

CLASS T05

VestasDOCUMENT:
0071-9515 VER 01DESCRIPTION:
Foundation loads

Original Instruction: T05 0071-9515 VER 01

Combine Foundation loads

V150-4.0/4.2 MW, Mk3E, WZ2GK2(S), 166 m

50/60 Hz, GS



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Version History

VERSION:	DATE:	CHANGE:
00	2018.01.08	New document
01	2018.03.26	Removed erroneous reference [3] in sec. 4

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1. Introduction

This document presents the foundation loads from the V150-4.0/4.2 MW, GS, HH 166, WZ2GK2(S) load spectrum. The loads are simulated in accordance with DIBt - Richtlinie für Windenergieanlagen Ed. October 2012, ref. [A]. Tower used for calculating the loads can be found in ref [B].

Reference	Description	Doc No.
[A]	DIBt - Richtlinie für Windenergieanlagen Ed. October 2012	
[B]	Tower drawing	0072-0477

Table 1-1 Reference to documents.

Ref.	Simulation Path
[1]	V150-4.00MW HH166- Blade parts file- HH 166 m- IEC S Postloads folder: h:\3MW\Mk3E\TR2\V150.HH166\006\4000.VAS_AAO\Loads\Postloads\
[2]	V150-4.20MW HH166- Blade parts file- HH 166 m- IEC S Postloads folder: h:\3MW\Mk3E\TR2\V150.HH166\006\4200.VAS_AAO\Loads\Postloads\

Table 1-2 Reference to simulations.

2. Extreme loads

Foundation loads components at the instant of extreme resulting bending moment are given in beneath table. Own weight moment contribution due to tower out of vertical (0.008 m/m) is included with PLF 1.10 in below resultant moments.

Loads are given at height: 0.20m

Extreme resulting tower bottom moment according to ref [1] incl. own weight moment contribution due to 8mm/m tower out of vertical and second order effects. *unfavorable loads: PLF = 1.1, favorable loads: PLF = 0.9.

Mbt1: Resulting bending moment. $\text{SQRT}(\text{Mxt1}^2 + \text{Myt1}^2)$ (also M_{res})
Lead LC/Family

Characteristic Extreme								
Lead	LC/Family	PLF	Type	Mbt	Mzt	FndFr	Fzt	Ref
Sensor	[-]	[-]	[-]	[kNm]	[kNm]	[kN]	[kN]	[-]
Mbt	62E50b09000(fam314)	1.10	Abs	204700	3077	1415	-7384	[1]
Mzt	21RPY8Voa00(fam114)	1.35	Abs	66970	-9652	394.1	-7359	[1]
FndFr	62E50b09000(fam314)	1.10	Abs	198100	2931	1459	-7402	[1]
Fzt	61E50a00000(fam296)	1.50	Abs	44760	-1257	382.6	-7329	[1]

Table 2-1 Characteristic Extreme (excl. PLF). Load cases sorted with PLF.

Characteristic Extreme								
Lead	LC/Family	PLF	Type	Mbt	Mzt	FndFr	Fzt	Ref
Sensor	[-]	[-]	[-]	[kNm]	[kNm]	[kN]	[kN]	[-]
Mbt	62E50b09000(fam314)	1.10	Abs	204700	3077	1415	-7384	[1]
Mzt	22VOGHWO300(fam168)	1.10	Abs	41960	-9688	267.0	-7291	[2]
FndFr	62E50b09000(fam314)	1.10	Abs	198100	2931	1459	-7402	[1]
Fzt	12IceUHWO100(fam27)	1.35	Abs	72830	2642	389.8	-7605	[2]

Table 2-2 Characteristic Extreme (excl. PLF). Load cases sorted without PLF.

Characteristic Extreme								
Lead	LC/Family	PLF	Type	Mbt	Mzt	FndFr	Fzt	Ref
Sensor	[-]	[-]	[-]	[kNm]	[kNm]	[kN]	[kN]	[-]
Mbt	62E50b09000(fam314)	1.10	Abs	204700	3077	1415	-7384	[1]
Mzt	22VOGHWO300(fam168)	1.10	Abs	41960	-9688	267.0	-7291	[2]
FndFr	62E50b09000(fam314)	1.10	Abs	198100	2931	1459	-7402	[1]
Fzt	22REY20Vrab00(fam156)	1.10	Abs	117600	2047	622.6	-7541	[2]

Table 2-3 Characteristic Extreme (excl. PLF). Only load cases with PLF = 1.10.

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Characteristic Extreme								
Lead	LC/Family	PLF	Type	Mbt	Mzt	FndFr	Fzt	Ref
Sensor	[-]	[-]	[-]	[kNm]	[kNm]	[kN]	[kN]	[-]
Mbt	14WdirOffN10_aVraEcd_0(fam63)	1.35	Abs	171300	-1285	977.5	-7476	[2]
Mzt	21RPY8Voa00(fam114)	1.35	Abs	66970	-9652	394.1	-7359	[1]
FndFr	61E50a00800(fam295)	1.35	Abs	123200	633.3	1036	-7154	[1]
Fzt	12IceUHWO100(fam27)	1.35	Abs	72830	2642	389.8	-7605	[2]

Table 2-4 Characteristic Extreme (excl. PLF). Only load cases with PLF = 1.35.

3. Production loads

The production loads are calculated for the main sensors of the foundation. The following loads are calculated.

Char. load Characteristic Extreme (excl. PLF, Load cases sorted without PLF). Only load cases with PLF = 1.35 and 1.50 are included in the evaluation.

Prob.: 1e-2 Load level with an exceedance probability of 1e-2

Prob.: 1e-4 Load level with an exceedance probability of 1e-4

Production loads							
		Char. load	Prob.:1e-2	Prob.:1e-4	Ref		
M _{res}	[kNm]	171300.00	122848.70	140685.38	[2]	[2]	[2]
M _z	[kNm]	-9651.65	-4061.93	-6722.25	[1]	[1]	[1]
F _{res}	[kN]	1036.40	699.53	840.08	[1]	[2]	[2]
F _z	[kN]	-7604.73	-7517.27	-7558.26	[2]	[2]	[2]

Table 3-1 Production loads

4. Fatigue loads

For the foundation, the mean loads have to be considered. The mean loads must be combined with either the equivalent loads or the fatigue load spectrum.

Loads are given at height: 0.20m

The equivalent loads given may be used only if the material property can be characterized by an S/N-curve with the same slope as given for the equivalent loads.

Equivalent and Mean Fatigue Foundation Loads							
		Mean load	Range m = 4	Range m = 7	Ref		
F _y	[kN]	367.65	671.54	606.88	[2]	[1]	[1]
M _x	[kNm]	-62887.54	53048.36	63609.31	[2]	[1]	[1]
M _z	[kNm]	-305.92	8061.28	8031.26	[1]	[1]	[1]

Table 4-1 Fatigue loads for N=1E7 cycles.

