April 12, 1981

OYSTER CREEK NUCLEAR STATION

REEVALUATION OF SAFETY-RELATED CONCRETE MASONRY WALLS NRC IE BULLETIN 80-11

JERSEY CENTRAL POWER & LIGHT COMPANY
Subsidiary of General Public Utilities Nuclear Corp.

Prepared By:

L. GARIBIAN, P.E.
Senior Structural Engineer

Approved By:

A. P. RUCHINO
Manager, Engineering Mechanics

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1.0 PURPOSE AND SUMMARY

The purpose of the reevaluation is to determine the structural adequacy of the concrete masonry walls as required by the NRC IE Bulletin 80-11.

The reevaluation shall determine whether the walls will perform their intended function under all postulated loads and load combinations specified in the "Criteria for the Reevaluation of Concrete Masonry Walls" in Appendix 7.2, which is consistent with the requirements outlined in item 2b of the Bulletin.

2.0 METHODS

The twenty-seven walls, reported in Appendix 7.2, that were affected by the Bulletin have been analyzed for all postulated loads and load combinations specified in Section 3 of the Reevaluation Criteria in Appendix 7.2. The procedure used in this analysis is described in Section 6 of the Reevaluation Criteria. The Criteria was developed in accordance with the rules and guidelines outlined in the NRC IE Bulletin 80-11.

The analysis was performed using the ANSYS Computer Program to determine the frequency and resultant stresses in the block walls. None of the walls were intended to resist impact or pressurization load, nor would they be subjected to a significant thermal load to be of any concern.

In the analysis, all support edges of the block walls were assumed to be simple. In reviewing the wall support details shown in the construction drawings it was determined that some supports are inadequate to transfer the Seismic Shear Load to the main structure. In order to be consistent with the analysis, the Wall Support edges, shown in Appendix 7.5, will have to be reinforced to be able to carry the Seismic Shear Load.

3.0 RESULTS

The results of the block wall analysis are summarized in Appendix 7.3 as listed below:

.1 Stresses. See pages 7.3-1 to 7.3-43

.2 Out-of-plane shear. See page 7.3-44

.3 In-plane strain. See pages 7.3-45 & 7.3-46

.4 Results of Operability Analysis. See page 7.3-47

4.0 CONCLUSIONS

The results of the concrete block wall analysis indicate that all twenty-seven walls are qualified by satisfying either the stress or operability acceptance criteria. The following walls were qualified by operability. Wall Nos. 8, 15, 19, 20, 21, 22, 23, 24 and 29. In the analysis, it was assumed that:

.1 The support edges of all walls are capable of transferring the Seismic Shear Load to the main structure.

.2 The excess equipment loads on the block walls will be either removed or transferred to another support point, other than the block wall, so that, the wall can be qualified.

.3 Both surfaces of the block walls have no visible cracks.

5.0 RECOMMENDATIONS

The modifications listed below are to be implemented in order for the block walls to be consistent with the assumptions in the analysis.

.1 Reinforce the support edges of the walls shown in the "Wall Boundary Support Requirements" table in Appendix 7.5.

.2 Remove the excess equipment load from the wall Nos. 21, 33 and 43 shown in Appendix 7.5.

.3 Repair all visible cracks on both sides of the concrete block walls.

6.0 REFERENCES

.1 ACI 531-79 "Building Code Requirements for Concrete Masonry Structures "

.2 Burns & Roe Inc., Technical Specification No. 45, Section 4A.7 (see Appendix 7.2 [illegible]).

.3 ASTM-C90-75 "Hollow Load-Bearing Concrete Masonry Units "

.4 Burns & Roe Inc., drawing No. 4514-3 "Misc. Plans Sections and Details (Masonry) "

SECTION 7.0

APPENDICES

Appendix 7.1
JCP&L/GPU letter to NRC
dated Sept. 19, 1980

Jersey Central Power & Light Compan
Madison Avenue at Punch Bowl Road
Morristown, New Jersey 07960
(201) 455-8200

September 19, 1980

Mr. Boyce H. Grier, Director
Office of Inspection and Enforcement
Region I
U.S. Nuclear Regulatory Commission
631 Park Avenue
King of Prussia, Pennsylvania 19406

Dear Mr. Grier:

Subject: Oyster Creek Nuclear Generating Station
Docket No. 50-219
I.E. Bulletin 80-11

Reference: Ivan R. Finfrock, Jr. letter to Boyce H. Grier
dated July 7, 1980

The referenced letter provided information required in Items 1, 2a and 3 of the subject bulletin. Attachment No. 1 has been revised per the recommendations of the NRC during a site inspection on August 6 and 7, 1980. Please replace Attachment 1 in its entirety with Attachment 1, Rev. 1 enclosed.

JERSEY CENTRAL POWER & LIGHT COMPANY

By Ivan R. Finfrock Jr.
Ivan R. Finfrock, Jr.
Vice President

Sworn and subscribed to before me this 19th day of September, 1980.

David C. Shadle
Notary Public
DAVID C. SHADLE
NOTARY PUBLIC OF NEW JERSEY
My Commission Expires Oct. 3, 1983

cc: Director
Office of Inspection and Enforcement
Division of Reactor Operation's Inspection
Washington, D.C. 20555

Appendix 7.2
JCP&L/GPU letter to NRC
dated Nov. 14, 1980

OYSTER CREEK NUCLEAR GENERATING STATION

JCP&L GPU
Jersey Central Power & Light Company is a Member of the General Public Utilities System

(609) 693-1951 P.O. BOX 388 • FORKED RIVER • NEW JERSEY • 08731

November 14, 1980

Mr. Boyce H. Grier, Director
Office of Inspection and Enforcement
Region I
U. S. Nuclear Regulatory Commission
631 Park Avenue
King of Prussia, Pennsylvania 19406

Dear Mr. Grier:

Subject: Oyster Creek Nuclear Generating Station
Docket No. 50-219
I. E. Bulletin 80-11

Our letters of July 7, 1980 and September 19, 1980 supplied the preliminary information as required by I. E. Bulletin 80-11. In accordance with the request for information described in item 2b of the bulletin, the attached represents the majority of our response. The final reevaluation of the design adequacy of all identified walls to perform their intended function under all postualted loads and load combination is however, not yet complete.

The delay in meeting our original schedule, enclosed in our July 7, 1980 submittal, is attributed primarily to difficulties encountered in the development of the reevaluati criteria. The final reevaluation for all walls will be submitted on or before May 1, 1981. If additional information or further clarification is needed, please contact Mr. J. Knubel of my staff at 201-455-8753.

Very truly yours,

Ivan R. Finfrock

Ivan R. Finfrock, Sr.
Vice President

Sworn and subscribed to before me this 14th day of November, 1980.

David C. Haas
Notary Public

cc: NRC Office of Inspection and Enforcement
Division of Reactor Operations Inspection
Washington, D.C. 20555.

IRF/lcp
1922

Appendix 7.3

Summary of Results

GENERAL NOTES

Type of Construction

1. All blocks are ASTM-C-90, Hollow Block
2. Walls that are reinforced have vertical rebar and horizontal dur-o-wall as shown below. For reinforcing details see App. 7.4.

   Vertical: Rebar Fy= 40,000 psi
   Horizontal: Dur-O-Wall Fy= 70,000 psi (ASTM-A-82)

Frequency Range - Hz

1. All boundary conditions are Simple-Supports.
2. For 3-Edge support, the boundary condition that has not counted for has been pointed out.

Flexural Tensile Stresses - psi

ALLOWABLES AS GIVEN IN THE CRITERIA

1. Uncracked Section	Load Combination	Normal to Bed Jt		Parallel to Bed Joint	
		Running Bond	Stack Bond	Running Bond	Stack Bond
a. Hollow Block	OBE+DL	25	25	50	16.7
	SSE+DL	41.5	41.5	83	27.7
b. Hollow Blk - Fully Grouted	OBE+DL	50	40	75	26.7
	SSE+DL	83.5	67	125	44.5

2. Cracked Section		Vertical Rebar	Horizontal Dur-o- wall
a. Steel	OBE-DL	20,000	30,000
	SSE+DL	36,000	63,000

b. Concrete Compressive Stresses-psi		
	OBE+DL	396
	SSE+DL	1020

SUMMARY OF RESULTS

Location	Turbine Building, Control Room South Wall, West Half Floor Elev. 46'-6"
Dimensions of Model	Height: 14 Ft 6 In. Thickness: 8 In. Width: 11 Ft 4 In.
Type of Construction	Block: ASTM - C-90 Mortar: Type "M" (X) Reinforced ( ) Unreinforced ( ) Running Bond (X) Stacked Bond ( ) Other _____
Frequency Range - Hz (Uncracked Section)	(X) One Way (X) Vertical Span 8.31 To 10.17 ( ) Horizontal Span (X) Two Way (X) 4-Edge Support 22.35 To 27.37 ( ) 3-Edge Support ( ) Top, ( ) Side, Missing
Response Acceleration (Uncracked Section)	(X) One Way: 0.50 g, (OBE) 0.75 g, (SSE) (X) Two Way: 0.33 g, (OBE) 0.54 g, (SSE)
Flexural Tensile Stresses - psi (Uncracked Section)	(X) One Way: (X) Normal to Bed Joint, 187.9 (OBE+DL) vs 25.0 (Allowable) 270.3 (SSE+DL) vs 41.5 (Allowable) ( ) Parallell to Bed Joint, _____ (OBE+DL) vs _____ (Allowable) _____ (SSE+DL) vs _____ (Allowable) (X) Two Way: (X) Normal to Bed Joint, 15.4 (OBE+DL) vs 25.0 (Allowable) 21.5 (SSE+DL) vs 41.5 (Allowable) (X) Parallel to Bed Joint, 24.3 (OBE+DL) vs 16.7 (Allowable) 38.6 (SSE+DL) vs 27.7 (Allowable)
Remarks	Continue for cracked section model analysis

Wall No. 2-1

SUMMARY OF RESULTS - (Cont'd)

Frequency Range - Hz (Cracked Section)	(x) One Way (x) Vertical Span ( ) Horizontal Span	4.18 To 5.12
	( ) Two Way ( ) 4-Edge Support ( ) 3-Edge Support ( ) Top, ( ) Side, Missing	To
Response Acceleration (Cracked Section)	(X) One Way: 0.30 g, (OBE) 0.45 g, (SSE)	( ) Two Way: g, (OBE) g, (SSE)
Flexural Tensile Stresses - psi (Cracked Section)	(X) One Way: (X) Normal, ( ) parallel, To Bed Joint $f_{(Steel)}$: 13,238 (OBE+DL) vs 20,000 (Allowable) 19,587 (SSE+DL) vs 36,000 (Allowable) $f_{(Conc.)}$ (Compression): -370.0 (OBE+DL) vs -396.0 (Allowable) -547.0 (SSE+DL) vs -1,020.0 (Allowable)	
	( ) Two Way: ( ) Normal To Bed Joint $f_{(Steel)}$: (OBE+DL) vs (Allowable) (SSE+DL) vs (Allowable) $f_{(Conc.)}$: (OBE+DL) vs (Allowable) (SSE+DL) vs (Allowable) ( ) Parallel To Bed Joint $f_{(Steel)}$: (OBE+DL) vs (Allowable) (SSE+DL) vs (Allowable)	
Remarks	Wall is good for one way model cracked section	Wall No. 2-1

SUMMARY OF RESULTS

Location	Turbine Building, Control Room South Wall West Half Floor Elev. 46'-6"
Dimensions of Model	Height: 14 Ft 6 In. Thickness: 6 In. Width: 8 Ft 5 In.
Type of Construction	Block: ASTM - C-90 Mortar: Type "M" (X) Reinforced ( ) Unreinforced ( ) Running Bond (X) Stacked Bond ( ) Other _____
Frequency Range - Hz (Uncracked Section)	(X) One Way (X) Vertical Span 6.23 To 7.63 ( ) Horizontal Span
	(X) Two Way (X) 4-Edge Support 22.55 To 27.62 ( ) 3-Edge Support ( ) Top, ( ) Side, Missing
Response Acceleration (Uncracked Section)	(X) One Way: 0.38 g, (OBE) 0.56 g, (SSE)
	(X) Two Way: 0.33 g, (OBE) 0.54 g, (SSE)
Flexural Tensile Stresses - psi (Uncracked Section)	(X) One Way: (X) Normal to Bed Joint, 174.2 (OBE+DL) vs 25.0 (Allowable) 247.7 (SSE+DL) vs 41.5 (Allowable)
	( ) Parallell to Bed Joint, _____ (OBE+DL) vs _____ (Allowable) _____ (SSE+DL) vs _____ (Allowable)
	(X) Two Way: (X) Normal to Bed Joint, 27.3 (OBE+DL) vs 25.0 (Allowable) 34.4 (SSE+DL) vs 41.5 (Allowable)
	(X) Parallel to Bed Joint, 34.5 (OBE+DL) vs 16.7 (Allowable) 48.4 (SSE+DL) vs 27.7 (Allowable)
Remarks	Continue for cracked section model analysis
	Wall No. 2-2

SUMMARY OF RESULTS - (Cont'd)

Frequency Range - Hz (Cracked Section)

(X) One Way
(X) Vertical Span — 3.39 To 4.15
( ) Horizontal Span

(X) Two Way
(X) 4-Edge Support — 12.27 To 15.03
( ) 3-Edge Support
( ) Top, ( ) Side, Missing

Response Acceleration (Cracked Section)

(X) One Way: 0.30 g, (OBE); 0.45 g, (SSE)

(X) Two Way: 0.99 g, (OBE); 1.33 g, (SSE)

Flexural Tensile Stresses - psi (Cracked Section)

(X) One Way:
(X) Normal, ( ) parallel, To Bed Joint

$f_{(Steel)}$:	10,450 (OBE+DL)	vs	20,000 (Allowable)
	15,580 (SSE+DL)	vs	36,000 (Allowable)
$f_{(Conc.)}$ (Compression):	-441.0 (OBE+DL)	vs	-396.0 (Allowable)
	-658.0 (SSE+DL)	vs	-1020.0 (Allowable)

(X) Two Way:
(X) Normal To Bed Joint

$f_{(Steel)}$:	3,628 (OBE+DL)	vs	20,000 (Allowable)
	4,880 (SSE+DL)	vs	36,000 (Allowable)
$f_{(Conc.)}$ (Compression):	-154.0 (OBE+DL)	vs	-396.0 (Allowable)
	-206.4 (SSE+DL)	vs	-1020.0 (Allowable)

(X) Parallel To Bed Joint

$f_{(Steel)}$:	26,108 (OBE+DL)	vs	30,000 (Allowable)
	35,080 (SSE+DL)	vs	63,000 (Allowable)

Remarks

Model 2 of Wall #2 is good for Two-Way Model - Cracked Section

Wall No. 2-2

SUMMARY OF RESULTS

Location	Turbine Building, Control Room, South Wall, East Half Floor Elev. 46'-6"
Dimensions of Model	Height: 14 Ft 6 In. Thickness: 6 In. Width: 8 Ft 7 In.
Type of Construction	Block: ASTM - C-90 Mortar: Type "M" (X) Reinforced ( ) Unreinforced ( ) Running Bond (X) Stacked Bond ( ) Other _____
Frequency Range - Hz (Uncracked Section)	(X) One Way (X) Vertical Span ( ) Horizontal Span 6.56 To 8.04
	(X) Two Way (X) 4-Edge Support ( ) 3-Edge Support ( ) Top, ( ) Side, Missing 23.85 To 29.20
Response Acceleration (Uncracked Section)	(X) One Way: 0.38 g, (OBE) 0.56 g, (SSE) (X) Two Way: 0.33 g, (OBE) 0.54 g, (SSE)
Flexural Tensile Stresses - psi (Uncracked Section)	(X) One Way: (X) Normal to Bed Joint, 133.5 (OBE+DL) vs 25.0 (Allowable) 191.5 (SSE+DL) vs 41.5 (Allowable) ( ) Parallell to Bed Joint, _____ (OBE+DL) vs _____ (Allowable) _____ (SSE+DL) vs _____ (Allowable)
	(X) Two Way: (X) Normal to Bed Joint, 24.2 (OBE+DL) vs 25.0 (Allowable) 31.1 (SSE+DL) vs 41.5 (Allowable) (X) Parallel to Bed Joint, 29.7 (OBE+DL) vs 16.7 (Allowable) 50.0 (SSE+DL) vs 27.7 (Allowable)
Remarks	Continue for cracked section model analysis Wall No. 2-3

SUMMARY OF RESULTS - (Cont'd)

Frequency Range - Hz (Cracked Section)	(X) One Way (X) Vertical Span ( ) Horizontal Span	3.56 To 4.37
	( ) Two Way ( ) 4-Edge Support ( ) 3-Edge Support ( ) Top, ( ) Side, Missing	To
Response Acceleration (Cracked Section)	(X) One Way: 0.30 g, (OBE) 0.45 g, (SSE)	( ) Two Way: g, (OBE) g, (SSE)
Flexural Tensile Stresses - psi (Cracked Section)	(X) One Way: (X) Normal, ( ) parallel, To Bed Joint $f_{(Steel)}$: 8.106 (OBE+DL) vs 20,000 (Allowable) 12,140 (SSE+DL) vs 36,000 (Allowable) $f_{(Conc.)}$ (Compression): -342.0 (OBE+DL) vs -396.0 (Allowable) -513.0 (SSE+DL) vs -1,020.0 (Allowable)	
	( ) Two Way: ( ) Normal To Bed Joint $f_{(Steel)}$: (OBE+DL) vs (Allowable) (SSE+DL) vs (Allowable) $f_{(Conc.)}$: (OBE+DL) vs (Allowable) (SSE+DL) vs (Allowable) ( ) Parallel To Bed Joint $f_{(Steel)}$: (OBE+DL) vs (Allowable) (SSE+DL) vs (Allowable)	
Remarks	Wall is good for one way model - cracked section	Wall No. 2-3

SUMMARY OF RESULTS

Location	Turbine Building, Control Room, South Wall, East Half Floor Elev. 46'-6"	
Dimensions of Model	Height: 14 Ft 6 In. Width: 14 Ft 6 In.	Thickness: 6 In.
Type of Construction	Block: ASTM - C-90 Mortar: Type "M" (X) Reinforced ( ) Unreinforced	( ) Running Bond (X) Stacked Bond ( ) Other _____
Frequency Range - Hz (Uncracked Section)	(X) One Way (X) Vertical Span ( ) Horizontal Span	6.43 To 7.88
	(X) Two Way (X) 4-Edge Support ( ) 3-Edge Support ( ) Top, ( ) Side, Missing	12.88 To 15.78
Response Acceleration (Uncracked Section)	(X) One Way: 0.38 g, (OBE) 0.56 g, (SSE)	(X) Two Way: 1.52 g, (OBE) 1.99 g, (SSE)
Flexural Tensile Stresses - psi (Uncracked Section)	(X) One Way: (X) Normal to Bed Joint, 138.0 (OBE+DL) vs 25.0 (Allowable) 197.4 (SSE+DL) vs 41.5 (Allowable) ( ) Parallell to Bed Joint, _____ (OBE+DL) vs _____ (Allowable) _____ (SSE+DL) vs _____ (Allowable)	
	(X) Two Way: (X) Normal to Bed Joint, 119.4 (OBE+DL) vs 25.0 (Allowable) 154.3 (SSE+DL) vs 41.5 (Allowable) (X) Parallel to Bed Joint, 176.5 (OBE+DL) vs 16.7 (Allowable) 232.5 (SSE+DL) vs 27.7 (Allowable)	
Remarks	Continue for cracked section Model Analysis	Wall No. 2-4

