

From: James Gaslevic
To: wayne.massie@ge.com
Date: 9/6/2006 7:31:09 AM
Subject: Fwd: Time Histories

As discussed;
jg

>>> "Carl J. Costantino" <carl@cjcassoc.com> 9/5/2006 8:06 PM >>>
Gentle people,

Attached is a zipped folder that summarizes the checks we made on the adequacy of the GE time histories. We previously discussed these results with Tom Cheng. As a result, we recommend that they be provided to GE for their evaluation so as to eliminate any future concerns we may have for their use in building evaluations.

Carl

Dr. Carl J. Costantino
4 Rockingham Road
Spring Valley, New York 10977
Voice: 845-354-2602
Fax: 845-362-8161
Cell: 914-629-4486
E-Mail: carl@cjcassoc.com

CC: Amy Cubbage; Lawrence Rossbach

Mail Envelope Properties (44FEB17D.A79 : 0 : 10928)

Subject: Fwd: Time Histories
Creation Date 9/6/2006 7:31:09 AM
From: James Gaslevic

Created By: JEG1@nrc.gov

Recipients	Action	Date & Time
ge.com wayne.massie (wayne.massie@ge.com)	Transferred	9/6/2006 7:31:33 AM
nrc.gov OWGWPO03.HQGWDO01 AEC CC (Amy Cubbage)	Delivered Opened	9/6/2006 7:31:18 AM 9/6/2006 7:54:10 AM
nrc.gov TWGWPO03.HQGWDO01 LWR CC (Lawrence Rossbach) AM	Delivered Opened	9/6/2006 7:31:18 AM 9/11/2006 8:12:18

Post Office

OWGWPO03.HQGWDO01
TWGWPO03.HQGWDO01

Delivered

9/6/2006 7:31:18 AM nrc.gov
9/6/2006 7:31:18 AM nrc.gov

Route

ge.com

Files

MESSAGE
TO NRC.zip

Size

1524
78671

Date & Time

9/6/2006 7:31:09 AM
9/6/2006 7:29:37 AM

Options

Auto Delete:

No

Expiration Date:

None

Notify Recipients:

Yes

Priority:

Standard

ReplyRequested:

No

Return Notification:

None

Concealed Subject:

No

Security:

Standard

To Be Delivered:

Immediate

Status Tracking:

Delivered & Opened

CARES SOIL vs1.2.3 (8/30/06) : GE-H1.CSPNUREG SEMI-LOG FITTING
 INPUT TIME HISTORY FILE : GE-H1.CTH
 RESPONSE SPECTRA - ACC TIME HIST (in/sec**2): REI GE ESBWR H1

RECORD

DAMPING = 5.00 %

301 NO. OF FREQUENCIES

FREQ (hz)	SPACC (g)	SPTRGT (g)	ERROR (%)
0.10000	0.244695E-01	0.226200E-01	8.17637
0.10233	0.256093E-01	0.238790E-01	7.24612
0.10471	0.267971E-01	0.251380E-01	6.60004
0.10715	0.280496E-01	0.263970E-01	6.26070
0.10965	0.293253E-01	0.276560E-01	6.03577
0.11220	0.306607E-01	0.289150E-01	6.03716
0.11482	0.320499E-01	0.301740E-01	6.21678
0.11749	0.334821E-01	0.314330E-01	6.51874
0.12023	0.349487E-01	0.326974E-01	6.88529
0.12303	0.366318E-01	0.345170E-01	6.12691
0.12589	0.384563E-01	0.363365E-01	5.83364
0.12882	0.402548E-01	0.381561E-01	5.50023
0.13183	0.421737E-01	0.399757E-01	5.49840
0.13490	0.443627E-01	0.417953E-01	6.14293
0.13804	0.466091E-01	0.436148E-01	6.86532
0.14125	0.489199E-01	0.454344E-01	7.67143
0.14454	0.510242E-01	0.472647E-01	7.95403
0.14791	0.529701E-01	0.498962E-01	6.16053
0.15136	0.545315E-01	0.525278E-01	3.81453
0.15488	0.574912E-01	0.551593E-01	4.22760
0.15849	0.603123E-01	0.577908E-01	4.36316
0.16218	0.629050E-01	0.604223E-01	4.10898
0.16596	0.646435E-01	0.630538E-01	2.52112
0.16982	0.664028E-01	0.656853E-01	1.09232
0.17378	0.691128E-01	0.683168E-01	1.16510
0.17783	0.722468E-01	0.721150E-01	0.18268
0.18197	0.762879E-01	0.759190E-01	0.48585
0.18621	0.806162E-01	0.797231E-01	1.12028
0.19055	0.848776E-01	0.835271E-01	1.61683
0.19498	0.888795E-01	0.873312E-01	1.77293
0.19953	0.930186E-01	0.911352E-01	2.06660
0.20417	0.976553E-01	0.949392E-01	2.86084
0.20893	0.102076E+00	0.987535E-01	3.36486
0.21380	0.106629E+00	0.104224E+00	2.30792
0.21878	0.110953E+00	0.109694E+00	1.14714
0.22387	0.114906E+00	0.115165E+00	-0.22423
0.22909	0.120658E+00	0.120635E+00	0.01927
0.23442	0.126934E+00	0.126105E+00	0.65667
0.23988	0.132314E+00	0.131576E+00	0.56122
0.24547	0.136904E+00	0.137046E+00	-0.10370
0.25119	0.141437E+00	0.141953E+00	-0.36359
0.25704	0.144354E+00	0.144688E+00	-0.23065
0.26303	0.148510E+00	0.147423E+00	0.73720
0.26915	0.152165E+00	0.150379E+00	1.18748
0.27542	0.154459E+00	0.153335E+00	0.73362
0.28184	0.156683E+00	0.156290E+00	0.25118
0.28840	0.161220E+00	0.159246E+00	1.23946
0.29512	0.163015E+00	0.162202E+00	0.50097
0.30199	0.164849E+00	0.165158E+00	-0.18722
0.30903	0.166354E+00	0.168533E+00	-1.29273
0.31623	0.170380E+00	0.171908E+00	-0.88894
0.32359	0.174957E+00	0.175284E+00	-0.18620
0.33113	0.178490E+00	0.178659E+00	-0.09483

0.33884	0.183416E+00	0.182035E+00	0.75882
0.34674	0.188061E+00	0.185410E+00	1.42981
0.35481	0.191845E+00	0.188786E+00	1.62037
0.36308	0.194868E+00	0.192161E+00	1.40890
0.37153	0.197678E+00	0.196088E+00	0.81107
0.38019	0.200218E+00	0.200016E+00	0.10111
0.38904	0.203210E+00	0.203944E+00	-0.36010
0.39811	0.206487E+00	0.207873E+00	-0.66640
0.40738	0.210447E+00	0.211801E+00	-0.63926
0.41687	0.214714E+00	0.215729E+00	-0.47074
0.42658	0.219882E+00	0.219658E+00	0.10195
0.43652	0.224922E+00	0.223587E+00	0.59695
0.44668	0.229013E+00	0.228158E+00	0.37503
0.45709	0.233032E+00	0.232728E+00	0.13070
0.46773	0.237498E+00	0.237299E+00	0.08385
0.47863	0.241020E+00	0.241870E+00	-0.35134
0.48978	0.244246E+00	0.246440E+00	-0.89049
0.50119	0.247601E+00	0.251011E+00	-1.35834
0.51286	0.251467E+00	0.255582E+00	-1.60980
0.52481	0.256251E+00	0.260153E+00	-1.49994
0.53703	0.261746E+00	0.265472E+00	-1.40334
0.54954	0.267277E+00	0.270791E+00	-1.29759
0.56234	0.271598E+00	0.276110E+00	-1.63390
0.57544	0.276463E+00	0.281428E+00	-1.76436
0.58884	0.282617E+00	0.286747E+00	-1.44036
0.60256	0.284945E+00	0.292066E+00	-2.43813
0.61659	0.294685E+00	0.297385E+00	-0.90802
0.63096	0.299385E+00	0.302704E+00	-1.09659
0.64565	0.306371E+00	0.308889E+00	-0.81503
0.66069	0.313945E+00	0.315076E+00	-0.35923
0.67608	0.322654E+00	0.321264E+00	0.43281
0.69183	0.329727E+00	0.327452E+00	0.69496
0.70794	0.336602E+00	0.333639E+00	0.88819
0.72443	0.342838E+00	0.339827E+00	0.88605
0.74131	0.348291E+00	0.346014E+00	0.65811
0.75858	0.357026E+00	0.352202E+00	1.36963
0.77625	0.362572E+00	0.359399E+00	0.88273
0.79433	0.367739E+00	0.366599E+00	0.31117
0.81283	0.373180E+00	0.373798E+00	-0.16513
0.83176	0.379115E+00	0.380997E+00	-0.49390
0.85114	0.386349E+00	0.388196E+00	-0.47588
0.87096	0.393884E+00	0.395395E+00	-0.38213
0.89125	0.402492E+00	0.402594E+00	-0.02549
0.91201	0.408640E+00	0.409794E+00	-0.28164
0.93325	0.413874E+00	0.418171E+00	-1.02767
0.95499	0.440385E+00	0.426548E+00	3.24396
0.97724	0.450488E+00	0.434926E+00	3.57814
1.00000	0.451021E+00	0.443303E+00	1.74103
1.02329	0.462549E+00	0.451680E+00	2.40631
1.04713	0.466908E+00	0.460058E+00	1.48907
1.07152	0.469463E+00	0.468435E+00	0.21951
1.09648	0.474535E+00	0.476812E+00	-0.47764
1.12202	0.481674E+00	0.486559E+00	-1.00391
1.14815	0.493175E+00	0.496307E+00	-0.63115
1.17490	0.499928E+00	0.506055E+00	-1.21070
1.20226	0.501673E+00	0.515803E+00	-2.73946
1.23027	0.504290E+00	0.525551E+00	-4.04559
1.25892	0.511647E+00	0.535299E+00	-4.41858
1.28825	0.524371E+00	0.545047E+00	-3.79359
1.31825	0.529462E+00	0.554795E+00	-4.56632
1.34896	0.520223E+00	0.566134E+00	-8.10947

1.38038	0.566056E+00	0.577474E+00	-1.97724
1.41254	0.591684E+00	0.588815E+00	0.48735
1.44544	0.601077E+00	0.600155E+00	0.15357
1.47911	0.609566E+00	0.611496E+00	-0.31555
1.51356	0.622546E+00	0.622836E+00	-0.04665
1.54881	0.637653E+00	0.634177E+00	0.54822
1.58489	0.650354E+00	0.645517E+00	0.74925
1.62181	0.661333E+00	0.658713E+00	0.39768
1.65958	0.672688E+00	0.671909E+00	0.11584
1.69824	0.685623E+00	0.685106E+00	0.07549
1.73780	0.699686E+00	0.698302E+00	0.19821
1.77828	0.714514E+00	0.711498E+00	0.42379
1.81970	0.729155E+00	0.724695E+00	0.61548
1.86208	0.740889E+00	0.737891E+00	0.40628
1.90546	0.751755E+00	0.751087E+00	0.08883
1.94984	0.768588E+00	0.767018E+00	0.20478
1.99526	0.790203E+00	0.782951E+00	0.92632
2.04173	0.805814E+00	0.798884E+00	0.86744
2.08929	0.813814E+00	0.814817E+00	-0.12305
2.13796	0.825962E+00	0.830750E+00	-0.57630
2.18776	0.846211E+00	0.846683E+00	-0.05568
2.23872	0.866901E+00	0.862616E+00	0.49671
2.29086	0.881033E+00	0.878549E+00	0.28278
2.34422	0.896261E+00	0.894482E+00	0.19885
2.39883	0.915334E+00	0.910415E+00	0.54028
2.45470	0.930491E+00	0.926348E+00	0.44729
2.51188	0.939747E+00	0.938383E+00	0.14533
2.57039	0.945406E+00	0.935386E+00	1.07116
2.63026	0.945493E+00	0.932390E+00	1.40531
2.69153	0.938060E+00	0.929393E+00	0.93246
2.75422	0.928690E+00	0.926397E+00	0.24758
2.81838	0.924665E+00	0.923400E+00	0.13699
2.88403	0.926576E+00	0.920404E+00	0.67055
2.95120	0.929688E+00	0.917407E+00	1.33866
3.01995	0.926821E+00	0.914411E+00	1.35723
3.09029	0.913699E+00	0.911414E+00	0.25073
3.16227	0.907747E+00	0.908418E+00	-0.07385
3.23593	0.914221E+00	0.905421E+00	0.97195
3.31130	0.916738E+00	0.902425E+00	1.58614
3.38843	0.900284E+00	0.899428E+00	0.09518
3.46736	0.877295E+00	0.896432E+00	-2.13476
3.54813	0.876501E+00	0.893551E+00	-1.90821
3.63077	0.897087E+00	0.890671E+00	0.72032
3.71534	0.886134E+00	0.887791E+00	-0.18671
3.80189	0.885661E+00	0.884911E+00	0.08469
3.89044	0.916765E+00	0.882031E+00	3.93793
3.98106	0.916456E+00	0.879151E+00	4.24321
4.07379	0.891972E+00	0.876271E+00	1.79177
4.16868	0.857267E+00	0.873391E+00	-1.84623
4.26579	0.884509E+00	0.870511E+00	1.60801
4.36515	0.891561E+00	0.867631E+00	2.75805
4.46683	0.877697E+00	0.864834E+00	1.48735
4.57087	0.854694E+00	0.862036E+00	-0.85173
4.67734	0.864072E+00	0.859239E+00	0.56250
4.78629	0.876685E+00	0.856441E+00	2.36371
4.89778	0.862368E+00	0.853644E+00	1.02205
5.01186	0.816725E+00	0.850846E+00	-4.01023
5.12860	0.850378E+00	0.848048E+00	0.27467
5.24806	0.863835E+00	0.845251E+00	2.19860
5.37031	0.856659E+00	0.842535E+00	1.67645
5.49540	0.854560E+00	0.839819E+00	1.75530