5. Stiffness of foundation

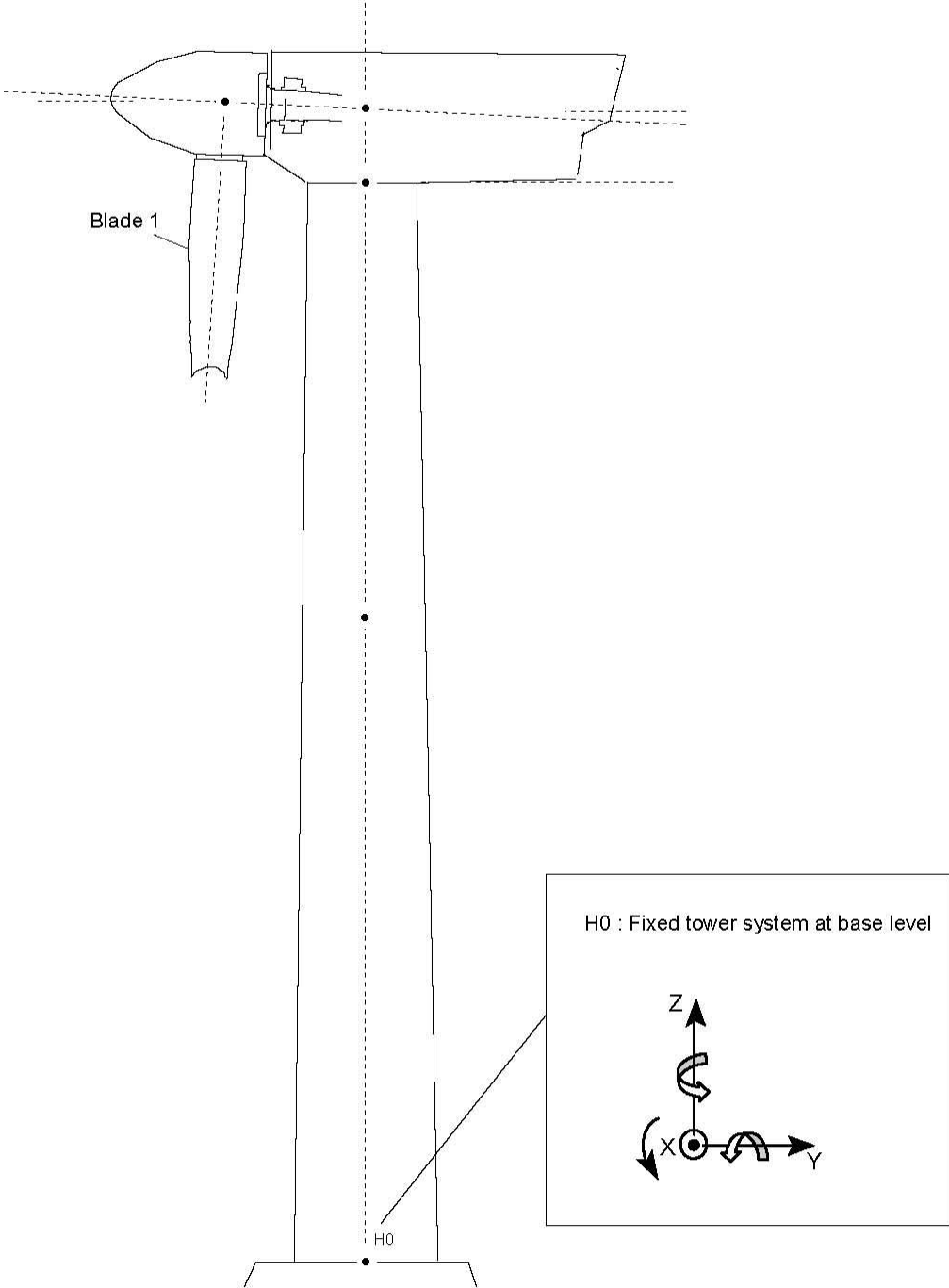
The nominal spring stiffness used for the load calculations is 480 GNm/rad resulting in a nominal tower frequency of 0.137 Hz. The spring stiffness of the foundation must be at least $C_{\phi, dyn} \geq 80$ GNm/rad for the loads to be valid. Concurrent values for rotational- and lateral stiffness of the foundation are given in Table 5-1.

Concurrent values for rotational- and lateral stiffness										
Rotational stiffness	[GNm/rad]	80	96	126	166	219	288	380	448	500
Lateral stiffness	[MN/m]	10.0	7.4	6.0	6.0	6.0	6.0	6.0	6.0	6.0

Table 5-1 Minimum lateral stiffness.

The natural frequency of the tower must be within the frequency interval [0.131 Hz; 0.144 Hz]

Appendix A. Co-ordinate systems



Appendix B. Rain flow count - 4.0 MW

This appendix contains the rain flow spectrum for the shear force, the bending moment and the torsional moment in the bottom of the tower for ref. [1].

Foundation Fatigue Load Spectrum					
Tower shear, bottom F_y [kN]		Tower bending, bottom M_x [kNm]		Tower torsion, bottom M_z [kNm]	
Range	Frequency	Range	Frequency	Range	Frequency
1.7769E+03	8.7500E+00	2.6489E+05	7.0000E+00	1.6779E+04	1.3601E+02
1.7059E+03	1.5750E+01	2.5430E+05	3.1500E+01	1.6108E+04	3.1056E+01
1.6348E+03	2.9750E+01	2.4370E+05	2.4500E+01	1.5437E+04	9.3336E+02
1.5637E+03	2.1000E+01	2.3311E+05	1.4000E+01	1.4766E+04	3.8413E+03
1.4926E+03	3.4834E+01	2.2251E+05	2.2625E+01	1.4095E+04	3.5821E+03
1.4215E+03	2.2125E+01	2.1192E+05	2.7834E+01	1.3424E+04	9.9842E+03
1.3505E+03	8.4584E+01	2.0132E+05	3.6542E+01	1.2752E+04	3.2756E+04
1.2794E+03	3.2100E+02	1.9072E+05	8.6876E+01	1.2081E+04	5.6924E+04
1.2083E+03	6.7884E+02	1.8013E+05	2.8308E+02	1.1410E+04	8.6768E+04
1.1372E+03	3.7039E+03	1.6953E+05	2.0987E+02	1.0739E+04	1.5684E+05
1.0662E+03	3.0408E+03	1.5894E+05	1.9382E+03	1.0068E+04	3.2475E+05
9.9508E+02	1.3155E+04	1.4834E+05	8.1035E+02	9.3965E+03	4.6837E+05
9.2401E+02	4.5193E+04	1.3774E+05	4.6933E+02	8.7253E+03	4.7649E+05
8.5293E+02	8.8418E+04	1.2715E+05	5.3383E+03	8.0541E+03	5.9966E+05
7.8185E+02	2.4490E+05	1.1655E+05	7.3991E+03	7.3830E+03	8.8607E+05
7.1077E+02	6.0510E+05	1.0596E+05	3.6145E+04	6.7118E+03	1.4783E+06
6.3970E+02	1.1722E+06	9.5362E+04	9.6738E+04	6.0406E+03	2.8093E+06
5.6862E+02	2.3206E+06	8.4766E+04	2.0769E+05	5.3694E+03	5.1507E+06
4.9754E+02	4.8300E+06	7.4170E+04	4.4947E+05	4.6982E+03	9.2888E+06
4.2646E+02	1.0505E+07	6.3575E+04	8.6609E+05	4.0271E+03	1.6047E+07
3.5539E+02	2.5672E+07	5.2979E+04	1.6747E+06	3.3559E+03	2.7211E+07
2.8431E+02	5.7016E+07	4.2383E+04	3.1334E+06	2.6847E+03	4.3909E+07
2.1323E+02	9.9477E+07	3.1787E+04	8.4385E+06	2.0135E+03	6.2134E+07
1.4215E+02	1.6721E+08	2.1192E+04	5.4903E+07	1.3424E+03	7.0468E+07
7.1077E+01	4.3634E+08	1.0596E+04	3.2252E+08	6.7118E+02	1.7130E+08

Table 5-2 Rainflow counting spectra - 4.0 MW

Appendix C. Rain flow count - 4.2 MW

This appendix contains the rain flow spectrum for the shear force, the bending moment and the torsional moment in the bottom of the tower for ref. [2].

