1.0620	0.36309
5	1.3004	0.36309	6	1.3230	0.38606	7	1.3680	0.47870	8	1.6313	0.47870
9	1.8720	0.67490	10	2.2880	0.67490	11	2.3251	0.66641	12	2.6845	0.66641
13	2.8170	0.72853	14	2.9970	0.78341	15	3.5820	0.78341	16	3.7530	0.90265
17	4.2930	1.14083	18	5.2470	1.14083	19	9.5310	0.97157	20	11.6490	0.97157
21	16.4230	0.60706	22	17.3470	0.59307	23	20.4050	0.57963	24	22.0000	0.49099
25	22.2571	0.46689	26	23.7050	0.46689	27	39.5000	0.27533			

TUSI-REFINED RESPONSE SPECTRA FOR SAFEGUARDS BLDG.; SET NO. = 7  
 FLOOR RESPONSE SPECTRA FOR SSE; COMPONENT AX; DAMPING = 0.02  
 FIGURE NO. 1391-B DIRECTION 1 AT ELEVATION 785.50 FEET NO. OF SPECTRA = 1

BROADENED SPECTRUM FOR NODE=1391			DEGREE OF FREEDOM = 1			NUMBER OF GRIDS = 27			DAMPING VALUE = 0.020		
1	0.9000	0.27096	2	0.9450	0.28162	3	1.0037	0.28162	4	1.0620	0.36524
5	1.3004	0.36524	6	1.3230	0.38844	7	1.3680	0.48171	8	1.6312	0.48171
9	1.8720	0.67914	10	2.2880	0.67914	11	2.3255	0.67051	12	2.7222	0.67051
13	2.8170	0.71318	14	2.9970	0.76424	15	3.6162	0.76424	16	3.7530	0.85012
17	4.2930	1.03942	18	5.2470	1.03942	19	9.5310	0.92690	20	11.6490	0.92690
21	16.4230	0.58752	22	17.3470	0.57072	23	20.4050	0.55533	24	22.0000	0.46943
25	22.1951	0.45225	26	23.7050	0.45225	27	39.5000	0.26293			

TUSI-REFINED RESPONSE SPECTRA FOR SAFEGUARDS BLDG.; SET NO. = 8  
 FLOOR RESPONSE SPECTRA FOR SSE; COMPONENT AX; DAMPING = 0.02  
 FIGURE NO. 1392-B DIRECTION 1 AT ELEVATION 773.50 FEET NO. OF SPECTRA = 1

BROADENED SPECTRUM FOR NODE=1392			DEGREE OF FREEDOM = 1			NUMBER OF GRIDS = 29			DAMPING VALUE = 0.020		
1	0.9000	0.27602	2	0.9450	0.28657	3	1.0034	0.28657	4	1.0620	0.37180
5	1.3003	0.37180	6	1.3230	0.39563	7	1.3680	0.49070	8	1.6311	0.49070

9	1.8720	0.69168	10	2.2880	0.69168	11	2.3258	0.68287	12	2.7534	0.68287
13	2.8170	0.70992	14	2.9970	0.74459	15	3.6630	0.74459	16	3.6709	0.74045
17	3.7530	0.74045	18	4.2930	0.83500	19	5.2470	0.83500	20	9.5310	0.86301
21	11.6490	0.86301	22	14.6630	0.67154	23	17.3470	0.52700	24	20.4050	0.49954
25	22.0000	0.41783	26	22.0503	0.41409	27	23.7050	0.41409	28	35.7336	0.27008
29	39.5000	0.27008									

TUSI-REFINED RESPONSE SPECTRA FOR SAFEGUARDS BLDG.;  
 FLOOR RESPONSE SPECTRA FOR SSE; COMPONENT AY; DAMPING = 0.02  
 DIRECTION 2 AT ELEVATION 896.50 FEET SET NO. = 9  
 NO. OF SPECTRA = 1

BROADENED SPECTRUM FOR NODE=1386		DEGREE OF FREEDOM = 2		NUMBER OF GRIDS = 30		DAMPING VALUE = 0.020					
1	0.9000	0.18806	2	0.9990	0.19082	3	1.0620	0.24869	4	1.1250	0.25385
5	1.1250	0.25639	6	1.3230	0.29895	7	1.3680	0.35087	8	1.6560	0.35087
9	1.6469	0.35753	10	1.8720	0.45972	11	2.0430	0.47408	12	2.2970	0.47408
13	2.2691	0.50771	14	2.5020	0.58707	15	2.6460	0.64279	16	2.8170	0.70223
17	2.8170	0.79765	18	3.2204	0.84943	19	3.4650	1.03912	20	4.0950	2.04160
21	4.2930	1.96914	22	4.6420	2.95054	23	8.2440	3.46442	24	10.0760	3.46442
25	10.5270	3.86150	26	17.3470	3.15340	27	20.4050	2.76257	28	22.8650	2.08605
29	22.4813	2.32748	30	23.7050	0.84049						

TUSI-REFINED RESPONSE SPECTRA FOR SAFEGUARDS BLDG.;  
 FLOOR RESPONSE SPECTRA FOR SSE; COMPONENT AY; DAMPING = 0.02  
 DIRECTION 2 AT ELEVATION 873.50 FEET SET NO. = 10  
 NO. OF SPECTRA = 1

BROADENED SPECTRUM FOR NODE=1386		DEGREE OF FREEDOM = 2		NUMBER OF GRIDS = 33		DAMPING VALUE = 0.020					
1	0.9000	0.18806	2	0.9450	0.18973	3	0.9990	0.19123	4	1.0620	0.24609
5	1.1250	0.25639	6	1.2894	0.25639	7	1.3230	0.30817	8	1.3680	0.35753
9	1.6469	0.35753	10	1.8000	0.46598	11	1.8720	0.48484	12	2.0430	0.50771
13	2.2691	0.50771	14	2.3670	0.54836	15	2.5020	0.65982	16	2.6460	0.72519
17	2.8170	0.79765	18	2.9970	0.98468	19	3.2130	1.01655	20	3.4650	1.32816
21	3.7530	1.96914	22	4.0950	2.91223	23	4.2930	3.96026	24	4.5000	4.29302
25	5.5000	4.29302	26	8.6130	4.10919	27	10.5270	4.10919	28	18.4250	3.43548
29	20.4050	3.26120	30	22.0000	2.98689	31	22.5748	2.80266	32	23.7050	2.80266
33	39.5000	1.06937									

TUSI-REFINED RESPONSE SPECTRA FOR SAFEGUARDS BLDG.;  
 FLOOR RESPONSE SPECTRA FOR SSE; COMPONENT AY; DAMPING = 0.02  
 DIRECTION 2 AT ELEVATION 852.50 FEET SET NO. = 11  
 NO. OF SPECTRA = 1

BROADENED SPECTRUM FOR NODE=1387		DEGREE OF FREEDOM = 2		NUMBER OF GRIDS = 31		DAMPING VALUE = 0.020					
1	0.9000	0.18709	2	0.9990	0.18992	3	1.0620	0.24478	4	1.1250	0.25371
5	1.2898	0.25371	6	1.3230	0.30392	7	1.3680	0.35473	8	1.6506	0.35473
9	1.8000	0.45800	10	1.8720	0.47510	11	2.0430	0.49833	12	2.2775	0.49833
13	2.3670	0.53110	14	2.5020	0.63701	15	2.8170	0.76839	16	2.9970	0.94235
17	3.2130	0.96330	18	3.4650	1.25081	19	3.7530	1.85244	20	4.0950	2.71658
21	4.2930	3.68339	22	4.5000	4.00207	23	5.5000	4.00207	24	8.6130	3.86150
25	10.5270	3.86150	26	17.3470	2.84522	27	20.4050	2.60313	28	22.0000	2.45560
29	22.4813	2.32748	30	23.7050	2.32748	31	39.5000	0.95035			