5.62340	0.826756E+00	0.837103E+00	-1.23598
5.75438	0.846654E+00	0.834386E+00	1.47022
5.88842	0.842362E+00	0.831670E+00	1.28553
6.02558	0.831185E+00	0.828954E+00	0.26912
6.16593	0.829507E+00	0.826238E+00	0.39562
6.30956	0.808815E+00	0.823522E+00	-1.78581
6.45653	0.835279E+00	0.820806E+00	1.76328
6.60692	0.821966E+00	0.818090E+00	0.47386
6.76081	0.818550E+00	0.815452E+00	0.37983
6.91829	0.809544E+00	0.812815E+00	-0.40238
7.07944	0.809666E+00	0.810178E+00	-0.06319
7.24434	0.816727E+00	0.807540E+00	1.13761
7.41308	0.819442E+00	0.804903E+00	1.80636
7.58575	0.802816E+00	0.802265E+00	0.06859
7.76245	0.773183E+00	0.799628E+00	-3.30711
7.94326	0.736502E+00	0.796991E+00	-7.58961
8.12828	0.709747E+00	0.800380E+00	-11.32365
8.31761	0.690425E+00	0.803770E+00	-14.10170
8.51136	0.759517E+00	0.807160E+00	-5.90254
8.70961	0.805836E+00	0.810551E+00	-0.58163
8.91248	0.800986E+00	0.813941E+00	-1.59170
9.12008	0.787336E+00	0.827008E+00	-4.79707
9.33251	0.795923E+00	0.847210E+00	-6.05364
9.54990	0.860195E+00	0.867411E+00	-0.83190
9.77234	0.884621E+00	0.887612E+00	-0.33699
9.99997	0.927541E+00	0.907813E+00	2.17312
10.23290	0.950178E+00	0.928015E+00	2.38827
10.47125	0.943689E+00	0.948216E+00	-0.47736
10.71516	0.912538E+00	0.960564E+00	-4.99978
10.96475	0.992956E+00	0.972910E+00	2.06049
11.22015	0.101187E+01	0.985256E+00	2.70174
11.48150	0.979262E+00	0.997602E+00	-1.83843
11.74894	0.101375E+01	0.100995E+01	0.37646
12.02261	0.101632E+01	0.102229E+01	-0.58403
12.30265	0.104694E+01	0.103464E+01	1.18852
12.58921	0.104890E+01	0.104699E+01	0.18302
12.88245	0.105630E+01	0.106062E+01	-0.40720
13.18252	0.107271E+01	0.107425E+01	-0.14341
13.48958	0.109625E+01	0.108788E+01	0.76869
13.80380	0.109713E+01	0.110152E+01	-0.39788
14.12533	0.112645E+01	0.111515E+01	1.01340
14.45435	0.113019E+01	0.112878E+01	0.12476
14.79103	0.114995E+01	0.114242E+01	0.65989
15.13556	0.116770E+01	0.115605E+01	1.00760
15.48811	0.118214E+01	0.117110E+01	0.94238
15.84888	0.122073E+01	0.118615E+01	2.91475
16.21804	0.118069E+01	0.120121E+01	-1.70773
16.59581	0.122407E+01	0.121626E+01	0.64234
16.98238	0.125369E+01	0.123131E+01	1.81792
17.37795	0.127904E+01	0.124636E+01	2.62184
17.78273	0.126307E+01	0.126142E+01	0.13154
18.19694	0.127045E+01	0.127647E+01	-0.47147
18.62080	0.133165E+01	0.128479E+01	3.64732
19.05454	0.132757E+01	0.129310E+01	2.66580
19.49837	0.133115E+01	0.130142E+01	2.28423
19.95255	0.135127E+01	0.130973E+01	3.17114
20.41730	0.136754E+01	0.131805E+01	3.75452
20.89288	0.135944E+01	0.132637E+01	2.49356
21.37954	0.139781E+01	0.133468E+01	4.73005
21.87753	0.138706E+01	0.134300E+01	3.28108
22.38713	0.136040E+01	0.134290E+01	1.30344

22.90859	0.135459E+01	0.134280E+01	0.87833
23.44220	0.135402E+01	0.134270E+01	0.84335
23.98824	0.136752E+01	0.134260E+01	1.85637
24.54699	0.141208E+01	0.134250E+01	5.18316
25.11877	0.138390E+01	0.134240E+01	3.09134
25.70386	0.130924E+01	0.133923E+01	-2.23979
26.30258	0.136566E+01	0.133607E+01	2.21484
26.91524	0.137069E+01	0.133290E+01	2.83508
27.54218	0.140080E+01	0.132973E+01	5.34432
28.18372	0.141869E+01	0.132656E+01	6.94473
28.84020	0.138509E+01	0.132340E+01	4.66198
29.51197	0.137324E+01	0.132023E+01	4.01563
30.19939	0.134299E+01	0.131706E+01	1.96852
30.90283	0.133590E+01	0.130534E+01	2.34123
31.62265	0.134153E+01	0.129362E+01	3.70384
32.35923	0.137714E+01	0.128190E+01	7.42990
33.11297	0.139145E+01	0.127018E+01	9.54770
33.88427	0.135398E+01	0.125845E+01	7.59095
34.67354	0.129121E+01	0.124673E+01	3.56730
35.48119	0.126954E+01	0.123573E+01	2.73565
36.30765	0.125359E+01	0.122474E+01	2.35611
37.15336	0.123742E+01	0.121374E+01	1.95080
38.01878	0.122921E+01	0.120274E+01	2.20045
38.90435	0.124583E+01	0.119174E+01	4.53809
39.81055	0.129443E+01	0.118075E+01	9.62800
40.73785	0.131082E+01	0.116975E+01	12.05987
41.68676	0.126839E+01	0.115875E+01	9.46151
42.65776	0.122683E+01	0.114830E+01	6.83873
43.65139	0.121956E+01	0.113785E+01	7.18136
44.66816	0.117662E+01	0.112740E+01	4.36566
45.70861	0.115264E+01	0.111695E+01	3.19576
46.77330	0.121874E+01	0.110650E+01	10.14451
47.86279	0.123152E+01	0.109604E+01	12.36084
48.97766	0.123576E+01	0.108559E+01	13.83255
50.11850	0.119475E+01	0.107514E+01	11.12447
51.28590	0.115350E+01	0.104986E+01	9.87193
52.48051	0.109127E+01	0.102457E+01	6.50962
53.70293	0.103716E+01	0.999283E+00	3.79076
54.95383	0.991628E+00	0.973995E+00	1.81034
56.23387	0.962907E+00	0.948708E+00	1.49662
57.54372	0.935364E+00	0.923421E+00	1.29335
58.88409	0.913247E+00	0.898133E+00	1.68274
60.25567	0.894071E+00	0.872846E+00	2.43161
61.65921	0.871314E+00	0.852315E+00	2.22911
63.09543	0.845644E+00	0.831785E+00	1.66616
64.56511	0.821923E+00	0.811255E+00	1.31497
66.06902	0.803673E+00	0.790725E+00	1.63755
67.60797	0.791454E+00	0.770194E+00	2.76025
69.18276	0.778624E+00	0.749665E+00	3.86300
70.79423	0.765510E+00	0.729135E+00	4.98886
72.44324	0.751545E+00	0.708604E+00	6.05997
74.13065	0.736631E+00	0.691936E+00	6.45938
75.85738	0.723631E+00	0.675269E+00	7.16194
77.62432	0.714208E+00	0.658601E+00	8.44315
79.43243	0.705425E+00	0.641934E+00	9.89064
81.28265	0.694168E+00	0.625266E+00	11.01950
83.17596	0.680822E+00	0.608599E+00	11.86710
85.11337	0.667550E+00	0.591932E+00	12.77478
87.09592	0.657225E+00	0.575264E+00	14.24750
89.12463	0.651022E+00	0.564386E+00	15.35040
91.20062	0.643927E+00	0.553509E+00	16.33544

93.32495	0.635755E+00	0.542633E+00	17.16129
95.49876	0.627449E+00	0.531756E+00	17.99579
97.72321	0.620208E+00	0.520879E+00	19.06948
99.99947	0.614987E+00	0.510002E+00	20.58518

SPECTRA SAVE FILE

CARES SOIL vs1.2.3 (8/30/06)

```
*****
*****
*****      C A R E S (SOIL)      *****
*****
*****
* ANALYSIS NUMBER 6:
*   GENERATE ACCELERATION RESPONSE SPECTRUM
*   FOR A GIVEN ACCELERATION TIME HISTORY;
*   COMPARE WITH TARGET AND COMPUTE ERRORS
*   IN TIME HISTORY FIT, NUREG FREQUENCIES.
*****
*****
```

INPUT FILE NAME = GE-H1.CTH
OUTPUT FILE NAME = GE-H1.CSPNUREG

ACC TIME HIST (in/sec**2): REI GE ESBWR H1 RECORD

NRCDS	=	8191
DT (secs)	=	0.005000
XDDMX (ips2)	=	195.903400
XDDMX (g)	=	0.506996
XDMAX (ips)	=	18.861930
XMAX (in)	=	17.675830

TARGET SPECTRA INPUT DATA ROUTINE:
FILE NAME WITH TARGET SPECTRA POINTS = SPECTRA-HCB.INP

GE ESBWR ENVELOPE CRITERIA FOR HORIZONTAL CONTROL BLDG MOTION

5.0	TARGET DAMPING RATIO (%)	
49	NO. OF TARGET SPECTRAL POINTS	
1	0.0100	0.0001
2	0.0150	0.0003
3	0.0200	0.0005
4	0.0400	0.0025
5	0.0600	0.0065
6	0.0800	0.0135
7	0.1000	0.0226
8	0.1202	0.0327
9	0.1445	0.0472
10	0.1738	0.0683
11	0.2089	0.0987
12	0.2500	0.1414
13	0.2630	0.1474
14	0.3020	0.1652
15	0.3631	0.1922
16	0.4365	0.2236
17	0.5248	0.2601
18	0.6310	0.3027
19	0.7586	0.3522
20	0.9120	0.4098
21	1.0965	0.4768
22	1.3183	0.5548
23	1.5849	0.6455

24	1.9055	0.7511
25	2.5000	0.9390
26	3.4674	0.8964
27	4.3652	0.8676
28	5.2481	0.8453
29	6.6069	0.8181
30	7.9433	0.7970
31	9.0000	0.8154
32	10.4713	0.9482
33	12.5893	1.0470
34	15.1356	1.1560
35	18.1970	1.2765
36	21.8776	1.3430
37	25.1189	1.3424
38	30.1995	1.3171
39	34.6737	1.2467
40	41.6869	1.1588
41	50.1187	1.0751
42	60.2560	0.8728
43	72.4436	0.7086
44	87.0964	0.5753
45	100.0000	0.5100
46	125.0000	0.5050
47	150.0000	0.4950
48	200.0000	0.4920
49	400.0000	0.4920

NO. OF NUREG SPECTRA POINTS FALLING BELOW 90% OF TARGET = 2

NUM	IFRQ	FREQ	SA	TRGT	%ERR
1	192	8.1283	0.7097	0.8004	-11.32
2	193	8.3176	0.6904	0.8038	-14.10

NO. OF NUREG SPECTRA POINTS ABOVE 130% OF TARGET = 0

CHECK OF ASCE-XXX CRITERIA

START CORRECTION = 1.00000

CHECK OF 90% MINIMUM/130% MAXIMUM CRITERIA:

MINIMUM %ERROR = -14.10170

FREQUENCY NO. = 193

FREQUENCY (hz) = 8.31761

MAXIMUM %ERROR = 5.18316

FREQUENCY NO. = 240

FREQUENCY (hz) = 24.54699

CORRECTION 1 = 1.04775

AVERAGE RATIO OF FIT SPACC/SPTRGT - 0.2 TO 25 HZ

AVERAGE = 1.00058

NUMFRQS = 209

CHECK 9 CONTIGUOUS FREQUENCIES LT ZERO

NO. OF CONTIGUOUS NEGATIVE FREQUENCIES = 1

FNUM	FREQ	%ERROR	CORR
36	0.2239	-0.22	1.00225

NO. OF CONTIGUOUS NEGATIVE FREQUENCIES = 3

FNUM	FREQ	%ERROR	CORR
40	0.2455	-0.10	1.00104

41	0.2512	-0.36	1.00365
42	0.2570	-0.23	1.00231

NO. OF CONTIGUOUS NEGATIVE FREQUENCIES = 5

FNUM	FREQ	%ERROR	CORR
49	0.3020	-0.19	1.00188
50	0.3090	-1.29	1.01310
51	0.3162	-0.89	1.00897
52	0.3236	-0.19	1.00187
53	0.3311	-0.09	1.00095