Foundation Fatigue Load Spectrum					
Tower shear, bottom F_y [kN]		Tower bending, bottom M_x [kNm]		Tower torsion, bottom M_z [kNm]	
Range	Frequency	Range	Frequency	Range	Frequency
1.7537E+03	8.7500E+00	2.6444E+05	1.0500E+01	1.6927E+04	2.9221E+02
1.6836E+03	2.4500E+01	2.5387E+05	2.9750E+01	1.6250E+04	9.7405E+01
1.6134E+03	2.1000E+01	2.4329E+05	2.2750E+01	1.5573E+04	7.1188E+02
1.5433E+03	3.1458E+01	2.3271E+05	1.7500E+01	1.4896E+04	2.1709E+03
1.4731E+03	8.7500E+00	2.2213E+05	2.2625E+01	1.4219E+04	3.9290E+03
1.4030E+03	4.5251E+01	2.1156E+05	2.4375E+01	1.3541E+04	1.7597E+04
1.3328E+03	7.8251E+01	2.0098E+05	3.8251E+01	1.2864E+04	1.6232E+04
1.2627E+03	1.9728E+02	1.9040E+05	3.6501E+01	1.2187E+04	4.1774E+04
1.1925E+03	8.5560E+02	1.7982E+05	1.9979E+02	1.1510E+04	8.3049E+04
1.1224E+03	1.8938E+03	1.6924E+05	2.9021E+02	1.0833E+04	1.5158E+05
1.0522E+03	3.8062E+03	1.5867E+05	8.4583E+02	1.0156E+04	3.2077E+05
9.8209E+02	2.2353E+04	1.4809E+05	2.3075E+02	9.4790E+03	3.6814E+05
9.1194E+02	3.8183E+04	1.3751E+05	1.8886E+03	8.8020E+03	4.9420E+05
8.4179E+02	1.0940E+05	1.2693E+05	1.1855E+03	8.1249E+03	6.0732E+05
7.7164E+02	2.7296E+05	1.1636E+05	2.9096E+03	7.4478E+03	8.8567E+05
7.0149E+02	5.8261E+05	1.0578E+05	3.2132E+04	6.7707E+03	1.4452E+06
6.3134E+02	1.2839E+06	9.5200E+04	7.5925E+04	6.0937E+03	2.6616E+06
5.6119E+02	2.5289E+06	8.4622E+04	2.4010E+05	5.4166E+03	4.5050E+06
4.9104E+02	4.6092E+06	7.4044E+04	4.8598E+05	4.7395E+03	8.6792E+06
4.2090E+02	1.0888E+07	6.3467E+04	8.3684E+05	4.0624E+03	1.6515E+07
3.5075E+02	2.5792E+07	5.2889E+04	1.6332E+06	3.3854E+03	2.6941E+07
2.8060E+02	5.7280E+07	4.2311E+04	3.1684E+06	2.7083E+03	4.3190E+07
2.1045E+02	1.0031E+08	3.1733E+04	8.1089E+06	2.0312E+03	6.1151E+07
1.4030E+02	1.6627E+08	2.1156E+04	5.4211E+07	1.3541E+03	7.1531E+07
7.0149E+01	4.3590E+08	1.0578E+04	3.2144E+08	6.7707E+02	1.7136E+08

Table 5-3 Rainflow counting spectra - 4.2 MW

Appendix D. Markov matrices - 4.0 MW

This appendix contains the Markov Matrices for the shear force, the bending moment and the torsional moment in the bottom of the tower for ref. [1]. Foundation design must be verified for the most critical Markov matrices.

Markov Matrices								
Tower shear, bottom F_y [kN]			Tower bending, bottom M_x [kNm]			Tower torsion, bottom M_z [kNm]		
Level	Range	Cycles	Level	Range	Cycles	Level	Range	Cycles
9.2237E+02	3.5539E+01	1.5947E+03	1.2099E+05	5.2979E+03	7.0000E+00	5.9119E+03	0.0000E+00	3.3250E+00
9.2237E+02	0.0000E+00	1.6749E+04	1.2099E+05	0.0000E+00	3.5000E+00	5.5353E+03	0.0000E+00	6.1977E+02
8.8291E+02	3.5539E+01	1.0461E+04	1.1528E+05	1.0596E+04	3.5000E+00	4.7822E+03	3.3559E+02	1.6033E+04
8.8291E+02	0.0000E+00	5.4767E+04	1.1528E+05	5.2979E+03	7.0000E+00	4.4056E+03	2.3491E+03	1.5947E+03
8.4345E+02	2.1323E+02	6.8865E+03	1.1528E+05	0.0000E+00	3.1500E+01	4.4056E+03	1.3424E+03	6.2113E+01
8.4345E+02	1.7769E+02	1.0417E+01	1.0956E+05	1.0596E+04	3.5000E+00	4.4056E+03	3.3559E+02	4.0191E+03
8.4345E+02	1.0662E+02	2.4226E+04	1.0956E+05	5.2979E+03	1.7500E+01	4.4056E+03	0.0000E+00	2.1188E+04
8.4345E+02	7.1077E+01	6.8900E+03	1.0956E+05	0.0000E+00	4.9000E+01	4.0290E+03	1.3424E+03	3.5000E+00
8.4345E+02	3.5539E+01	7.0425E+04	1.0384E+05	1.0596E+04	1.0500E+01	4.0290E+03	3.3559E+02	4.1201E+04
8.4345E+02	0.0000E+00	2.3269E+05	1.0384E+05	5.2979E+03	3.5000E+00	4.0290E+03	0.0000E+00	3.9777E+04
8.0399E+02	3.9093E+02	1.5947E+03	1.0384E+05	0.0000E+00	3.5000E+01	3.6525E+03	2.6847E+03	1.6033E+04
8.0399E+02	2.8431E+02	8.4812E+03	9.8129E+04	1.0596E+04	3.5000E+00	3.6525E+03	2.3491E+03	3.5000E+00
8.0399E+02	2.4877E+02	1.3773E+04	9.8129E+04	0.0000E+00	1.0500E+01	3.6525E+03	1.6779E+03	3.5643E+03
8.0399E+02	2.1323E+02	6.8865E+03	9.2413E+04	5.2979E+03	1.4000E+01	3.6525E+03	6.7118E+02	3.1051E+04
8.0399E+02	1.7769E+02	7.0000E+00	9.2413E+04	0.0000E+00	7.0000E+00	3.6525E+03	3.3559E+02	3.9910E+04
8.0399E+02	1.4215E+02	3.9692E+04	8.6698E+04	5.2979E+03	7.0000E+00	3.6525E+03	0.0000E+00	2.3304E+05
8.0399E+02	1.0662E+02	3.3332E+04	8.6698E+04	0.0000E+00	3.1500E+01	3.2759E+03	4.0271E+03	6.1977E+02
8.0399E+02	7.1077E+01	8.0627E+04	8.0982E+04	1.5894E+04	3.5000E+00	3.2759E+03	3.3559E+03	1.7624E+04
8.0399E+02	3.5539E+01	2.7359E+05	8.0982E+04	0.0000E+00	7.0000E+00	3.2759E+03	3.0203E+03	7.0000E+00
8.0399E+02	0.0000E+00	7.5034E+05	7.5266E+04	5.2979E+03	1.0500E+01	3.2759E+03	2.3491E+03	1.6029E+04
7.6452E+02	3.5539E+02	6.8865E+03	7.5266E+04	0.0000E+00	3.8334E+01	3.2759E+03	2.0135E+03	6.2113E+01
7.6452E+02	3.1985E+02	1.3943E+04	6.9551E+04	0.0000E+00	2.0917E+01	3.2759E+03	1.6779E+03	1.6029E+04
7.6452E+02	2.8431E+02	6.8969E+03	6.3835E+04	5.2979E+03	3.5000E+00	3.2759E+03	1.3424E+03	3.3656E+04
7.6452E+02	2.4877E+02	5.3616E+04	6.3835E+04	0.0000E+00	1.7417E+01	3.2759E+03	1.0068E+03	4.8090E+04
7.6452E+02	2.1323E+02	5.4233E+04	5.8120E+04	5.2979E+03	2.4334E+01	3.2759E+03	6.7118E+02	3.1675E+04
7.6452E+02	1.7769E+02	5.0822E+04	5.8120E+04	0.0000E+00	5.2168E+01	3.2759E+03	3.3559E+02	2.7555E+05
7.6452E+02	1.4215E+02	5.7436E+04	5.2404E+04	1.5894E+04	2.5000E+00	3.2759E+03	0.0000E+00	7.7869E+05
7.6452E+02	1.0662E+02	1.7939E+05	5.2404E+04	1.0596E+04	3.5000E+00	2.8993E+03	5.3694E+03	2.0991E+02
7.6452E+02	7.1077E+01	4.8177E+05	5.2404E+04	5.2979E+03	1.7417E+01	2.8993E+03	3.6915E+03	3.5000E+00
7.6452E+02	3.5539E+01	1.4001E+06	5.2404E+04	0.0000E+00	1.6542E+02	2.8993E+03	3.3559E+03	1.6029E+04
7.6452E+02	0.0000E+00	2.9652E+06	4.6689E+04	1.6423E+05	1.7500E+00	2.8993E+03	3.0203E+03	3.2058E+04