TUSI-REFINED RESPONSE SPECTRA FOR SAFEGUARDS BLDG.;  
 FLOOR RESPONSE SPECTRA FOR SSE; COMPONENT AY; DAMPING = 0.02  
 DIRECTION 2 AT ELEVATION 831.50 FEET SET NO. = 12  
 NO. OF SPECTRA = 1

BROADENED SPECTRUM FOR NODE=1388		DEGREE OF FREEDOM = 2		NUMBER OF GRIDS = 31		DAMPING VALUE = 0.020					
1	0.9000	0.18464	2	0.9450	0.18650	3	0.9990	0.18787	4	1.0620	0.24244
5	1.1250	0.25010	6	1.2901	0.25010	7	1.3230	0.29828	8	1.3680	0.34953

9	1.6560	0.34953	10	1.8000	0.44680	11	1.8720	0.46121	12	2.0430	0.48229
13	2.2954	0.48229	14	2.3670	0.50432	15	2.5020	0.60319	16	2.6460	0.66054
17	2.8170	0.72296	18	2.9970	0.88002	19	3.2130	0.88663	20	3.4650	1.13074
21	4.0950	2.38534	22	4.2930	3.21325	23	4.5000	3.49203	24	5.5000	3.49203
25	8.6130	3.44823	26	10.5270	3.44823	27	20.4050	1.85497	28	22.0000	1.58215
29	22.5275	1.48251	30	23.7050	1.48251	31	39.5000	0.75081			

TUSI-REFINED RESPONSE SPECTRA FOR SAFEGUARDS BLDG.; SET NO. = 13  
 FLOOR RESPONSE SPECTRA FOR SSE; COMPONENT AY; DAMPING = 0.02  
 FIGURE NO. 1389-B DIRECTION 2 AT ELEVATION 810.50 FEET NO. OF SPECTRA = 1

BROADENED SPECTRUM FOR NODE=1389				DEGREE OF FREEDOM = 2		NUMBER OF GRIDS = 28		DAMPING VALUE = 0.020			
1	0.9000	0.18511	2	0.9990	0.18621	3	1.0620	0.24235	4	1.1250	0.24904
5	1.2906	0.24904	6	1.3230	0.29675	7	1.3680	0.34758	8	1.6574	0.34758
9	1.8000	0.44340	10	1.8720	0.45882	11	2.0430	0.47789	12	2.2953	0.47789
13	2.3670	0.50025	14	2.5020	0.59611	15	2.8170	0.71462	16	2.9970	0.86600
17	3.2130	0.87046	18	3.4650	1.10593	19	4.0950	2.30604	20	4.2930	3.08913
21	4.5000	3.36926	22	5.5000	3.36926	23	8.6130	3.32082	24	10.5270	3.32082
25	20.4050	1.49936	26	22.8690	1.05321	27	23.7050	1.03330	28	39.5000	0.71113

TUSI-REFINED RESPONSE SPECTRA FOR SAFEGUARDS BLDG.; SET NO. = 14  
 FLOOR RESPONSE SPECTRA FOR SSE; COMPONENT AY; DAMPING = 0.02  
 FIGURE NO. 1390-B DIRECTION 2 AT ELEVATION 790.50 FEET NO. OF SPECTRA = 1

BROADENED SPECTRUM FOR NODE=1390				DEGREE OF FREEDOM = 2		NUMBER OF GRIDS = 34		DAMPING VALUE = 0.020			
1	0.9000	0.18948	2	0.9990	0.18988	3	1.0620	0.24695	4	1.1250	0.25331
5	1.2943	0.25331	6	1.3230	0.29267	7	1.3680	0.34680	8	1.6686	0.34680
9	1.8000	0.43191	10	1.8720	0.44172	11	2.0430	0.45598	12	2.3489	0.45598
13	2.3670	0.45939	14	2.5020	0.54361	15	2.6460	0.59327	16	2.8170	0.64357
17	2.9970	0.76738	18	3.2629	0.76738	19	3.4650	0.87562	20	3.7530	1.25466
21	4.0950	1.55899	22	4.2930	1.99749	23	4.5000	2.22602	24	8.2260	2.74805
25	8.6130	2.75071	26	10.5270	2.75071	27	11.6490	2.38656	28	14.5530	1.55802
29	17.3470	1.23704	30	18.4250	1.04003	31	20.4050	0.86589	32	22.8140	0.62778
33	23.7050	0.62778	34	39.5000	0.49872						

TUSI-REFINED RESPONSE SPECTRA FOR SAFEGUARDS BLDG.; SET NO. = 15  
 FLOOR RESPONSE SPECTRA FOR SSE; COMPONENT AY; DAMPING = 0.02  
 FIGURE NO. 1391-B DIRECTION 2 AT ELEVATION 785.50 FEET NO. OF SPECTRA = 1

BROADENED SPECTRUM FOR NODE=1391				DEGREE OF FREEDOM = 2		NUMBER OF GRIDS = 34		DAMPING VALUE = 0.020			
1	0.9000	0.18855	2	0.9990	0.18894	3	1.0620	0.24595	4	1.1250	0.25212
5	1.2942	0.25212	6	1.3230	0.29140	7	1.3680	0.34551	8	1.6688	0.34551
9	1.8000	0.42998	10	1.8720	0.43929	11	2.0430	0.45285	12	2.3609	0.45285
13	2.3670	0.45392	14	2.5020	0.53690	15	2.6460	0.58544	16	2.8170	0.63418
17	2.9970	0.75454	18	3.2756	0.75454	19	3.4650	0.84760	20	3.7530	1.21083
21	4.0950	1.46618	22	4.2930	1.85931	23	4.5000	2.08151	24	7.7940	2.61377
25	8.2260	2.66654	26	10.0540	2.66654	27	10.5270	2.65880	28	11.6490	2.28807
29	14.5530	1.45371	30	17.3470	1.14064	31	18.4250	0.95294	32	22.8627	0.59706
33	23.7050	0.59706	34	39.5000	0.47665						

TUSI-REFINED RESPONSE SPECTRA FOR SAFEGUARDS BLDG.; SET NO. = 16  
 FLOOR RESPONSE SPECTRA FOR SSE; COMPONENT AY; DAMPING = 0.02  
 FIGURE NO. 1392-B DIRECTION 2 AT ELEVATION 773.50 FEET NO. OF SPECTRA = 1

BROADENED SPECTRUM FOR NODE=1392				DEGREE OF FREEDOM = 2		NUMBER OF GRIDS = 34		DAMPING VALUE = 0.020			
1	0.9000	0.18552	2	0.9990	0.18590	3	1.0620	0.24247	4	1.1250	0.24818
5	1.2938	0.24818	6	1.3230	0.28830	7	1.3680	0.34082	8	1.6661	0.34082

9	1.8000	0.42598	10	1.8720	0.43438	11	2.0430	0.44644	12	2.3726	0.44644
13	2.5020	0.52346	14	2.6460	0.56967	15	2.8170	0.61523	16	2.9970	0.72863
17	3.3093	0.72863	18	3.4650	0.79117	19	3.7530	1.12303	20	4.0950	1.27365
21	4.2930	1.56789	22	4.5000	1.77806	23	5.6250	2.05961	24	7.7940	2.45459
25	8.2260	2.49511	26	10.0540	2.49511	27	10.5270	2.46504	28	11.6490	2.08757
29	14.5530	1.24453	30	17.3470	0.94445	31	18.4250	0.78105	32	22.7111	0.55567
33	23.7050	0.55567	34	39.5000	0.43699						

TUSI-REFINED RESPONSE SPECTRA FOR SAFEGUARDS BLDG.; SET NO. = 17  
 FLOOR RESPONSE SPECTRA FOR SSE; COMPONENT AZ; DAMPING = 0.02  
 FIGURE NO. 1385-B DIRECTION 3 AT ELEVATION 896.50 FEET NO. OF SPECTRA = 1