NO. OF CONTIGUOUS NEGATIVE FREQUENCIES = 4

FNUM	FREQ	%ERROR	CORR
60	0.3890	-0.36	1.00361
61	0.3981	-0.67	1.00671
62	0.4074	-0.64	1.00643
63	0.4169	-0.47	1.00473

NO. OF CONTIGUOUS NEGATIVE FREQUENCIES = 15

FNUM	FREQ	%ERROR	CORR
69	0.4786	-0.35	1.00353
70	0.4898	-0.89	1.00898
71	0.5012	-1.36	1.01377
72	0.5129	-1.61	1.01636
73	0.5248	-1.50	1.01523
74	0.5370	-1.40	1.01423
75	0.5495	-1.30	1.01315
76	0.5623	-1.63	1.01661
77	0.5754	-1.76	1.01796
78	0.5888	-1.44	1.01461
79	0.6026	-2.44	1.02499
80	0.6166	-0.91	1.00916
81	0.6310	-1.10	1.01109
82	0.6457	-0.82	1.00822
83	0.6607	-0.36	1.00361

NO. OF CONTIGUOUS NEGATIVE FREQUENCIES = 7

FNUM	FREQ	%ERROR	CORR
92	0.8128	-0.17	1.00165
93	0.8318	-0.49	1.00496
94	0.8511	-0.48	1.00478
95	0.8710	-0.38	1.00384
96	0.8912	-0.03	1.00025
97	0.9120	-0.28	1.00282
98	0.9333	-1.03	1.01038

NO. OF CONTIGUOUS NEGATIVE FREQUENCIES = 11

FNUM	FREQ	%ERROR	CORR
105	1.0965	-0.48	1.00480
106	1.1220	-1.00	1.01014
107	1.1482	-0.63	1.00635
108	1.1749	-1.21	1.01226
109	1.2023	-2.74	1.02817
110	1.2303	-4.05	1.04216
111	1.2589	-4.42	1.04623
112	1.2882	-3.79	1.03943
113	1.3183	-4.57	1.04785
114	1.3490	-8.11	1.08825
115	1.3804	-1.98	1.02017

NO. OF CONTIGUOUS NEGATIVE FREQUENCIES = 2

FNUM	FREQ	%ERROR	CORR
118	1.4791	-0.32	1.00317
119	1.5136	-0.05	1.00047
NO. OF CONTIGUOUS NEGATIVE FREQUENCIES =			3
FNUM	FREQ	%ERROR	CORR
133	2.0893	-0.12	1.00123
134	2.1380	-0.58	1.00580
135	2.1878	-0.06	1.00056
NO. OF CONTIGUOUS NEGATIVE FREQUENCIES =			1
FNUM	FREQ	%ERROR	CORR
151	3.1623	-0.07	1.00074
NO. OF CONTIGUOUS NEGATIVE FREQUENCIES =			2
FNUM	FREQ	%ERROR	CORR
155	3.4674	-2.13	1.02181
156	3.5481	-1.91	1.01945
NO. OF CONTIGUOUS NEGATIVE FREQUENCIES =			1
FNUM	FREQ	%ERROR	CORR
158	3.7153	-0.19	1.00187
NO. OF CONTIGUOUS NEGATIVE FREQUENCIES =			1
FNUM	FREQ	%ERROR	CORR
163	4.1687	-1.85	1.01881
NO. OF CONTIGUOUS NEGATIVE FREQUENCIES =			1
FNUM	FREQ	%ERROR	CORR
167	4.5709	-0.85	1.00859
NO. OF CONTIGUOUS NEGATIVE FREQUENCIES =			1
FNUM	FREQ	%ERROR	CORR
171	5.0119	-4.01	1.04178
NO. OF CONTIGUOUS NEGATIVE FREQUENCIES =			1
FNUM	FREQ	%ERROR	CORR
176	5.6234	-1.24	1.01251
NO. OF CONTIGUOUS NEGATIVE FREQUENCIES =			1
FNUM	FREQ	%ERROR	CORR
181	6.3096	-1.79	1.01818
NO. OF CONTIGUOUS NEGATIVE FREQUENCIES =			2
FNUM	FREQ	%ERROR	CORR
185	6.9183	-0.40	1.00404
186	7.0794	-0.06	1.00063
NO. OF CONTIGUOUS NEGATIVE FREQUENCIES =			11
FNUM	FREQ	%ERROR	CORR
190	7.7624	-3.31	1.03420
191	7.9433	-7.59	1.08213
192	8.1283	-11.32	1.12770
193	8.3176	-14.10	1.16417
194	8.5114	-5.90	1.06273
195	8.7096	-0.58	1.00585
196	8.9125	-1.59	1.01617
197	9.1201	-4.80	1.05039
198	9.3325	-6.05	1.06444
199	9.5499	-0.83	1.00839
200	9.7723	-0.34	1.00338

NO. OF CONTIGUOUS NEGATIVE FREQUENCIES =	2		
FNUM	FREQ	%ERROR	CORR
203	10.4713	-0.48	1.00480
204	10.7152	-5.00	1.05263
NO. OF CONTIGUOUS NEGATIVE FREQUENCIES =	1		
FNUM	FREQ	%ERROR	CORR
207	11.4815	-1.84	1.01873
NO. OF CONTIGUOUS NEGATIVE FREQUENCIES =	1		
FNUM	FREQ	%ERROR	CORR
209	12.0226	-0.58	1.00587
NO. OF CONTIGUOUS NEGATIVE FREQUENCIES =	2		
FNUM	FREQ	%ERROR	CORR
212	12.8825	-0.41	1.00409
213	13.1825	-0.14	1.00144
NO. OF CONTIGUOUS NEGATIVE FREQUENCIES =	1		
FNUM	FREQ	%ERROR	CORR
215	13.8038	-0.40	1.00399
NO. OF CONTIGUOUS NEGATIVE FREQUENCIES =	1		
FNUM	FREQ	%ERROR	CORR
222	16.2180	-1.71	1.01737
NO. OF CONTIGUOUS NEGATIVE FREQUENCIES =	1		
FNUM	FREQ	%ERROR	CORR
227	18.1969	-0.47	1.00474

CARES SOIL vs1.2.3 (8/30/06) : GE-H2.CSPNUREG SEMI-LOG FITTING
 INPUT TIME HISTORY FILE : GE-H2.CTH
 RESPONSE SPECTRA - ACC TIME HIST (in/sec**2): GE-H2 RECORD FOR CB
 BUILDING

DAMPING = 5.00 %

301 NO. OF FREQUENCIES

FREQ (hz)	SPACC (g)	SPTRGT (g)	ERROR (%)
0.10000	0.241701E-01	0.226200E-01	6.85296
0.10233	0.251654E-01	0.238790E-01	5.38723
0.10471	0.264686E-01	0.251380E-01	5.29301
0.10715	0.278348E-01	0.263970E-01	5.44682
0.10965	0.292032E-01	0.276560E-01	5.59440
0.11220	0.306066E-01	0.289150E-01	5.85035
0.11482	0.320315E-01	0.301740E-01	6.15604
0.11749	0.334677E-01	0.314330E-01	6.47317
0.12023	0.349195E-01	0.326974E-01	6.79608
0.12303	0.364924E-01	0.345170E-01	5.72317
0.12589	0.381837E-01	0.363365E-01	5.08360
0.12882	0.398845E-01	0.381561E-01	4.52979
0.13183	0.415828E-01	0.399757E-01	4.02023
0.13490	0.432796E-01	0.417953E-01	3.55155
0.13804	0.450209E-01	0.436148E-01	3.22372
0.14125	0.467569E-01	0.454344E-01	2.91076
0.14454	0.484696E-01	0.472647E-01	2.54914
0.14791	0.501479E-01	0.498962E-01	0.50442
0.15136	0.517771E-01	0.525278E-01	-1.42905
0.15488	0.533685E-01	0.551593E-01	-3.24659
0.15849	0.554397E-01	0.577908E-01	-4.06821
0.16218	0.594571E-01	0.604223E-01	-1.59745
0.16596	0.633311E-01	0.630538E-01	0.43976
0.16982	0.669531E-01	0.656853E-01	1.93005
0.17378	0.702946E-01	0.683168E-01	2.89493
0.17783	0.735719E-01	0.721150E-01	2.02025
0.18197	0.765093E-01	0.759190E-01	0.77743
0.18621	0.789902E-01	0.797231E-01	-0.91931
0.19055	0.810483E-01	0.835271E-01	-2.96763
0.19498	0.832051E-01	0.873312E-01	-4.72463
0.19953	0.858120E-01	0.911352E-01	-5.84106
0.20417	0.928029E-01	0.949392E-01	-2.25020
0.20893	0.992563E-01	0.987535E-01	0.50917
0.21380	0.105662E+00	0.104224E+00	1.37964
0.21878	0.110324E+00	0.109694E+00	0.57360
0.22387	0.115138E+00	0.115165E+00	-0.02295
0.22909	0.119704E+00	0.120635E+00	-0.77157
0.23442	0.124526E+00	0.126105E+00	-1.25239
0.23988	0.128472E+00	0.131576E+00	-2.35898
0.24547	0.132181E+00	0.137046E+00	-3.55018
0.25119	0.135924E+00	0.141953E+00	-4.24738
0.25704	0.142066E+00	0.144688E+00	-1.81201
0.26303	0.145913E+00	0.147423E+00	-1.02418
0.26915	0.148572E+00	0.150379E+00	-1.20129
0.27542	0.153938E+00	0.153335E+00	0.39332
0.28184	0.158183E+00	0.156290E+00	1.21117
0.28840	0.161626E+00	0.159246E+00	1.49452
0.29512	0.163366E+00	0.162202E+00	0.71759
0.30199	0.164165E+00	0.165158E+00	-0.60086
0.30903	0.167872E+00	0.168533E+00	-0.39216
0.31623	0.169049E+00	0.171908E+00	-1.66337
0.32359	0.167728E+00	0.175284E+00	-4.31086
0.33113	0.174196E+00	0.178659E+00	-2.49827

0.33884	0.180308E+00	0.182035E+00	-0.94875
0.34674	0.185840E+00	0.185410E+00	0.23174
0.35481	0.190666E+00	0.188786E+00	0.99598
0.36308	0.194752E+00	0.192161E+00	1.34832
0.37153	0.198335E+00	0.196088E+00	1.14601
0.38019	0.201542E+00	0.200016E+00	0.76313
0.38904	0.204255E+00	0.203944E+00	0.15223
0.39811	0.206741E+00	0.207873E+00	-0.54423
0.40738	0.209465E+00	0.211801E+00	-1.10279
0.41687	0.212967E+00	0.215729E+00	-1.28040
0.42658	0.217018E+00	0.219658E+00	-1.20158
0.43652	0.221489E+00	0.223587E+00	-0.93821
0.44668	0.227033E+00	0.228158E+00	-0.49278
0.45709	0.233718E+00	0.232728E+00	0.42536
0.46773	0.239998E+00	0.237299E+00	1.13721
0.47863	0.245158E+00	0.241870E+00	1.35950
0.48978	0.249060E+00	0.246440E+00	1.06317
0.50119	0.252201E+00	0.251011E+00	0.47398
0.51286	0.252402E+00	0.255582E+00	-1.24413
0.52481	0.249205E+00	0.260153E+00	-4.20824
0.53703	0.262342E+00	0.265472E+00	-1.17902
0.54954	0.272120E+00	0.270791E+00	0.49093
0.56234	0.278426E+00	0.276110E+00	0.83897
0.57544	0.281351E+00	0.281428E+00	-0.02767
0.58884	0.290456E+00	0.286747E+00	1.29335
0.60256	0.296685E+00	0.292066E+00	1.58126
0.61659	0.297652E+00	0.297385E+00	0.08966
0.63096	0.302707E+00	0.302704E+00	0.00091
0.64565	0.309112E+00	0.308889E+00	0.07218
0.66069	0.312979E+00	0.315076E+00	-0.66579
0.67608	0.321171E+00	0.321264E+00	-0.02893
0.69183	0.329043E+00	0.327452E+00	0.48589
0.70794	0.336008E+00	0.333639E+00	0.71014
0.72443	0.340884E+00	0.339827E+00	0.31106
0.74131	0.348480E+00	0.346014E+00	0.71275
0.75858	0.357471E+00	0.352202E+00	1.49599
0.77625	0.363916E+00	0.359399E+00	1.25683
0.79433	0.368054E+00	0.366599E+00	0.39693
0.81283	0.373127E+00	0.373798E+00	-0.17941
0.83176	0.386474E+00	0.380997E+00	1.43762
0.85114	0.393759E+00	0.388196E+00	1.43297
0.87096	0.398327E+00	0.395395E+00	0.74150
0.89125	0.403828E+00	0.402594E+00	0.30638
0.91201	0.412311E+00	0.409794E+00	0.61429
0.93325	0.423148E+00	0.418171E+00	1.19014
0.95499	0.433465E+00	0.426548E+00	1.62154
0.97724	0.440691E+00	0.434926E+00	1.32566
1.00000	0.446636E+00	0.443303E+00	0.75190
1.02329	0.454058E+00	0.451680E+00	0.52640
1.04713	0.463110E+00	0.460058E+00	0.66356
1.07152	0.475877E+00	0.468435E+00	1.58867
1.09648	0.485992E+00	0.476812E+00	1.92518
1.12202	0.491993E+00	0.486559E+00	1.11691
1.14815	0.499259E+00	0.496307E+00	0.59483
1.17490	0.507885E+00	0.506055E+00	0.36157
1.20226	0.520351E+00	0.515803E+00	0.88162
1.23027	0.533450E+00	0.525551E+00	1.50295
1.25892	0.542240E+00	0.535299E+00	1.29657
1.28825	0.551778E+00	0.545047E+00	1.23491
1.31825	0.557935E+00	0.554795E+00	0.56596
1.34896	0.568949E+00	0.566134E+00	0.49733