SUMMARY OF RESULTS - (Cont'd)

Frequency Range - Hz (Cracked Section)	(X) One Way (X) Vertical Span 2.65 To 3.25 ( ) Horizontal Span	
	( ) Two Way ( ) 4-Edge Support ____ To ____ ( ) 3-Edge Support ( ) Top, ( ) Side, Missing	
Response Acceleration (Cracked Section)	(X) One Way: 0.28 g, (OBE) 0.45 g, (SSE)	( ) Two Way: ____ g, (OBE) ____ g, (SSE)
Flexural Tensile Stresses - psi (Cracked Section)	(X) One Way: (X) Normal, ( ) parallel, To Bed Joint $f_{(Steel)}$: 7.841 (OBE+DL) vs 20,000 (Allowable) 12,520 (SSE+DL) vs 36,000 (Allowable) $f_{(Conc.)}$ (Compression): -331.0 (OBE+DL) vs -396.0 (Allowable) -530.0 (SSE+DL) vs -1020.0 (Allowable)	
	( ) Two Way: ( ) Normal To Bed Joint $f_{(Steel)}$: ____ (OBE+DL) vs ____ (Allowable) ____ (SSE+DL) vs ____ (Allowable) $f_{(Conc.)}$: ____ (OBE+DL) vs ____ (Allowable) ____ (SSE+DL) vs ____ (Allowable) ( ) Parallel To Bed Joint $f_{(Steel)}$: ____ (OBE+DL) vs ____ (Allowable) ____ (SSE+DL) vs ____ (Allowable)	
Remarks	Model 4 of Wall No. 2 is good for one way model cracked section	Wall No. 2-4

SUMMARY OF RESULTS

Location	Turbine Building, Observation Room Enclosure, South Wall. Floor Elev. 49'-8"
Dimensions of Model	Height: 10 Ft 10 In. Width: 14 Ft 11 In. Thickness: 8 In.
Type of Construction	Block: ASTM - C-90 Mortar: Type "M" (X) Reinforced ( ) Unreinforced (X) Running Bond ( ) Stacked Bond (X) Other: Fully grouted block
Frequency Range - Hz (Uncracked Section)	(X) One Way (X) Vertical Span ( ) Horizontal Span: 13.51 To 16.55
	(X) Two Way (X) 4-Edge Support ( ) 3-Edge Support ( ) Top, ( ) Side, Missing: 20.18 To 24.72
Response Acceleration (Uncracked Section)	(X) One Way: 1.52 g, (OBE); 1.99 g, (SSE) (X) Two Way: 0.40 g, (OBE); 0.76 g, (SSE)
Flexural Tensile Stresses - psi (Uncracked Section)	(X) One Way: (X) Normal to Bed Joint, 229.3 (OBE+DL) vs 50.0 (Allowable); 299.0 (SSE+DL) vs 83.5 (Allowable) ( ) Parallell to Bed Joint, ____ (OBE+DL) vs ____ (Allowable); ____ (SSE+DL) vs ____ (Allowable)
	(X) Two Way: (X) Normal to Bed Joint, 34.5 (OBE+DL) vs 50.0 (Allowable); 59.4 (SSE+DL) vs 83.5 (Allowable) (X) Parallel to Bed Joint, 18.4 (OBE+DL) vs 75.0 (Allowable); 34.3 (SSE+DL) vs 125.0 (Allowable)
Remarks	Wall is good for two way model
	Wall No. 5

SUMMARY OF RESULTS

Location	Turbine Building, Observation Room Enclosure, South-East to North-West Wall Floor Elev. 49'-8"
Dimensions of Model	Height: 10 Ft 10 In. Width: 7 Ft 6 In. Thickness: 8 In.
Type of Construction	Block: ASTM - C-90 Mortar: Type "M" (X) Reinforced ( ) Unreinforced (X) Running Bond ( ) Stacked Bond (X) Other: Fully grouted block
Frequency Range - Hz (Uncracked Section)	(X) One Way (X) Vertical Span 13.48 To 16.51 ( ) Horizontal Span
	(X) Two Way (X) 4-Edge Support 39.37 To 48.22 ( ) 3-Edge Support ( ) Top, ( ) Side, Missing
Response Acceleration (Uncracked Section)	(X) One Way: 1.52 g, (OBE) 1.99 g, (SSE)
	(X) Two Way: 0,18 g, (OBE) 0.35 g, (SSE)
Flexural Tensile Stresses - psi (Uncracked Section)	(X) One Way: (X) Normal to Bed Joint, 241.4 (OBE+DL) vs 50.0 (Allowable) 314,0 (SSE+DL) vs 83.5 (Allowable)
	( ) Parallell to Bed Joint, ____ (OBE+DL) vs ____ (Allowable) ____ (SSE+DL) vs ____ (Allowable)
	(X) Two Way: (X) Normal to Bed Joint, 14.4 (OBE+DL) vs 50.0 (Allowable) 16.6 (SSE+DL) vs 83.5 (Allowable)
	(X) Parallel to Bed Joint, 11.8 (OBE+DL) vs 75.0 (Allowable) 19.7 (SSE+DL) vs 125.0 (Allowable)
Remarks	Wall is good for two way model Wall No. 6

SUMMARY OF RESULTS

Location	Turbine Building, Observation Room Enclosure West Wall Floor Elev 49'-8"
Dimensions of Model	Height: 10 Ft 10 In. Thickness: 8 In. Width: 7 Ft 0 In.
Type of Construction	Block: ASTM - C-90 Mortar: Type "M" (X) Reinforced ( ) Unreinforced (X) Running Bond ( ) Stacked Bond (X) Other: Fully grouted block
Frequency Range - Hz (Uncracked Section)	(X) One Way (X) Vertical Span 13.98 To 17.12 ( ) Horizontal Span
	(X) Two Way (X) 4-Edge Support 45.30 To 55.48 ( ) 3-Edge Support ( ) Top, ( ) Side, Missing
Response Acceleration (Uncracked Section)	(X) One Way: 1.52 g, (OBE) 1.99 g, (SSE)
	(X) Two Way: 0.18 g, (OBE) 0.35 g, (SSE)
Flexural Tensile Stresses - psi (Uncracked Section)	(X) One Way: (X) Normal to Bed Joint, 224.0 (OBE+DL) vs 50.0 (Allowable) 291.7 (SSE+DL) vs 83.5 (Allowable) ( ) Parallell to Bed Joint, ____ (OBE+DL) vs ____ (Allowable) ____ (SSE+DL) vs ____ (Allowable)
	(X) Two Way: (X) Normal to Bed Joint, 10.0 (OBE+DL) vs 50.0 (Allowable) 11.7 (SSE+DL) vs 83.5 (Allowable) (X) Parallel to Bed Joint, 5.9 (OBE+DL) vs 75.0 (Allowable) 11.8 (SSE+DL) vs 125.0 (Allowable)
Remarks	Wall is good for Two Way Model
	Wall No. 7

SUMMARY OF RESULTS

Location	Office Building, Cable Tray Area, East Wall, Intermediate Section Elev. 46'-6"	
Dimensions of Model	Height: 13 Ft 11 In. Width: 21 Ft 3 In.	Thickness: 6 In.
Type of Construction	Block: ASTM - C-90 Mortar: Type "M" ( ) Reinforced (X) Unreinforced	( ) Running Bond (X) Stacked Bond ( ) Other _____
Frequency Range - Hz (Uncracked Section)	(X) One Way (X) Vertical Span ( ) Horizontal Span	5.8 To 7.5
	(X) Two Way (X) 4-Edge Support ( ) 3-Edge Support ( ) Top, ( ) Side, Missing	10.66 To 13.76
Response Acceleration (Uncracked Section)	(X) One Way: 0.38 g, (OBE) 0.56 g, (SSE)	(X) Two Way: 1.1 g, (OBE) 1.5 g, (SSE)
Flexural Tensile Stresses - psi (Uncracked Section)	(X) One Way: (X) Normal to Bed Joint,	192.0 (OBE+DL) vs 25.0 (Allowable) 266.0 (SSE+DL) vs 41.5 (Allowable)
	( ) Parallell to Bed Joint,	-- (OBE+DL) vs -- (Allowable) -- (SSE+DL) vs -- (Allowable)
	(X) Two Way: (X) Normal to Bed Joint,	132.4 (OBE+DL) vs 25.0 (Allowable) 178.7 (SSE+DL) vs 41.5 (Allowable)
	(X) Parallel to Bed Joint,	122.2 (OBE+DL) vs 16.7 (Allowable) 165.2 (SSE+DL) vs 26.7 (Allowable)
Remarks	Wall is not good for both models. Wall is ok for operability (See pg. 7.3-47)	Wall No. 8

SUMMARY OF RESULTS

Location	Office Building, Monitor and Change Room, South Wall, Intermediate Section. Elev. 46'-6"
Dimensions of Model	Height: 13 Ft 4 In. Thickness: 6 In. Width: 15 Ft 10 In.
Type of Construction	Block: ASTM - C-90 Mortar: Type "M" ( ) Reinforced (X) Unreinforced ( ) Running Bond (X) Stacked Bond ( ) Other _____
Frequency Range - Hz (Uncracked Section)	(X) One Way (X) Vertical Span ( ) Horizontal Span: 6.61 To 8.53
	(X) Two Way (X) 4-Edge Support ( ) 3-Edge Support ( ) Top, ( ) Side, Missing: 11.53 To 14.89
Response Acceleration (Uncracked Section)	(X) One Way: 0.43 g, (OBE) 0.60 g, (SSE)
	(X) Two Way: 1.52 g, (OBE) 1.99 g, (SSE)
Flexural Tensile Stresses - psi (Uncracked Section)	(X) One Way: (X) Normal to Bed Joint, 162.5 (OBE+DL) vs 25.0 (Allowable) 223.3 (SSE+DL) vs 41.5 (Allowable) ( ) Parallell to Bed Joint, -- (OBE+DL) vs -- (Allowable) -- (SSE+DL) vs -- (Allowable)
	(X) Two Way: (X) Normal to Bed Joint, 121.5 (OBE+DL) vs 25.0 (Allowable) 158.6 (SSE+DL) vs 41.5 (Allowable) (X) Parallel to Bed Joint, 103.0 (OBE+DL) vs 16.7 (Allowable) 134.8 (SSE+DL) vs 27.7 (Allowable)
Remarks	Wall is not good for both models wall is O.K. for operability (See pg. 7.3-47)
	Wall No. 15

SUMMARY OF RESULTS

Location	Office Bldg. Battery Room South Wall, West Section Fl. El. 35'-0"
Dimensions of Model	Height: 11 Ft 0 In. Thickness: 6 In. Width: 14 Ft 11 In.
Type of Construction	Block: ASTM - C-90 Mortar: Type "M" ( ) Reinforced (X) Unreinforced (X) Running Bond ( ) Stacked Bond ( ) Other _____
Frequency Range - Hz (Uncracked Section)	(X) One Way (X) Vertical Span 10.19 To 13.15 ( ) Horizontal Span
	(X) Two Way (X) 4-Edge Support 15.22 To 19.65 ( ) 3-Edge Support ( ) Top, ( ) Side, Missing
Response Acceleration (Uncracked Section)	(X) One Way: 0.22 g, (OBE) 0.41 g, (SSE) ( ) Two Way: 0.34 g, (OBE) 0.50 g, (SSE)
Flexural Tensile Stresses - psi (Uncracked Section)	(X) One Way: (X) Normal to Bed Joint, _____ (OBE+DL) vs _____ (Allowable) 68.3 (SSE+DL) vs 41.5 (Allowable) ( ) Parallell to Bed Joint, _____ (OBE+DL) vs _____ (Allowable) _____ (SSE+DL) vs _____ (Allowable)
	(X) Two Way: (X) Normal to Bed Joint, 25.1 (OBE+DL) vs 25.0 (Allowable) 38.7 (SSE+DL) vs 41.5 (Allowable) (X) Parallel to Bed Joint, 19.1 (OBE+DL) vs 50.0 (Allowable) 27.0 (SSE+DL) vs 83.0 (Allowable)
Remarks	O.K. for Two-Way Model Wall No. 17

SUMMARY OF RESULTS

Location	Office Bldg. Battery Room West Wall, South Section Fl. El. 35'-0"	
Dimensions of Model	Height: 11 Ft 0 In. Thickness: 6 In. Width: 13 Ft 5 In.	
Type of Construction	Block: ASTM - C-90 Mortar: Type "M" ( ) Reinforced (X) Unreinforced	(X) Running Bond ( ) Stacked Bond ( ) Other
Frequency Range - Hz (Uncracked Section)	(X) One Way (X) Vertical Span ( ) Horizontal Span	10.23 To 13.21
	(X) Two Way (X) 4-Edge Support ( ) 3-Edge Support ( ) Top, ( ) Side, Missing	16.73 To 21.60
Response Acceleration (Uncracked Section)	(X) One Way: 0.22 g, (OBE) 0.41 g, (SSE)	(X) Two Way: 0.33 g, (OBE) 0.60 g, (SSE)
Flexural Tensile Stresses - psi (Uncracked Section)	(X) One Way: (X) Normal to Bed Joint,	_____ (OBE+DL) vs _____ (Allowable) 65.2 (SSE+DL) vs 41.5 (Allowable)
	( ) Parallell to Bed Joint,	_____ (OBE+DL) vs _____ (Allowable) _____ (SSE+DL) vs _____ (Allowable)
	(X) Two Way: (X) Normal to Bed Joint,	18.24 (OBE+DL) vs 25.0 (Allowable) 36.4 (SSE+DL) vs 41.5 (Allowable)
	(X) Parallel to Bed Joint,	16.30 (OBE+DL) vs 50.0 (Allowable) 28.6 (SSE+DL) vs 83.0 (Allowable)
Remarks	O.K. for Two-Way Model	Wall No. 18

SUMMARY OF RESULTS

Location	Office Bldg. Elect. Tray Room North Wall Fl. El. 35'-0"
Dimensions of Model	Height: 11 Ft 0 In. Thickness: 6 In. Width: 10 Ft 6 In.
Type of Construction	Block: ASTM - C-90 Mortar: Type "M" ( ) Reinforced (X) Unreinforced ( ) Running Bond (X) Stacked Bond ( ) Other
Frequency Range - Hz (Uncracked Section)	(X) One Way (X) Vertical Span ( ) Horizontal Span: 10.25 To 13.23 (X) Two Way (X) 4-Edge Support ( ) 3-Edge Support ( ) Top, ( ) Side, Missing: 20.79 To 26.84
Response Acceleration (Uncracked Section)	(X) One Way: 0.22 g, (OBE) 0.41 g, (SSE) (X) Two Way: 0.44g, (OBE) 0.65g, (SSE)
Flexural Tensile Stresses - psi (Uncracked Section)	(X) One Way: (X) Normal to Bed Joint, _____ (OBE+DL) vs _____ (Allowable) 67.7 (SSE+DL) vs 41.5 (Allowable) ( ) Parallell to Bed Joint, _____ (OBE+DL) vs _____ (Allowable) _____ (SSE+DL) vs _____ (Allowable) (X) Two Way: (X) Normal to Bed Joint, 17.4 (OBE+DL) vs 25.0 (Allowable) 26.2 (SSE+DL) vs 41.5 (Allowable) (X) Parallel to Bed Joint, 22.2 (OBE+DL) vs 16.7 (Allowable) 32.2 (SSE+DL) vs 27.7 (Allowable)
Remarks	N.C. for Both Models O. K. for Operability (See pg. 7.3-47)
	Wall No. 19

SUMMARY OF RESULTS

Location	Office Bldg. Elect. Tray Room East Wall Fl. El. 35'-0"	
Dimensions of Model	Height: 11 Ft 0 In. Width: 16 Ft 2.5 In.	Thickness: 6 In.
Type of Construction	Block: ASTM - C-90 Mortar: Type "M" ( ) Reinforced (X) Unreinforced	( ) Running Bond (X) Stacked Bond ( ) Other
Frequency Range - Hz (Uncracked Section)	(X) One Way (X) Vertical Span ( ) Horizontal Span	9.33 To 12.05
	(X) Two Way (X) 4-Edge Support ( ) 3-Edge Support ( ) Top, ( ) Side, Missing	14.34 To 18.51
Response Acceleration (Uncracked Section)	(X) One Way: 0.24 g, (OBE) 0.45 g, (SSE)	(X) Two Way: 0.34 g, (OBE) 0.45 g, (SSE)
Flexural Tensile Stresses - psi (Uncracked Section)	(X) One Way: (X) Normal to Bed Joint,	____ (OBE+DL) vs ____ (Allowable) 59.9 (SSE+DL) vs 41.5 (Allowable)
	( ) Parallell to Bed Joint,	____ (OBE+DL) vs ____ (Allowable) ____ (SSE+DL) vs ____ (Allowable)
	(X) Two Way: (X) Normal to Bed Joint,	21.8 (OBE+DL) vs 25.0 (Allowable) 31.1 (SSE+DL) vs 41.5 (Allowable)
	(X) Parallel to Bed Joint,	19.2 (OBE+DL) vs 16.7 (Allowable) 25.4 (SSE+DL) vs 27.7 (Allowable)
Remarks	N.C. for Both Models O. K. for Operability (See pg. 7.3-47)	Wall No. 20

SUMMARY OF RESULTS

Location	Office Bldg. Switchgear Room North Wall, West Section Fl. El. 23'-6"	
Dimensions of Model	Height: 10 Ft 2.5 In. Width: 23 Ft 0 In.	Thickness: 8 In.
Type of Construction	Block: ASTM - C-90 Mortar: Type "M" ( ) Reinforced (X) Unreinforced	(X) Running Bond ( ) Stacked Bond ( ) Other _____
Frequency Range - Hz (Uncracked Section)	(X) One Way ( ) Vertical Span ( ) Horizontal Span	16.16 To 20.86
	(X) Two Way ( ) 4-Edge Support (X) 3-Edge Support ( ) Top, (X) Side, Missing	17.35 To 22.40
Response Acceleration (Uncracked Section)	(X) One Way: 0.35 g, (OBE) 0.50 g, (SSE)	(X) Two Way: 0.35 g, (OBE) 0.50 g, (SSE)
Flexural Tensile Stresses - psi (Uncracked Section)	(X) One Way: (X) Normal to Bed Joint,	84.2 (OBE+DL) vs 25.0 (Allowable) 115.0 (SSE+DL) vs 41.5 (Allowable)
	( ) Parallell to Bed Joint,	_____ (OBE+DL) vs _____ (Allowable) _____ (SSE+DL) vs _____ (Allowable)
	(X) Two Way: (X) Normal to Bed Joint,	N.A. (OBE+DL) vs _____ (Allowable) 114.0 (SSE+DL) vs 41.5 (Allowable)
	( ) Parallel to Bed Joint,	N.A. (OBE+DL) vs _____ (Allowable) N.A. (SSE+DL) vs _____ (Allowable)
Remarks	N.G. for Both Models O.K. for Operability (See pg. 7.3-47)	Wall No. 21