Markov Matrices								
Tower shear, bottom F_y [kN]			Tower bending, bottom M_x [kNm]			Tower torsion, bottom M_z [kNm]		
Level	Range	Cycles	Level	Range	Cycles	Level	Range	Cycles
7.2506E+02	4.6200E+02	3.5643E+03	4.6689E+04	1.0596E+04	8.3333E+01	2.8993E+03	2.6847E+03	1.6344E+04
7.2506E+02	4.2646E+02	1.7500E+00	4.6689E+04	5.2979E+03	1.7500E+01	2.8993E+03	2.3491E+03	8.0772E+04
7.2506E+02	3.9093E+02	1.8467E+04	4.6689E+04	0.0000E+00	2.3408E+02	2.8993E+03	2.0135E+03	9.5149E+04
7.2506E+02	3.5539E+02	1.7386E+04	4.0973E+04	1.8013E+05	1.7500E+00	2.8993E+03	1.6779E+03	1.2879E+05
7.2506E+02	3.1985E+02	7.9627E+04	4.0973E+04	1.6953E+05	7.0000E+00	2.8993E+03	1.3424E+03	8.1499E+04
7.2506E+02	2.8431E+02	1.4691E+05	4.0973E+04	1.6423E+05	3.5000E+00	2.8993E+03	1.0068E+03	1.1475E+05
7.2506E+02	2.4877E+02	1.0894E+05	4.0973E+04	1.5894E+05	5.2500E+00	2.8993E+03	6.7118E+02	1.4172E+05
7.2506E+02	2.1323E+02	2.6137E+05	4.0973E+04	1.5364E+05	3.5000E+00	2.8993E+03	3.3559E+02	3.4575E+05
7.2506E+02	1.7769E+02	3.6512E+05	4.0973E+04	1.4834E+05	1.7500E+00	2.8993E+03	0.0000E+00	1.5169E+06
7.2506E+02	1.4215E+02	5.5382E+05	4.0973E+04	1.4304E+05	3.5000E+00	2.5227E+03	6.7118E+03	1.7500E+00
7.2506E+02	1.0662E+02	6.6078E+05	4.0973E+04	1.3774E+05	3.5000E+00	2.5227E+03	5.0338E+03	1.5947E+03
7.2506E+02	7.1077E+01	1.9933E+06	4.0973E+04	1.0596E+04	1.7417E+01	2.5227E+03	4.6982E+03	1.6449E+04
7.2506E+02	3.5539E+01	5.2211E+06	4.0973E+04	5.2979E+03	1.8283E+02	2.5227E+03	4.3627E+03	3.7334E+01
7.2506E+02	0.0000E+00	9.5931E+06	4.0973E+04	0.0000E+00	6.5183E+02	2.5227E+03	4.0271E+03	1.6029E+04
6.8560E+02	5.6862E+02	1.7500E+00	3.5257E+04	1.8013E+05	3.5000E+00	2.5227E+03	3.6915E+03	6.8188E+02
6.8560E+02	5.3308E+02	1.2167E+01	3.5257E+04	1.7483E+05	1.7500E+00	2.5227E+03	3.3559E+03	1.5947E+03
6.8560E+02	4.9754E+02	4.9365E+03	3.5257E+04	1.6953E+05	5.2500E+00	2.5227E+03	3.0203E+03	8.0580E+04
6.8560E+02	4.6200E+02	3.5782E+03	3.5257E+04	1.6423E+05	7.0000E+00	2.5227E+03	2.6847E+03	9.8831E+04
6.8560E+02	4.2646E+02	3.2801E+04	3.5257E+04	1.5894E+05	7.0000E+00	2.5227E+03	2.3491E+03	1.2001E+05
6.8560E+02	3.9093E+02	1.0915E+05	3.5257E+04	1.5364E+05	3.5000E+00	2.5227E+03	2.0135E+03	1.1245E+05
6.8560E+02	3.5539E+02	1.4265E+05	3.5257E+04	1.4304E+05	1.7500E+00	2.5227E+03	1.6779E+03	1.5880E+05
6.8560E+02	3.1985E+02	2.1021E+05	3.5257E+04	1.3774E+05	3.5000E+00	2.5227E+03	1.3424E+03	1.1089E+05
6.8560E+02	2.8431E+02	7.2474E+05	3.5257E+04	1.3245E+05	3.5000E+00	2.5227E+03	1.0068E+03	1.8504E+05
6.8560E+02	2.4877E+02	1.1525E+06	3.5257E+04	1.2185E+05	5.2500E+00	2.5227E+03	6.7118E+02	4.9782E+05
6.8560E+02	2.1323E+02	1.7229E+06	3.5257E+04	1.1126E+05	1.7500E+00	2.5227E+03	3.3559E+02	1.3282E+06
6.8560E+02	1.7769E+02	2.3269E+06	3.5257E+04	1.0596E+05	1.7500E+00	2.5227E+03	0.0000E+00	3.1223E+06
6.8560E+02	1.4215E+02	2.7022E+06	3.5257E+04	1.0596E+04	1.7017E+02	2.1462E+03	8.0541E+03	3.3250E+00
6.8560E+02	1.0662E+02	3.5535E+06	3.5257E+04	5.2979E+03	3.5775E+02	2.1462E+03	6.3762E+03	1.7500E+00
6.8560E+02	7.1077E+01	6.5593E+06	3.5257E+04	0.0000E+00	4.3524E+02	2.1462E+03	6.0406E+03	1.5947E+03
6.8560E+02	3.5539E+01	1.5580E+07	2.9542E+04	1.6953E+05	1.7500E+00	2.1462E+03	5.7050E+03	3.5643E+03
6.8560E+02	0.0000E+00	2.1933E+07	2.9542E+04	1.6423E+05	3.5000E+00	2.1462E+03	5.3694E+03	2.0213E+04
6.4614E+02	7.1077E+02	4.9313E+03	2.9542E+04	1.5364E+05	3.5000E+00	2.1462E+03	4.6982E+03	2.7959E+04
6.4614E+02	6.7524E+02	1.5178E+04	2.9542E+04	1.4304E+05	1.7500E+00	2.1462E+03	4.3627E+03	2.7511E+04
6.4614E+02	6.3970E+02	1.1944E+04	2.9542E+04	1.3245E+05	1.7500E+00	2.1462E+03	4.0271E+03	5.9974E+04
6.4614E+02	6.0416E+02	9.8625E+03	2.9542E+04	1.2185E+05	1.7500E+00	2.1462E+03	3.6915E+03	1.0828E+05