1.38038	0.589150E+00	0.577474E+00	2.02196
1.41254	0.595325E+00	0.588815E+00	1.10573
1.44544	0.601682E+00	0.600155E+00	0.25444
1.47911	0.615048E+00	0.611496E+00	0.58087
1.51356	0.630675E+00	0.622836E+00	1.25859
1.54881	0.643229E+00	0.634177E+00	1.42750
1.58489	0.652123E+00	0.645517E+00	1.02337
1.62181	0.654896E+00	0.658713E+00	-0.57948
1.65958	0.685390E+00	0.671909E+00	2.00630
1.69824	0.684912E+00	0.685106E+00	-0.02832
1.73780	0.702064E+00	0.698302E+00	0.53879
1.77828	0.727650E+00	0.711498E+00	2.27012
1.81970	0.731035E+00	0.724695E+00	0.87496
1.86208	0.739986E+00	0.737891E+00	0.28395
1.90546	0.768823E+00	0.751087E+00	2.36131
1.94984	0.782806E+00	0.767018E+00	2.05836
1.99526	0.763101E+00	0.782951E+00	-2.53524
2.04173	0.800163E+00	0.798884E+00	0.16008
2.08929	0.826221E+00	0.814817E+00	1.39965
2.13796	0.840432E+00	0.830750E+00	1.16553
2.18776	0.846824E+00	0.846683E+00	0.01668
2.23872	0.862737E+00	0.862616E+00	0.01403
2.29086	0.889892E+00	0.878549E+00	1.29111
2.34422	0.904046E+00	0.894482E+00	1.06927
2.39883	0.921144E+00	0.910415E+00	1.17850
2.45470	0.938142E+00	0.926348E+00	1.27318
2.51188	0.943574E+00	0.938383E+00	0.55319
2.57039	0.941846E+00	0.935386E+00	0.69063
2.63026	0.941205E+00	0.932390E+00	0.94544
2.69153	0.943531E+00	0.929393E+00	1.52114
2.75422	0.940661E+00	0.926397E+00	1.53976
2.81838	0.931234E+00	0.923400E+00	0.84832
2.88403	0.925565E+00	0.920404E+00	0.56072
2.95120	0.925564E+00	0.917407E+00	0.88912
3.01995	0.929927E+00	0.914411E+00	1.69691
3.09029	0.925866E+00	0.911414E+00	1.58561
3.16227	0.898450E+00	0.908418E+00	-1.09723
3.23593	0.903529E+00	0.905421E+00	-0.20903
3.31130	0.937902E+00	0.902425E+00	3.93135
3.38843	0.929538E+00	0.899428E+00	3.34767
3.46736	0.870110E+00	0.896432E+00	-2.93620
3.54813	0.898647E+00	0.893551E+00	0.57025
3.63077	0.907201E+00	0.890671E+00	1.85591
3.71534	0.905513E+00	0.887791E+00	1.99616
3.80189	0.897073E+00	0.884911E+00	1.37435
3.89044	0.890089E+00	0.882031E+00	0.91357
3.98106	0.902219E+00	0.879151E+00	2.62387
4.07379	0.883207E+00	0.876271E+00	0.79143
4.16868	0.858720E+00	0.873391E+00	-1.67982
4.26579	0.893429E+00	0.870511E+00	2.63270
4.36515	0.902278E+00	0.867631E+00	3.99328
4.46683	0.833056E+00	0.864834E+00	-3.67449
4.57087	0.876249E+00	0.862036E+00	1.64874
4.67734	0.870250E+00	0.859239E+00	1.28146
4.78629	0.864683E+00	0.856441E+00	0.96236
4.89778	0.865939E+00	0.853644E+00	1.44033
5.01186	0.860864E+00	0.850846E+00	1.17743
5.12860	0.846269E+00	0.848048E+00	-0.20978
5.24806	0.866422E+00	0.845251E+00	2.50473
5.37031	0.811062E+00	0.842535E+00	-3.73550
5.49540	0.853083E+00	0.839819E+00	1.57948

5.62340	0.861047E+00	0.837103E+00	2.86038
5.75438	0.851582E+00	0.834386E+00	2.06089
5.88842	0.831522E+00	0.831670E+00	-0.01781
6.02558	0.837171E+00	0.828954E+00	0.99117
6.16593	0.872189E+00	0.826238E+00	5.56148
6.30956	0.840663E+00	0.823522E+00	2.08144
6.45653	0.806927E+00	0.820806E+00	-1.69084
6.60692	0.842339E+00	0.818090E+00	2.96415
6.76081	0.846001E+00	0.815452E+00	3.74618
6.91829	0.814135E+00	0.812815E+00	0.16238
7.07944	0.809068E+00	0.810178E+00	-0.13701
7.24434	0.795074E+00	0.807540E+00	-1.54369
7.41308	0.817607E+00	0.804903E+00	1.57835
7.58575	0.814805E+00	0.802265E+00	1.56299
7.76245	0.805160E+00	0.799628E+00	0.69182
7.94326	0.807496E+00	0.796991E+00	1.31815
8.12828	0.804312E+00	0.800380E+00	0.49126
8.31761	0.800026E+00	0.803770E+00	-0.46578
8.51136	0.794179E+00	0.807160E+00	-1.60827
8.70961	0.787746E+00	0.810551E+00	-2.81348
8.91248	0.806671E+00	0.813941E+00	-0.89325
9.12008	0.808743E+00	0.827008E+00	-2.20861
9.33251	0.838124E+00	0.847210E+00	-1.07244
9.54990	0.866882E+00	0.867411E+00	-0.06098
9.77234	0.895129E+00	0.887612E+00	0.84684
9.99997	0.932514E+00	0.907813E+00	2.72094
10.23290	0.941100E+00	0.928015E+00	1.41008
10.47125	0.954699E+00	0.948216E+00	0.68376
10.71516	0.964902E+00	0.960564E+00	0.45162
10.96475	0.990207E+00	0.972910E+00	1.77791
11.22015	0.992624E+00	0.985256E+00	0.74780
11.48150	0.102631E+01	0.997602E+00	2.87802
11.74894	0.104078E+01	0.100995E+01	3.05288
12.02261	0.102845E+01	0.102229E+01	0.60203
12.30265	0.104558E+01	0.103464E+01	1.05743
12.58921	0.105466E+01	0.104699E+01	0.73275
12.88245	0.108077E+01	0.106062E+01	1.89950
13.18252	0.109085E+01	0.107425E+01	1.54554
13.48958	0.109493E+01	0.108788E+01	0.64764
13.80380	0.111397E+01	0.110152E+01	1.13055
14.12533	0.113716E+01	0.111515E+01	1.97361
14.45435	0.114822E+01	0.112878E+01	1.72184
14.79103	0.113912E+01	0.114242E+01	-0.28810
15.13556	0.118117E+01	0.115605E+01	2.17264
15.48811	0.122117E+01	0.117110E+01	4.27553
15.84888	0.114771E+01	0.118615E+01	-3.24066
16.21804	0.121981E+01	0.120121E+01	1.54886
16.59581	0.123423E+01	0.121626E+01	1.47729
16.98238	0.124534E+01	0.123131E+01	1.13946
17.37795	0.126080E+01	0.124636E+01	1.15858
17.78273	0.127139E+01	0.126142E+01	0.79052
18.19694	0.130341E+01	0.127647E+01	2.11059
18.62080	0.131603E+01	0.128479E+01	2.43194
19.05454	0.132489E+01	0.129310E+01	2.45822
19.49837	0.135594E+01	0.130142E+01	4.18942
19.95255	0.139450E+01	0.130973E+01	6.47236
20.41730	0.133875E+01	0.131805E+01	1.57026
20.89288	0.134755E+01	0.132637E+01	1.59687
21.37954	0.136648E+01	0.133468E+01	2.38272
21.87753	0.135630E+01	0.134300E+01	0.99041
22.38713	0.137511E+01	0.134290E+01	2.39852

22.90859	0.139939E+01	0.134280E+01	4.21453
23.44220	0.139788E+01	0.134270E+01	4.10989
23.98824	0.137617E+01	0.134260E+01	2.50028
24.54699	0.134846E+01	0.134250E+01	0.44404
25.11877	0.136513E+01	0.134240E+01	1.69361
25.70386	0.138723E+01	0.133923E+01	3.58401
26.30258	0.138686E+01	0.133607E+01	3.80161
26.91524	0.134083E+01	0.133290E+01	0.59521
27.54218	0.136879E+01	0.132973E+01	2.93766
28.18372	0.145122E+01	0.132656E+01	9.39720
28.84020	0.138059E+01	0.132340E+01	4.32199
29.51197	0.137359E+01	0.132023E+01	4.04182
30.19939	0.139083E+01	0.131706E+01	5.60083
30.90283	0.143639E+01	0.130534E+01	10.03984
31.62265	0.141133E+01	0.129362E+01	9.09922
32.35923	0.134582E+01	0.128190E+01	4.98633
33.11297	0.128449E+01	0.127018E+01	1.12721
33.88427	0.130450E+01	0.125845E+01	3.65857
34.67354	0.132961E+01	0.124673E+01	6.64794
35.48119	0.134682E+01	0.123573E+01	8.98975
36.30765	0.135006E+01	0.122474E+01	10.23253
37.15336	0.125382E+01	0.121374E+01	3.30206
38.01878	0.122663E+01	0.120274E+01	1.98599
38.90435	0.125270E+01	0.119174E+01	5.11457
39.81055	0.123501E+01	0.118075E+01	4.59585
40.73785	0.119902E+01	0.116975E+01	2.50214
41.68676	0.120742E+01	0.115875E+01	4.19985
42.65776	0.120024E+01	0.114830E+01	4.52315
43.65139	0.119124E+01	0.113785E+01	4.69250
44.66816	0.116525E+01	0.112740E+01	3.35716
45.70861	0.116401E+01	0.111695E+01	4.21352
46.77330	0.116591E+01	0.110650E+01	5.36942
47.86279	0.118911E+01	0.109604E+01	8.49131
48.97766	0.122789E+01	0.108559E+01	13.10795
50.11850	0.125306E+01	0.107514E+01	16.54815
51.28590	0.124551E+01	0.104986E+01	18.63568
52.48051	0.117269E+01	0.102457E+01	14.45662
53.70293	0.110547E+01	0.999283E+00	10.62595
54.95383	0.104758E+01	0.973995E+00	7.55528
56.23387	0.100678E+01	0.948708E+00	6.12150
57.54372	0.969504E+00	0.923421E+00	4.99051
58.88409	0.929366E+00	0.898133E+00	3.47753
60.25567	0.897369E+00	0.872846E+00	2.80950
61.65921	0.874595E+00	0.852315E+00	2.61407
63.09543	0.852190E+00	0.831785E+00	2.45317
64.56511	0.827999E+00	0.811255E+00	2.06395
66.06902	0.804324E+00	0.790725E+00	1.71983
67.60797	0.782538E+00	0.770194E+00	1.60271
69.18276	0.762097E+00	0.749665E+00	1.65844
70.79423	0.742160E+00	0.729135E+00	1.78640
72.44324	0.723023E+00	0.708604E+00	2.03483
74.13065	0.707152E+00	0.691936E+00	2.19906
75.85738	0.696266E+00	0.675269E+00	3.10951
77.62432	0.685326E+00	0.658601E+00	4.05785
79.43243	0.674073E+00	0.641934E+00	5.00658
81.28265	0.662221E+00	0.625266E+00	5.91016
83.17596	0.649569E+00	0.608599E+00	6.73194
85.11337	0.636409E+00	0.591932E+00	7.51401
87.09592	0.623195E+00	0.575264E+00	8.33199
89.12463	0.610249E+00	0.564386E+00	8.12616
91.20062	0.597876E+00	0.553509E+00	8.01545

93.32495	0.586430E+00	0.542633E+00	8.07124
95.49876	0.576253E+00	0.531756E+00	8.36800
97.72321	0.567647E+00	0.520879E+00	8.97860
99.99947	0.560716E+00	0.510002E+00	9.94373

SPECTRA SAVE FILE

CARES SOIL vs1.2.3 (8/30/06)

```
*****
*****
*****          C A R E S (SOIL)          *****
*****
*****
* ANALYSIS NUMBER 6:
*   GENERATE ACCELERATION RESPONSE SPECTRUM
*   FOR A GIVEN ACCELERATION TIME HISTORY;
*   COMPARE WITH TARGET AND COMPUTE ERRORS
*   IN TIME HISTORY FIT, NUREG FREQUENCIES
*****
*****
```

INPUT FILE NAME = GE-H2.CTH
OUTPUT FILE NAME = GE-H2.CSPNUREG

ACC TIME HIST (in/sec**2): GE-H2 RECORD FOR CB BUILDING

NRCDS	=	8191
DT (secs)	=	0.005000
XDDMX (ips2)	=	198.251100
XDDMX (g)	=	0.513072
XDMAX (ips)	=	21.395970
XMAX (in)	=	14.544100

TARGET SPECTRA INPUT DATA ROUTINE:
FILE NAME WITH TARGET SPECTRA POINTS = CJC-HCB.INP

GE ESBWR ENVELOPE CRITERIA FOR HORIZONTAL CONTROL BLDG MOTION

5.0	TARGET DAMPING RATIO (%)	
49	NO. OF TARGET SPECTRAL POINTS	
1	0.0100	0.0001
2	0.0150	0.0003
3	0.0200	0.0005
4	0.0400	0.0025
5	0.0600	0.0065
6	0.0800	0.0135
7	0.1000	0.0226
8	0.1202	0.0327
9	0.1445	0.0472
10	0.1738	0.0683
11	0.2089	0.0987
12	0.2500	0.1414
13	0.2630	0.1474
14	0.3020	0.1652
15	0.3631	0.1922
16	0.4365	0.2236
17	0.5248	0.2601
18	0.6310	0.3027
19	0.7586	0.3522
20	0.9120	0.4098
21	1.0965	0.4768
22	1.3183	0.5548
23	1.5849	0.6455