SUMMARY OF RESULTS

Location	Office Bldg. Switchgear Room Partition Wall, East Section Fl. El. 23'-6"	
Dimensions of Model	Height: 9 Ft 0 In. Width: 17 Ft 8.5 In.	Thickness: 8 In.
Type of Construction	Block: ASTM - C-90 Mortar: Type "M" ( ) Reinforced (X) Unreinforced	(X) Running Bond ( ) Stacked Bond ( ) Other
Frequency Range - Hz (Uncracked Section)	(X) One Way (X) Vertical Span ( ) Horizontal Span	21.61 To 27.90
	(X) Two Way ( ) 4-Edge Support (X) 3-Edge Support ( ) Top, (X) Side, Missing	22.61 To 29.19
Response Acceleration (Uncracked Section)	(X) One Way: 0.44 g, (OBE) 0.70 g, (SSE)	(X) Two Way: 0.44 g, (OBE) 0.70 g, (SSE)
Flexural Tensile Stresses - psi (Uncracked Section)	(X) One Way: (X) Normal to Bed Joint,	26.0 (OBE+DL) vs 25.0 (Allowable) 43.5 (SSE+DL) vs 41.5 (Allowable)
	( ) Parallell to Bed Joint,	____ (OBE+DL) vs ____ (Allowable) ____ (SSE+DL) vs ____ (Allowable)
	(X) Two Way: (X) Normal to Bed Joint,	25.7 (OBE+DL) vs 25.0 (Allowable) 43.1 (SSE+DL) vs 41.5 (Allowable)
	( ) Parallel to Bed Joint,	N.A. (OBE+DL) vs ____ (Allowable) N.A. (SSE+DL) vs ____ (Allowable)
Remarks	N.G. for Both Models O. K. for Operability (See pg. 7.3-47)	Wall No. 22

SUMMARY OF RESULTS

Location	Office Bldg. Switchgear Room Partition Wall Fl El. 23'-6"
Dimensions of Model	Height: 11 Ft 0 In. Thickness: 8 In. Width: 23 Ft 0 In.
Type of Construction	Block: ASTM - C-90 Mortar: Type "M" ( ) Reinforced (X) Unreinforced (X) Running Bond ( ) Stacked Bond ( ) Other
Frequency Range - Hz (Uncracked Section)	(X) One Way (X) Vertical Span ( ) Horizontal Span: 14.09 To 18.19
	(X) Two Way ( ) 4-Edge Support (X) 3-Edge Support ( ) Top, (X) Side, Missing: 14.85 To 19.17
Response Acceleration (Uncracked Section)	(X) One-Way: 0.30 g, (OBE); 0.45 g, (SSE)
	(X) Two Way: 0.35 g, (OBE); 0.50 g, (SSE)
Flexural Tensile Stresses - psi (Uncracked Section)	(X) One Way: (X) Normal to Bed Joint, — (OBE+DL) vs — (Allowable) 53.2 (SSE+DL) vs 41.5 (Allowable)
	( ) Parallell to Bed Joint, ____ (OBE+DL) vs ____ (Allowable) ____ (SSE+DL) vs ____ (Allowable)
	(X) Two Way: (X) Normal to Bed Joint, — (OBE+DL) vs — (Allowable) 53.2 (SSE+DL) vs 41.5 (Allowable)
	( ) Parallel to Bed Joint, N.A. (OBE+DL) vs ____ (Allowable) N.A. (SSE+DL) vs ____ (Allowable)
Remarks	N.G. for Both Models O. K. for Operability (See pg. 7.3-47)
	Wall No. 23

SUMMARY OF RESULTS

Location	Turbine Building, North East Stairwell West Wall, Lower Part Floor Elev. 23'-6"
Dimensions of Model	Height: 17 Ft 11 In. Thickness: 8 In. Width: 13 Ft 9 In.
Type of Construction	Block: ASTM - C-90 Mortar: Type "M" ( ) Reinforced (X) Unreinforced (X) Running Bond ( ) Stacked Bond ( ) Other _____
Frequency Range - Hz (Uncracked Section)	(X) One Way (X) Vertical Span 4.78 To 6.17 ( ) Horizontal Span (X) Two Way (X) 4-Edge Support 12.72 To 16.42 ( ) 3-Edge Support ( ) Top, ( ) Side, Missing
Response Acceleration (Uncracked Section)	(X) One Way: 0.37 g, (OBE) 0.55 g, (SSE) (X) Two Way: 0.85 g, (OBE) 1.14 g, (SSE)
Flexural Tensile Stresses - psi (Uncracked Section)	(X) One Way: (X) Normal to Bed Joint, 220.0 (OBE+DL) vs 25.0 (Allowable) 309.0 (SSE+DL) vs 41.5 (Allowable) ( ) Parallell to Bed Joint, _____ (OBE+DL) vs _____ (Allowable) _____ (SSE+DL) vs _____ (Allowable) (X) Two Way: (X) Normal to Bed Joint, 64.6 (OBE+DL) vs 25.0 (Allowable) 77.1 (SSE+DL) vs 41.5 (Allowable) (X) Parallel to Bed Joint, 72.0 (OBE+DL) vs 50.0 (Allowable) 105.1 (SSE+DL) vs 83.0 (Allowable)
Remarks	Wall is not good for both models Wall is O.K. for operability (See pg. 7.3-47)
	Wall No. 24-1

SUMMARY OF RESULTS

Location	Turbine Building, North East Stairwell West Wall, Upper Part. Floor Elev. 23'-6"
Dimensions of Model	Height: 8 Ft 6 In. Thickness: 8 In. Width: 13 Ft 9 In.
Type of Construction	Block: ASTM - C-90 Mortar: Type "M" ( ) Reinforced (X) Unreinforced (X) Running Bond ( ) Stacked Bond ( ) Other _____
Frequency Range - Hz (Uncracked Section)	(x) One Way (x) Vertical Span 23.03 To 29.73 ( ) Horizontal Span ( ) Two Way ( ) 4-Edge Support ( ) 3-Edge Support ( ) Top, ( ) Side, Missing _____ To _____
Response Acceleration (Uncracked Section)	(X) One Way: 0.17 g, (OBE) 0.32 g, (SSE) ( ) Two Way: _____ g, (OBE) _____ g, (SSE)
Flexural Tensile Stresses - psi (Uncracked Section)	(x) One Way: (x) Normal to Bed Joint, 25.0 (OBE+DL) vs 25.0 (Allowable) 35.7 (SSE+DL) vs 41.5 (Allowable) ( ) Parallell to Bed Joint, -- (OBE+DL) vs -- (Allowable) -- (SSE+DL) vs -- (Allowable) ( ) Two Way: ( ) Normal to Bed Joint, -- (OBE+DL) vs -- (Allowable) -- (SSE+DL) vs -- (Allowable) ( ) Parallel to Bed Joint, -- (OBE+DL) vs -- (Allowable) -- (SSE+DL) vs -- (Allowable)
Remarks	Wall is good for one way model Wall No. 24-2

SUMMARY OF RESULTS

Location	Turbine Building, Cable Spread Room, West Wall, South Section Floor Elev. 36'-0"
Dimensions of Model	Height: 9 Ft 0 In. Thickness: 8 In. Width: 9 Ft 3 In.
Type of Construction	Block: ASTM - C-90 Mortar: Type "M" ( ) Reinforced (x) Unreinforced (X) Running Bond ( ) Stacked Bond (X) Other: Wall reinforced with unistrut on both sides with thru bolts
Frequency Range - Hz (Uncracked Section)	(x) One Way (x) Vertical Span ( ) Horizontal Span: 26.16 To 33.77 (x) Two Way (x) 4-Edge Support ( ) 3-Edge Support ( ) Top, ( ) Side, Missing: 49.76 To 64.24
Response Acceleration (Uncracked Section)	(x) One Way: 0.33 g, (OBE); 0.54 g, (SSE) (x) Two Way: 0.20 g, (OBE); 0.35 g, (SSE)
Flexural Tensile Stresses - psi (Uncracked Section)	(x) One Way: (x) Normal to Bed Joint, 25.6 (OBE+DL) vs 25.0 (Allowable); 36.0 (SSE+DL) vs 41.5 (Allowable) ( ) Parallell to Bed Joint, ____ (OBE+DL) vs ____ (Allowable); ____ (SSE+DL) vs ____ (Allowable)
Stress on concrete block	(X) Two Way: (X) Normal to Bed Joint, 9.7 (OBE+DL) vs 25.0 (Allowable); 11.9 (SSE+DL) vs 41.5 (Allowable) (X) Parallel to Bed Joint, 5.2 (OBE+DL) vs 50.0 (Allowable); 7.9 (SSE+DL) vs 83.0 (Allowable)
Remarks	Wall is good for Two Way Model.
	Wall No. 25

SUMMARY OF RESULTS

Location	Turbine Building Cable Spread Room, West Section of North Wall. Floor Elev. 36'-0"	
Dimensions of Model	Height: 9 Ft 0 In. Width: 30 Ft 8 In.	Thickness: 8 In.
Type of Construction	Block: ASTM - C-90 Mortar: Type "M" ( ) Reinforced (X) Unreinforced	(X) Running Bond ( ) Stacked Bond (X) Other Wall reinforced with unistrut in both sides with thru bolts
Frequency Range - Hz (Uncracked Section)	(X) One Way (X) Vertical Span ( ) Horizontal Span	26.09 To 33.68
	(X) Two Way (X) 4-Edge Support ( ) 3-Edge Support ( ) Top, ( ) Side, Missing	28.02 To 36.18
Response Acceleration (Uncracked Section)	(X) One Way: 0.33 g, (OBE) 0.54 g, (SSE)	(X) Two Way: 0.25 g, (OBE) 0.50 g, (SSE)
Flexural Tensile Stresses - psi (Uncracked Section)	(X) One Way: (X) Normal to Bed Joint,	38.1 (OBE+DL) vs 25.0 (Allowable) 51.4 (SSE+DL) vs 41.5 (Allowable)
	( ) Parallell to Bed Joint,	____ (OBE+DL) vs ____ (Allowable) ____ (SSE+DL) vs ____ (Allowable)
Stress on concrete block	(X) Two Way: (X) Normal to Bed Joint,	24.1 (OBE+DL) vs 25.0 (Allowable) 35.5 (SSE+DL) vs 41.5 (Allowable)
	(X) Parallel to Bed Joint,	3.8 (OBE+DL) vs 50.0 (Allowable) 11.6 (SSE+DL) vs 83.0 (Allowable)
Remarks	Wall is good for two way model	Wall No. 26

SUMMARY OF RESULTS

Location	Turbine Building, Cable Spread Room North-South Wall on Column Line H. Floor Elev. 36'-0"
Dimensions of Model	Height: 9 Ft 0 In. Thickness: 8 In. Width: 3 Ft 4 In.
Type of Construction	Block: ASTM - C-90 Mortar: Type "M" ( ) Reinforced (x) Unreinforced (x) Running Bond ( ) Stacked Bond (x) Other: Wall reinforced with unistrut on both sides with thru bolts
Frequency Range - Hz (Uncracked Section)	(x) One Way (x) Vertical Span ( ) Horizontal Span 26.29 To 33.94
	( ) Two Way ( ) 4-Edge Support ( ) 3-Edge Support ( ) Top, ( ) Side, Missing ____ To ____
Response Acceleration (Uncracked Section)	(x) One Way: 0.33 g, (OBE) 0.54 g, (SSE) ( ) Two Way: ____ g, (OBE) ____ g, (SSE)
Flexural Tensile Stresses - psi (Uncracked Section) Stress on concrete block	(x) One Way: (x) Normal to Bed Joint, 20.5 (OBE+DL) vs 25.0 (Allowable) 29.6 (SSE+DL) vs 41.5 (Allowable) ( ) Parallell to Bed Joint, ____ (OBE+DL) vs ____ (Allowable) ____ (SSE+DL) vs ____ (Allowable)
	( ) Two Way: ( ) Normal to Bed Joint, ____ (OBE+DL) vs ____ (Allowable) ____ (SSE+DL) vs ____ (Allowable) ( ) Parallel to Bed Joint, ____ (OBE+DL) vs ____ (Allowable) ____ (SSE+DL) vs ____ (Allowable)
Remarks	Wall is good for One Way Model.
	Wall No. 27

SUMMARY OF RESULTS

Location	Turbine Building, North East Stairwell from Turbine operating floor, West Wall Floor Elev. 46'-6"
Dimensions of Model	Height: 8 Ft 3 In. Width: 21 Ft 4 In. Thickness: 8 In.
Type of Construction	Block: ASTM - C-90 Mortar: Type "M" ( ) Reinforced (x) Unreinforced (x) Running Bond ( ) Stacked Bond ( ) Other _____
Frequency Range - Hz (Uncracked Section)	(X) One Way (X) Vertical Span ( ) Horizontal Span 25.1 To 32.4
	( ) Two Way ( ) 4-Edge Support ( ) 3-Edge Support ( ) Top, ( ) Side, Missing _____ To _____
Response Acceleration (Uncracked Section)	(x) One Way: 0.33 g, (OBE) 0.54 g, (SSE)
	( ) Two Way: _____ g, (OBE) _____ g, (SSE)
Flexural Tensile Stresses - psi (Uncracked Section)	(x) One Way: (x) Normal to Bed Joint, 23.4 (OBE+DL) vs 25.0 (Allowable) 32.2 (SSE+DL) vs 41.5 (Allowable)
	( ) Parallell to Bed Joint, _____ (OBE+DL) vs _____ (Allowable) _____ (SSE+DL) vs _____ (Allowable)
	( ) Two Way: ( ) Normal to Bed Joint, _____ (OBE+DL) vs _____ (Allowable) _____ (SSE+DL) vs _____ (Allowable)
	( ) Parallel to Bed Joint, _____ (OBE+DL) vs _____ (Allowable) _____ (SSE+DL) vs _____ (Allowable)
Remarks	Wall is good for one way model
	Wall No. 28

SUMMARY OF RESULTS

Location	Reactor Bldg. Southeast Stairwell. North Wall Fl. El. (-) 19'-6"
Dimensions of Model	Height: 36 Ft 9.5 In. Thickness: 8 In. Width: 16 Ft 6 In.
Type of Construction	Block: ASTM - C-90 Mortar: Type "M" (X) Reinforced ( ) Unreinforced ( ) Running Bond (X) Stacked Bond ( ) Other _____
Frequency Range - Hz (Uncracked Section)	( ) One Way ( ) Vertical Span ( ) Horizontal Span _____ To _____
	(X) Two Way ( ) 4-Edge Support (X) 3-Edge Support (X) Top, ( ) Side, Missing 6.92 To 8.47
Response Acceleration (Uncracked Section)	( ) One Way: _____ g, (OBE) _____ g, (SSE)
	(X) Two Way: 0.42 g, (OBE) 0.67 g, (SSE)
Flexural Tensile Stresses - psi (Uncracked Section)	( ) One Way: ( ) Normal to Bed Joint, _____ (OBE+DL) vs _____ (Allowable) _____ (SSE+DL) vs _____ (Allowable) ( ) Parallell to Bed Joint, _____ (OBE+DL) vs _____ (Allowable) _____ (SSE+DL) vs _____ (Allowable)
	(X) Two Way: ( ) Normal to Bed Joint, N.A. (OBE+DL) vs _____ (Allowable) N.A. (SSE+DL) vs _____ (Allowable) (X) Parallel to Bed Joint, _____ (OBE+DL) vs _____ (Allowable) 199.0 (SSE+DL) vs 26.7 (Allowable)
Remarks	Continue for Cracked Section Model Analysis
	Wall No. 29

SUMMARY OF RESULTS - (Cont'd)

Frequency Range - Hz (Cracked Section)

( ) One Way
( ) Vertical Span
( ) Horizontal Span
_____ To _____

(X) Two Way
( ) 4-Edge Support
(X) 3-Edge Support
(X) Top, ( ) Side, Missing
2.48 To 3.03

Response Acceleration (Cracked Section)

( ) One Way: _____g, (OBE) _____g, (SSE)

(X) Two Way: 0.35 g, (OBE) 0.48 g, (SSE)

Flexural Tensile Stresses - psi (Cracked Section)

( ) One Way:
( ) Normal, ( ) parallel, To Bed Joint

$f_{(Steel)}$: _____ (OBE+DL) vs _____ (Allowable)
_____ (SSE+DL) vs _____ (Allowable)
$f_{(Conc.)}$: _____ (OBE+DL) vs _____ (Allowable)
_____ (SSE+DL) vs _____ (Allowable)

(X) Two Way:
(X) Normal To Bed Joint

(X) Parallel to Bed Joint

① $f_{(Steel)}$: 3300 (OBE+DL) vs 20000 (Allowable)
4520 (SSE+DL) vs 36000 (Allowable)

① $f_{(Conc.)}$ (Compression): -234 (OBE+DL) vs -396 (Allowable)
-321 (SSE+DL) vs -1020 (Allowable)

② $f_{(Steel)}$: 33360 (OBE+DL) vs 30000 (Allowable)
45840 (SSE+DL) vs 63000 (Allowable)

Remarks

N.G. for Both Models, however wall will not fail (See pg. 7.3-47)

Wall No. 29

SUMMARY OF RESULTS

Location	Reactor Bldg. Southeast Stair Well West Wall Fl. El. (-) 19'-6"
Dimensions of Model	Height: 38 Ft 2.5 In. Thickness: 8 In. Width: 8 Ft 3 In.
Type of Construction	Block: ASTM - C-90 Mortar: Type "M" (X) Reinforced ( ) Unreinforced ( ) Running Bond (X) Stacked Bond ( ) Other _____
Frequency Range - Hz (Uncracked Section)	( ) One Way ( ) Vertical Span ( ) Horizontal Span _____ To _____
	(X) Two Way ( ) 4-Edge Support (X) 3-Edge Support (X) Top, ( ) Side, Missing 26.67 To 32.66
Response Acceleration (Uncracked Section)	( ) One Way: _____ g, (OBE) _____ g, (SSE)
	(X) Two Way: 0.30 g, (OBE) 0.48 g, (SSE)
Flexural Tensile Stresses - psi (Uncracked Section)	( ) One Way: ( ) Normal to Bed Joint, _____ (OBE+DL) vs _____ (Allowable) _____ (SSE+DL) vs _____ (Allowable) ( ) Parallell to Bed Joint, _____ (OBE+DL) vs _____ (Allowable) _____ (SSE+DL) vs _____ (Allowable)
	(X) Two Way: ( ) Normal to Bed Joint, N.A. (OBE+DL) vs _____ (Allowable) N.A. (SSE+DL) vs _____ (Allowable) (X) Parallel to Bed Joint, 28.1 (OBE+DL) vs 16.7 (Allowable) 44.6 (SSE+DL) vs 27.7 (Allowable)
Remarks	Continue for Cracked Section Model Analysis
	Wall No. 30