BROADENED SPECTRUM FOR NODE=1385 DEGREE OF FREEDOM = 3 NUMBER OF GRIDS = 34 DAMPING VALUE = 0.020											
1	0.9000	0.26303	2	0.9450	0.27167	3	1.0067	0.27167	4	1.0620	0.34736
5	1.2805	0.34736	6	1.2870	0.34953	7	1.3680	0.47593	8	1.5930	0.47593
9	1.6110	0.48889	10	1.6650	0.51947	11	1.7280	0.60940	12	1.8720	0.72050
13	2.0362	0.72050	14	2.1420	0.77311	15	2.5463	0.77311	16	2.6460	0.80134
17	2.8170	0.91250	18	2.9970	1.01643	19	3.3193	1.01643	20	3.4650	1.11957
21	3.7530	1.54698	22	4.0950	2.22945	23	4.2930	2.89103	24	4.5000	2.97274
25	5.6250	3.65681	26	8.2440	4.52933	27	10.0760	4.52933	28	10.5270	4.26245
29	11.0000	3.17293	30	11.6490	2.51142	31	14.6630	1.55560	32	19.3950	1.29775
33	23.7050	1.29775	34	39.5000	0.71027						

TUSI-REFINED RESPONSE SPECTRA FOR SAFEGUARDS BLDG.; SET NO. = 18  
 FLOOR RESPONSE SPECTRA FOR SSE; COMPONENT AZ; DAMPING = 0.02  
 FIGURE NO. 1386-B DIRECTION 3 AT ELEVATION 873.50 FEET NO. OF SPECTRA = 1

BROADENED SPECTRUM FOR NODE=1386 DEGREE OF FREEDOM = 3 NUMBER OF GRIDS = 39 DAMPING VALUE = 0.020											
1	0.9000	0.26612	2	0.9450	0.27573	3	1.0056	0.27573	4	1.0620	0.35273
5	1.2785	0.35273	6	1.2870	0.35558	7	1.3680	0.48027	8	1.5955	0.48027
9	1.6110	0.49064	10	1.7280	0.60971	11	1.8720	0.72295	12	2.0428	0.72295
13	2.1420	0.77308	14	2.5188	0.77308	15	2.6460	0.81135	16	2.9970	1.01838
17	3.2819	1.01838	18	3.4650	1.15461	19	3.7530	1.60154	20	4.1630	2.35573
21	4.6000	3.08415	22	4.6520	3.18812	23	5.4059	3.18812	24	5.6250	3.65320
25	6.3720	3.89786	26	7.4970	4.08060	27	8.2440	4.31153	28	10.0760	4.31153
29	10.5270	4.02278	30	10.9959	3.07021	31	11.6490	3.07021	32	14.6630	1.80432
33	16.4230	1.74721	34	17.3470	1.54637	35	18.4250	1.31271	36	20.4050	1.19116
37	22.5082	0.90588	38	23.7050	0.90588	39	39.5000	0.71074			

TUSI-REFINED RESPONSE SPECTRA FOR SAFEGUARDS BLDG.; SET NO. = 19  
 FLOOR RESPONSE SPECTRA FOR SSE; COMPONENT AZ; DAMPING = 0.02  
 FIGURE NO. 1387-B DIRECTION 3 AT ELEVATION 852.50 FEET NO. OF SPECTRA = 1

BROADENED SPECTRUM FOR NODE=1387 DEGREE OF FREEDOM = 3 NUMBER OF GRIDS = 40 DAMPING VALUE = 0.020											
1	0.9000	0.26273	2	0.9450	0.27244	3	1.0048	0.27244	4	1.0620	0.34937
5	1.2850	0.34937	6	1.2870	0.35001	7	1.3680	0.47292	8	1.6013	0.47292
9	1.6650	0.51167	10	1.7280	0.59199	11	1.8720	0.70464	12	2.0549	0.70464
13	2.1420	0.74450	14	2.5332	0.74450	15	2.6460	0.77435	16	2.8170	0.86567
17	2.9970	0.95237	18	3.3014	0.95237	19	3.4650	1.04781	20	3.7530	1.43524
21	4.1980	2.07489	22	4.6470	2.68509	23	4.7340	2.76978	24	5.4458	2.76978
25	5.6250	3.06856	26	6.3720	3.16855	27	7.4970	3.27974	28	9.1630	3.27974
29	10.0540	3.27361	30	10.0760	3.27123	31	10.9363	2.77715	32	11.6490	2.77715
33	14.6630	1.56346	34	16.4230	1.48342	35	17.3470	1.32093	36	18.4250	1.11313
37	20.4050	1.04120	38	21.6919	0.89600	39	23.7050	0.89600	40	39.5000	0.64506

TUSI-REFINED RESPONSE SPECTRA FOR SAFEGUARDS BLDG.; SET NO. = 20  
 FLOOR RESPONSE SPECTRA FOR SSE; COMPONENT AZ; DAMPING = 0.02

FIGURE NO. 1388-B

DIRECTION 3

AT ELEVATION 831.50 FEET

NO. OF SPECTRA = 1

BROADENED SPECTRUM FOR NODE=1388			DEGREE OF FREEDOM = 3			NUMBER OF GRIDS = 31			DAMPING VALUE = 0.020		
1	0.9000	0.25659	2	0.9450	0.26646	3	1.0042	0.26646	4	1.0620	0.34308
5	1.2894	0.34308	6	1.3680	0.45966	7	1.6097	0.45966	8	1.6650	0.49109
9	1.7280	0.56513	10	1.8720	0.67619	11	2.1004	0.67619	12	2.1420	0.70089
13	2.5830	0.70089	14	2.6460	0.71317	15	2.8170	0.79363	16	2.9970	0.86529
17	3.4215	0.86529	18	3.4650	0.88023	19	3.7530	1.17139	20	4.0950	1.61986
21	4.2930	2.03395	22	4.5000	2.08867	23	6.8750	2.49000	24	9.5310	2.49000
25	11.6490	2.01083	26	14.5530	1.13847	27	18.2052	0.75293	28	20.4050	0.75293
29	21.5335	0.69833	30	23.7050	0.69833	31	39.5000	0.46846			

TUSI-REFINED RESPONSE SPECTRA FOR SAFEGUARDS BLDG.;  
FLOOR RESPONSE SPECTRA FOR SSE; COMPONENT AZ ; DAMPING = 0.02

SET NO. = 21

FIGURE NO. 1389-B

DIRECTION 3

AT ELEVATION 810.50 FEET

NO. OF SPECTRA = 1

BROADENED SPECTRUM FOR NODE=1389			DEGREE OF FREEDOM = 3			NUMBER OF GRIDS = 31			DAMPING VALUE = 0.020		
1	0.9000	0.25228	2	0.9450	0.26220	3	1.0035	0.26220	4	1.0620	0.33911
5	1.2949	0.33911	6	1.3230	0.36701	7	1.3680	0.44836	8	1.6185	0.44836
9	1.7280	0.54162	10	1.8720	0.65144	11	2.1168	0.65144	12	2.1420	0.66293
13	2.6180	0.66293	14	2.6248	0.65989	15	2.6460	0.65989	16	2.8170	0.73709
17	2.9970	0.79287	18	3.5280	0.79287	19	4.0950	1.23634	20	4.2930	1.48585
21	4.5000	1.53223	22	6.8750	1.77800	23	9.5310	1.77800	24	11.6490	1.54598
25	14.6630	0.88891	26	18.2918	0.66974	27	20.4050	0.66974	28	22.0000	0.55632
29	22.7147	0.46869	30	23.7050	0.46869	31	39.5000	0.35759			