24	1.9055	0.7511
25	2.5000	0.9390
26	3.4674	0.8964
27	4.3652	0.8676
28	5.2481	0.8453
29	6.6069	0.8181
30	7.9433	0.7970
31	9.0000	0.8154
32	10.4713	0.9482
33	12.5893	1.0470
34	15.1356	1.1560
35	18.1970	1.2765
36	21.8776	1.3430
37	25.1189	1.3424
38	30.1995	1.3171
39	34.6737	1.2467
40	41.6869	1.1588
41	50.1187	1.0751
42	60.2560	0.8728
43	72.4436	0.7086
44	87.0964	0.5753
45	100.0000	0.5100
46	125.0000	0.5050
47	150.0000	0.4950
48	200.0000	0.4920
49	400.0000	0.4920

NO. OF NUREG SPECTRA POINTS FALLING BELOW 90% OF TARGET = 0

NO. OF NUREG SPECTRA POINTS ABOVE 130% OF TARGET = 0

CHECK OF ASCE-XXX CRITERIA

START CORRECTION = 1.00000

CHECK OF 90% MINIMUM/130% MAXIMUM CRITERIA:

MINIMUM %ERROR =	-4.31086
FREQUENCY NO. =	52
FREQUENCY (hz) =	0.32359
MAXIMUM %ERROR =	6.47236
FREQUENCY NO. =	231
FREQUENCY (hz) =	19.95255
CORRECTION 1 =	0.94055

AVERAGE RATIO OF FIT SPACC/SPTRGT - 0.2 TO 25 HZ

AVERAGE = 1.00699

NUMFRQS = 209

CHECK 9 CONTIGUOUS FREQUENCIES LT ZERO

NO. OF CONTIGUOUS NEGATIVE FREQUENCIES = 1

FNUM	FREQ	%ERROR	CORR
32	0.2042	-2.25	1.02302

NO. OF CONTIGUOUS NEGATIVE FREQUENCIES = 9

FNUM	FREQ	%ERROR	CORR
36	0.2239	-0.02	1.00023
37	0.2291	-0.77	1.00778
38	0.2344	-1.25	1.01268
39	0.2399	-2.36	1.02416

40	0.2455	-3.55	1.03681
41	0.2512	-4.25	1.04436
42	0.2570	-1.81	1.01845
43	0.2630	-1.02	1.01035
44	0.2692	-1.20	1.01216

NO. OF CONTIGUOUS NEGATIVE FREQUENCIES = 6

FNUM	FREQ	%ERROR	CORR
49	0.3020	-0.60	1.00604
50	0.3090	-0.39	1.00394
51	0.3162	-1.66	1.01692
52	0.3236	-4.31	1.04505
53	0.3311	-2.50	1.02562
54	0.3388	-0.95	1.00958

NO. OF CONTIGUOUS NEGATIVE FREQUENCIES = 6

FNUM	FREQ	%ERROR	CORR
61	0.3981	-0.54	1.00547
62	0.4074	-1.10	1.01115
63	0.4169	-1.28	1.01297
64	0.4266	-1.20	1.01216
65	0.4365	-0.94	1.00947
66	0.4467	-0.49	1.00495

NO. OF CONTIGUOUS NEGATIVE FREQUENCIES = 3

FNUM	FREQ	%ERROR	CORR
72	0.5129	-1.24	1.01260
73	0.5248	-4.21	1.04393
74	0.5370	-1.18	1.01193

NO. OF CONTIGUOUS NEGATIVE FREQUENCIES = 1

FNUM	FREQ	%ERROR	CORR
77	0.5754	-0.03	1.00028

NO. OF CONTIGUOUS NEGATIVE FREQUENCIES = 2

FNUM	FREQ	%ERROR	CORR
83	0.6607	-0.67	1.00670
84	0.6761	-0.03	1.00029

NO. OF CONTIGUOUS NEGATIVE FREQUENCIES = 1

FNUM	FREQ	%ERROR	CORR
92	0.8128	-0.18	1.00180

NO. OF CONTIGUOUS NEGATIVE FREQUENCIES = 1

FNUM	FREQ	%ERROR	CORR
122	1.6218	-0.58	1.00583

NO. OF CONTIGUOUS NEGATIVE FREQUENCIES = 1

FNUM	FREQ	%ERROR	CORR
124	1.6982	-0.03	1.00028

NO. OF CONTIGUOUS NEGATIVE FREQUENCIES = 1

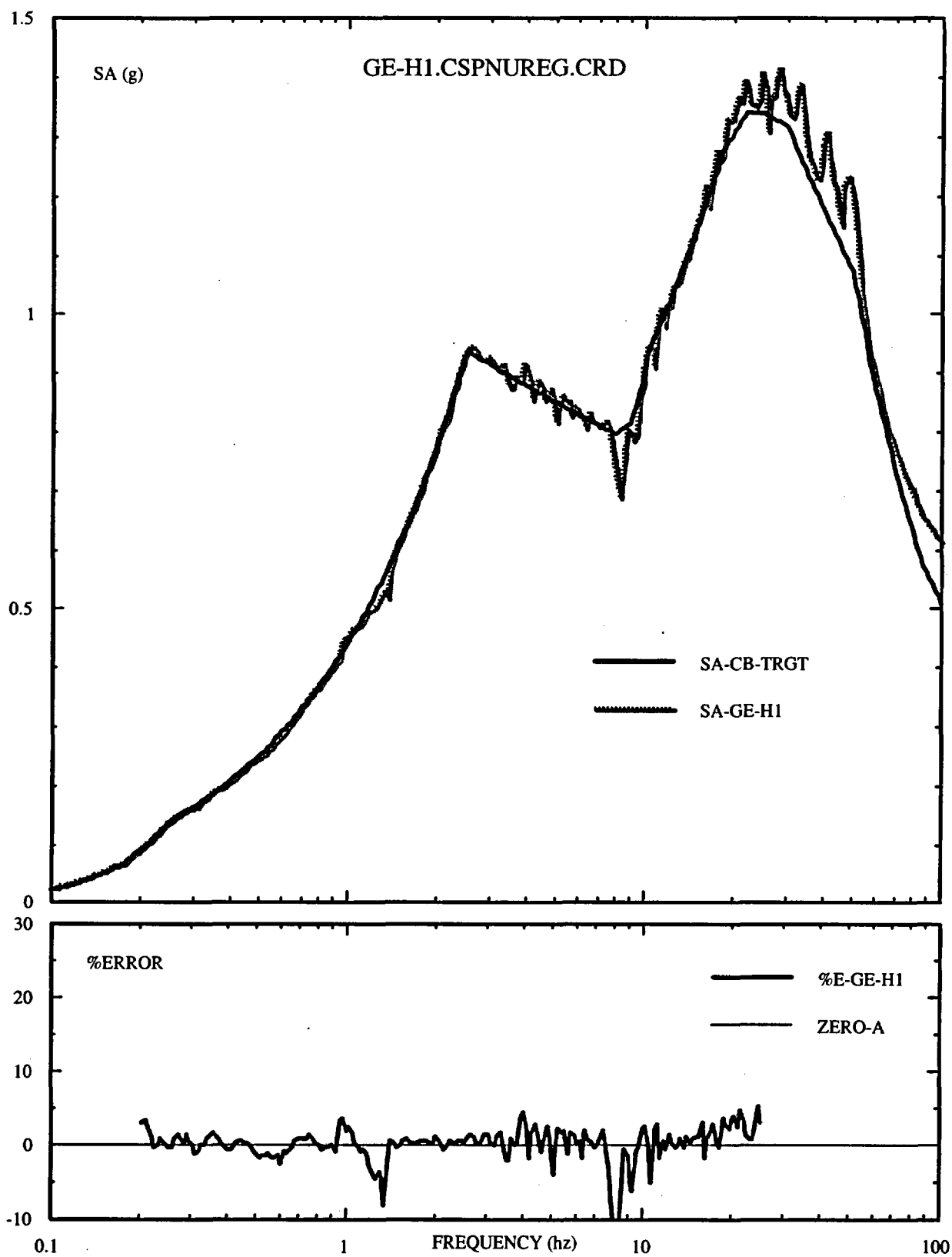
FNUM	FREQ	%ERROR	CORR
131	1.9953	-2.54	1.02601

NO. OF CONTIGUOUS NEGATIVE FREQUENCIES = 2

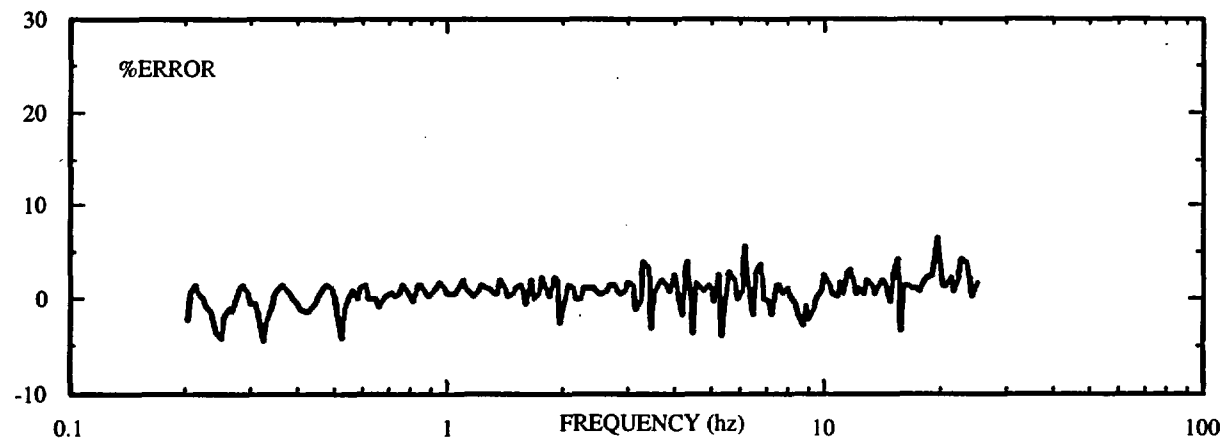
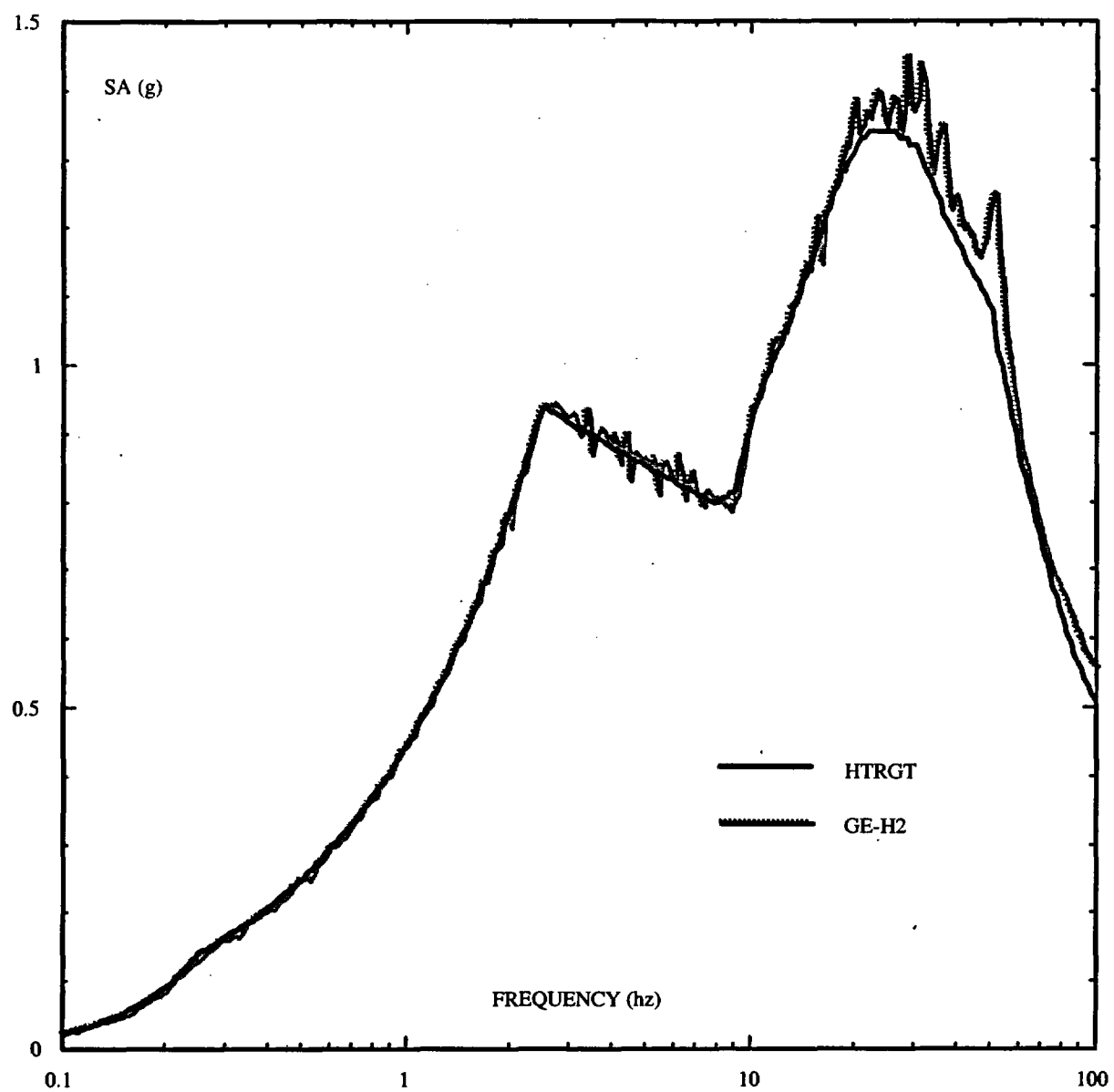
FNUM	FREQ	%ERROR	CORR
151	3.1623	-1.10	1.01109
152	3.2359	-0.21	1.00209