SUMMARY OF RESULTS - (Cont'd)

Frequency Range - Hz (Cracked Section)

( ) One Way
( ) Vertical Span
( ) Horizontal Span
_____ To _____

(X) Two Way
( ) 4-Edge Support
(X) 3-Edge Support
(X) Top, ( ) Side, Missing
20.00 To 24.49

Response Acceleration (Cracked Section)

( ) One Way: _____ g, (OBE)
_____ g, (SSE)

(X) Two Way: 0.25 g, (OBE)
0.43 g, (SSE)

Flexural Tensile Stresses - psi (Cracked Section)

( ) One Way:
( ) Normal, ( ) parallel, To Bed Joint

$f_{(Steel)}$: _____ (OBE+DL) vs _____ (Allowable)
_____ (SSE+DL) vs _____ (Allowable)

$f_{(Conc.)}$: _____ (OBE+DL) vs _____ (Allowable)
_____ (SSE+DL) vs _____ (Allowable)

(X) Two Way:
(X) Normal To Bed Joint

(1) $f_{(Steel)}$: 1389 (OBE+DL) vs 20000 (Allowable)
2390 (SSE+DL) vs 36000 (Allowable)

(X) Parallel to Bed Joint

(1) $f_{(Conc.)}$ (Compression): -52 (OBE+DL) vs -396 (Allowable)
-89 (SSE+DL) vs -1020 (Allowable)

(2) $f_{(Steel)}$: 7360 (OBE+DL) vs 30000 (Allowable)
12650 (SSE+DL) vs 63000 (Allowable)

Remarks

O.K. for Cracked Section Model

Wall No. 30

SUMMARY OF RESULTS

Location	Reactor Bldg. Elevator Shaft West Wall Fl. El. 23'-6"
Dimensions of Model	Height: 26 Ft 7 In. Thickness: 8 In. Width: 9 Ft 9.5 In.
Type of Construction	Block: ASTM - C-90 Mortar: Type "M" (X) Reinforced ( ) Unreinforced ( ) Running Bond (X) Stacked Bond ( ) Other _____
Frequency Range - Hz (Uncracked Section)	( ) One Way ( ) Vertical Span ( ) Horizontal Span _____ To _____
	(X) Two Way ( ) 4-Edge Support (X) 3-Edge Support (X) Top, ( ) Side, Missing 19.46 To 23.83
Response Acceleration (Uncracked Section)	( ) One Way: _____ g, (OBE) _____ g, (SSE)
	(X) Two Way: 0.44 g, (OBE) 0.65 g, (SSE)
Flexural Tensile Stresses - psi (Uncracked Section)	( ) One Way: ( ) Normal to Bed Joint, _____ (OBE+DL) vs _____ (Allowable) _____ (SSE+DL) vs _____ (Allowable) ( ) Parallell to Bed Joint, _____ (OBE+DL) vs _____ (Allowable) _____ (SSE+DL) vs _____ (Allowable)
	(X) Two Way: ( ) Normal to Bed Joint, N.A. (OBE+DL) vs _____ (Allowable) N.A. (SSE+DL) vs _____ (Allowable) (X) Parallel to Bed Joint, 45.9 (OBE+DL) vs 16.7 (Allowable) 67.5 (SSE+DL) vs 27.7 (Allowable)
Remarks	Continue for Cracked Section Model Analysis
	Wall No. 31

SUMMARY OF RESULTS - (Cont'd)

Frequency Range - Hz (Cracked Section)

( ) One Way
( ) Vertical Span _____ To _____
( ) Horizontal Span

(X) Two Way
( ) 4-Edge Support 9.00 To 11.00
(X) 3-Edge Support
(X) Top, ( ) Side, Missing

Response Acceleration (Cracked Section)

( ) One Way: _____ g, (OBE)
_____ g, (SSE)

(X) Two Way: 0.23 g, (OBE)
0.46 g, (SSE)

Flexural Tensile Stresses - psi (Cracked Section)

( ) One Way:
( ) Normal, ( ) parallel, To Bed Joint

$f_{(Steel)}$: _____ (OBE+DL) vs _____ (Allowable)
_____ (SSE+DL) vs _____ (Allowable)

$f_{(Conc.)}$: _____ (OBE+DL) vs _____ (Allowable)
_____ (SSE+DL) vs _____ (Allowable)

(X) Two Way:
(X) Normal To Bed Joint

① $f_{(Steel)}$: 157 (OBE+DL) vs 20000 (Allowable)
302 (SSE+DL) vs 36000 (Allowable)

(x) Parallel to Bed Joint

① $f_{(Conc.)}$: (Compression) -74 (OBE+DL) vs -396 (Allowable)
-146 (SSE+DL) vs -1020 (Allowable)

② $f_{(Steel)}$: 15160 (OBE+DL) vs 30000 (Allowable)
29910 (SSE+DL) vs 63000 (Allowable)

Remarks

O.K. for Cracked Section Model

Mill No. 31

SUMMARY OF RESULTS

Location	Reactor Bldg, Southeast stairwell. North Wall, East Section. FL.EL. 23'-6"
Dimensions of Model	Height: 25 Ft 9.5 In. Thickness: 8 In. Width: 8 Ft 9.5 In.
Type of Construction	Block: ASTM - C-90 Mortar: Type "M" (X) Reinforced ( ) Unreinforced ( ) Running Bond (X) Stacked Bond ( ) Other _____
Frequency Range - Hz (Uncracked Section)	( ) One Way ( ) Vertical Span ( ) Horizontal Span _____ To _____
	(X) Two Way (X) 4-Edge Support ( ) 3-Edge Support ( ) Top, ( ) Side, Missing 24.51 To 30.02
Response Acceleration (Uncracked Section)	( ) One Way: _____ g, (OBE) _____ g, (SSE)
	(X) Two Way: 0.45 g, (OBE) 0.65 g, (SSE)
Flexural Tensile Stresses - psi (Uncracked Section)	( ) One Way: ( ) Normal to Bed Joint, _____ (OBE+DL) vs _____ (Allowable) _____ (SSE+DL) vs _____ (Allowable) ( ) Parallell to Bed Joint, _____ (OBE+DL) vs _____ (Allowable) _____ (SSE+DL) vs _____ (Allowable)
	(X) Two Way: ( ) Normal to Bed Joint, N.A. (OBE+DL) vs _____ (Allowable) N.A. (SSE+DL) vs _____ (Allowable) (X) Parallel to Bed Joint, 38.0 (OBE+DL) vs 16.7 (Allowable) 54.3 (SSE+DL) vs 27.7 (Allowable)
Remarks	Continue for Cracked Section Model Analysis
	Wall No. 32

SUMMARY OF RESULTS - (Cont'd)

Frequency Range - Hz (Cracked Section)	( ) One Way ( ) Vertical Span ( ) Horizontal Span	_____ To _____
	(X) Two Way (X) 4-Edge Support ( ) 3-Edge Support ( ) Top, ( ) Side, Missing	17.96 To 22.00
Response Acceleration (Cracked Section)	( ) One Way: _____g, (OBE) _____g, (SSE)	(X) Two Way: 0.28 g, (OBE) 0.45 g, (SSE)
Flexural Tensile Stresses - psi (Cracked Section)	( ) One Way: ( ) Normal, ( ) parallel, To Bed Joint $f_{(Steel)}$: _____ (OBE+DL) vs _____ (Allowable) _____ (SSE+DL) vs _____ (Allowable) $f_{(Conc.)}$: _____ (OBE+DL) vs _____ (Allowable) _____ (SSE+DL) vs _____ (Allowable)	
	(X) Two Way: (X) Normal To Bed Joint ① $f_{(Steel)}$: 707 (OBE+DL) vs 20000 (Allowable) (X) Parallel to Bed Joint: 1140 (SSE+DL) vs 36000 (Allowable) ① $f_{(Conc.)}$ (Compression): -72 (OBE+DL) vs -396 (Allowable) -115 (SSE+DL) vs -1020 (Allowable) ② $f_{(Steel)}$: 14910 (OBE+DL) vs 30000 (Allowable) 23680 (SSE+DL) vs 63000 (Allowable)	
Remarks	O. K. for Cracked Section Model	Wall No. 32

SUMMARY OF RESULTS

Location	Reactor Bldg, Southeast stairwell. West wall Fl. El. 23'-6"
Dimensions of Model	Height: 25 Ft 3.5 In. Thickness: 8 In. Width: 8 Ft 0 In.
Type of Construction	Block: ASTM - C-90 Mortar: Type "M" (X) Reinforced ( ) Unreinforced ( ) Running Bond (X) Stacked Bond ( ) Other _____
Frequency Range - Hz (Uncracked Section)	( ) One Way ( ) Vertical Span ( ) Horizontal Span _____ To _____ (X) Two Way (X) 4-Edge Support ( ) 3-Edge Support ( ) Top, ( ) Side, Missing 28.24 To 34.59
Response Acceleration (Uncracked Section)	( ) One Way: _____ g, (OBE) _____ g, (SSE) (X) Two Way: 0.30 g, (OBE) 0.50 g, (SSE)
Flexural Tensile Stresses - psi (Uncracked Section)	( ) One Way: ( ) Normal to Bed Joint, _____ (OBE+DL) vs _____ (Allowable) _____ (SSE+DL) vs _____ (Allowable) ( ) Parallell to Bed Joint, _____ (OBE+DL) vs _____ (Allowable) _____ (SSE+DL) vs _____ (Allowable) (X) Two Way: ( ) Normal to Bed Joint, N.A. (OBE+DL) vs _____ (Allowable) N.A. (SSE+DL) vs _____ (Allowable) (X) Parallel to Bed Joint, 29.2 (OBE+DL) vs 16.7 (Allowable) 47.4 (SSE+DL) vs 27.7 (Allowable)
Remarks	Continue for cracked section model analysis Wall No. 33

SUMMARY OF RESULTS - (Cont'd)

Frequency Range - Hz (Cracked Section)

( ) One Way
( ) Vertical Span _____ To _____
( ) Horizontal Span

(X) Two Way
(X) 4-Edge Support 17.80 To 21.80
( ) 3-Edge Support
( ) Top, ( ) Side, Missing

Response Acceleration (Cracked Section)

( ) One Way: _____g, (OBE)
_____g, (SSE)

(X) Two Way: 0.25 g, (OBE)
0.40 g, (SSE)

Flexural Tensile Stresses - psi (Cracked Section)

( ) One Way:
( ) Normal, ( ) parallel, To Bed Joint

$f_{(Steel)}$: _____ (OBE+DL) vs _____ (Allowable)
_____ (SSE+DL) vs _____ (Allowable)

$f_{(Conc.)}$: _____ (OBE+DL) vs _____ (Allowable)
_____ (SSE+DL) vs _____ (Allowable)

(X) Two Way:
(X) Normal To Bed Joint

① $f_{(Steel)}$: 839 (OBE+DL) vs 20000 (Allowable)
1280 (SSE+DL) vs 36000 (Allowable)

(X) Parallel to Bed Joint

① $f_{(Conc.)}$: -72 (OBE+DL) vs -396 (Allowable)
(Compression)
-114 (SSE+DL) vs -1020 (Allowable)

② $f_{(Steel)}$: 14840 (OBE+DL) vs 30000 (Allowable)
23540 (SSE+DL) vs 63000 (Allowable)

Remarks

OK for cracked section Model

Wall No. 33

SUMMARY OF RESULTS

Location	Office Bldg. Corridor # 5. East Wall. North Section Fl. El. 46'-6"
Dimensions of Model	Height: 13 Ft 6 In. Width: 9 Ft 2.5 In. Thickness: 6 In.
Type of Construction	Block: ASTM - C-90 Mortar: Type "M" ( ) Reinforced (X) Unreinforced (X) Running Bond ( ) Stacked Bond (X) - With face Tiles
Frequency Range - Hz (Uncracked Section)	(X) One Way (X) Vertical Span ( ) Horizontal Span 5.88 To 7.59
	(X) Two Way (X) 4-Edge Support ( ) 3-Edge Support ( ) Top, ( ) Side, Missing 17.68 To 22.83
Response Acceleration (Uncracked Section)	(X) One Way: 0.93 g, (OBE) 1.20 g, (SSE) ( ) Two Way: 0.35 g, (OBE) 0.65 g, (SSE)
Flexural Tensile Stresses - psi (Uncracked Section)	(X) One Way: (X) Normal to Bed Joint, _____ (OBE+DL) vs _____ (Allowable) 355.0 (SSE+DL) vs 41.5 (Allowable) ( ) Parallell to Bed Joint, _____ (OBE+DL) vs _____ (Allowable) _____ (SSE+DL) vs _____ (Allowable)
	(X) Two Way: (X) Normal to Bed Joint, 16.4 (OBE+DL) vs 25.0 (Allowable) 30.9 (SSE+DL) vs 41.5 (Allowable) (x) Parallel to Bed Joint, 31.4 (OBE+DL) vs 50.0 (Allowable) 55.4 (SSE+DL) vs 83.0 (Allowable)
Remarks	O.K. for two way model Wall No. 42A

SUMMARY OF RESULTS

Location	Office Bldg. Corridor @ 5 East Wall, Interm. Section Fl. El. 46'-6"	
Dimensions of Model	Height: 13 Ft 6 In. Width: 8 Ft 6 In.	Thickness: 6 In.
Type of Construction	Block: ASTM - C-90 Mortar: Type "M" ( ) Reinforced (X) Unreinforced	(X) Running Bond ( ) Stacked Bond (X) With face Tiles
Frequency Range - Hz (Uncracked Section)	(X) One Way (X) Vertical Span ( ) Horizontal Span	5.88 To 7.69
	(X) Two Way (X) 4-Edge Support ( ) 3-Edge Support ( ) Top, ( ) Side, Missing	20.36 To 26.29
Response Acceleration (Uncracked Section)	(X) One Way: 0.93 g, (OBE) 1.20 g, (SSE)	(X) Two Way: 0.45 g, (OBE) 0.65 g, (SSE)
Flexural Tensile Stresses - psi (Uncracked Section)	(X) One Way: ( ) Normal to Bed Joint, (OBE+DL) vs (Allowable) 317.0 vs 41.5 (SSE+DL) (Allowable) ( ) Parallell to Bed Joint, (OBE+DL) vs (Allowable) (SSE+DL) vs (Allowable)	
	(X) Two Way: (X) Normal to Bed Joint, 12.6 vs 25.0 (OBE+DL) (Allowable) 20.2 vs 41.5 (SSE+DL) (Allowable) (X) Parallel to Bed Joint, 32.1 vs 50.0 (OBE+DL) (Allowable) 46.3 vs 83.0 (SSE+DL) (Allowable)	
Remarks	O.K. for two way model	Wall No. 42B 42D

SUMMARY OF RESULTS

Location	Office Bldg. Corridor #5 East Wall, Interm, Section Fl. El. 46'-6"
Dimensions of Model	Height: 13 Ft 6 In. Thickness: 6 In. Width: 11 Ft 3.5 In.
Type of Construction	Block: ASTM - C-90 Mortar: Type "M" ( ) Reinforced (X) Unreinforced (X) Running Bond ( ) Stacked Bond (X) With face Tiles
Frequency Range - Hz (Uncracked Section)	(X) One Way (X) Vertical Span ( ) Horizontal Span — 5.88 To 7.67 (X) Two Way (X) 4-Edge Support ( ) 3-Edge Support ( ) Top, ( ) Side, Missing — 13.83 To 17.86
Response Acceleration (Uncracked Section) 5	(X) One Way: 0.93 g, (OBE) 1.20 g, (SSE) (X) Two Way: 0.35 g, (OBE) 0.45 g, (SSE)
Flexural Tensile Stresses - psi (Uncracked Section)	(X) One Way: (X) Normal to Bed Joint, (OBE+DL) vs (Allowable) 422.0 (SSE+DL) vs 41.5 (Allowable) ( ) Parallell to Bed Joint, (OBE+DL) vs (Allowable) (SSE+DL) vs (Allowable) (X) Two Way: (X) Normal to Bed Joint, 20.6 (OBE+DL) vs 25.0 (Allowable) 28.1 (SSE+DL) vs 41.5 (Allowable) (X) Parallel to Bed Joint, 33.4 (OBE+DL) vs 50.0 (Allowable) 43.0 (SSE+DL) vs 83.0 (Allowable)
Remarks	O.K. for Two WAy Model — Wall No. 42C

SUMMARY OF RESULTS

Location	Reactor Bldg Shutdown Heat Exchanger Room. North Wall, Interm. Section Fl. El. 51'-3"
Dimensions of Model	Height: 9 Ft 11 In. Thickness: 24 In. Width: 14 Ft 11 In.
Type of Construction	Block: ASTM - C-90 Mortar: Type "M" ( ) Reinforced (X) Unreinforced ( ) Running Bond (X) Stacked Bond (X) fully grouted double Wythe 12 in. each wythe
Frequency Range - Hz (Uncracked Section)	(X) One Way (X) Vertical Span ( ) Horizontal Span: 25.03 To 30.65
	(X) Two Way (X) 4-Edge Support ( ) 3-Edge Support ( ) Top, ( ) Side, Missing: 34.45 To 42.19
Response Acceleration (Uncracked Section)	(X) One Way: 0.32 g, (OBE); 0.52 g, (SSE) (X) Two Way: 0.26 g, (OBE); 0.42 g, (SSE)
Flexural Tensile Stresses - psi (Uncracked Section)	(X) One Way: (X) Normal to Bed Joint, 25.4 (OBE+DL) vs 40.0 (Allowable); 43.1 (SSE+DL) vs 67.0 (Allowable) ( ) Parallell to Bed Joint, ____ (OBE+DL) vs ____ (Allowable); ____ (SSE+DL) vs ____ (Allowable)
	(X) Two Way: (X) Normal to Bed Joint, 12.7 (OBE+DL) vs 40.0 (Allowable); 20.4 (SSE+DL) vs 67.0 (Allowable) (X) Parallel to Bed Joint, 9.3 (OBE+DL) vs 26.7 (Allowable); 13.8 (SSE+DL) vs 44.5 (Allowable)
Remarks	O.K. for both models
	Wall No. 43