Markov Matrices

Tower shear, bottom F_y [kN]			Tower bending, bottom M_x [kNm]			Tower torsion, bottom M_z [kNm]		
Level	Range	Cycles	Level	Range	Cycles	Level	Range	Cycles
6.4614E+02	5.6862E+02	1.9401E+04	2.9542E+04	1.1655E+05	1.7500E+00	2.1462E+03	3.3559E+03	1.6753E+05
6.4614E+02	5.3308E+02	5.2423E+04	2.9542E+04	1.0596E+05	1.7500E+00	2.1462E+03	3.0203E+03	2.8588E+05
6.4614E+02	4.9754E+02	9.6261E+04	2.9542E+04	2.1192E+04	8.3333E+01	2.1462E+03	2.6847E+03	3.0736E+05
6.4614E+02	4.6200E+02	1.3884E+05	2.9542E+04	1.0596E+04	3.5000E+00	2.1462E+03	2.3491E+03	5.0307E+05
6.4614E+02	4.2646E+02	2.8043E+05	2.9542E+04	5.2979E+03	3.5517E+02	2.1462E+03	2.0135E+03	4.0342E+05
6.4614E+02	3.9093E+02	5.9098E+05	2.9542E+04	0.0000E+00	1.1189E+03	2.1462E+03	1.6779E+03	5.2390E+05
6.4614E+02	3.5539E+02	1.1017E+06	2.3826E+04	1.7483E+05	1.7500E+00	2.1462E+03	1.3424E+03	4.0882E+05
6.4614E+02	3.1985E+02	1.8463E+06	2.3826E+04	1.5894E+05	1.7500E+00	2.1462E+03	1.0068E+03	5.9537E+05
6.4614E+02	2.8431E+02	3.3291E+06	2.3826E+04	1.5364E+05	1.7500E+00	2.1462E+03	6.7118E+02	8.5529E+05
6.4614E+02	2.4877E+02	5.2046E+06	2.3826E+04	1.3774E+05	3.5000E+00	2.1462E+03	3.3559E+02	2.2261E+06
6.4614E+02	2.1323E+02	7.1879E+06	2.3826E+04	1.2185E+05	1.7500E+00	2.1462E+03	0.0000E+00	5.2328E+06
6.4614E+02	1.7769E+02	8.3342E+06	2.3826E+04	1.1655E+05	1.7500E+00	1.7696E+03	8.7253E+03	7.9910E+02
6.4614E+02	1.4215E+02	9.1826E+06	2.3826E+04	9.5362E+04	1.7500E+00	1.7696E+03	8.3897E+03	3.7334E+01
6.4614E+02	1.0662E+02	1.0410E+07	2.3826E+04	9.0064E+04	1.7500E+00	1.7696E+03	7.0474E+03	3.5643E+03
6.4614E+02	7.1077E+01	1.4614E+07	2.3826E+04	7.4170E+04	2.8917E+01	1.7696E+03	6.7118E+03	3.6532E+03
6.4614E+02	3.5539E+01	2.9205E+07	2.3826E+04	6.3575E+04	3.9250E+01	1.7696E+03	6.0406E+03	1.7500E+00
6.4614E+02	0.0000E+00	3.5357E+07	2.3826E+04	2.1192E+04	2.5000E+00	1.7696E+03	5.3694E+03	1.9593E+04
6.0667E+02	8.8847E+02	7.9735E+02	2.3826E+04	1.5894E+04	5.0000E+00	1.7696E+03	5.0338E+03	2.3125E+04
6.0667E+02	8.5293E+02	6.8865E+03	2.3826E+04	1.0596E+04	2.0732E+02	1.7696E+03	4.6982E+03	3.8616E+04
6.0667E+02	7.8185E+02	3.4433E+03	2.3826E+04	5.2979E+03	4.0107E+02	1.7696E+03	4.3627E+03	1.2026E+05
6.0667E+02	7.4631E+02	1.7500E+00	2.3826E+04	0.0000E+00	1.4093E+03	1.7696E+03	4.0271E+03	1.8710E+05
6.0667E+02	7.1077E+02	1.5178E+04	1.8111E+04	1.3245E+05	1.7500E+00	1.7696E+03	3.6915E+03	1.8495E+05
6.0667E+02	6.7524E+02	8.5717E+03	1.8111E+04	9.0064E+04	3.5000E+00	1.7696E+03	3.3559E+03	3.1065E+05
6.0667E+02	6.3970E+02	2.5892E+04	1.8111E+04	8.4766E+04	7.0000E+00	1.7696E+03	3.0203E+03	3.2348E+05
6.0667E+02	6.0416E+02	6.8539E+04	1.8111E+04	7.9468E+04	5.2500E+00	1.7696E+03	2.6847E+03	4.7781E+05
6.0667E+02	5.6862E+02	9.0792E+04	1.8111E+04	7.4170E+04	3.5000E+00	1.7696E+03	2.3491E+03	7.5146E+05
6.0667E+02	5.3308E+02	1.7643E+05	1.8111E+04	6.8872E+04	8.6167E+01	1.7696E+03	2.0135E+03	8.5955E+05
6.0667E+02	4.9754E+02	2.2024E+05	1.8111E+04	6.3575E+04	1.6942E+02	1.7696E+03	1.6779E+03	7.9906E+05
6.0667E+02	4.6200E+02	5.3112E+05	1.8111E+04	5.8277E+04	2.6650E+02	1.7696E+03	1.3424E+03	1.0022E+06
6.0667E+02	4.2646E+02	6.3708E+05	1.8111E+04	5.2979E+04	4.5167E+01	1.7696E+03	1.0068E+03	1.0885E+06
6.0667E+02	3.9093E+02	1.1141E+06	1.8111E+04	4.7681E+04	3.2417E+01	1.7696E+03	6.7118E+02	1.3548E+06
6.0667E+02	3.5539E+02	1.7278E+06	1.8111E+04	3.7085E+04	1.7367E+02	1.7696E+03	3.3559E+02	3.3792E+06
6.0667E+02	3.1985E+02	3.3475E+06	1.8111E+04	2.1192E+04	3.5000E+00	1.7696E+03	0.0000E+00	8.2492E+06
6.0667E+02	2.8431E+02	4.5449E+06	1.8111E+04	1.5894E+04	1.6825E+01	1.3930E+03	1.0068E+04	7.9735E+02
6.0667E+02	2.4877E+02	6.8774E+06	1.8111E+04	1.0596E+04	2.7250E+02	1.3930E+03	7.7185E+03	2.3920E+03