NO. OF CONTIGUOUS NEGATIVE FREQUENCIES = 1

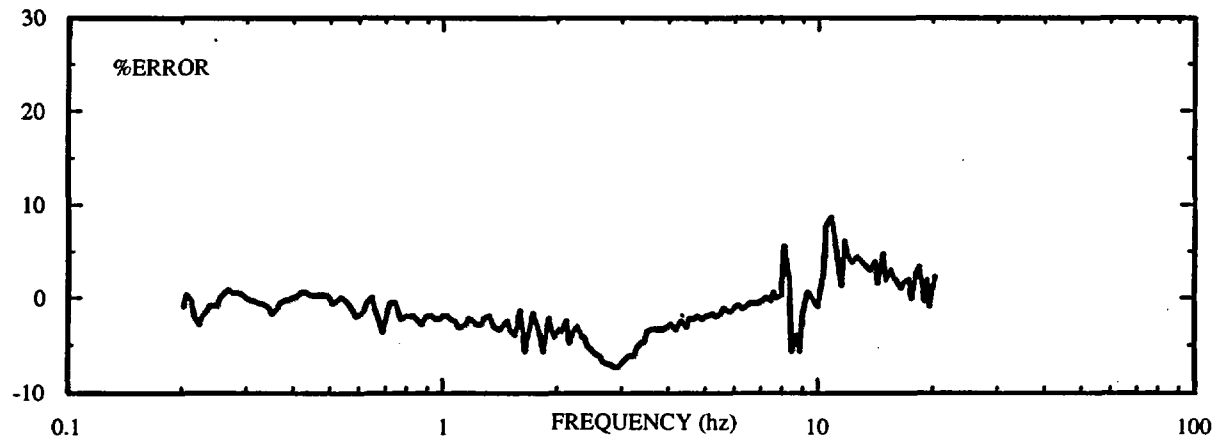
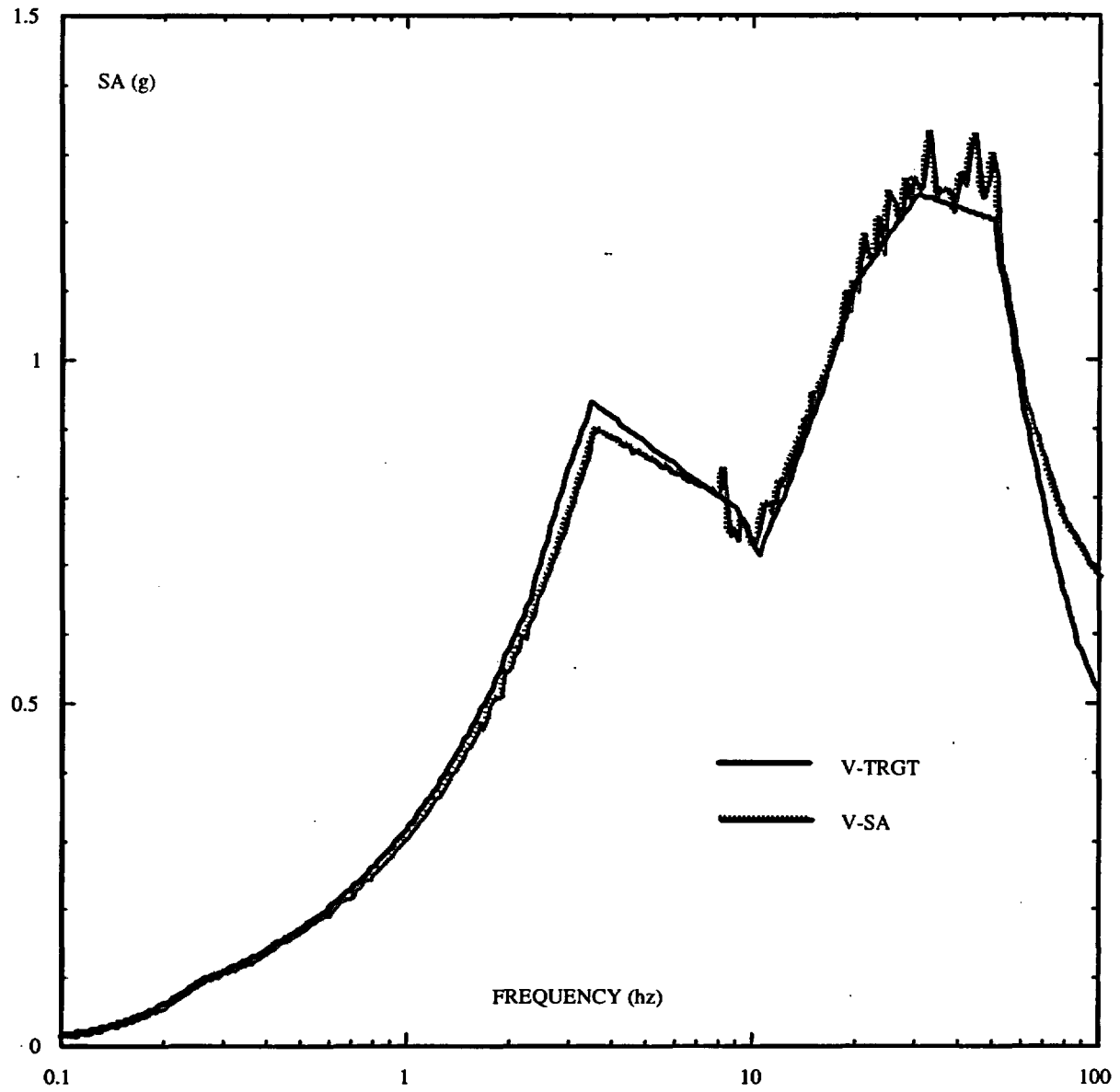
	FNUM	FREQ	%ERROR	CORR
	155	3.4674	-2.94	1.03025
NO. OF CONTIGUOUS NEGATIVE FREQUENCIES = 1				
	FNUM	FREQ	%ERROR	CORR
	163	4.1687	-1.68	1.01709
NO. OF CONTIGUOUS NEGATIVE FREQUENCIES = 1				
	FNUM	FREQ	%ERROR	CORR
	166	4.4668	-3.67	1.03815
NO. OF CONTIGUOUS NEGATIVE FREQUENCIES = 1				
	FNUM	FREQ	%ERROR	CORR
	172	5.1286	-0.21	1.00210
NO. OF CONTIGUOUS NEGATIVE FREQUENCIES = 1				
	FNUM	FREQ	%ERROR	CORR
	174	5.3703	-3.74	1.03880
NO. OF CONTIGUOUS NEGATIVE FREQUENCIES = 1				
	FNUM	FREQ	%ERROR	CORR
	178	5.8884	-0.02	1.00018
NO. OF CONTIGUOUS NEGATIVE FREQUENCIES = 1				
	FNUM	FREQ	%ERROR	CORR
	182	6.4565	-1.69	1.01720
NO. OF CONTIGUOUS NEGATIVE FREQUENCIES = 2				
	FNUM	FREQ	%ERROR	CORR
	186	7.0794	-0.14	1.00137
	187	7.2443	-1.54	1.01568
NO. OF CONTIGUOUS NEGATIVE FREQUENCIES = 7				
	FNUM	FREQ	%ERROR	CORR
	193	8.3176	-0.47	1.00468
	194	8.5114	-1.61	1.01635
	195	8.7096	-2.81	1.02895
	196	8.9125	-0.89	1.00901
	197	9.1201	-2.21	1.02259
	198	9.3325	-1.07	1.01084
	199	9.5499	-0.06	1.00061
NO. OF CONTIGUOUS NEGATIVE FREQUENCIES = 1				
	FNUM	FREQ	%ERROR	CORR
	218	14.7910	-0.29	1.00289
NO. OF CONTIGUOUS NEGATIVE FREQUENCIES = 1				
	FNUM	FREQ	%ERROR	CORR
	221	15.8489	-3.24	1.03349



GE-H2.SPNUREG.CRD



GE-V.CSPNUREG.CRD



CARES SOIL vs1.2.3 (8/30/06) : GE-V.CSPNUREG SEMI-LOG FITTING
 INPUT TIME HISTORY FILE : GE-V.CTH
 RESPONSE SPECTRA - ACC TIME HIST (in/sec**2): GE VERTICAL RECORD
 FOR CONTROL BUILDING
 DAMPING = 5.00 %

FREQ (hz)	SPACC (g)	SPTGT (g)	ERROR (%)
0.10000	0.157409E-01	0.151200E-01	4.10633
0.10233	0.163686E-01	0.159610E-01	2.55383
0.10471	0.169323E-01	0.168020E-01	0.77527
0.10715	0.176964E-01	0.176430E-01	0.30248
0.10965	0.186429E-01	0.184840E-01	0.85975
0.11220	0.195727E-01	0.193250E-01	1.28171
0.11482	0.204744E-01	0.201660E-01	1.52903
0.11749	0.213436E-01	0.210070E-01	1.60237
0.12023	0.222446E-01	0.218516E-01	1.79844
0.12303	0.232143E-01	0.230672E-01	0.63788
0.12589	0.243560E-01	0.242827E-01	0.30173
0.12882	0.255892E-01	0.254983E-01	0.35670
0.13183	0.268657E-01	0.267138E-01	0.56846
0.13490	0.282990E-01	0.279294E-01	1.32333
0.13804	0.297819E-01	0.291449E-01	2.18557
0.14125	0.313041E-01	0.303605E-01	3.10803
0.14454	0.328084E-01	0.315832E-01	3.87939
0.14791	0.342523E-01	0.333417E-01	2.73113
0.15136	0.358311E-01	0.351002E-01	2.08236
0.15488	0.374958E-01	0.368587E-01	1.72859
0.15849	0.391942E-01	0.386172E-01	1.49406
0.16218	0.408873E-01	0.403757E-01	1.26719
0.16596	0.427514E-01	0.421342E-01	1.46471
0.16982	0.443402E-01	0.438927E-01	1.01945
0.17378	0.463563E-01	0.456512E-01	1.54451
0.17783	0.483232E-01	0.481896E-01	0.27727
0.18197	0.506278E-01	0.507318E-01	-0.20515
0.18621	0.529031E-01	0.532741E-01	-0.69650
0.19055	0.546640E-01	0.558164E-01	-2.06461
0.19498	0.572611E-01	0.583587E-01	-1.88090
0.19953	0.591987E-01	0.609010E-01	-2.79521
0.20417	0.628864E-01	0.634433E-01	-0.87775
0.20893	0.662020E-01	0.659924E-01	0.31761
0.21380	0.693580E-01	0.696475E-01	-0.41555
0.21878	0.718512E-01	0.733025E-01	-1.97983
0.22387	0.748610E-01	0.769576E-01	-2.72427
0.22909	0.789360E-01	0.806126E-01	-2.07987
0.23442	0.831671E-01	0.842676E-01	-1.30603
0.23988	0.871314E-01	0.879227E-01	-0.89995
0.24547	0.907804E-01	0.915777E-01	-0.87067
0.25119	0.941011E-01	0.949039E-01	-0.84592
0.25704	0.970334E-01	0.969620E-01	0.07367
0.26303	0.996140E-01	0.990200E-01	0.59981
0.26915	0.101844E+00	0.101078E+00	0.75790
0.27542	0.103796E+00	0.103136E+00	0.64010
0.28184	0.105829E+00	0.105194E+00	0.60328
0.28840	0.107722E+00	0.107252E+00	0.43783
0.29512	0.109533E+00	0.109310E+00	0.20383
0.30199	0.111308E+00	0.111368E+00	-0.05435
0.30903	0.113470E+00	0.113839E+00	-0.32403
0.31623	0.115797E+00	0.116310E+00	-0.44112
0.32359	0.118181E+00	0.118781E+00	-0.50512
0.33113	0.120551E+00	0.121252E+00	-0.57760