SUMMARY OF RESULTS

Location	Turbine Building, North East Stairwell from turbine Operating Floor, North Wall Floor Elev. 46'-6"
Dimensions of Model	Height: 8 Ft 3 In. Width: 5 Ft 10 In. Thickness: 8 In.
Type of Construction	Block: ASTM - C-90 Mortar: Type "M" ( ) Reinforced (x) Unreinforced (x) Running Bond ( ) Stacked Bond ( ) Other
Frequency Range - Hz (Uncracked Section)	(x) One Way (x) Vertical Span ( ) Horizontal Span: 25.15 To 32.47 ( ) Two Way ( ) 4-Edge Support ( ) 3-Edge Support ( ) Top, ( ) Side, Missing: To
Response Acceleration (Uncracked Section)	(X) One Way: 0.33 g, (OBE); 0.54 g, (SSE) ( ) Two Way: g, (OBE); g, (SSE)
Flexural Tensile Stresses - psi (Uncracked Section)	(x) One Way: (x) Normal to Bed Joint, 23.1 (OBE+DL) vs 25.0 (Allowable); 33.7 (SSE+DL) vs 41.5 (Allowable) ( ) Parallell to Bed Joint, (OBE+DL) vs (Allowable); (SSE+DL) vs (Allowable) ( ) Two Way: ( ) Normal to Bed Joint, (OBE+DL) vs (Allowable); (SSE+DL) vs (Allowable) ( ) Parallel to Bed Joint, (OBE+DL) vs (Allowable); (SSE+DL) vs (Allowable)
Remarks	Wall is good for one way model
	Wall No. 44

SUMMARY OF RESULTS

Location	Reactor Bldg. Elevator Shaft North Wall Fl. El. 23'-6"	
Dimensions of Model	Height: 26 Ft 7 In. Width: 10 Ft 5 In.	Thickness: 8 In.
Type of Construction	Block: ASTM - C-90 Mortar: Type "M" (X) Reinforced ( ) Unreinforced	( ) Running Bond (X) Stacked Bond ( ) Other _____
Frequency Range - Hz (Uncracked Section)	( ) One Way ( ) Vertical Span ( ) Horizontal Span	_____ To _____
	(X) Two Way ( ) 4-Edge Support (X) 3-Edge Support (X) Top, ( ) Side, Missing	17.45 To 21.37
Response Acceleration (Uncracked Section)	( ) One Way: _____ g, (OBE) _____ g, (SSE)	(X) Two Way: 0.35 g, (OBE) 0.50 g, (SSE)
Flexural Tensile Stresses - psi (Uncracked Section)	( ) One Way: ( ) Normal to Bed Joint, _____ (OBE+DL) vs _____ (Allowable) _____ (SSE+DL) vs _____ (Allowable)	
	( ) Parallell to Bed Joint, _____ (OBE+DL) vs _____ (Allowable) _____ (SSE+DL) vs _____ (Allowable)	
	(X) Two Way: ( ) Normal to Bed Joint, N.A. (OBE+DL) vs _____ (Allowable) N.A. (SSE+DL) vs _____ (Allowable)	
	(X) Parallel to Bed Joint, 43.7 (OBE+DL) vs 16.7 (Allowable) 61.9 (SSE+DL) vs 27.7 (Allowable)	
Remarks	Continue for cracked section model analysis	Wall No. 45

SUMMARY OF RESULTS - (Cont'd)

Frequency Range - Hz (Cracked Section)	( ) One Way ( ) Vertical Span ( ) Horizontal Span	_____ To _____
	(X) Two Way ( ) 4-Edge Support (X) 3-Edge Support (X) Top, ( ) Side, Missing	8.04 To 9.85
Response Acceleration (Cracked Section)	( ) One Way: _____ g, (OBE) _____ g, (SSE)	(X) Two Way: 0.40 g, (OBE) 0.60 g, (SSE)
Flexural Tensile Stresses - psi (Cracked Section)	( ) One Way: ( ) Normal, ( ) parallel, To Bed Joint $f_{(Steel)}$: _____ (OBE+DL) vs _____ (Allowable) _____ (SSE+DL) vs _____ (Allowable) $f_{(Conc.)}$: _____ (OBE+DL) vs _____ (Allowable) _____ (SSE+DL) vs _____ (Allowable)	
	(X) Two Way: (X) Normal To Bed Joint (1) (X) Parallel to Bed Joint $f_{(Steel)}$: 1337 (OBE+DL) vs 20000 (Allowable) 2018 (SSE+DL) vs 36000 (Allowable) (1) $f_{(Conc.)}$: -144 (OBE+DL) vs -396 (Allowable) (Compression) -216 (SSE+DL) vs -1020 (Allowable) (2) $f_{(Steel)}$: 29820 (OBE+DL) vs 30000 (Allowable) 44660 (SSE+DL) vs 63000 (Allowable)	
Remarks	O.K. for cracked section model	Wall No. 45

OYSTER CREEK NUCLEAR STATION

SUMMARY OF OUT OF PLANE SHEARS
FOR UNREINFORCED WALLS

Wall	Thickness	Construction	Max Calculated Shear Force		Shear Capacity of Walls		Results
			Model	Nx or Ny lb/ft	SSE+DL lb/ft	OBE+DL lb/ft	
17	6in.	Running Bond	Two Way	86	706	457	All Walls satisfy shear requirement
18				90			
42A				131			
42B & 42D				114			
42C				99			
25	8in.	Running Bond	Two Way	87	831	573	
26				315			
24-2	8in	Running Bond	One Way	112	883	573	
27				220			
28				104			
44				89			

Notes: For all unreinforced Walls which satisfy the stress requirements.

OYSTER CREEK NUCLEAR STATION

IN PLANE STRAIN OF BLDG. MODELS @ OBE

Bldg. Model	Flr. Mass No.	Flr. Elev.	Max. Disp.	Story Height	Diff. Disp.	In-Plane Strain	Remarks	Results
Reactor Bldg.	5	75.25	2.795×10^{-3}	24.00	0.868×10^{-3}	3.62×10^{-5}	Allowable Strain $\gamma_c \leq 8 \times 10^{-4}$	All Walls Satisfy In-Plane Strain Req't
	6	51.25	1.927	27.75	0.994	3.58		
	7	23.50	0.933	23.50	0.473	2.01		
	8	0.00	0.460	19.00	0.460	2.42		
	Base	-19.00	0.000	--	--			
Turbine Bldg.	1	46.50	0.599	23.00	0.282	1.23		
	2	23.50	0.317	23.50	0.317	1.35		
	Base	0.00	0.000	--	--			

NOTES: 1. All masonry walls investigated are within the scope of the tabulated elev. and classified as confined walls.

2. All linear units in ft.

OYSTER CREEK NUCLEAR STATION
IN PLANE STRAIN OF BLDG. MODELS @ SSE

BLDG Model	FLR MASS No.	FLR ELEV.	MAX DISP.	Story Height	Diff. DISP.	IN PLANE STRAIN	REMARKS	RESULT
Reactor BLDG	5	75.25	5.591×10^{-3}	24.00	1.738×10^{-3}	7.24×10^{-5}	Allowable Strain $\gamma_c \leq 1.33 \times 10^{-3}$	All Wall satis In-Pl strai requi ment
	6	51.25	3.853	27.75	1.986	7.16		
	7	23.50	1.867	23.50	0.947	4.03		
	8	0.00	0.920	19.00	0.920	4.84		
	Base	-19.00	0.000	———	———			
Turbine Bldg	2	46.50	1.197	23.00	0.564	2.45		
	1	23.50	0.633	23.50	0.633	2.69		
	Base	0.00	0.000	———	———			

For Notes see the Preceeding page.

OYSTER CREEK NUCLEAR STATION
SUMMARY FOR OPERABILITY RESULTS

Wall Type	Wall No.	Height of Wall	Nominal Thickness of wall in.	DISPLACEMENTS		AXIAL FORCE		Remarks	Result
				Actual Δ_a in.	Allowable $\Delta = t/3$ in.	Actual Ha lb/ft	Allowable H lb/ft		OK
Unreinforced	8	13'-4"	$5\frac{5}{8}$	0.22	1.88	745.7	3621.0		OK
	15	13'-4"	$5\frac{5}{8}$	0.17	1.88	619.0	3621.0		OK
	19	11'-0	$5\frac{5}{8}$	0.007	1.88	353	3621		OK
	20	11'-0	$5\frac{5}{8}$	0.007	1.88	353	3621		OK
	21	11'-2½"	$7\frac{5}{8}$	0.001	2.54	173	4208	Steel Beam to be provided @ El 31.0	Wall is O.K. with the Steel Beam
	22	9'-0"	$7\frac{5}{8}$	0.002	2.54	220	4208		OK
	23	11'-0"	$7\frac{5}{8}$	0.004	2.54	341	4208		OK
	24-1	17'-11"	$7\frac{5}{8}$	0.028	2.54	1010.0	4208		OK
Reinforced	29	16'-6"	$7\frac{5}{8}$	The Dur-O-wall is approximately 11.2% over stressed and is less than 50% of the yield stress therefore the wall will not fail					OK

APPENDIX 7.4
Reinforcing Details

APPENDIX 7.5
Boundary Support Requirements

OYSTER CREEK NUCLEAR STATION

WALL BOUNDARY SUPPORT REQUIREMENTS

Wall No.	Top	Side		Side		Remarks
		North	East	South	West	
2			yes		yes	
5			yes		yes	
6		yes *		yes **		* North-West ** South-East
7		yes		yes		
8	yes					
15	yes				yes	
17	yes				yes	
18	yes			yes		
19	yes					
20	yes					
21	yes	+				+ Additional supports to be provided for equipment
22	yes					
23	yes					
24	yes					
25				yes		
26						
27						
28						
29			yes			
30				yes		
31				yes		
32	yes		yes		yes	
33	yes		+	yes		
42	yes	yes		yes		
43				+		
44						
45						

APPENDIX 7.6
Schedule for Implementation of Design Modifications

CONSTRUCTION SCHEDULE

The implementation of the design modifications for items listed below will be completed prior to the restart from our 1981/1982 Refueling Outage.

1. Pre-emptive modification to 19 walls by removal of the effected sections of the concrete block walls to eliminate potential missile hazard to the vital systems. These walls are wall Nos. 1, 3, 4, 9, 10, 11, 12, 13, 14, 16, 34, 35, 37, 38, 39, 40, 41, 46 and 47.

2. Repair all visible cracks on both sides of the concrete block walls.

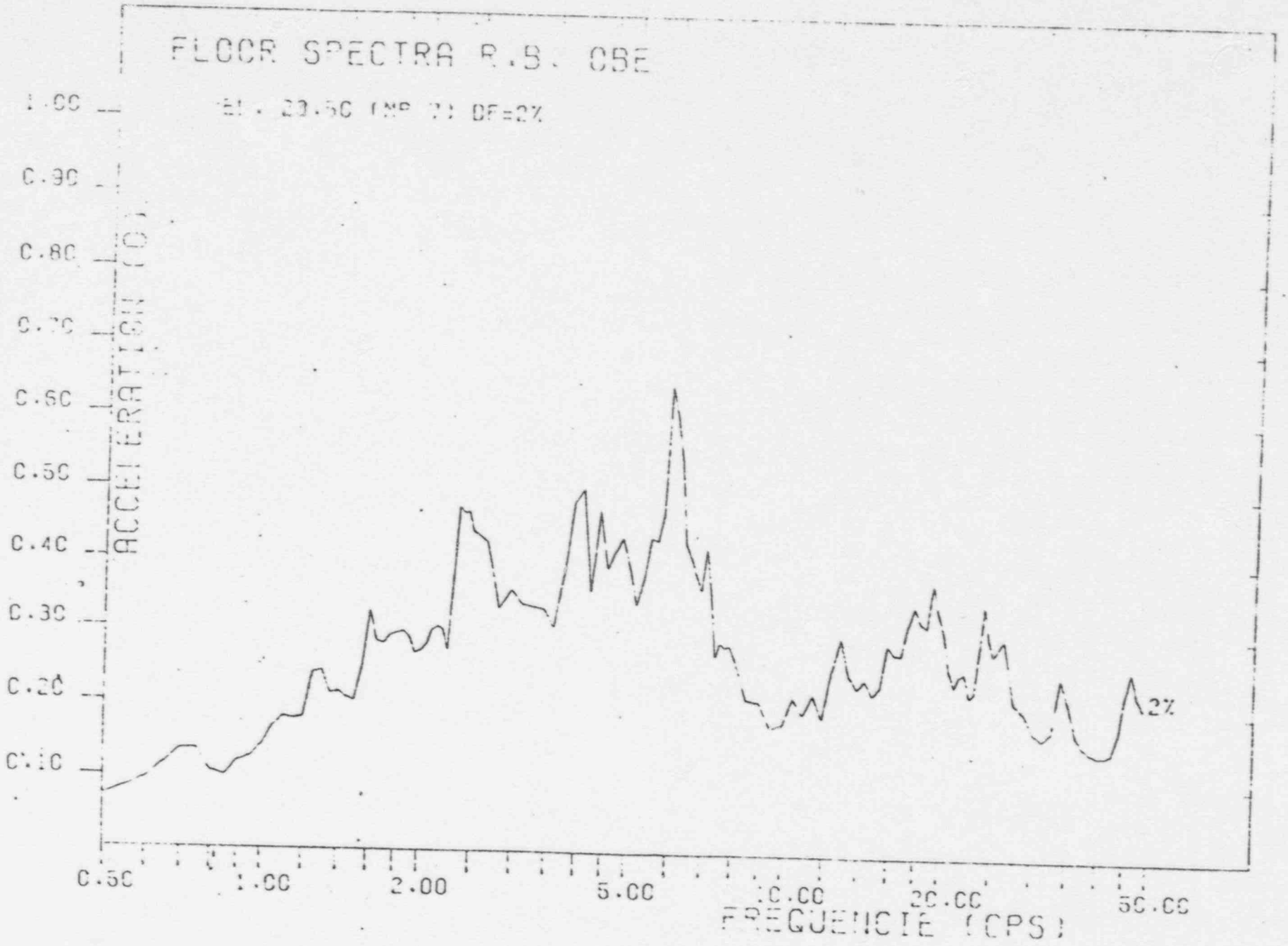
3. Installation of wall boundary supports.

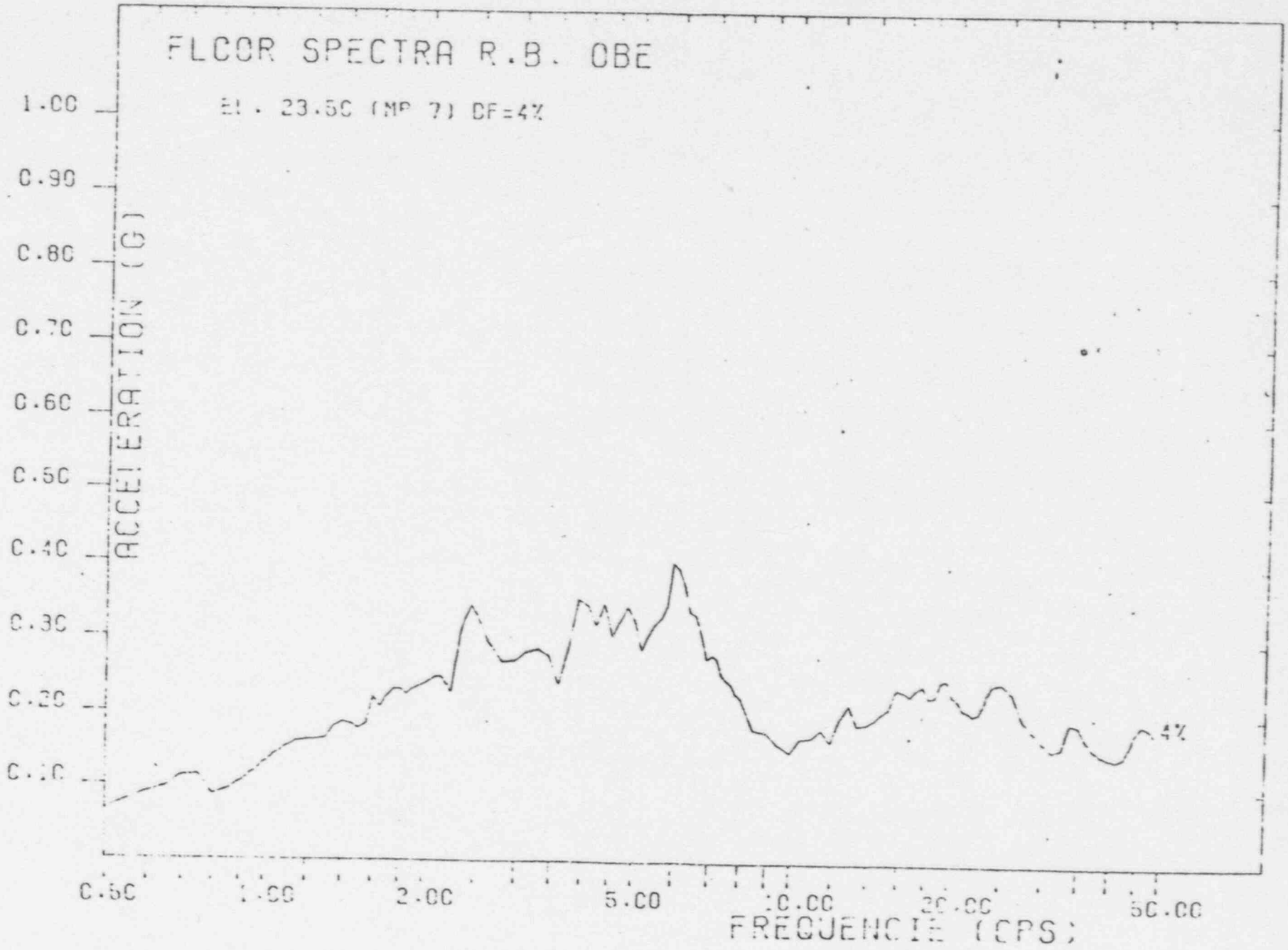
4. Modification of equipment supports for wall Nos. 21, 33 and 43.