TUSI-REFINED RESPONSE SPECTRA FOR SAFEGUARDS BLDG.;  
FLOOR RESPONSE SPECTRA FOR SSE; COMPONENT AZ ; DAMPING = 0.02

SET NO. = 22

FIGURE NO. 1390-B

DIRECTION 3

AT ELEVATION 790.50 FEET

NO. OF SPECTRA = 1

BROADENED SPECTRUM FOR NODE=1390			DEGREE OF FREEDOM = 3			NUMBER OF GRIDS = 27			DAMPING VALUE = 0.020		
1	0.9000	0.26506	2	0.9450	0.27529	3	1.0035	0.27529	4	1.0620	0.35673
5	1.3000	0.35673	6	1.3230	0.37972	7	1.3680	0.47085	8	1.6310	0.47085
9	1.8720	0.66423	10	2.2880	0.66423	11	2.3273	0.65536	12	2.7548	0.65536
13	2.8170	0.68054	14	2.9970	0.72076	15	3.7198	0.72076	16	3.7530	0.73665
17	4.2930	0.89046	18	4.5000	0.91094	19	5.5000	0.91094	20	9.5310	0.99810
21	11.6490	0.99810	22	14.6630	0.61865	23	20.4050	0.49257	24	22.0000	0.40749
25	22.3989	0.36809	26	23.7050	0.36809	27	39.5000	0.24157			

TUSI-REFINED RESPONSE SPECTRA FOR SAFEGUARDS BLDG.;  
FLOOR RESPONSE SPECTRA FOR SSE; COMPONENT AZ ; DAMPING = 0.02

SET NO. = 23

FIGURE NO. 1391-B

DIRECTION 3

AT ELEVATION 785.50 FEET

NO. OF SPECTRA = 1

BROADENED SPECTRUM FOR NODE=1391			DEGREE OF FREEDOM = 3			NUMBER OF GRIDS = 28			DAMPING VALUE = 0.020		
1	0.9000	0.26429	2	0.9450	0.27458	3	1.0035	0.27458	4	1.0620	0.35581
5	1.3001	0.35581	6	1.3230	0.37866	7	1.3690	0.46957	8	1.6310	0.46957
9	1.8720	0.66238	10	2.2880	0.66238	11	2.3271	0.65357	12	2.7548	0.65357
13	2.8170	0.67871	14	2.9970	0.71240	15	3.6630	0.71240	16	3.6673	0.71053
17	3.7530	0.71053	18	4.2930	0.82680	19	4.5000	0.85180	20	5.5000	0.85180
21	9.5310	0.96151	22	11.6490	0.96151	23	14.6630	0.60741	24	20.4050	0.47210
25	22.0000	0.39077	26	22.3530	0.35979	27	23.7050	0.35979	28	39.5000	0.23217

TUSI-REFINED RESPONSE SPECTRA FOR SAFEGUARDS BLDG.;  
FLOOR RESPONSE SPECTRA FOR SSE; COMPONENT AZ ; DAMPING = 0.02

SET NO. = 24

FIGURE NO. 1392-B

DIRECTION 3

AT ELEVATION 773.50 FEET

NO. OF SPECTRA = 1

BROADENED SPECTRUM FOR NODE=1392			DEGREE OF FREEDOM = 3			NUMBER OF GRIDS = 25			DAMPING VALUE = 0.020		
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1	0.9000	0.26045	2	0.9450	0.27080	3	1.0036	0.27080	4	1.0620	0.35088
5	1.3063	0.35088	6	1.3230	0.37329	7	1.3680	0.46296	8	1.6309	0.46296
9	1.8720	0.65297	10	2.2880	0.65297	11	2.3265	0.64441	12	2.7548	0.64441
13	2.8170	0.66921	14	2.9970	0.70235	15	4.1215	0.70235	16	4.5000	0.74563
17	5.5000	0.74563	18	9.5110	0.89455	19	11.6490	0.89455	20	14.6630	0.59373
21	20.4050	0.42764	22	22.0000	0.35428	23	22.2181	0.34149	24	23.7050	0.34149
25	39.5000	0.21319									

TUSI-REFINED RESPONSE SPECTRA FOR SAFEGUARDS BLDG.; SET NO. = 1  
 FLOOR RESPONSE SPECTRA FOR SSE; COMPONENT AX ; DAMPING = 0.03  
 FIGURE NO. 451-B DIRECTION 1 AT ELEVATION 896.50 FEET NO. OF SPECTRA = 1

BROADENED SPECTRUM FOR NODE= 451			DEGREE OF FREEDOM = 1			NUMBER OF GRIDS = 45			DAMPING VALUE = 0.030		
1	0.9000	0.25629	2	0.9450	0.26606	3	1.0085	0.26606	4	1.0620	0.30614
5	1.1250	0.31642	6	1.2036	0.31642	7	1.3230	0.36861	8	1.3680	0.40443
9	1.4043	0.40443	10	1.4490	0.44454	11	1.5030	0.46163	12	1.5771	0.46163
13	1.7280	0.57584	14	1.8000	0.58871	15	1.8720	0.66473	16	2.0084	0.66473
17	2.1420	0.72277	18	2.2500	0.72740	19	2.3670	0.79803	20	2.5109	0.79803
21	2.6450	0.89058	22	2.8170	0.99906	23	2.9970	1.10321	24	3.2313	1.10321
25	3.4650	1.40108	26	3.7530	2.06617	27	4.5630	3.67194	28	5.2470	3.67194
29	6.3720	4.25425	30	7.7880	4.25425	31	8.4837	3.96890	32	9.1630	3.96890
33	9.5260	2.89528	34	10.0540	2.62010	35	10.0760	2.60320	36	10.5257	2.21406
37	11.0000	2.21406	38	11.6490	1.74748	39	14.6630	1.21866	40	16.4230	1.14504
41	16.9716	1.06990	42	20.4050	1.06990	43	21.3779	0.97253	44	23.7050	0.97253
45	39.5000	0.66699									

TUSI-REFINED RESPONSE SPECTRA FOR SAFEGUARDS BLDG.; SET NO. = 2  
 FLOOR RESPONSE SPECTRA FOR SSE; COMPONENT AX ; DAMPING = 0.03  
 FIGURE NO. 452-B DIRECTION 1 AT ELEVATION 873.50 FEET NO. OF SPECTRA = 1

BROADENED SPECTRUM FOR NODE= 452			DEGREE OF FREEDOM = 1			NUMBER OF GRIDS = 43			DAMPING VALUE = 0.030		
1	0.9000	0.25323	2	0.9450	0.26341	3	1.0061	0.26341	4	1.0620	0.30628
5	1.1250	0.31008	6	1.2870	0.33969	7	1.3680	0.40197	8	1.4490	0.43512
9	1.5030	0.45121	10	1.5766	0.45121	11	1.7280	0.56002	12	1.8000	0.57866
13	1.8720	0.64972	14	2.0110	0.64972	15	2.1420	0.69840	16	2.2500	0.70108
17	2.3670	0.76846	18	2.5161	0.76846	19	2.6460	0.85279	20	2.9970	1.04324
21	3.2330	1.04324	22	3.4650	1.31617	23	3.7530	1.89599	24	4.2930	3.27581
25	5.2470	3.27581	26	6.3720	3.87337	27	7.7880	3.87337	28	8.4756	3.62375
29	9.1630	3.62375	30	9.5260	2.64462	31	10.0540	2.36982	32	10.0760	2.35533
33	10.5270	1.98830	34	11.0000	1.98400	35	11.6490	1.93190	36	14.5530	1.39234
37	16.4230	1.28974	38	18.4250	1.07205	39	20.4050	1.05873	40	22.0000	0.88345
41	22.8180	0.78724	42	23.7050	0.78724	43	39.5000	0.61917			

TUSI-REFINED RESPONSE SPECTRA FOR SAFEGUARDS BLDG.; SET NO. = 3  
 FLOOR RESPONSE SPECTRA FOR SSE; COMPONENT AX ; DAMPING = 0.03  
 FIGURE NO. 453-B DIRECTION 1 AT ELEVATION 852.50 FEET NO. OF SPECTRA = 1