0.33884	0.122813E+00	0.123723E+00	-0.73514
0.34674	0.124846E+00	0.126193E+00	-1.06775
0.35481	0.126416E+00	0.128664E+00	-1.74750
0.36308	0.129564E+00	0.131135E+00	-1.19817
0.37153	0.132859E+00	0.133606E+00	-0.55914
0.38019	0.135518E+00	0.136077E+00	-0.41082
0.38904	0.138824E+00	0.139094E+00	-0.19454
0.39811	0.142061E+00	0.142113E+00	-0.03654
0.40738	0.144964E+00	0.145131E+00	-0.11520
0.41687	0.148889E+00	0.148149E+00	0.49941
0.42658	0.151776E+00	0.151167E+00	0.40269
0.43652	0.155075E+00	0.154185E+00	0.57683
0.44668	0.157651E+00	0.157203E+00	0.28441
0.45709	0.160612E+00	0.160222E+00	0.24348
0.46773	0.163491E+00	0.163240E+00	0.15412
0.47863	0.166815E+00	0.166260E+00	0.33378
0.48978	0.170196E+00	0.169948E+00	0.14581
0.50119	0.173517E+00	0.173636E+00	-0.06812
0.51286	0.176491E+00	0.177324E+00	-0.46968
0.52481	0.180523E+00	0.181011E+00	-0.26969
0.53703	0.184458E+00	0.184699E+00	-0.13063
0.54954	0.187843E+00	0.188387E+00	-0.28882
0.56234	0.190688E+00	0.192075E+00	-0.72222
0.57544	0.193194E+00	0.195763E+00	-1.31213
0.58884	0.195620E+00	0.199451E+00	-1.92105
0.60256	0.199557E+00	0.203139E+00	-1.76357
0.61659	0.204862E+00	0.207644E+00	-1.33982
0.63096	0.211169E+00	0.212152E+00	-0.46328
0.64565	0.216468E+00	0.216660E+00	-0.08854
0.66069	0.218772E+00	0.221168E+00	-1.08324
0.67608	0.219650E+00	0.225675E+00	-2.66983
0.69183	0.222017E+00	0.230183E+00	-3.54739
0.70794	0.231016E+00	0.234691E+00	-1.56559
0.72443	0.237503E+00	0.239198E+00	-0.70861
0.74131	0.242109E+00	0.243706E+00	-0.65543
0.75858	0.244979E+00	0.248214E+00	-1.30347
0.77625	0.248162E+00	0.253834E+00	-2.23444
0.79433	0.254276E+00	0.259455E+00	-1.99603
0.81283	0.259715E+00	0.265077E+00	-2.02277
0.83176	0.265347E+00	0.270698E+00	-1.97695
0.85114	0.270327E+00	0.276320E+00	-2.16859
0.87096	0.273939E+00	0.281941E+00	-2.83817
0.89125	0.281173E+00	0.287562E+00	-2.22207
0.91201	0.287311E+00	0.293184E+00	-2.00305
0.93325	0.292962E+00	0.298805E+00	-1.95562
0.95499	0.297829E+00	0.304427E+00	-2.16729
0.97724	0.303242E+00	0.310048E+00	-2.19536
1.00000	0.309763E+00	0.315670E+00	-1.87111
1.02329	0.316680E+00	0.322820E+00	-1.90214
1.04713	0.322956E+00	0.329971E+00	-2.12590
1.07152	0.328455E+00	0.337122E+00	-2.57093
1.09648	0.334011E+00	0.344273E+00	-2.98081
1.12202	0.340739E+00	0.351424E+00	-3.04028
1.14815	0.348854E+00	0.358574E+00	-2.71086
1.17490	0.357431E+00	0.365725E+00	-2.26800
1.20226	0.363474E+00	0.372876E+00	-2.52137
1.23027	0.368840E+00	0.380027E+00	-2.94382
1.25892	0.376157E+00	0.387178E+00	-2.84632
1.28825	0.384865E+00	0.394329E+00	-2.39993
1.31825	0.393496E+00	0.401479E+00	-1.98860
1.34896	0.400399E+00	0.410569E+00	-2.47715

1.38038	0.406471E+00	0.419662E+00	-3.14316
1.41254	0.414020E+00	0.428755E+00	-3.43663
1.44544	0.424849E+00	0.437847E+00	-2.96866
1.47911	0.435574E+00	0.446940E+00	-2.54322
1.51356	0.441029E+00	0.456033E+00	-3.29013
1.54881	0.447275E+00	0.465126E+00	-3.83791
1.58489	0.460468E+00	0.474219E+00	-2.89955
1.62181	0.476391E+00	0.483311E+00	-1.43187
1.65958	0.464260E+00	0.492404E+00	-5.71567
1.69824	0.481765E+00	0.501497E+00	-3.93454
1.73780	0.501341E+00	0.510590E+00	-1.81142
1.77828	0.509151E+00	0.522155E+00	-2.49038
1.81970	0.510785E+00	0.533720E+00	-4.29728
1.86208	0.515281E+00	0.545285E+00	-5.50248
1.90546	0.544665E+00	0.556850E+00	-2.18837
1.94984	0.549319E+00	0.568416E+00	-3.35968
1.99526	0.555488E+00	0.579981E+00	-4.22298
2.04173	0.572106E+00	0.591546E+00	-3.28629
2.08929	0.581158E+00	0.603111E+00	-3.63993
2.13796	0.599545E+00	0.614676E+00	-2.46171
2.18776	0.597266E+00	0.626242E+00	-4.62687
2.23872	0.616800E+00	0.637807E+00	-3.29363
2.29086	0.629879E+00	0.649372E+00	-3.00179
2.34422	0.638309E+00	0.667021E+00	-4.30452
2.39883	0.655720E+00	0.684674E+00	-4.22877
2.45470	0.667366E+00	0.702327E+00	-4.97779
2.51188	0.678923E+00	0.719980E+00	-5.70241
2.57039	0.694041E+00	0.737632E+00	-5.90960
2.63026	0.707890E+00	0.755285E+00	-6.27513
2.69153	0.720851E+00	0.772938E+00	-6.73887
2.75422	0.735400E+00	0.790591E+00	-6.98097
2.81838	0.751482E+00	0.808244E+00	-7.02284
2.88403	0.765562E+00	0.825896E+00	-7.30523
2.95120	0.779383E+00	0.840033E+00	-7.21991
3.01995	0.794215E+00	0.854170E+00	-7.01905
3.09029	0.812398E+00	0.868307E+00	-6.43886
3.16227	0.828663E+00	0.882444E+00	-6.09463
3.23593	0.842610E+00	0.896582E+00	-6.01971
3.31130	0.862491E+00	0.910719E+00	-5.29554
3.38843	0.881158E+00	0.924856E+00	-4.72481
3.46736	0.894165E+00	0.938993E+00	-4.77402
3.54813	0.900914E+00	0.935095E+00	-3.65531
3.63077	0.899074E+00	0.931188E+00	-3.44868
3.71534	0.895756E+00	0.927281E+00	-3.39967
3.80189	0.891430E+00	0.923374E+00	-3.45950
3.89044	0.888076E+00	0.919467E+00	-3.41409
3.98106	0.888138E+00	0.915560E+00	-2.99510
4.07379	0.885170E+00	0.911653E+00	-2.90498
4.16868	0.876776E+00	0.907746E+00	-3.41177
4.26579	0.878058E+00	0.903839E+00	-2.85244
4.36515	0.877573E+00	0.899932E+00	-2.48456
4.46683	0.868666E+00	0.896016E+00	-3.05239
4.57087	0.871360E+00	0.892099E+00	-2.32476
4.67734	0.867170E+00	0.888183E+00	-2.36584
4.78629	0.865831E+00	0.884267E+00	-2.08479
4.89778	0.860620E+00	0.880350E+00	-2.24124
5.01186	0.857857E+00	0.876434E+00	-2.11961
5.12860	0.856330E+00	0.872518E+00	-1.85523
5.24806	0.852579E+00	0.868601E+00	-1.84461
5.37031	0.848147E+00	0.864838E+00	-1.92996
5.49540	0.847345E+00	0.861075E+00	-1.59452

5.62340	0.846621E+00	0.857312E+00	-1.24702
5.75438	0.841294E+00	0.853549E+00	-1.43577
5.88842	0.838197E+00	0.849785E+00	-1.36371
6.02558	0.838093E+00	0.846022E+00	-0.93721
6.16593	0.835390E+00	0.842259E+00	-0.81558
6.30956	0.829749E+00	0.838496E+00	-1.04313
6.45653	0.827460E+00	0.834733E+00	-0.87127
6.60692	0.826368E+00	0.830970E+00	-0.55380
6.76081	0.822459E+00	0.827396E+00	-0.59668
6.91829	0.818872E+00	0.823823E+00	-0.60094
7.07944	0.817802E+00	0.820250E+00	-0.29844
7.24434	0.816951E+00	0.816676E+00	0.03365
7.41308	0.811376E+00	0.813103E+00	-0.21242
7.58575	0.814415E+00	0.809530E+00	0.60351
7.76245	0.805397E+00	0.805956E+00	-0.06944
7.94326	0.805036E+00	0.802383E+00	0.33068
8.12828	0.843694E+00	0.798810E+00	5.61889
8.31761	0.810134E+00	0.795236E+00	1.87335
8.51136	0.746910E+00	0.791663E+00	-5.65308
8.70961	0.756689E+00	0.788090E+00	-3.98443
8.91248	0.740258E+00	0.784516E+00	-5.64147
9.12008	0.762474E+00	0.777133E+00	-1.88632
9.33251	0.770275E+00	0.766941E+00	0.43460
9.54990	0.759094E+00	0.756750E+00	0.30982
9.77234	0.741543E+00	0.746558E+00	-0.67169
9.99997	0.729826E+00	0.736366E+00	-0.88810
10.23290	0.743138E+00	0.726174E+00	2.33611
10.47125	0.771817E+00	0.715982E+00	7.79840
10.71516	0.791131E+00	0.727997E+00	8.67216
10.96475	0.790577E+00	0.740017E+00	6.83219
11.22015	0.791608E+00	0.752037E+00	5.26182
11.48150	0.775345E+00	0.764057E+00	1.47740
11.74894	0.823055E+00	0.776077E+00	6.05323
12.02261	0.820994E+00	0.788097E+00	4.17432
12.30265	0.830553E+00	0.800117E+00	3.80405
12.58921	0.848260E+00	0.812136E+00	4.44792
12.88245	0.860435E+00	0.825992E+00	4.16983
13.18252	0.870988E+00	0.839848E+00	3.70781
13.48958	0.882605E+00	0.853705E+00	3.38530
13.80380	0.893608E+00	0.867561E+00	3.00232
14.12533	0.916376E+00	0.881417E+00	3.96613
14.45435	0.910533E+00	0.895274E+00	1.70442
14.79103	0.951960E+00	0.909130E+00	4.71111
15.13556	0.941355E+00	0.922986E+00	1.99011
15.48811	0.963924E+00	0.936843E+00	2.89067
15.84888	0.971842E+00	0.950699E+00	2.22394
16.21804	0.986091E+00	0.966750E+00	2.00062
16.59581	0.993286E+00	0.982801E+00	1.06688
16.98238	0.101577E+01	0.998852E+00	1.69360
17.37795	0.103485E+01	0.101490E+01	1.96520
17.78273	0.103060E+01	0.103095E+01	-0.03447
18.19694	0.107479E+01	0.104700E+01	2.65401
18.62080	0.109952E+01	0.106306E+01	3.43012
19.05454	0.107433E+01	0.107911E+01	-0.44273
19.49837	0.111501E+01	0.109516E+01	1.81285
19.95255	0.110076E+01	0.111121E+01	-0.94009
20.41730	0.114172E+01	0.111842E+01	2.08285
20.89288	0.118447E+01	0.112563E+01	5.22695
21.37954	0.115843E+01	0.113284E+01	2.25856
21.87753	0.114837E+01	0.114006E+01	0.72902
22.38713	0.115711E+01	0.114727E+01	0.85793

22.90859	0.120768E+01	0.115448E+01	4.60803
23.44220	0.119293E+01	0.116169E+01	2.68900
23.98824	0.115637E+01	0.116890E+01	-1.07237
24.54699	0.124643E+01	0.117611E+01	5.97906
25.11877	0.123789E+01	0.118332E+01	4.61190
25.70386	0.123006E+01	0.119051E+01	3.32214
26.30258	0.120563E+01	0.119769E+01	0.66246
26.91524	0.122692E+01	0.120488E+01	1.82937
27.54218	0.126262E+01	0.121206E+01	4.17082
28.18372	0.123155E+01	0.121925E+01	1.00904
28.84020	0.126264E+01	0.122644E+01	2.95182
29.51197	0.126411E+01	0.123362E+01	2.47120
30.19939	0.125039E+01	0.124081E+01	0.77201
30.90283	0.125269E+01	0.123927E+01	1.08321
31.62265	0.130284E+01	0.123773E+01	5.26098
32.35923	0.133164E+01	0.123619E+01	7.72127
33.11297	0.127229E+01	0.123465E+01	3.04886
33.88427	0.124082E+01	0.123310E+01	0.62549
34.67354	0.124500E+01	0.123156E+01	1.09128
35.48119	0.125009E+01	0.123002E+01	1.63117
36.30765	0.124836E+01	0.122848E+01	1.61813
37.15336	0.124680E+01	0.122671E+01	1.63793
38.01878	0.121939E+01	0.122494E+01	-0.45297
38.90435	0.125428E+01	0.122317E+01	2.54361
39.81055	0.127251E+01	0.122140E+01	4.18415
40.73785	0.125857E+01	0.121963E+01	3.19246
41.68676	0.128530E+01	0.121786E+01	5.53769
42.65776	0.131368E+01	0.121609E+01	8.02489
43.65139	0.133118E+01	0.121432E+01	9.62336
44.66816	0.129770E+01	0.121255E+01	7.02209
45.70861	0.123908E+01	0.121078E+01	2.33716
46.77330	0.124380E+01	0.120901E+01	2.87770
47.86279	0.127103E+01	0.120724E+01	5.28422
48.97766	0.130250E+01	0.120547E+01	8.04905
50.11850	0.127026E+01	0.120370E+01	5.52937
51.28590	0.119498E+01	0.117177E+01	1.98040
52.48051	0.114379E+01	0.113983E+01	0.34728
53.70293	0.111251E+01	0.110790E+01	0.41637
54.95383	0.108227E+01	0.107596E+01	0.58603
56.23387	0.105043E+01	0.104403E+01	0.61307
57.54372	0.101998E+01	0.101209E+01	0.78003
58.88409	0.991447E+00	0.980154E+00	1.15219
60.25567	0.963071E+00	0.948218E+00	1.56639
61.65921	0.941339E+00	0.923059E+00	1.98046
63.09543	0.924239E+00	0.897901E+00	2.93330
64.56511	0.907526E+00	0.872743E+00	3.98539
66.06902	0.891448E+00	0.847586E+00	5.17490
67.60797	0.875223E+00	0.822428E+00	6.41944
69.18276	0.858686E+00	0.797271E+00	7.70326
70.79423	0.842460E+00	0.772113E+00	9.11100
72.44324	0.826756E+00	0.746955E+00	10.68349
74.13065	0.811554E+00	0.727137E+00	11.60960
75.85738	0.797103E+00	0.707319E+00	12.69343
77.62432	0.783171E+00	0.687502E+00	13.91555
79.43243	0.769002E+00	0.667685E+00	15.17449
81.28265	0.760122E+00	0.647867E+00	17.32677
83.17596	0.752497E+00	0.628050E+00	19.81491
85.11337	0.744300E+00	0.608232E+00	22.37104
87.09592	0.735652E+00	0.588415E+00	25.02269
89.12463	0.726757E+00	0.577011E+00	25.95197
91.20062	0.717824E+00	0.565609E+00	26.91151