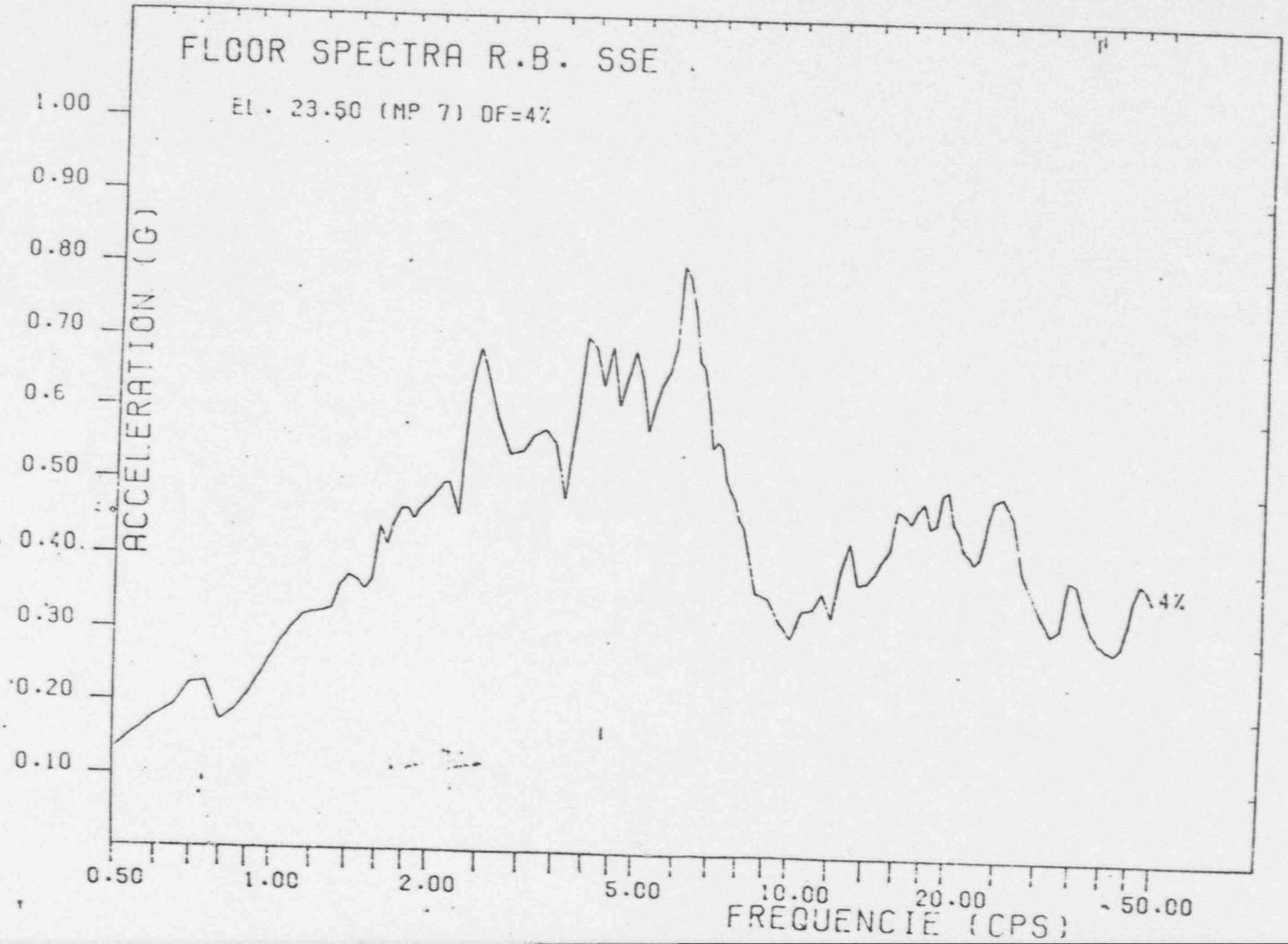
APPENDIX 7.7
Floor Response Spectra
Reactor Building
Turbine Building

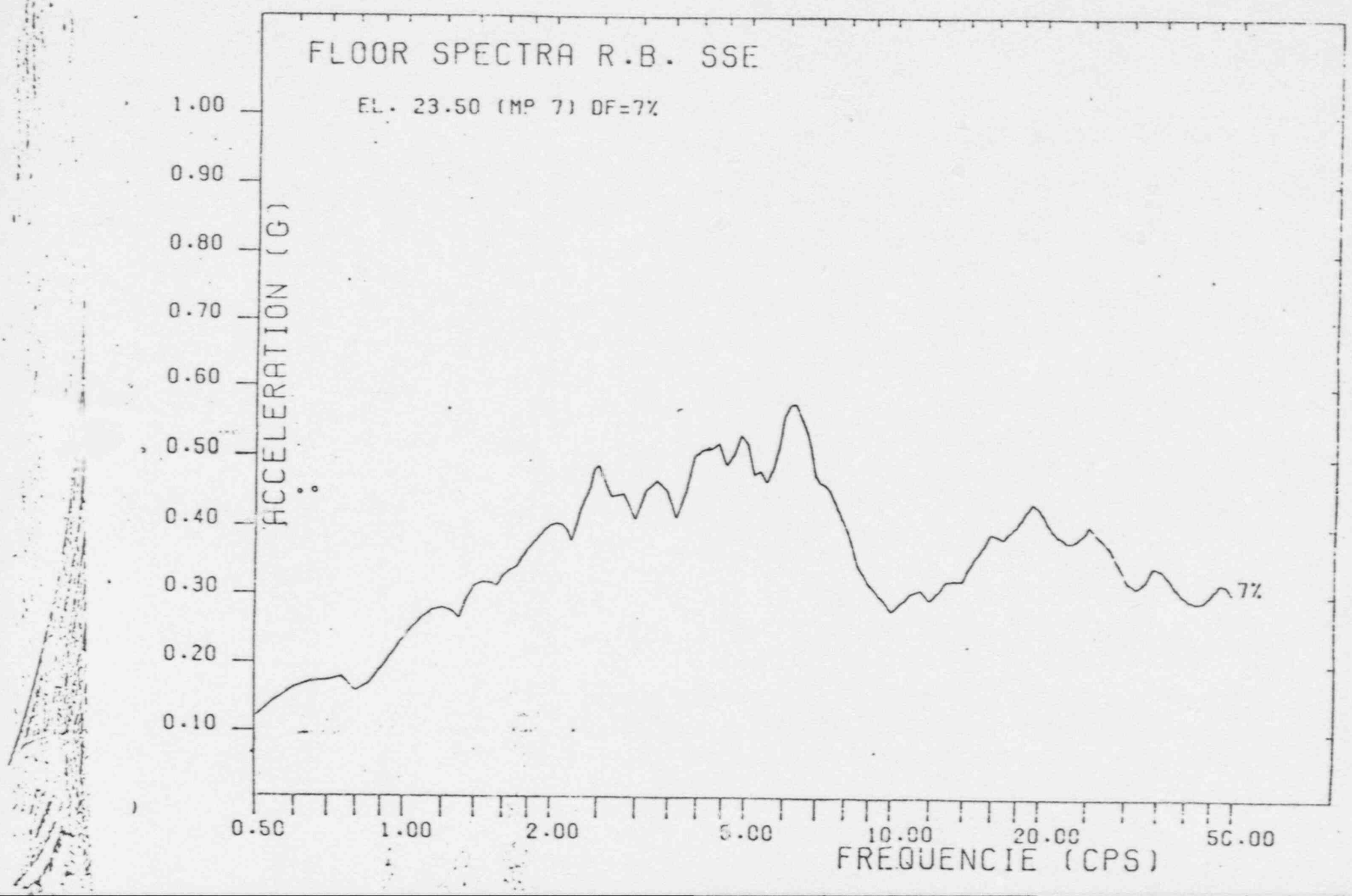
Floor Responses Spectra

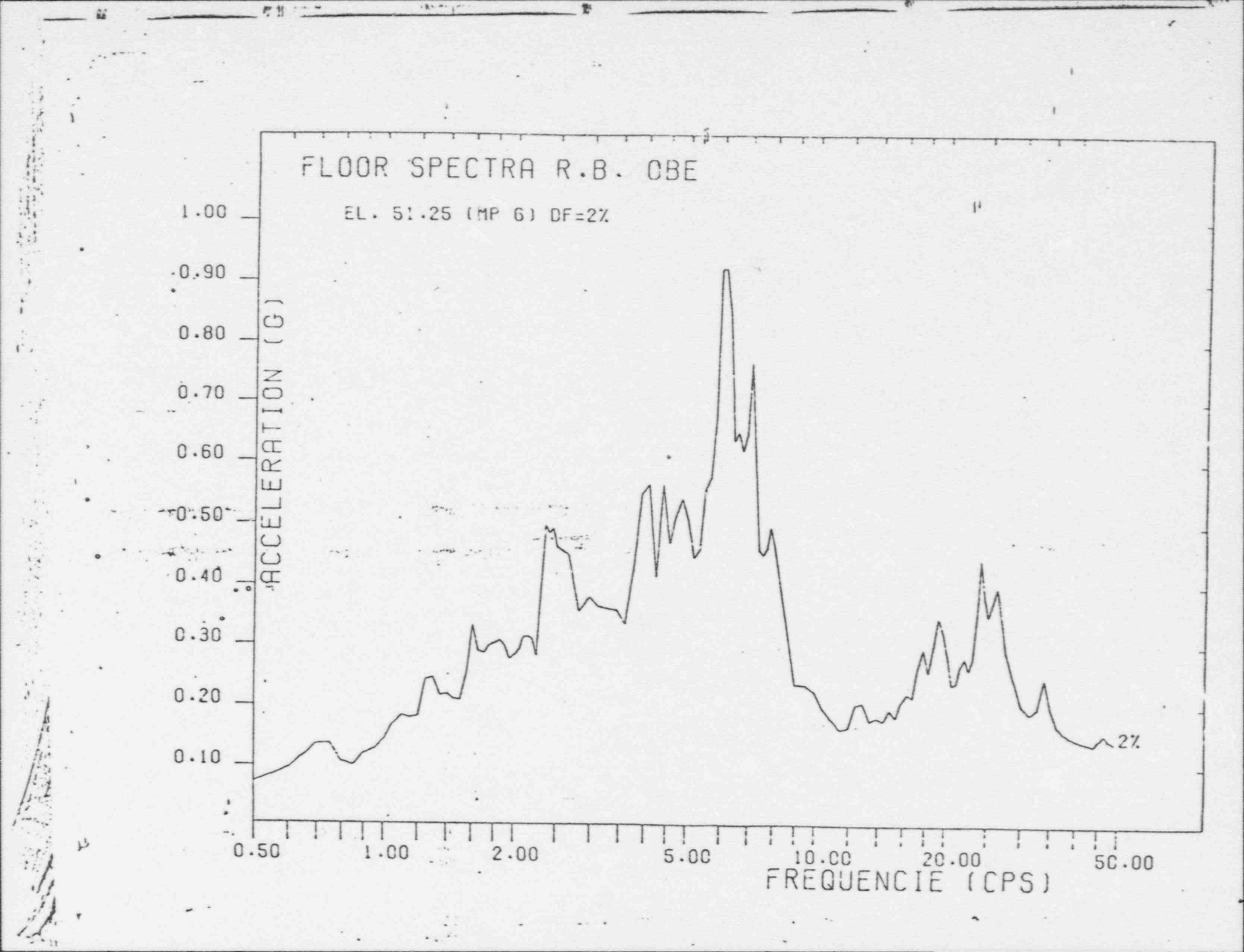
Building	Floor Elevation	Damping Value			
		OBE		SSE	
		2%	4%	4%	7%
R.B.	23'-6	x	x	x	x
	51'-3	x	x	x	x
T.B.	23'-6	x	x	x	x
	46'-6	x	x	x	x

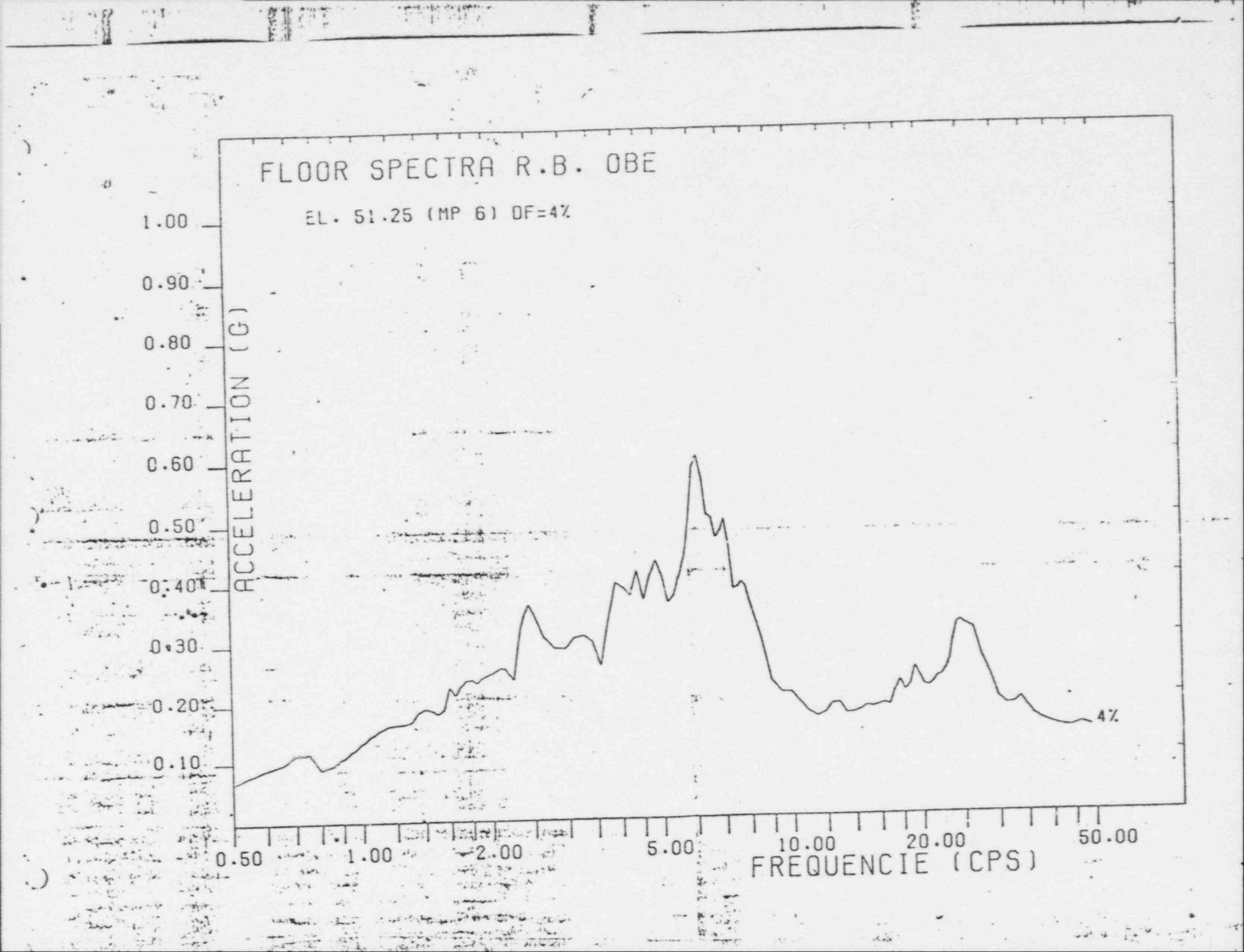

FLOOR SPECTRA R.B. OBE
EL. 23.5C (NP 2) DF=2%
1.CC
C.9C
C.8C
C.7C
C.6C
C.5C
C.4C
C.3C
C.2C
C.1C
ACCELERATION (G)
0.5C
1.CC
2.00
5.CC
10.CC
20.CC
5C.CC
FREQUENCIE (CPS)
2%

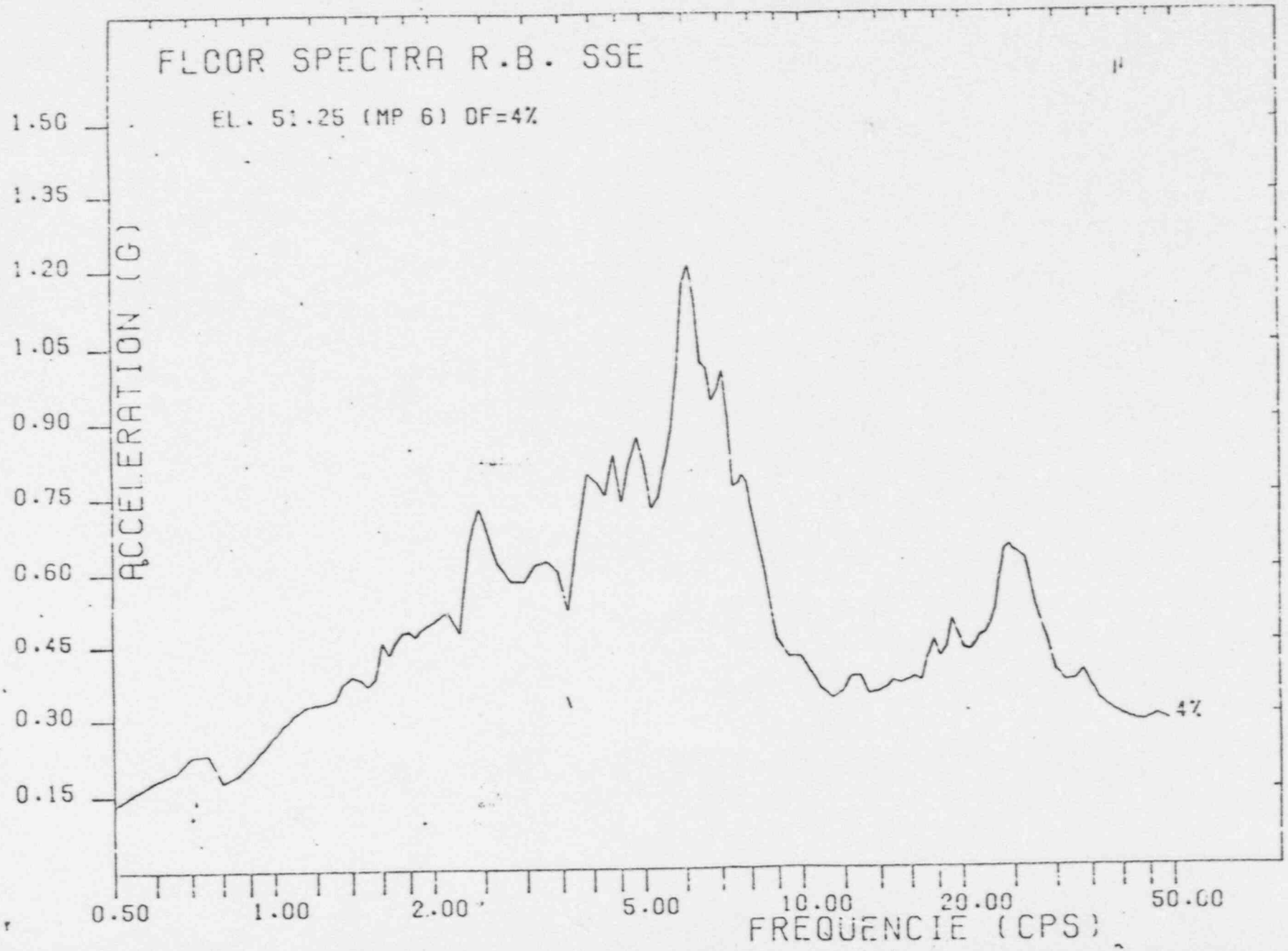

FLOOR SPECTRA R.B. OBE
EL . 23.50 (MP 7) DF=4%
1.00
0.90
0.80
0.70
0.60
0.50
0.40
0.30
0.20
0.10
ACCELERATION (G)
0.50
1.00
2.00
5.00
10.00
20.00
50.00
FREQUENCIE (CPS)
4%