BROADENED SPECTRUM FOR NODE= 453			DEGREE OF FREEDOM = 1			NUMBER OF GRIDS = 37			DAMPING VALUE = 0.030		
1	0.9000	0.24764	2	0.9450	0.25764	3	1.0043	0.25764	4	1.0620	0.30222
5	1.1970	0.30673	6	1.3230	0.34797	7	1.3680	0.38931	8	1.4490	0.41665
9	1.5030	0.43138	10	1.5766	0.43138	11	1.8720	0.61790	12	2.0430	0.62200
13	2.1420	0.65181	14	2.3670	0.70864	15	2.5210	0.70864	16	2.6460	0.77250
17	2.9970	0.92831	18	3.2509	0.92831	19	3.4650	1.2964	20	3.7530	1.57511
21	4.0950	2.24217	22	4.2930	2.56351	23	5.2470	2.56351	24	6.3720	2.99798
25	7.7880	2.99798	26	7.8540	2.84090	27	9.1630	2.74214	28	9.5260	1.97997
29	10.0540	1.71106	30	10.2758	1.58758	31	11.6490	1.58758	32	17.3470	1.00409
33	18.1156	0.95469	34	20.4050	0.95469	35	22.5694	0.71661	36	23.7050	0.71661
37	39.5000	0.51122									

TUSI-REFINED RESPONSE SPECTRA FOR SAFEGUARDS BLDG.; SET NO. = 4

FLOOR RESPONSE SPECTRA FOR SSE; COMPONENT AX ; DAMPING = 0.03  
 FIGURE NO. 454-B DIRECTION 1 AT ELEVATION 831.50 FEET NO. OF SPECTRA = 1

BROADENED SPECTRUM FOR NODE= 454 DEGREE OF FREEDOM = 1 NUMBER OF GRIDS = 31 DAMPING VALUE = 0.030

1	0.9000	0.24103	2	0.9450	0.25064	3	1.0014	0.25064	4	1.0620	0.29762
5	1.2870	0.32121	6	1.3680	0.37599	7	1.5030	0.40828	8	1.5755	0.40828
9	1.8720	0.58216	10	2.0531	0.58216	11	2.3670	0.64073	12	2.5289	0.64073
13	2.8170	0.74633	14	2.9970	0.79775	15	3.2625	0.79775	16	3.4650	0.92045
17	4.0950	1.64012	18	4.2930	1.60534	19	5.2470	1.80534	20	6.3720	2.14475
21	7.7880	2.14475	22	9.1630	1.54728	23	9.4697	1.16345	24	11.6490	1.16345
25	14.5530	0.96631	26	17.3470	0.68983	27	17.9236	0.65985	28	20.4050	0.65985
29	22.2956	0.60156	30	23.7050	0.60156	31	39.5000	0.38355			

TUSI-REFINED RESPONSE SPECTRA FOR SAFEGUARDS BLDG. ; SET NO. = 5  
 FLOOR RESPONSE SPECTRA FOR SSE; COMPONENT AX ; DAMPING = 0.03  
 FIGURE NO. 455-B DIRECTION 1 AT ELEVATION 810.50 FEET NO. OF SPECTRA = 1

BROADENED SPECTRUM FOR NODE= 455 DEGREE OF FREEDOM = 1 NUMBER OF GRIDS = 32 DAMPING VALUE = 0.030

1	0.9000	0.24478	2	0.9450	0.25646	3	0.9990	0.25810	4	1.0620	0.31005
5	1.2191	0.31005	6	1.3230	0.33506	7	1.3680	0.37513	8	1.5030	0.39448
9	1.5685	0.39148	10	1.8720	0.55481	11	2.1420	0.55603	12	2.2500	0.57446
13	2.3670	0.58980	14	2.6460	0.60906	15	2.8170	0.68334	16	2.9970	0.70297
17	3.2568	0.70297	18	3.4650	0.76965	19	4.0950	1.22708	20	4.2930	1.31810
21	5.2470	1.31810	22	5.7298	1.51570	23	7.7880	1.51570	24	9.5310	1.07764
25	11.6490	1.07764	26	14.5530	0.88935	27	18.4250	0.56917	28	20.4050	0.53659
29	22.0000	0.46854	30	22.7805	0.42992	31	23.7050	0.42992	32	39.5000	0.31867

TUSI-REFINED RESPONSE SPECTRA FOR SAFEGUARDS BLDG. ; SET NO. = 6  
 FLOOR RESPONSE SPECTRA FOR SSE; COMPONENT AX ; DAMPING = 0.03  
 FIGURE NO. 456-B DIRECTION 1 AT ELEVATION 790.50 FEET NO. OF SPECTRA = 1

BROADENED SPECTRUM FOR NODE= 456 DEGREE OF FREEDOM = 1 NUMBER OF GRIDS = 32 DAMPING VALUE = 0.030

1	0.9000	0.25191	2	0.9450	0.26360	3	0.9990	0.26539	4	1.0620	0.31882
5	1.2202	0.31882	6	1.3230	0.34340	7	1.3680	0.38557	8	1.5030	0.39828
9	1.6110	0.41627	10	1.6650	0.44672	11	1.8720	0.55314	12	2.2341	0.55314
13	2.2500	0.55711	14	2.6559	0.55711	15	2.8170	0.62412	16	2.9970	0.63420
17	3.4047	0.63420	18	3.4650	0.64223	19	3.7530	0.77059	20	4.0950	0.90783
21	4.2930	0.93835	22	5.2470	0.93835	23	9.5310	0.81193	24	11.6490	0.81193
25	14.6630	0.63922	26	17.3470	0.52366	27	17.7982	0.51285	28	20.4050	0.51285
29	22.0000	0.44283	30	22.5613	0.41274	31	23.7050	0.41274	32	39.5000	0.25192

TUSI-REFINED RESPONSE SPECTRA FOR SAFEGUARDS BLDG. ; SET NO. = 7  
 FLOOR RESPONSE SPECTRA FOR SSE; COMPONENT AX ; DAMPING = 0.03  
 FIGURE NO. 457-B DIRECTION 1 AT ELEVATION 785.50 FEET NO. OF SPECTRA = 1

BROADENED SPECTRUM FOR NODE= 457 DEGREE OF FREEDOM = 1 NUMBER OF GRIDS = 30 DAMPING VALUE = 0.030

1	0.9000	0.25345	2	0.9450	0.26520	3	0.9990	0.26704	4	1.0620	0.32058
5	1.2194	0.32058	6	1.3230	0.34550	7	1.3680	0.38793	8	1.5030	0.40083
9	1.6110	0.41896	10	1.6650	0.44960	11	1.8720	0.55669	12	2.2331	0.55669
13	2.2500	0.56101	14	2.6954	0.56101	15	2.8170	0.61062	16	2.9970	0.61891
17	3.4800	0.61891	18	3.7530	0.72568	19	4.0950	0.83820	20	4.2930	0.85735
21	5.2470	0.85735	22	9.5310	0.77296	23	11.6490	0.77296	24	14.6630	0.61674
25	17.3470	0.50254	26	20.4050	0.49183	27	22.0000	0.42387	28	22.5090	0.39790
29	23.7050	0.39790	30	39.5000	0.23985						

TUSI-REFINED RESPONSE SPECTRA FOR SAFEGUARDS BLDG. ; SET NO. = 8  
 FLOOR RESPONSE SPECTRA FOR SSE; COMPONENT AX ; DAMPING = 0.03



FIGURE NO. 458-B

DIRECTION 1

AT ELEVATION 773.50 FEET

NO. OF SPECTRA = 1

BROADENED SPECTRUM FOR NODE= 458				DEGREE OF FREEDOM = 1		NUMBER OF GRIDS = 27		DAMPING VALUE = 0.030			
1	0.9000	0.25810	2	0.9450	0.27003	3	0.9990	0.27198	4	1.0620	0.32606
5	1.2178	0.32606	6	1.3230	0.35187	7	1.3680	0.39505	8	1.5030	0.40837
9	1.5643	0.40837	10	1.8720	0.56715	11	2.2306	0.56715	12	2.2500	0.57229
13	2.7372	0.57229	14	2.8170	0.60752	15	3.6647	0.60752	16	3.7530	0.63173
17	4.0950	0.69521	18	5.0050	0.69521	19	9.5310	0.71386	20	11.6490	0.71386
21	14.6630	0.58959	22	17.3470	0.46130	23	20.4050	0.44437	24	22.0000	0.37915
25	22.3845	0.36200	26	23.7050	0.36200	27	39.5000	0.21587			