Markov Matrices								
Tower shear, bottom F_y [kN]			Tower bending, bottom M_x [kNm]			Tower torsion, bottom M_z [kNm]		
Level	Range	Cycles	Level	Range	Cycles	Level	Range	Cycles
6.0667E+02	2.1323E+02	8.8358E+06	1.8111E+04	5.2979E+03	5.2671E+04	1.3930E+03	7.3830E+03	8.0163E+03
6.0667E+02	1.7769E+02	1.0209E+07	1.8111E+04	0.0000E+00	2.0013E+05	1.3930E+03	7.0474E+03	1.8064E+03
6.0667E+02	1.4215E+02	1.1061E+07	1.2395E+04	1.0596E+05	3.5000E+00	1.3930E+03	6.7118E+03	1.1790E+04
6.0667E+02	1.0662E+02	1.1693E+07	1.2395E+04	1.0066E+05	1.7500E+00	1.3930E+03	6.3762E+03	6.2113E+01
6.0667E+02	7.1077E+01	1.6654E+07	1.2395E+04	9.5362E+04	5.2500E+00	1.3930E+03	6.0406E+03	1.4956E+04
6.0667E+02	3.5539E+01	3.2047E+07	1.2395E+04	9.0064E+04	5.2500E+00	1.3930E+03	5.7050E+03	2.4728E+04
6.0667E+02	0.0000E+00	4.1418E+07	1.2395E+04	8.4766E+04	2.2750E+01	1.3930E+03	5.3694E+03	1.0657E+04
5.6721E+02	9.2401E+02	6.8865E+03	1.2395E+04	7.9468E+04	1.2250E+01	1.3930E+03	5.0338E+03	1.4333E+05
5.6721E+02	8.8847E+02	3.4433E+03	1.2395E+04	7.4170E+04	8.7500E+00	1.3930E+03	4.6982E+03	1.5121E+05
5.6721E+02	8.1739E+02	1.7822E+03	1.2395E+04	6.8872E+04	4.2917E+01	1.3930E+03	4.3627E+03	2.2785E+05
5.6721E+02	7.8185E+02	1.7216E+04	1.2395E+04	6.3575E+04	1.5433E+02	1.3930E+03	4.0271E+03	2.8017E+05
5.6721E+02	7.4631E+02	1.2324E+04	1.2395E+04	5.8277E+04	9.8833E+01	1.3930E+03	3.6915E+03	5.0807E+05
5.6721E+02	7.1077E+02	2.4126E+04	1.2395E+04	5.2979E+04	9.0249E+01	1.3930E+03	3.3559E+03	5.6621E+05
5.6721E+02	6.7524E+02	6.2227E+04	1.2395E+04	4.7681E+04	2.5300E+02	1.3930E+03	3.0203E+03	8.3777E+05
5.6721E+02	6.3970E+02	5.0281E+04	1.2395E+04	4.2383E+04	3.3258E+02	1.3930E+03	2.6847E+03	9.7346E+05
5.6721E+02	6.0416E+02	6.1562E+04	1.2395E+04	3.7085E+04	6.2583E+02	1.3930E+03	2.3491E+03	1.1802E+06
5.6721E+02	5.6862E+02	1.0837E+05	1.2395E+04	3.1787E+04	5.7833E+01	1.3930E+03	2.0135E+03	1.3439E+06
5.6721E+02	5.3308E+02	1.7265E+05	1.2395E+04	2.6489E+04	8.9983E+01	1.3930E+03	1.6779E+03	1.7745E+06
5.6721E+02	4.9754E+02	2.4165E+05	1.2395E+04	2.1192E+04	5.4873E+03	1.3930E+03	1.3424E+03	1.7301E+06
5.6721E+02	4.6200E+02	3.1703E+05	1.2395E+04	1.5894E+04	1.8199E+02	1.3930E+03	1.0068E+03	1.6653E+06
5.6721E+02	4.2646E+02	4.0723E+05	1.2395E+04	1.0596E+04	1.3535E+04	1.3930E+03	6.7118E+02	2.3420E+06
5.6721E+02	3.9093E+02	7.4075E+05	1.2395E+04	5.2979E+03	1.4757E+05	1.3930E+03	3.3559E+02	5.9183E+06
5.6721E+02	3.5539E+02	1.2217E+06	1.2395E+04	0.0000E+00	8.1656E+05	1.3930E+03	0.0000E+00	1.2686E+07
5.6721E+02	3.1985E+02	1.7446E+06	6.6796E+03	1.2715E+05	1.2500E+00	1.0164E+03	9.0609E+03	3.1056E+01
5.6721E+02	2.8431E+02	2.9239E+06	6.6796E+03	1.1655E+05	1.7500E+00	1.0164E+03	8.3897E+03	3.7375E+02
5.6721E+02	2.4877E+02	4.1177E+06	6.6796E+03	1.0596E+05	1.7500E+00	1.0164E+03	7.7185E+03	9.3123E+03
5.6721E+02	2.1323E+02	5.7714E+06	6.6796E+03	1.0066E+05	4.7500E+00	1.0164E+03	7.3830E+03	9.6092E+03
5.6721E+02	1.7769E+02	6.4706E+06	6.6796E+03	9.5362E+04	7.0000E+00	1.0164E+03	7.0474E+03	1.0384E+04
5.6721E+02	1.4215E+02	7.5290E+06	6.6796E+03	9.0064E+04	4.5167E+01	1.0164E+03	6.7118E+03	7.5627E+03
5.6721E+02	1.0662E+02	8.1136E+06	6.6796E+03	8.4766E+04	7.0000E+00	1.0164E+03	6.3762E+03	1.6299E+04
5.6721E+02	7.1077E+01	1.2688E+07	6.6796E+03	7.9468E+04	4.5167E+01	1.0164E+03	6.0406E+03	6.6240E+04
5.6721E+02	3.5539E+01	2.7313E+07	6.6796E+03	7.4170E+04	7.1167E+01	1.0164E+03	5.7050E+03	5.5118E+04
5.6721E+02	0.0000E+00	3.8252E+07	6.6796E+03	6.8872E+04	7.0000E+00	1.0164E+03	5.3694E+03	1.4213E+05
5.2775E+02	1.1372E+03	1.0496E+02	6.6796E+03	6.3575E+04	1.7500E+01	1.0164E+03	5.0338E+03	1.4393E+05
5.2775E+02	8.8847E+02	3.4433E+03	6.6796E+03	5.8277E+04	1.2250E+01	1.0164E+03	4.6982E+03	2.3245E+05