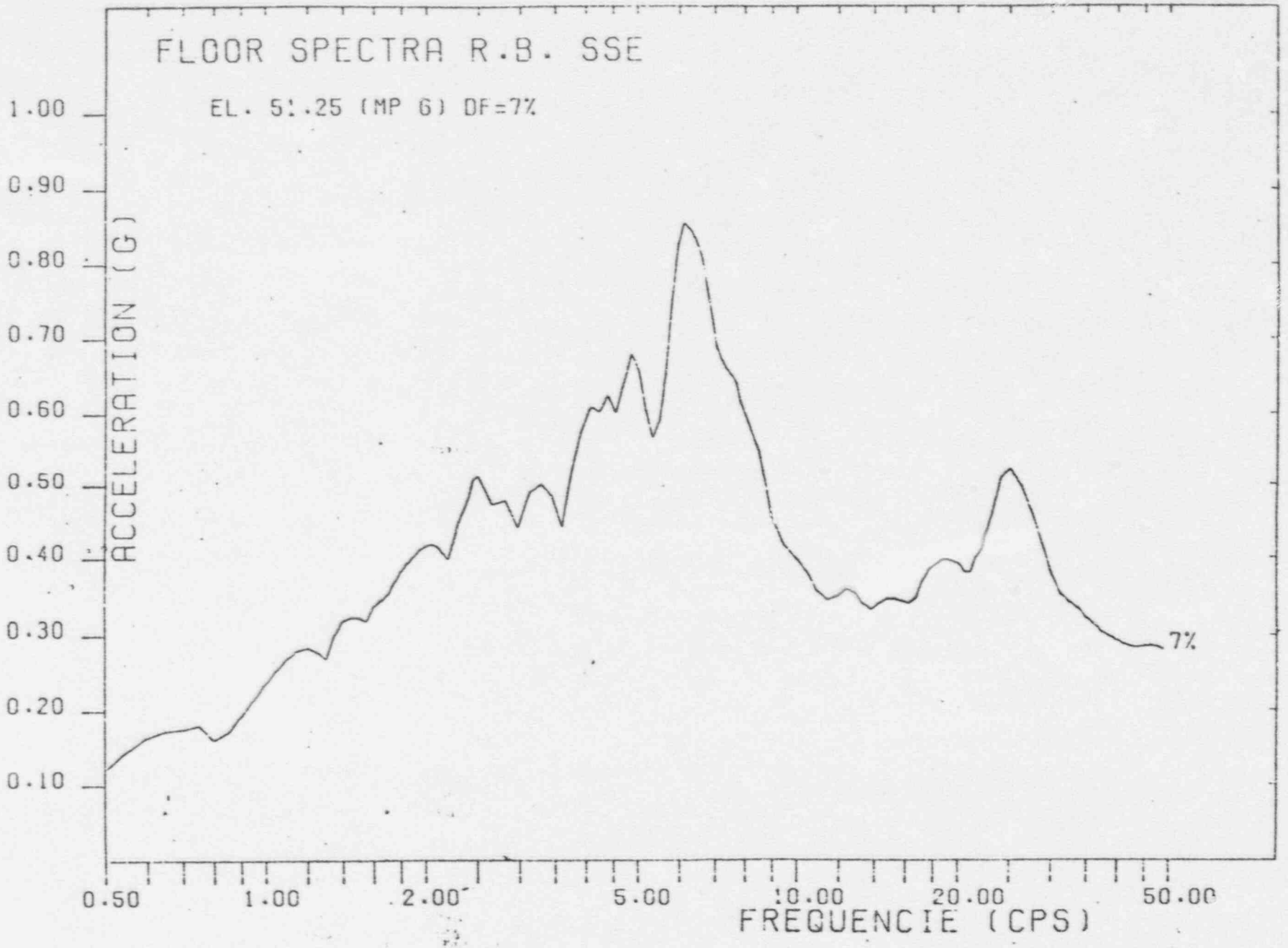

FLOOR SPECTRA R.B. SSE
EL. 23.50 (MP 7) DF=4%
ACCELERATION (G)
1.00
0.90
0.80
0.70
0.6
0.50
0.40
0.30
0.20
0.10
0.50
1.00
2.00
5.00
10.00
20.00
50.00
FREQUENCIE (CPS)
4%

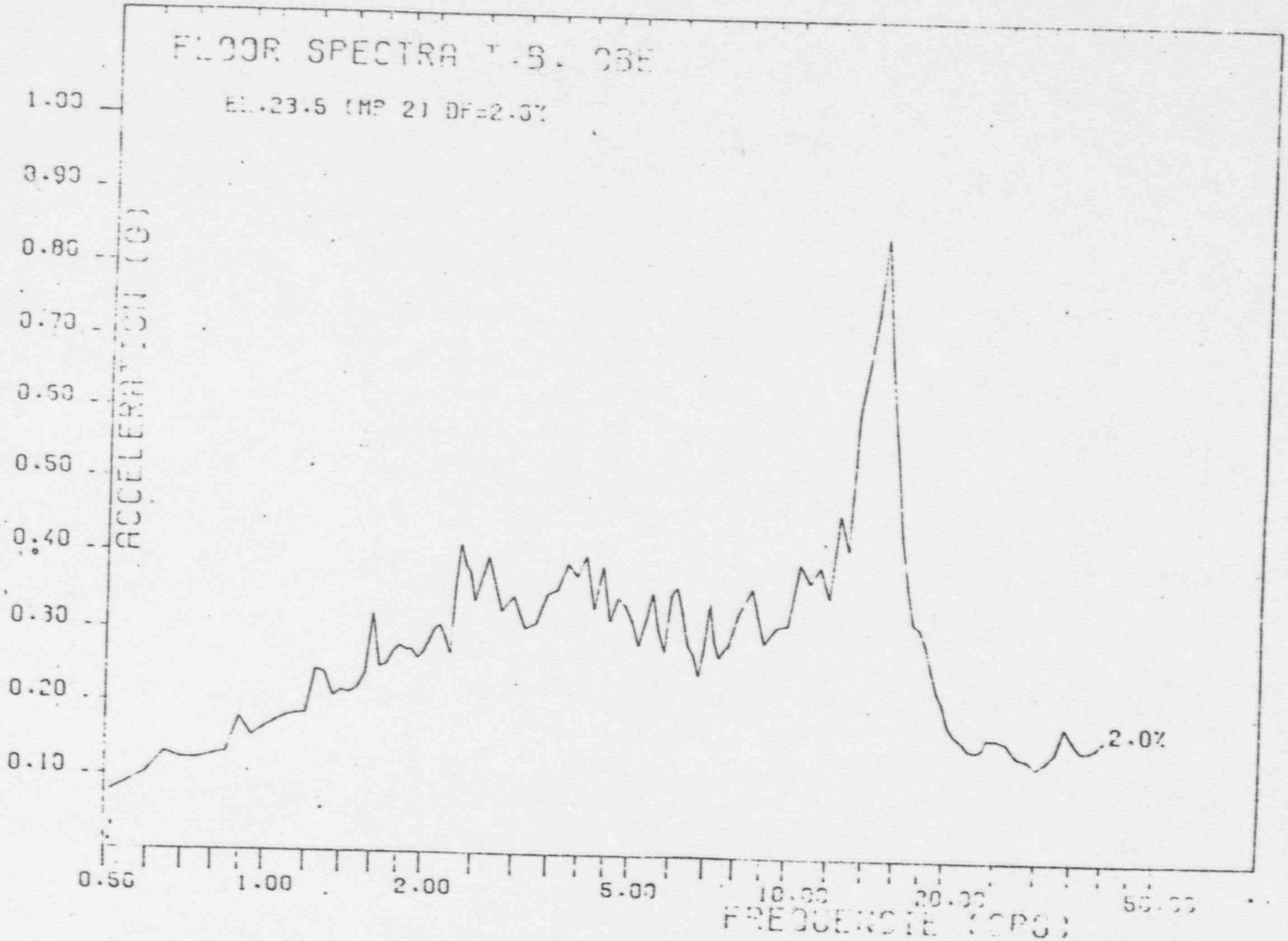

FLOOR SPECTRA R.B. SSE
EL. 23.50 (MP 7) DF=7%
ACCELERATION (G)
1.00
0.90
0.80
0.70
0.60
0.50
0.40
0.30
0.20
0.10
0.50
1.00
2.00
5.00
10.00
20.00
50.00
FREQUENCIE (CPS)
7%

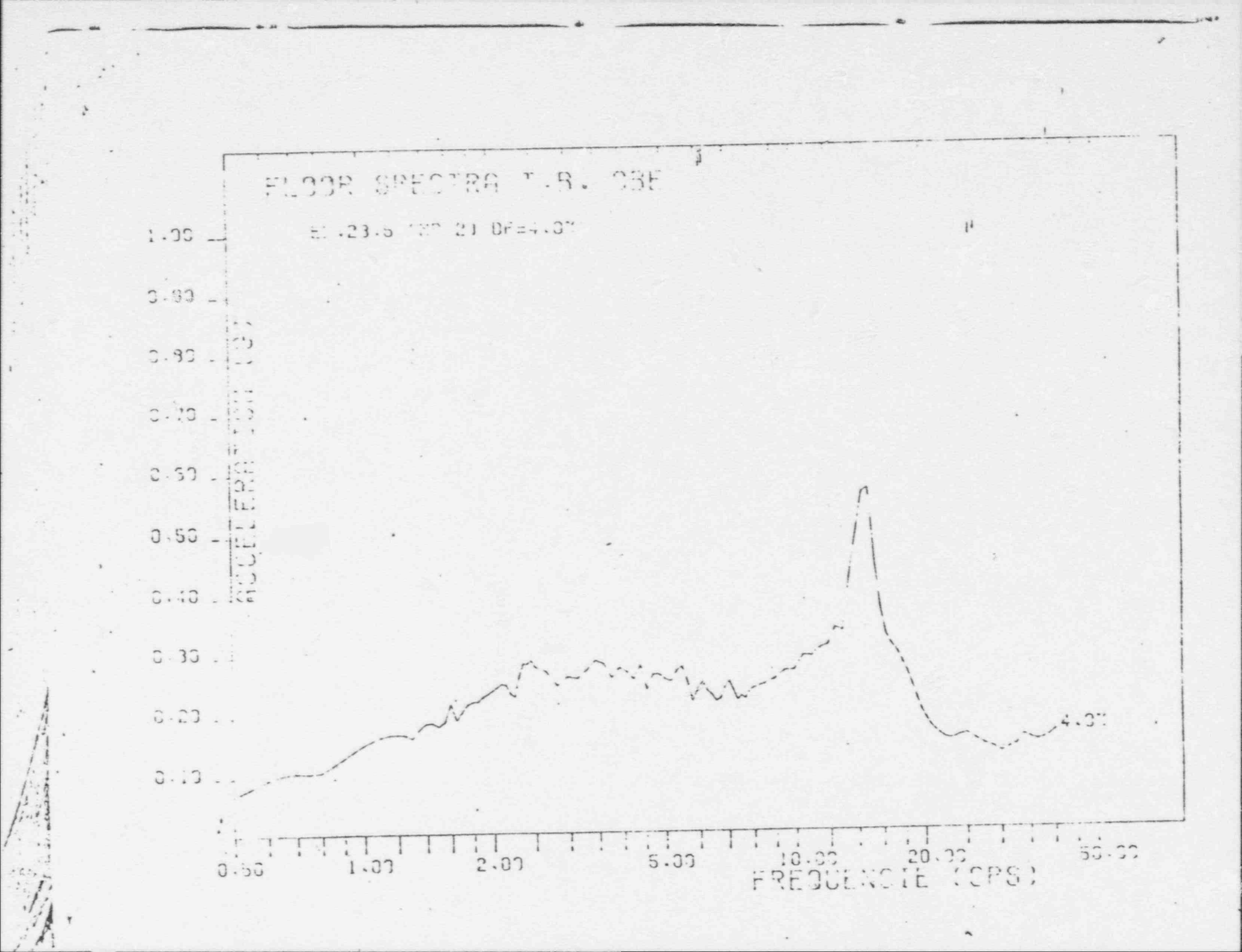

FLOOR SPECTRA R.B. OBE
EL. 51.25 (MP 6) DF=2%
ACCELERATION (G)
1.00
0.90
0.80
0.70
0.60
0.50
0.40
0.30
0.20
0.10
0.50
1.00
2.00
5.00
10.00
20.00
50.00
FREQUENCIE (CPS)
2%

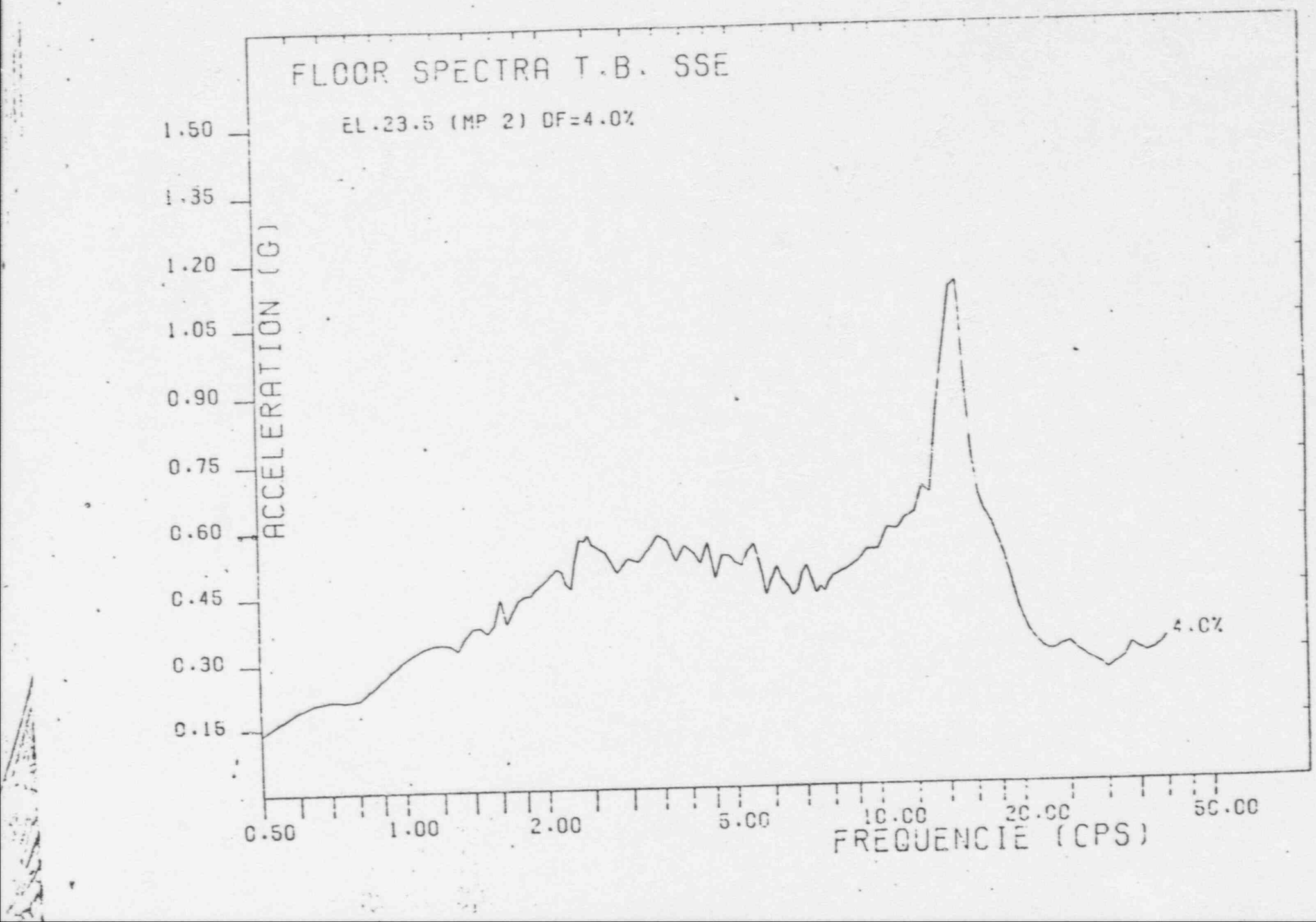

FLOOR SPECTRA R.B. OBE
EL. 51.25 (MP 6) DF=4%
ACCELERATION (G)
1.00
0.90
0.80
0.70
0.60
0.50
0.40
0.30
0.20
0.10
0.50
1.00
2.00
5.00
10.00
20.00
50.00
FREQUENCIE (CPS)
4%

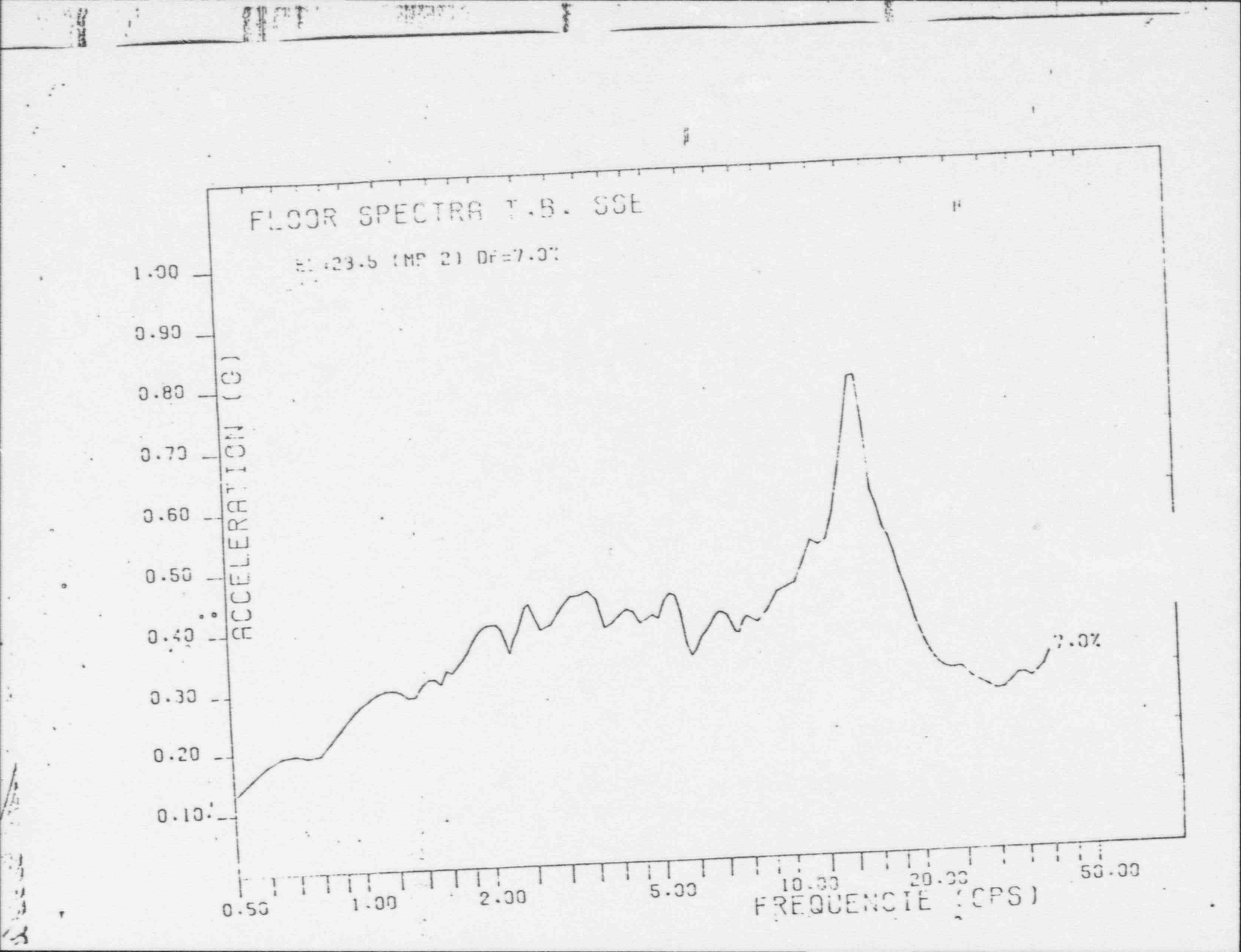

FLOOR SPECTRA R.B. SSE
EL. 51.25 (MP 6) DF=4%
ACCELERATION (G)
1.50
1.35
1.20
1.05
0.90
0.75
0.60
0.45
0.30
0.15
0.50
1.00
2.00
5.00
10.00
20.00
50.00
FREQUENCIE (CPS)
4%