TUSI-REFINED RESPONSE SPECTRA FOR SAFEGUARDS BLDG.;  
 FLOOR RESPONSE SPECTRA FOR SSE; COMPONENT AY; DAMPING = 0.03  
 FIGURE NO. 451-B DIRECTION 2 AT ELEVATION 896.50 FEET

SET NO. = 9

NO. OF SPECTRA = 1

BROADENED SPECTRUM FOR NODE= 451				DEGREE OF FREEDOM = 2		NUMBER OF GRIDS = 33		DAMPING VALUE = 0.030			
1	0.9000	0.17770	2	0.9990	0.18338	3	1.0620	0.21500	4	1.1250	0.22133
5	1.2870	0.22558	6	1.3230	0.26599	7	1.3680	0.29146	8	1.6131	0.29146
9	1.6650	0.31566	10	1.7280	0.33021	11	1.8006	0.38048	12	1.5530	0.40017
13	2.2500	0.42665	14	2.6460	0.56791	15	2.8170	0.60124	16	2.9970	0.70868
17	3.2130	0.77221	18	3.4650	0.93768	19	3.7530	1.25782	20	4.5570	2.21336
21	4.6920	2.35527	22	5.4746	2.35527	23	5.6250	2.48930	24	8.2440	2.82666
25	10.0760	2.82666	26	13.4370	2.85102	27	16.4230	2.85102	28	17.3470	2.82739
29	18.4250	2.52996	30	20.4050	2.36043	31	22.0000	1.88374	32	22.8690	1.81336
33	39.5000	0.67651									

TUSI-REFINED RESPONSE SPECTRA FOR SAFEGUARDS BLDG.;  
 FLOOR RESPONSE SPECTRA FOR SSE; COMPONENT AY; DAMPING = 0.03  
 FIGURE NO. 452-B DIRECTION 2 AT ELEVATION 873.50 FEET

SET NO. = 10

NO. OF SPECTRA = 1

BROADENED SPECTRUM FOR NODE= 452				DEGREE OF FREEDOM = 2		NUMBER OF GRIDS = 31		DAMPING VALUE = 0.030			
1	0.9000	0.17631	2	0.9990	0.18565	3	1.0620	0.21544	4	1.1250	0.22533
5	1.2870	0.23458	6	1.3230	0.27534	7	1.3680	0.30015	8	1.5897	0.30015
9	1.6110	0.30146	10	1.6650	0.32976	11	1.7280	0.34699	12	1.8000	0.39783
13	2.0430	0.43854	14	2.3670	0.59867	15	2.6460	0.64243	16	2.8170	0.70126
17	2.9970	0.83514	18	3.2130	0.93766	19	3.4650	1.18806	20	3.7530	1.64944
21	4.2930	3.22723	22	4.5000	3.38081	23	5.5000	3.38081	24	8.2260	3.35699
25	10.0540	3.35699	26	17.3470	3.06395	27	18.4250	2.80425	28	20.4050	2.77760
29	22.8690	2.32160	30	23.7050	2.31495	31	39.5000	0.86095			

TUSI-REFINED RESPONSE SPECTRA FOR SAFEGUARDS BLDG.;  
 FLOOR RESPONSE SPECTRA FOR SSE; COMPONENT AY; DAMPING = 0.03  
 FIGURE NO. 453-B DIRECTION 2 AT ELEVATION 852.50 FEET

SET NO. = 11

NO. OF SPECTRA = 1

BROADENED SPECTRUM FOR NODE= 453				DEGREE OF FREEDOM = 2		NUMBER OF GRIDS = 30		DAMPING VALUE = 0.030			
1	0.9000	0.17532	2	0.9990	0.18446	3	1.0620	0.21405	4	1.1250	0.22265
5	1.2870	0.23201	6	1.3230	0.27043	7	1.3680	0.29752	8	1.6127	0.29752
9	1.6650	0.32512	10	1.7280	0.34008	11	1.8000	0.39109	12	2.0430	0.42959
13	2.2500	0.45576	14	2.6460	0.61965	15	2.8170	0.67369	16	2.9970	0.79761
17	3.2130	0.88877	18	3.4650	1.11895	19	3.7530	1.55200	20	4.2930	3.00223
21	4.5000	3.14652	22	5.5000	3.14652	23	8.2440	3.15584	24	10.0760	3.15584
25	11.6490	2.98403	26	17.3470	2.49892	27	20.4050	2.23325	28	22.0000	2.02074
29	23.7050	1.92363	30	39.5000	0.78393						

TUSI-REFINED RESPONSE SPECTRA FOR SAFEGUARDS BLDG.;  
 FLOOR RESPONSE SPECTRA FOR SSE; COMPONENT AY; DAMPING = 0.03  
 FIGURE NO. 454-B DIRECTION 2 AT ELEVATION 831.50 FEET

SET NO. = 12

NO. OF SPECTRA = 1

BROADENED SPECTRUM FOR NODE= 454			DEGREE OF FREEDOM = 2			NUMBER OF GRIDS = 31			DAMPING VALUE = 0.030		
1	0.9000	0.17285	2	0.9990	0.18227	3	1.0620	0.21172	4	1.1250	0.21968
5	1.2870	0.22784	6	1.3230	0.26582	7	1.3680	0.29254	8	1.6173	0.29254
9	1.6650	0.31675	10	1.7280	0.33152	11	1.8000	0.38045	12	2.0430	0.41480
13	2.2500	0.43634	14	2.6460	0.58387	15	2.8170	0.62929	16	2.9970	0.74021
17	3.2130	0.81625	18	3.4650	1.01166	19	3.7530	1.39095	20	4.2930	2.61986
21	4.5000	2.74796	22	5.5000	2.74796	23	8.2260	2.83090	24	10.0540	2.83090
25	11.6490	2.59688	26	14.5530	1.94535	27	17.3470	1.83666	28	20.4050	1.59966
29	22.7994	1.24285	30	23.7050	1.24285	31	39.5000	0.66099			

TUSI-REFINED RESPONSE SPECTRA FOR SAFEGUARDS BLDG.; SET NO. = 13  
 FLOOR RESPONSE SPECTRA FOR SSE; COMPONENT AY; DAMPING = 0.03  
 FIGURE NO. 455-B DIRECTION 2 AT ELEVATION 810.50 FEET NO. OF SPECTRA = 1

BROADENED SPECTRUM FOR NODE= 455			DEGREE OF FREEDOM = 2			NUMBER OF GRIDS = 31			DAMPING VALUE = 0.030		
1	0.9000	0.17323	2	0.9990	0.18068	3	1.0620	0.21065	4	1.1250	0.21776
5	1.2870	0.22599	6	1.3230	0.26355	7	1.3680	0.29161	8	1.6204	0.29161
9	1.6650	0.31486	10	1.7280	0.32987	11	1.8000	0.37723	12	2.0430	0.41128
13	2.2500	0.43206	14	2.6460	0.57580	15	2.8170	0.62202	16	2.9970	0.72771
17	3.2130	0.80221	18	3.4650	0.98865	19	3.7530	1.35437	20	4.2930	2.52356
21	4.5000	2.64831	22	5.5000	2.64831	23	8.2260	2.73975	24	10.0540	2.73975
25	11.6490	2.50953	26	16.4230	1.73993	27	18.4250	1.39344	28	20.4050	1.28455
29	22.8690	0.93627	30	23.7050	0.87841	31	39.5000	0.64097			