Markov Matrices								
Tower shear, bottom F_y [kN]			Tower bending, bottom M_x [kNm]			Tower torsion, bottom M_z [kNm]		
Level	Range	Cycles	Level	Range	Cycles	Level	Range	Cycles
5.2775E+02	8.5293E+02	7.0075E+03	6.6796E+03	5.2979E+04	2.4500E+01	1.0164E+03	4.3627E+03	3.8720E+05
5.2775E+02	8.1739E+02	3.4433E+03	6.6796E+03	4.7681E+04	2.2750E+01	1.0164E+03	4.0271E+03	3.9201E+05
5.2775E+02	7.8185E+02	2.5164E+04	6.6796E+03	4.2383E+04	3.5083E+02	1.0164E+03	3.6915E+03	4.9789E+05
5.2775E+02	7.4631E+02	1.9796E+04	6.6796E+03	3.7085E+04	1.2438E+04	1.0164E+03	3.3559E+03	8.3543E+05
5.2775E+02	7.1077E+02	2.6591E+04	6.6796E+03	3.1787E+04	1.1018E+03	1.0164E+03	3.0203E+03	8.8894E+05
5.2775E+02	6.7524E+02	6.4646E+04	6.6796E+03	2.6489E+04	1.9427E+04	1.0164E+03	2.6847E+03	1.3924E+06
5.2775E+02	6.3970E+02	7.5153E+04	6.6796E+03	2.1192E+04	5.0197E+04	1.0164E+03	2.3491E+03	1.8316E+06
5.2775E+02	6.0416E+02	1.1465E+05	6.6796E+03	1.5894E+04	8.0083E+04	1.0164E+03	2.0135E+03	2.0156E+06
5.2775E+02	5.6862E+02	1.3556E+05	6.6796E+03	1.0596E+04	2.1335E+05	1.0164E+03	1.6779E+03	2.6772E+06
5.2775E+02	5.3308E+02	1.4510E+05	6.6796E+03	5.2979E+03	3.9160E+05	1.0164E+03	1.3424E+03	2.6206E+06
5.2775E+02	4.9754E+02	2.2631E+05	6.6796E+03	0.0000E+00	6.9702E+06	1.0164E+03	1.0068E+03	2.8289E+06
5.2775E+02	4.6200E+02	3.3220E+05	9.6407E+02	2.6489E+05	1.7500E+00	1.0164E+03	6.7118E+02	3.1641E+06
5.2775E+02	4.2646E+02	4.4595E+05	9.6407E+02	2.5430E+05	7.0000E+00	1.0164E+03	3.3559E+02	8.3782E+06
5.2775E+02	3.9093E+02	7.2782E+05	9.6407E+02	2.4900E+05	1.7500E+00	1.0164E+03	0.0000E+00	1.8125E+07
5.2775E+02	3.5539E+02	1.3652E+06	9.6407E+02	2.4370E+05	7.0000E+00	6.3988E+02	1.2417E+04	1.6625E+00
5.2775E+02	3.1985E+02	1.6587E+06	9.6407E+02	2.3840E+05	5.2500E+00	6.3988E+02	1.0403E+04	1.7822E+03
5.2775E+02	2.8431E+02	2.5382E+06	9.6407E+02	2.2781E+05	1.7500E+00	6.3988E+02	1.0068E+04	1.2500E+00
5.2775E+02	2.4877E+02	3.8959E+06	9.6407E+02	2.1721E+05	1.7500E+00	6.3988E+02	9.7321E+03	1.7500E+00
5.2775E+02	2.1323E+02	4.0414E+06	9.6407E+02	2.0662E+05	1.7500E+00	6.3988E+02	9.3965E+03	8.0145E+03
5.2775E+02	1.7769E+02	5.1376E+06	9.6407E+02	1.9072E+05	1.7500E+00	6.3988E+02	8.0541E+03	1.8050E+03
5.2775E+02	1.4215E+02	5.6070E+06	9.6407E+02	1.6423E+05	1.7500E+00	6.3988E+02	7.7185E+03	2.0991E+02
5.2775E+02	1.0662E+02	5.8941E+06	9.6407E+02	1.1126E+05	2.8917E+01	6.3988E+02	7.3830E+03	1.6310E+03
5.2775E+02	7.1077E+01	9.1532E+06	9.6407E+02	1.0596E+05	4.3417E+01	6.3988E+02	7.0474E+03	6.6934E+03
5.2775E+02	3.5539E+01	1.8740E+07	9.6407E+02	1.0066E+05	1.1442E+02	6.3988E+02	6.7118E+03	2.5825E+03
5.2775E+02	0.0000E+00	3.1627E+07	9.6407E+02	9.5362E+04	9.3749E+01	6.3988E+02	6.3762E+03	6.5934E+04
4.8829E+02	1.1728E+03	1.0496E+02	9.6407E+02	9.0064E+04	3.4167E+01	6.3988E+02	6.0406E+03	8.0415E+04
4.8829E+02	1.1017E+03	9.0230E+02	9.6407E+02	8.4766E+04	3.5000E+00	6.3988E+02	5.7050E+03	1.2517E+05
4.8829E+02	9.9508E+02	1.7822E+03	9.6407E+02	7.9468E+04	3.0667E+01	6.3988E+02	5.3694E+03	1.3541E+05
4.8829E+02	9.5955E+02	8.2968E+02	9.6407E+02	7.4170E+04	8.4583E+01	6.3988E+02	5.0338E+03	1.7945E+05
4.8829E+02	9.2401E+02	1.7834E+03	9.6407E+02	6.8872E+04	1.4474E+02	6.3988E+02	4.6982E+03	3.8000E+05
4.8829E+02	8.8847E+02	1.5947E+03	9.6407E+02	6.3575E+04	6.6333E+01	6.3988E+02	4.3627E+03	4.7593E+05
4.8829E+02	8.5293E+02	4.9138E+03	9.6407E+02	5.8277E+04	1.5913E+01	6.3988E+02	4.0271E+03	6.3668E+05
4.8829E+02	8.1739E+02	1.4791E+04	9.6407E+02	5.2979E+04	8.9083E+01	6.3988E+02	3.6915E+03	8.1476E+05
4.8829E+02	7.8185E+02	1.7450E+04	9.6407E+02	4.7681E+04	4.5000E+01	6.3988E+02	3.3559E+03	1.0398E+06
4.8829E+02	7.4631E+02	1.9372E+04	9.6407E+02	4.2383E+04	1.3416E+04	6.3988E+02	3.0203E+03	1.0939E+06