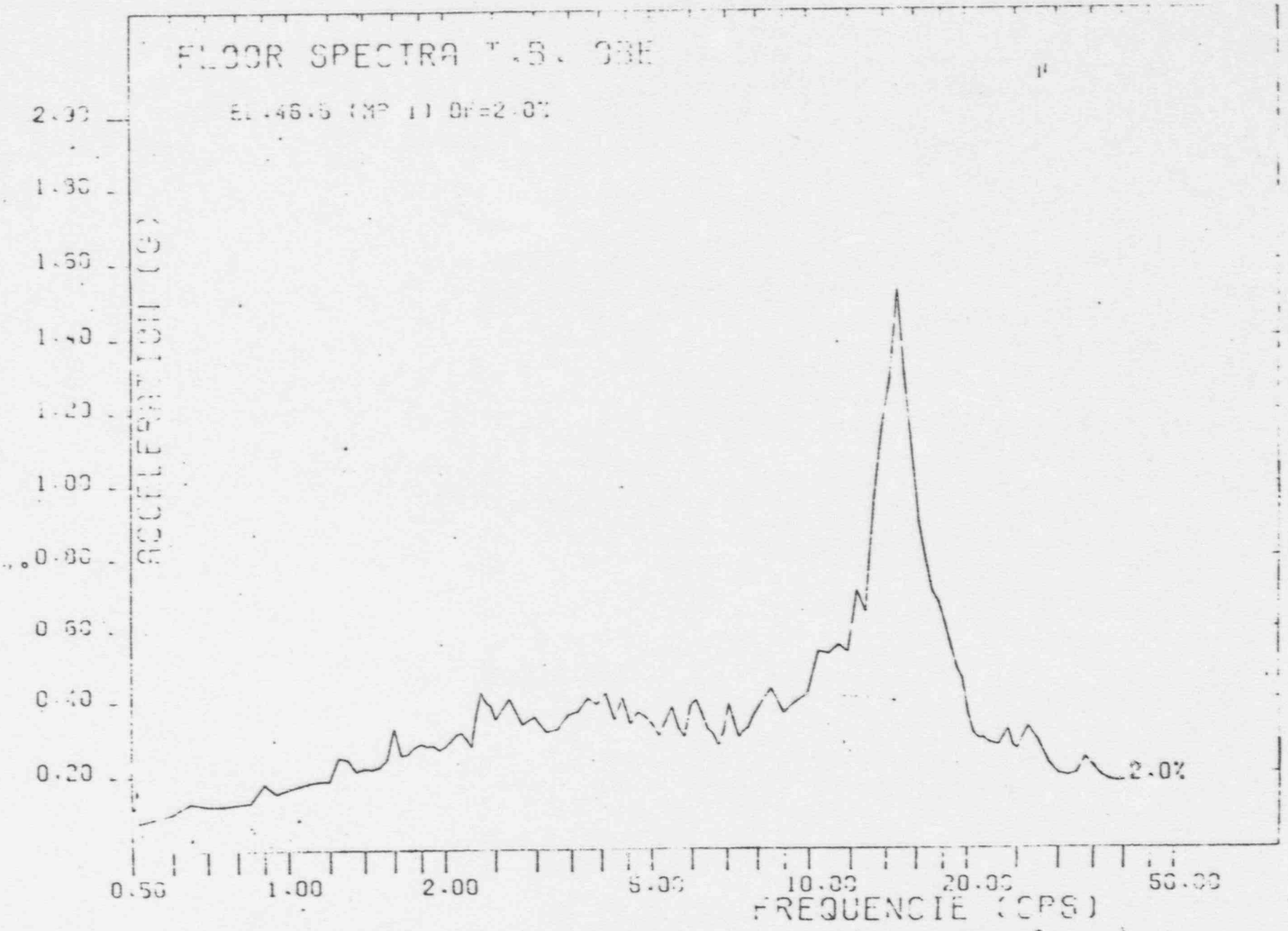

FLOOR SPECTRA R.B. SSE
EL. 51.25 (MP 6) DF=7%
ACCELERATION (G)
1.00
0.90
0.80
0.70
0.60
0.50
0.40
0.30
0.20
0.10
7%
0.50
1.00
2.00
5.00
10.00
20.00
50.00
FREQUENCIE (CPS)

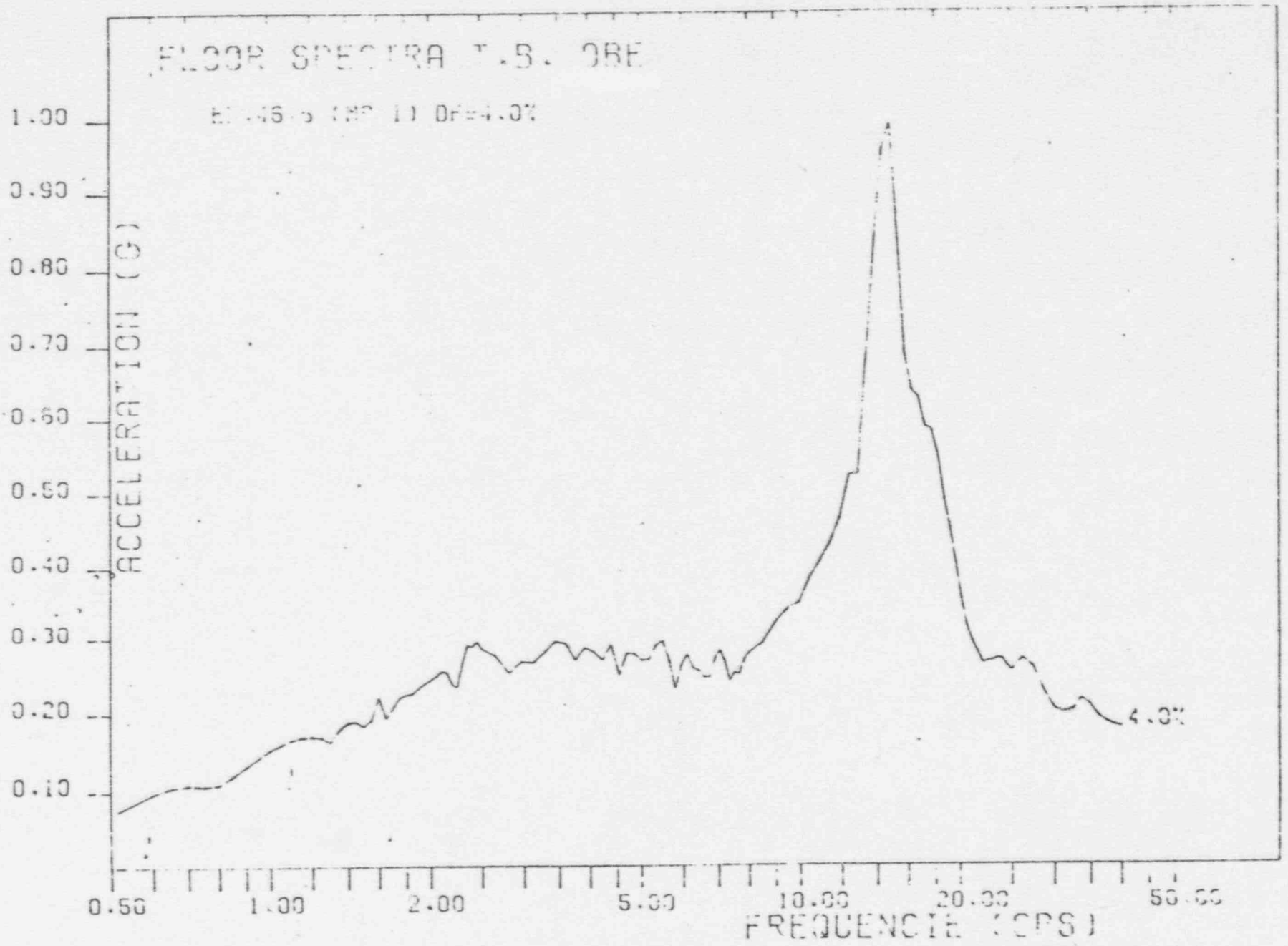

FLOOR SPECTRA T.B. OBE
EL.23.5 (MP 2) DF=2.0%
1.00
0.90
0.80
0.70
0.60
0.50
0.40
0.30
0.20
0.10
ACCELERATION (G)
0.50
1.00
2.00
5.00
2.0%

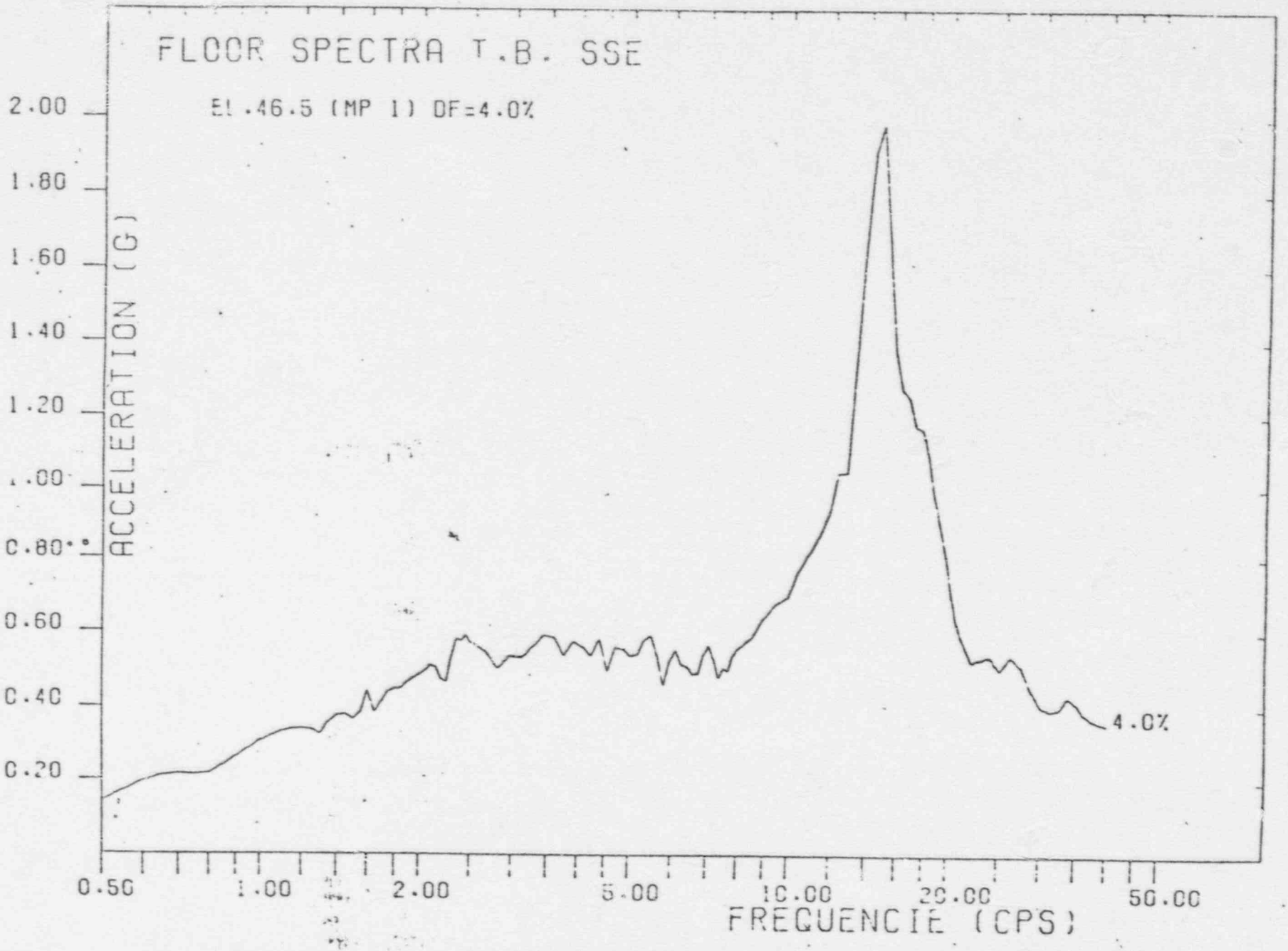

FLOOR SPECTRA T.R. 33E
1.00
0.90
0.80
0.70
0.60
0.50
0.40
0.30
0.20
0.10
0.00
1.00
2.00
5.00
10.00
20.00
50.00
FREQUENCIE (CPS)

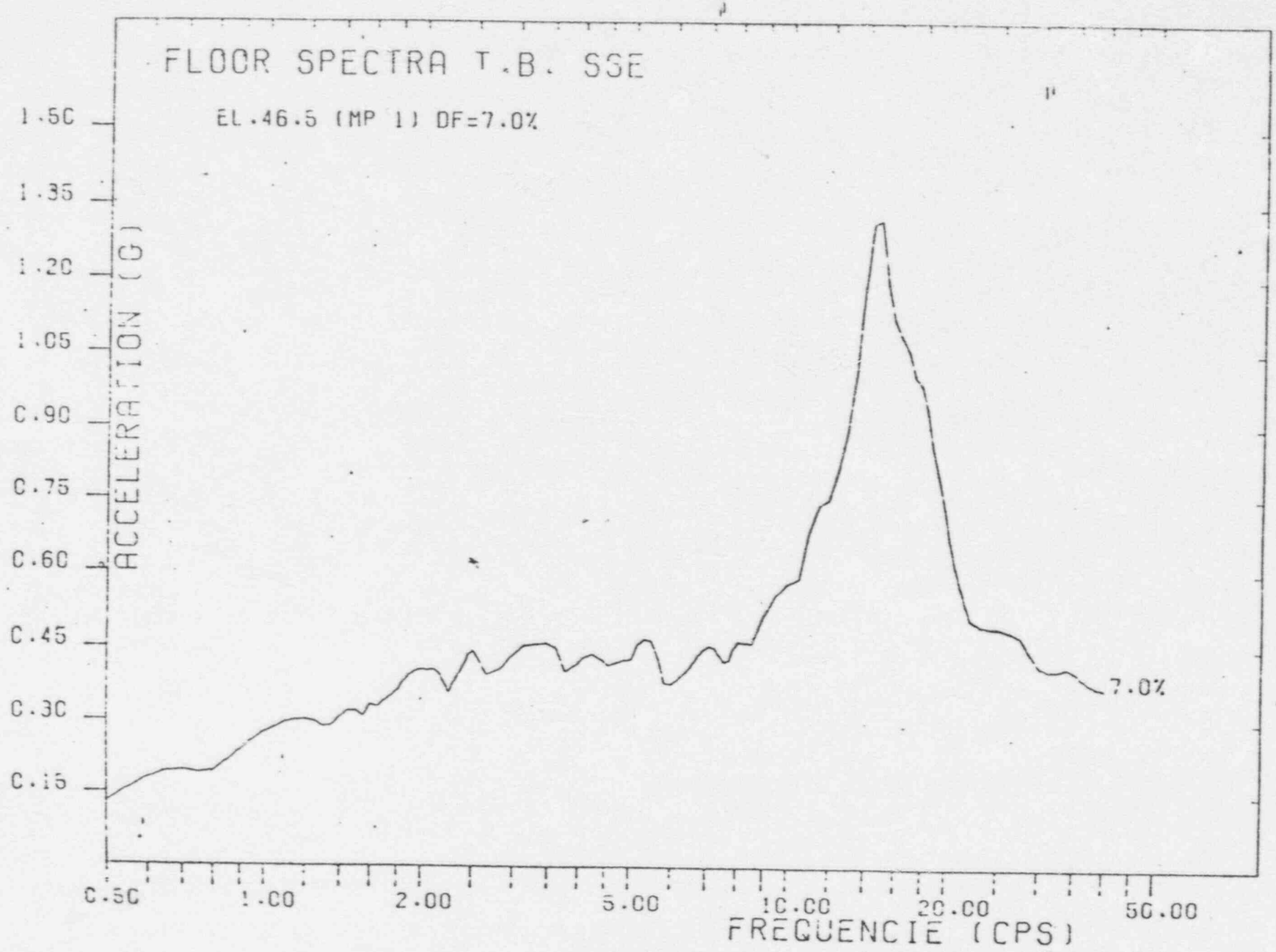

FLOOR SPECTRA T.B. SSE
EL.23.5 (MP 2) DF=4.0%
ACCELERATION (G)
1.50
1.35
1.20
1.05
0.90
0.75
0.60
0.45
0.30
0.15
0.50
1.00
2.00
5.00
10.00
20.00
50.00
FREQUENCIE (CPS)
4.0%


FLOOR SPECTRA T.B. SSE
EL 423.5 (MP 21) DF=7.0%
1.00
0.90
0.80
0.70
0.60
0.50
0.40
0.30
0.20
0.10
ACCELERATION (G)
0.50
1.00
2.00
5.00
10.00
20.00
50.00
FREQUENCIE (CPS)
7.0%


FLOOR SPECTRA
2.00
1.80
1.60
1.40
1.20
1.00
0.80
0.60
0.40
0.20
ACCELERATION (G)
2.0%
0.50
1.00
2.00
5.00
10.00
20.00
50.00
FREQUENCIE (CPS)


FLOOR SPECTRA T.S. OBE
1.00
0.90
0.80
0.70
0.60
0.50
0.40
0.30
0.20
0.10
ACCELERATION (G)
4.0%
0.50
1.00
2.00
5.00
10.00
20.00
50.00
FREQUENCIE (CPS)


FLOOR SPECTRA T.B. SSE
EL .46.5 (MP 1) DF=4.0%
ACCELERATION (G)
2.00
1.80
1.60
1.40
1.20
1.00
0.80
0.60
0.40
0.20
4.0%
0.50
1.00
2.00
5.00
10.00
20.00
50.00
FREQUENCIE (CPS)


FLOOR SPECTRA T.B. SSE
EL.46.5 (MP 1) DF=7.0%
ACCELERATION (G)
1.50
1.35
1.20
1.05
0.90
0.75
0.60
0.45
0.30
0.15
0.50
1.00
2.00
5.00
10.00
20.00
50.00
FREQUENCIE (CPS)
7.0%