93.32495	0.709134E+00	0.554208E+00	27.95462
95.49876	0.701042E+00	0.542806E+00	29.15148
97.72321	0.693945E+00	0.531404E+00	30.58711
99.99947	0.688223E+00	0.520002E+00	32.35002

SPECTRA SAVE FILE

CARES SOIL vs1.2.3 (8/30/06)

```
*****
*****
*****      C A R E S (SOIL)      *****
*****
*****
* ANALYSIS NUMBER 6:
* GENERATE ACCELERATION RESPONSE SPECTRUM
* FOR A GIVEN ACCELERATION TIME HISTORY;
* COMPARE WITH TARGET AND COMPUTE ERRORS
* IN TIME HISTORY FIT, NUREG FREQUENCIES
*****
*****
```

INPUT FILE NAME = GE-V.CTH
OUTPUT FILE NAME = GE-V.CSPNUREG

ACC TIME HIST (in/sec**2): GE VERTICAL RECORD FOR CONTROL BUILDING

NRCDS	=	8191
DT (secs)	=	0.005000
XDDMX (ips2)	=	195.793100
XDDMX (g)	=	0.506711
XDMAX (ips)	=	17.651113
XMAX (in)	=	12.483940

TARGET SPECTRA INPUT DATA ROUTINE:
FILE NAME WITH TARGET SPECTRA POINTS = CJC-VCB.INP

GE ESBWR ENVELOPE CRITERIA FOR VERTICAL CONTROL BLDG MOTION

5.0	TARGET DAMPING RATIO (%)	
43	NO. OF TARGET SPECTRAL POINTS	
1	0.0100	0.0002
2	0.0150	0.0003
3	0.0200	0.0007
4	0.0400	0.0025
5	0.0600	0.0055
6	0.0800	0.0100
7	0.1000	0.0151
8	0.1202	0.0218
9	0.1445	0.0316
10	0.1738	0.0457
11	0.2089	0.0660
12	0.2500	0.0945
13	0.3020	0.1114
14	0.3802	0.1361
15	0.4786	0.1663
16	0.6026	0.2032
17	0.7586	0.2482
18	1.0000	0.3157
19	1.3183	0.4015
20	1.7378	0.5106
21	2.2909	0.6494
22	2.8840	0.8259
23	3.4674	0.9390

24	4.3652	0.8999
25	5.2481	0.8686
26	6.6069	0.8310
27	9.0000	0.7830
28	10.4713	0.7160
29	12.5893	0.8121
30	15.8489	0.9507
31	19.9526	1.1112
32	25.0000	1.1818
33	30.1995	1.2408
34	36.3078	1.2285
35	50.1187	1.2037
36	60.2560	0.9482
37	72.4436	0.7469
38	87.0964	0.5884
39	100.0000	0.5200
40	125.0000	0.5100
41	150.0000	0.5000
42	200.0000	0.4920
43	400.0000	0.4920

NO. OF NUREG SPECTRA POINTS FALLING BELOW 90% OF TARGET = 0

NO. OF NUREG SPECTRA POINTS ABOVE 130% OF TARGET = 0

CHECK OF ASCE-XXX CRITERIA

START CORRECTION = 1.00000

CHECK OF 90% MINIMUM/130% MAXIMUM CRITERIA:

MINIMUM %ERROR = -7.30523

FREQUENCY NO. = 147

FREQUENCY (hz) = 2.88403

MAXIMUM %ERROR = 8.67216

FREQUENCY NO. = 204

FREQUENCY (hz) = 10.71516

CORRECTION 1 = 0.97093

AVERAGE RATIO OF FIT SPACC/SPTRGT - 0.2 TO 25 HZ

AVERAGE = 0.98896

NUMFRQS = 209

CHECK 9 CONTIGUOUS FREQUENCIES LT ZERO

NO. OF CONTIGUOUS NEGATIVE FREQUENCIES = 1

FNUM	FREQ	%ERROR	CORR
32	0.2042	-0.88	1.00886

NO. OF CONTIGUOUS NEGATIVE FREQUENCIES = 8

FNUM	FREQ	%ERROR	CORR
34	0.2138	-0.42	1.00417
35	0.2188	-1.98	1.02020
36	0.2239	-2.72	1.02801
37	0.2291	-2.08	1.02124
38	0.2344	-1.31	1.01323
39	0.2399	-0.90	1.00908
40	0.2455	-0.87	1.00878
41	0.2512	-0.85	1.00853

NO. OF CONTIGUOUS NEGATIVE FREQUENCIES = 14

FNUM	FREQ	%ERROR	CORR
49	0.3020	-0.05	1.00054
50	0.3090	-0.32	1.00325
51	0.3162	-0.44	1.00443
52	0.3236	-0.51	1.00508
53	0.3311	-0.58	1.00581
54	0.3388	-0.74	1.00741
55	0.3467	-1.07	1.01079
56	0.3548	-1.75	1.01779
57	0.3631	-1.20	1.01213
58	0.3715	-0.56	1.00562
59	0.3802	-0.41	1.00413
60	0.3890	-0.19	1.00195
61	0.3981	-0.04	1.00037
62	0.4074	-0.12	1.00115

NO. OF CONTIGUOUS NEGATIVE FREQUENCIES = 116

FNUM	FREQ	%ERROR	CORR
71	0.5012	-0.07	1.00068
72	0.5129	-0.47	1.00472
73	0.5248	-0.27	1.00270
74	0.5370	-0.13	1.00131
75	0.5495	-0.29	1.00290
76	0.5623	-0.72	1.00727
77	0.5754	-1.31	1.01330
78	0.5888	-1.92	1.01959
79	0.6026	-1.76	1.01795
80	0.6166	-1.34	1.01358
81	0.6310	-0.46	1.00465
82	0.6457	-0.09	1.00089
83	0.6607	-1.08	1.01095
84	0.6761	-2.67	1.02743
85	0.6918	-3.55	1.03678
86	0.7079	-1.57	1.01590
87	0.7244	-0.71	1.00714
88	0.7413	-0.66	1.00660
89	0.7586	-1.30	1.01321
90	0.7762	-2.23	1.02286
91	0.7943	-2.00	1.02037
92	0.8128	-2.02	1.02065
93	0.8318	-1.98	1.02017
94	0.8511	-2.17	1.02217
95	0.8710	-2.84	1.02921
96	0.8912	-2.22	1.02273
97	0.9120	-2.00	1.02044
98	0.9333	-1.96	1.01995
99	0.9550	-2.17	1.02215
100	0.9772	-2.20	1.02245
101	1.0000	-1.87	1.01907
102	1.0233	-1.90	1.01939
103	1.0471	-2.13	1.02172
104	1.0715	-2.57	1.02639
105	1.0965	-2.98	1.03072
106	1.1220	-3.04	1.03136
107	1.1482	-2.71	1.02786
108	1.1749	-2.27	1.02321
109	1.2023	-2.52	1.02587
110	1.2303	-2.94	1.03033
111	1.2589	-2.85	1.02930
112	1.2882	-2.40	1.02459
113	1.3183	-1.99	1.02029

114	1.3490	-2.48	1.02540
115	1.3804	-3.14	1.03245
116	1.4125	-3.44	1.03559
117	1.4454	-2.97	1.03059
118	1.4791	-2.54	1.02610
119	1.5136	-3.29	1.03402
120	1.5488	-3.84	1.03991
121	1.5849	-2.90	1.02986
122	1.6218	-1.43	1.01453
123	1.6596	-5.72	1.06062
124	1.6982	-3.93	1.04096
125	1.7378	-1.81	1.01845
126	1.7783	-2.49	1.02554
127	1.8197	-4.30	1.04490
128	1.8621	-5.50	1.05823
129	1.9055	-2.19	1.02237
130	1.9498	-3.36	1.03476
131	1.9953	-4.22	1.04409
132	2.0417	-3.29	1.03398
133	2.0893	-3.64	1.03777
134	2.1380	-2.46	1.02524
135	2.1878	-4.63	1.04851
136	2.2387	-3.29	1.03406
137	2.2909	-3.00	1.03095
138	2.3442	-4.30	1.04498
139	2.3988	-4.23	1.04415
140	2.4547	-4.98	1.05239
141	2.5119	-5.70	1.06047
142	2.5704	-5.91	1.06281
143	2.6303	-6.28	1.06695
144	2.6915	-6.74	1.07226
145	2.7542	-6.98	1.07505
146	2.8184	-7.02	1.07553
147	2.8840	-7.31	1.07881
148	2.9512	-7.22	1.07782
149	3.0199	-7.02	1.07549
150	3.0903	-6.44	1.06882
151	3.1623	-6.09	1.06490
152	3.2359	-6.02	1.06405
153	3.3113	-5.30	1.05592
154	3.3884	-4.72	1.04959
155	3.4674	-4.77	1.05013
156	3.5481	-3.66	1.03794
157	3.6308	-3.45	1.03572
158	3.7153	-3.40	1.03519
159	3.8019	-3.46	1.03583
160	3.8904	-3.41	1.03535
161	3.9811	-3.00	1.03088
162	4.0738	-2.90	1.02992
163	4.1687	-3.41	1.03532
164	4.2658	-2.85	1.02936
165	4.3651	-2.48	1.02548
166	4.4668	-3.05	1.03148
167	4.5709	-2.32	1.02380
168	4.6773	-2.37	1.02423
169	4.7863	-2.08	1.02129
170	4.8978	-2.24	1.02293
171	5.0119	-2.12	1.02166
172	5.1286	-1.86	1.01890
173	5.2481	-1.84	1.01879
174	5.3703	-1.93	1.01968

175	5.4954	-1.59	1.01620
176	5.6234	-1.25	1.01263
177	5.7544	-1.44	1.01457
178	5.8884	-1.36	1.01383
179	6.0256	-0.94	1.00946
180	6.1659	-0.82	1.00822
181	6.3096	-1.04	1.01054
182	6.4565	-0.87	1.00879
183	6.6069	-0.55	1.00557
184	6.7608	-0.60	1.00600
185	6.9183	-0.60	1.00605
186	7.0794	-0.30	1.00299

NO. OF CONTIGUOUS NEGATIVE FREQUENCIES =			1
FNUM	FREQ	%ERROR	CORR
188	7.4131	-0.21	1.00213

NO. OF CONTIGUOUS NEGATIVE FREQUENCIES =			1
FNUM	FREQ	%ERROR	CORR
190	7.7624	-0.07	1.00069

NO. OF CONTIGUOUS NEGATIVE FREQUENCIES =			4
FNUM	FREQ	%ERROR	CORR
194	8.5114	-5.65	1.05992
195	8.7096	-3.98	1.04150
196	8.9125	-5.64	1.05979
197	9.1201	-1.89	1.01923

NO. OF CONTIGUOUS NEGATIVE FREQUENCIES =			2
FNUM	FREQ	%ERROR	CORR
200	9.7723	-0.67	1.00676
201	10.0000	-0.89	1.00896

NO. OF CONTIGUOUS NEGATIVE FREQUENCIES =			1
FNUM	FREQ	%ERROR	CORR
226	17.7827	-0.03	1.00034

NO. OF CONTIGUOUS NEGATIVE FREQUENCIES =			1
FNUM	FREQ	%ERROR	CORR
229	19.0545	-0.44	1.00445

NO. OF CONTIGUOUS NEGATIVE FREQUENCIES =			1
FNUM	FREQ	%ERROR	CORR
231	19.9526	-0.94	1.00949

NO. OF CONTIGUOUS NEGATIVE FREQUENCIES =			1
FNUM	FREQ	%ERROR	CORR
239	23.9882	-1.07	1.01084

GE-H1:

a: 2 POINTS FALL BELOW 10% OF TARGET

8.1283 -11.32

8.3176 -14.10

b: 15 CONTIGUOUS POINTS BELOW TARGET FROM 0.4786 TO 0.6607 HZ

11 CONTIGUOUS POINTS BELOW TARGET FROM 1.0965 TO 1.3804 HZ

11 CONTIGUOUS POINTS BELOW TARGET FROM 7.7624 TO 9.7723 HZ

GE-H2: OKAY

GE-V:

b: 14 CONTIGUOUS POINTS BELOW TARGET FROM 0.3020 TO 0.4074 HZ

116 CONTIGUOUS POINTS BELOW TARGET FROM 0.5012 TO 7.0794 HZ

c: AVERAGE SPECTRUM IS LESS THAN UNITY (0.98896)