TUSI-REFINED RESPONSE SPECTRA FOR SAFEGUARDS BLDG.; SET NO. = 14  
 FLOOR RESPONSE SPECTRA FOR SSE; COMPONENT AY; DAMPING = 0.03  
 FIGURE NO. 456-B DIRECTION 2 AT ELEVATION 790.50 FEET NO. OF SPECTRA = 1

BROADENED SPECTRUM FOR NODE= 456			DEGREE OF FREEDOM = 2			NUMBER OF GRIDS = 31			DAMPING VALUE = 0.030		
1	0.9000	0.17676	2	0.9990	0.18193	3	1.0620	0.21380	4	1.1250	0.22068
5	1.2870	0.22299	6	1.3230	0.25851	7	1.3680	0.28707	8	1.6276	0.28707
9	1.6650	0.30450	10	1.7280	0.31692	11	1.8000	0.36567	12	1.9530	0.38426
13	2.2500	0.40501	14	2.5020	0.46272	15	2.6460	0.52363	16	2.8170	0.55023
17	2.9970	0.63376	18	3.2130	0.67551	19	3.4650	0.79050	20	3.7530	1.03375
21	4.2930	1.64859	22	4.5000	1.78333	23	8.2260	2.27696	24	10.0540	2.27696
25	11.6490	2.00434	26	14.5530	1.34677	27	16.4230	1.18800	28	17.3470	1.11223
29	18.4250	0.93958	30	22.0000	0.63996	31	39.5000	0.47392			

TUSI-REFINED RESPONSE SPECTRA FOR SAFEGUARDS BLDG.; SET NO. = 15  
 FLOOR RESPONSE SPECTRA FOR SSE; COMPONENT AY; DAMPING = 0.03  
 FIGURE NO. 457-B DIRECTION 2 AT ELEVATION 785.50 FEET NO. OF SPECTRA = 1

BROADENED SPECTRUM FOR NODE= 457			DEGREE OF FREEDOM = 2			NUMBER OF GRIDS = 30			DAMPING VALUE = 0.030		
1	0.9000	0.17590	2	0.9990	0.18120	3	1.0620	0.21289	4	1.1250	0.21957
5	1.2870	0.22183	6	1.3230	0.25745	7	1.3680	0.28601	8	1.6280	0.28601
9	1.6650	0.30313	10	1.7280	0.31499	11	1.8000	0.36400	12	1.9530	0.38231
13	2.2500	0.40138	14	2.5020	0.45606	15	2.6460	0.51653	16	2.8170	0.54090
17	2.9970	0.62184	18	3.2130	0.65901	19	3.4650	0.76625	20	4.0950	1.31415
21	4.2930	1.53636	22	4.5000	1.67413	23	8.2260	2.20619	24	10.0540	2.20619
25	11.6490	1.92336	26	14.5530	1.26299	27	17.3470	1.02771	28	18.4250	0.86234
29	22.0000	0.61021	30	39.5000	0.45491						

TUSI-REFINED RESPONSE SPECTRA FOR SAFEGUARDS BLDG.; SET NO. = 16  
 FLOOR RESPONSE SPECTRA FOR SSE; COMPONENT AY; DAMPING = 0.03  
 FIGURE NO. 458-B DIRECTION 2 AT ELEVATION 773.50 FEET NO. OF SPECTRA = 1

BROADENED SPECTRUM FOR NODE= 458			DEGREE OF FREEDOM = 2			NUMBER OF GRIDS = 30			DAMPING VALUE = 0.930		
1	0.9000	0.17312	2	0.9990	0.17868	3	1.0620	0.20985	4	1.1250	0.21600
5	1.2870	0.21816	6	1.3230	0.25565	7	1.3680	0.28222	8	1.6254	0.28222
9	1.6650	0.30011	10	1.7280	0.31099	11	1.8000	0.36055	12	1.9530	0.37828
13	2.2500	0.39401	14	2.5020	0.44262	15	2.6460	0.50215	16	2.8170	0.52215
17	2.9970	0.59793	18	3.2130	0.62579	19	3.4650	0.71749	20	4.5000	1.44560
21	5.6250	1.72993	22	8.2260	2.05949	23	10.0540	2.05949	24	11.6490	1.75788
25	14.5530	1.09522	26	17.3470	0.85375	27	18.4250	0.71782	28	22.8690	0.53554
29	23.7050	0.52921	30	39.5000	0.41378						

TUSI-REFINED RESPONSE SPECTRA FOR SAFEGUARDS BLDG.; SET NO. = 17  
 FLOOR RESPONSE SPECTRA FOR SSE; COMPONENT AZ ; DAMPING = 0.03  
 FIGURE NO. 451-B DIRECTION 3 AT ELEVATION 896.50 FEET NO. OF SPECTRA = 1

BROADENED SPECTRUM FOR NODE= 451			DEGREE OF FREEDOM = 3			NUMBER OF GRIDS = 35			DAMPING VALUE = 0.030		
1	0.9000	0.24710	2	0.9450	0.25620	3	1.0023	0.25620	4	1.0620	0.30632
5	1.2870	0.32908	6	1.3680	0.38806	7	1.4170	0.38806	8	1.4490	0.40702
9	1.5030	0.42427	10	1.5787	0.42427	11	1.6110	0.44450	12	1.8720	0.59296
13	2.1420	0.62311	14	2.3670	0.66628	15	2.5188	0.66628	16	2.9970	0.85509
17	3.2150	0.85509	18	3.4650	1.03234	19	3.7530	1.32504	20	4.4670	2.36406
21	4.5000	2.40151	22	5.2441	2.40151	23	5.6250	3.03918	24	8.2440	3.67905
25	10.0760	3.67905	26	10.5270	3.38126	27	11.0000	2.61731	28	11.6490	2.03860
29	14.6630	1.40186	30	16.4236	1.29468	31	18.4186	1.06649	32	19.2094	1.06649
33	19.3950	1.08242	34	23.7050	1.08242	35	39.5000	0.63654			

TUSI-REFINED RESPONSE SPECTRA FOR SAFEGUARDS BLDG.; SET NO. = 18  
 FLOOR RESPONSE SPECTRA FOR SSE; COMPONENT AZ ; DAMPING = 0.03  
 FIGURE NO. 452-B DIRECTION 3 AT ELEVATION 873.50 FEET NO. OF SPECTRA = 1

BROADENED SPECTRUM FOR NODE= 452			DEGREE OF FREEDOM = 3			NUMBER OF GRIDS = 34			DAMPING VALUE = 0.030		
1	0.9000	0.25023	2	0.9450	0.26051	3	1.0007	0.26051	4	1.0620	0.31181
5	1.2870	0.33407	6	1.3680	0.39341	7	1.4490	0.40902	8	1.5030	0.42580
9	1.5727	0.42580	10	1.8720	0.59671	11	2.1420	0.62481	12	2.3670	0.66562
13	2.6460	0.72522	14	2.9970	0.86041	15	3.2130	0.88142	16	3.4650	1.05966
17	3.7530	1.37478	18	4.3810	2.50468	19	4.5000	2.56790	20	5.3066	2.56790
21	5.6250	3.05313	22	6.3720	3.24353	23	8.2440	3.50694	24	10.0760	3.50694
25	10.5270	3.19080	26	10.9845	2.55093	27	11.6490	2.55093	28	14.6630	1.59176
29	16.4230	1.57552	30	17.3470	1.42173	31	18.4250	1.22498	32	20.4050	1.09746
33	22.0000	0.88151	34	39.5000	0.67173						

TUSI-REFINED RESPONSE SPECTRA FOR SAFEGUARDS BLDG.; SET NO. = 19  
 FLOOR RESPONSE SPECTRA FOR SSE; COMPONENT AZ ; DAMPING = 0.03  
 FIGURE NO. 453-B DIRECTION 3 AT ELEVATION 852.50 FEET NO. OF SPECTRA = 1

BROADENED SPECTRUM FOR NODE= 453			DEGREE OF FREEDOM = 3			NUMBER OF GRIDS = 35			DAMPING VALUE = 0.030		
1	0.9000	0.24687	2	0.9450	0.25747	3	0.9997	0.25747	4	1.0620	0.30883
5	1.2870	0.32834	6	1.3680	0.38671	7	1.5030	0.41517	8	1.5692	0.41517
9	1.8720	0.58119	10	2.2500	0.61331	11	2.6460	0.68337	12	2.8170	0.75012
13	2.9970	0.80053	14	3.2130	0.81971	15	3.4650	0.96137	16	3.7530	1.23177
17	4.0950	1.85077	18	4.4280	2.17839	19	4.5000	2.22965	20	5.3388	2.22965
21	5.6250	2.56766	22	6.3720	2.64190	23	7.4970	2.67150	24	9.1630	2.67150
25	10.0760	2.65806	26	10.8528	2.30412	27	11.6490	2.30412	28	14.5530	1.42834
29	16.4230	1.32051	30	17.3470	1.20325	31	18.4250	1.04001	32	20.4050	0.95588
33	22.1134	0.79285	34	23.7050	0.79285	35	39.5000	0.59152			

TUSI-REFINED RESPONSE SPECTRA FOR SAFEGUARDS BLDG.; SET NO. = 20  
 FLOOR RESPONSE SPECTRA FOR SSE; COMPONENT AZ ; DAMPING = 0.03

FIGURE NO. 454-B

DIRECTION 3

AT ELEVATION 831.50 FEET

NO. OF SPECTRA = 1

BROADENED SPECTRUM FOR NODE= 454				DEGREE OF FREEDOM = 3		NUMBER OF GRIDS = 34		DAMPING VALUE = 0.030			
1	0.9000	0.24076	2	0.9450	0.25145	3	0.9993	0.25145	4	1.0620	0.30276
5	1.2870	0.31916	6	1.3680	0.37330	7	1.5030	0.39732	8	1.5664	0.39732
9	1.8720	0.55596	10	2.1420	0.56176	11	2.2500	0.58056	12	2.6460	0.61863
13	2.8170	0.68326	14	2.9970	0.71163	15	3.2130	0.71955	16	3.4650	0.80706
17	3.7530	1.00152	18	4.0950	1.43569	19	4.2930	1.66003	20	4.5000	1.67688
21	5.4381	1.67688	22	5.6250	1.80463	23	6.8750	2.07580	24	9.5310	2.07580
25	11.6490	1.66188	26	14.6630	0.98781	27	16.4230	0.78843	28	17.3470	0.76507
29	18.1443	0.69321	30	20.4050	0.69321	31	22.0000	0.62262	32	22.4541	0.58890
33	23.7050	0.58890	34	39.5000	0.44443						

TUSI-REFINED RESPONSE SPECTRA FOR SAFEGUARDS BLDG.;

SET NO. = 21

FLOOR RESPONSE SPECTRA FOR SSE; COMPONENT AZ ; DAMPING = 0.03

FIGURE NO. 455-B

DIRECTION 3

AT ELEVATION 810.50 FEET

NO. OF SPECTRA = 1

BROADENED SPECTRUM FOR NODE= 455				DEGREE OF FREEDOM = 3		NUMBER OF GRIDS = 30		DAMPING VALUE = 0.030			
1	0.9000	0.23601	2	0.9450	0.24712	3	0.9990	0.24879	4	1.0620	0.29843
5	1.2870	0.31126	6	1.3680	0.36322	7	1.5030	0.38260	8	1.5642	0.38260
9	1.8720	0.53476	10	2.1635	0.53476	11	2.2500	0.55703	12	2.6460	0.56088
13	2.8170	0.63449	14	3.4650	0.67878	15	3.7530	0.81788	16	4.0950	1.09094
17	4.2930	1.22475	18	4.5000	1.24029	19	5.5000	1.24029	20	6.8750	1.46050
21	9.5310	1.46050	22	11.6490	1.26953	23	14.6630	0.78637	24	17.3470	0.64899
25	18.2866	0.59488	26	20.4050	0.59488	27	22.0000	0.50639	28	22.8690	0.44584
29	23.7050	0.44245	30	39.5000	0.33479						

TUSI-REFINED RESPONSE SPECTRA FOR SAFEGUARDS BLDG.;

SET NO. = 22

FLOOR RESPONSE SPECTRA FOR SSE; COMPONENT AZ ; DAMPING = 0.03

FIGURE NO. 456-B

DIRECTION 3

AT ELEVATION 790.50 FEET

NO. OF SPECTRA = 1

BROADENED SPECTRUM FOR NODE= 456				DEGREE OF FREEDOM = 3		NUMBER OF GRIDS = 30		DAMPING VALUE = 0.030			
1	0.9000	0.24771	2	0.9450	0.25931	3	0.9990	0.26118	4	1.0620	0.31345
5	1.2194	0.31345	6	1.3230	0.33795	7	1.3680	0.37922	8	1.5030	0.39188
9	1.6110	0.40991	10	1.6650	0.44005	11	1.8720	0.54457	12	2.2334	0.54457
13	2.2500	0.54869	14	2.7331	0.54869	15	2.8170	0.58229	16	2.9970	0.58396
17	3.5828	0.58396	18	4.0950	0.72133	19	4.2930	0.74425	20	4.5000	0.74491
21	5.5000	0.74491	22	9.5310	0.81562	23	11.6490	0.81562	24	14.6630	0.54599
25	17.3470	0.48432	26	20.4050	0.44073	27	22.0000	0.36977	28	22.6190	0.33437
29	23.7050	0.33437	30	39.5000	0.22994						

TUSI-REFINED RESPONSE SPECTRA FOR SAFEGUARDS BLDG.;

SET NO. = 23

FLOOR RESPONSE SPECTRA FOR SSE; COMPONENT AZ ; DAMPING = 0.03

FIGURE NO. 457-B

DIRECTION 3

AT ELEVATION 785.50 FEET

NO. OF SPECTRA = 1

BROADENED SPECTRUM FOR NODE= 457				DEGREE OF FREEDOM = 3		NUMBER OF GRIDS = 30		DAMPING VALUE = 0.030			
1	0.9000	0.24711	2	0.9450	0.25853	3	0.9990	0.26040	4	1.0620	0.31252
5	1.2191	0.31252	6	1.3230	0.33695	7	1.3680	0.37821	8	1.5030	0.39078
9	1.6110	0.40873	10	1.6650	0.43876	11	1.8720	0.54299	12	2.2330	0.54299
13	2.2500	0.54721	14	2.7378	0.54721	15	2.8170	0.58068	16	3.6485	0.58068
17	3.7530	0.60617	18	4.0950	0.68057	19	4.2930	0.69348	20	4.5000	0.69510
21	5.5000	0.69510	22	9.5310	0.78570	23	11.6490	0.78570	24	14.6630	0.53547
25	17.3470	0.46848	26	20.4050	0.42346	27	22.0000	0.35412	28	22.5471	0.32465
29	23.7050	0.32465	30	39.5000	0.22060						

TUSI-REFINED RESPONSE SPECTRA FOR SAFEGUARDS BLDG.;

SET NO. = 24

FLOOR RESPONSE SPECTRA FOR SSE; COMPONENT AZ ; DAMPING = 0.03

FIGURE NO. 458-B

BROADENED SPECTRUM FOR NODE =		DIRECTION		AT ELEVATION		NO. OF SPECTRA =	
1	0.9000	6	1.3230	11	1.8720	16	3.4430
5	1.2183	10	1.6650	15	2.8170	20	4.0950
9	1.6110	14	2.7379	19	3.7530	24	9.5310
13	2.2560	18	3.7458	23	5.6250	28	20.4050
17	3.6630	22	5.4426	27	17.3470	32	39.5000
21	4.5000	26	14.6630	31	23.7050		
25	11.6490	30	22.3484				
29	22.0000						