Markov Matrices								
Tower shear, bottom F_y [kN]			Tower bending, bottom M_x [kNm]			Tower torsion, bottom M_z [kNm]		
Level	Range	Cycles	Level	Range	Cycles	Level	Range	Cycles
4.8829E+02	7.1077E+02	1.8313E+04	9.6407E+02	3.7085E+04	3.0297E+03	6.3988E+02	2.6847E+03	1.7674E+06
4.8829E+02	6.7524E+02	4.4993E+04	9.6407E+02	3.1787E+04	8.2533E+04	6.3988E+02	2.3491E+03	2.3247E+06
4.8829E+02	6.3970E+02	8.3859E+04	9.6407E+02	2.6489E+04	2.8821E+05	6.3988E+02	2.0135E+03	2.6266E+06
4.8829E+02	6.0416E+02	1.0154E+05	9.6407E+02	2.1192E+04	5.6390E+05	6.3988E+02	1.6779E+03	3.1823E+06
4.8829E+02	5.6862E+02	1.6332E+05	9.6407E+02	1.5894E+04	1.0791E+06	6.3988E+02	1.3424E+03	3.0982E+06
4.8829E+02	5.3308E+02	1.4415E+05	9.6407E+02	1.0596E+04	1.9858E+06	6.3988E+02	1.0068E+03	3.6839E+06
4.8829E+02	4.9754E+02	2.9183E+05	9.6407E+02	5.2979E+03	3.9339E+06	6.3988E+02	6.7118E+02	4.5675E+06
4.8829E+02	4.6200E+02	3.7619E+05	9.6407E+02	0.0000E+00	1.4360E+07	6.3988E+02	3.3559E+02	1.1081E+07
4.8829E+02	4.2646E+02	6.6507E+05	-4.7515E+03	2.6489E+05	1.7500E+00	6.3988E+02	0.0000E+00	2.5006E+07
4.8829E+02	3.9093E+02	9.2338E+05	-4.7515E+03	2.5430E+05	1.7500E+00	2.6330E+02	1.1410E+04	1.7822E+03
4.8829E+02	3.5539E+02	1.2989E+06	-4.7515E+03	2.4900E+05	1.2250E+01	2.6330E+02	1.0739E+04	1.5947E+03
4.8829E+02	3.1985E+02	2.1131E+06	-4.7515E+03	2.3840E+05	3.5000E+00	2.6330E+02	1.0068E+04	8.8123E+03
4.8829E+02	2.8431E+02	2.7173E+06	-4.7515E+03	2.3311E+05	1.7500E+00	2.6330E+02	9.7321E+03	6.6026E+03
4.8829E+02	2.4877E+02	3.9623E+06	-4.7515E+03	2.2781E+05	1.7500E+00	2.6330E+02	9.3965E+03	6.2081E+02
4.8829E+02	2.1323E+02	4.4117E+06	-4.7515E+03	2.1721E+05	1.7500E+00	2.6330E+02	9.0609E+03	1.0906E+04
4.8829E+02	1.7769E+02	4.4528E+06	-4.7515E+03	2.0662E+05	1.7500E+00	2.6330E+02	8.7253E+03	1.2000E+04
4.8829E+02	1.4215E+02	4.5441E+06	-4.7515E+03	2.0132E+05	1.7500E+00	2.6330E+02	8.3897E+03	1.8442E+04
4.8829E+02	1.0662E+02	6.3267E+06	-4.7515E+03	1.9602E+05	1.7500E+00	2.6330E+02	8.0541E+03	5.7661E+03
4.8829E+02	7.1077E+01	7.8028E+06	-4.7515E+03	1.9072E+05	1.7500E+00	2.6330E+02	7.7185E+03	2.4276E+04
4.8829E+02	3.5539E+01	1.7419E+07	-4.7515E+03	1.8543E+05	1.7500E+00	2.6330E+02	7.3830E+03	4.4217E+04
4.8829E+02	0.0000E+00	2.7911E+07	-4.7515E+03	1.1126E+05	1.7500E+00	2.6330E+02	7.0474E+03	2.0720E+04
4.4883E+02	1.1728E+03	1.0496E+02	-4.7515E+03	1.0596E+05	6.8167E+01	2.6330E+02	6.7118E+03	6.8835E+04
4.4883E+02	1.1372E+03	1.9812E+02	-4.7515E+03	1.0066E+05	3.0000E+00	2.6330E+02	6.3762E+03	6.8648E+04
4.4883E+02	1.1017E+03	2.0231E+03	-4.7515E+03	9.5362E+04	1.7500E+00	2.6330E+02	6.0406E+03	1.1480E+05
4.4883E+02	1.0662E+03	2.6624E+02	-4.7515E+03	9.0064E+04	4.7500E+00	2.6330E+02	5.7050E+03	1.2432E+05
4.4883E+02	1.0306E+03	8.3335E+01	-4.7515E+03	8.4766E+04	3.0000E+00	2.6330E+02	5.3694E+03	3.1733E+05
4.4883E+02	9.9508E+02	1.0496E+02	-4.7515E+03	7.9468E+04	6.4125E+00	2.6330E+02	5.0338E+03	3.7291E+05
4.4883E+02	9.5955E+02	3.1227E+03	-4.7515E+03	7.4170E+04	1.3996E+01	2.6330E+02	4.6982E+03	3.1559E+05
4.4883E+02	9.2401E+02	3.8057E+03	-4.7515E+03	6.8872E+04	1.0583E+01	2.6330E+02	4.3627E+03	4.1359E+05
4.4883E+02	8.8847E+02	2.8707E+03	-4.7515E+03	6.3575E+04	7.6904E+01	2.6330E+02	4.0271E+03	6.8185E+05
4.4883E+02	8.5293E+02	3.9478E+03	-4.7515E+03	5.8277E+04	4.1242E+01	2.6330E+02	3.6915E+03	7.8256E+05
4.4883E+02	8.1739E+02	8.8897E+03	-4.7515E+03	5.2979E+04	4.7618E+03	2.6330E+02	3.3559E+03	1.1482E+06
4.4883E+02	7.8185E+02	1.4748E+04	-4.7515E+03	4.7681E+04	1.2648E+02	2.6330E+02	3.0203E+03	1.5607E+06
4.4883E+02	7.4631E+02	2.3676E+04	-4.7515E+03	4.2383E+04	6.9343E+03	2.6330E+02	2.6847E+03	1.9541E+06
4.4883E+02	7.1077E+02	3.9077E+04	-4.7515E+03	3.7085E+04	5.4413E+02	2.6330E+02	2.3491E+03	2.5739E+06

Markov Matrices								
Tower shear, bottom F_y [kN]			Tower bending, bottom M_x [kNm]			Tower torsion, bottom M_z [kNm]		
Level	Range	Cycles	Level	Range	Cycles	Level	Range	Cycles
4.4883E+02	6.7524E+02	1.1030E+05	-4.7515E+03	3.1787E+04	7.5059E+02	2.6330E+02	2.0135E+03	3.2516E+06
4.4883E+02	6.3970E+02	8.2722E+04	-4.7515E+03	2.6489E+04	1.8798E+03	2.6330E+02	1.6779E+03	4.7173E+06
4.4883E+02	6.0416E+02	1.2220E+05	-4.7515E+03	2.1192E+04	2.2894E+04	2.6330E+02	1.3424E+03	4.5736E+06
4.4883E+02	5.6862E+02	1.8785E+05	-4.7515E+03	1.5894E+04	4.3568E+04	2.6330E+02	1.0068E+03	5.0114E+06
4.4883E+02	5.3308E+02	1.6235E+05	-4.7515E+03	1.0596E+04	2.0522E+05	2.6330E+02	6.7118E+02	6.9262E+06
4.4883E+02	4.9754E+02	3.0817E+05	-4.7515E+03	5.2979E+03	1.4495E+06	2.6330E+02	3.3559E+02	1.5000E+07
4.4883E+02	4.6200E+02	5.3198E+05	-4.7515E+03	0.0000E+00	5.9732E+06	2.6330E+02	0.0000E+00	3.3924E+07
4.4883E+02	4.2646E+02	6.2963E+05	-1.0467E+04	2.6489E+05	1.7500E+00	-1.1327E+02	1.3424E+04	7.9901E+02
4.4883E+02	3.9093E+02	9.5147E+05	-1.0467E+04	2.5960E+05	1.7500E+00	-1.1327E+02	1.3088E+04	1.0496E+02
4.4883E+02	3.5539E+02	1.3975E+06	-1.0467E+04	2.5430E+05	1.7500E+00	-1.1327E+02	1.2752E+04	1.7822E+03
4.4883E+02	3.1985E+02	1.9428E+06	-1.0467E+04	2.4900E+05	5.2500E+00	-1.1327E+02	1.1746E+04	1.2500E+00
4.4883E+02	2.8431E+02	2.6834E+06	-1.0467E+04	2.4370E+05	3.5000E+00	-1.1327E+02	1.1074E+04	6.1977E+02
4.4883E+02	2.4877E+02	3.3433E+06	-1.0467E+04	2.3840E+05	1.7500E+00	-1.1327E+02	1.0739E+04	8.0145E+03
4.4883E+02	2.1323E+02	4.5817E+06	-1.0467E+04	2.3311E+05	3.5000E+00	-1.1327E+02	1.0403E+04	1.5947E+03
4.4883E+02	1.7769E+02	5.0382E+06	-1.0467E+04	2.2781E+05	1.7500E+00	-1.1327E+02	1.0068E+04	7.9735E+02
4.4883E+02	1.4215E+02	4.9240E+06	-1.0467E+04	2.2251E+05	3.5000E+00	-1.1327E+02	9.7321E+03	1.6030E+04
4.4883E+02	1.0662E+02	5.8480E+06	-1.0467E+04	1.9602E+05	3.5000E+00	-1.1327E+02	9.3965E+03	3.3149E+04
4.4883E+02	7.1077E+01	8.1319E+06	-1.0467E+04	1.9072E+05	1.7500E+00	-1.1327E+02	9.0609E+03	3.9767E+04
4.4883E+02	3.5539E+01	1.5162E+07	-1.0467E+04	9.0064E+04	1.2500E+00	-1.1327E+02	8.7253E+03	2.6590E+04
4.4883E+02	0.0000E+00	2.7296E+07	-1.0467E+04	8.4766E+04	1.2500E+00	-1.1327E+02	8.3897E+03	1.7038E+04
4.0936E+02	1.1728E+03	5.6333E+01	-1.0467E+04	7.9468E+04	4.2917E+01	-1.1327E+02	8.0541E+03	1.9886E+04
4.0936E+02	1.1372E+03	1.5000E+02	-1.0467E+04	7.4170E+04	1.2500E+00	-1.1327E+02	7.7185E+03	1.8126E+04
4.0936E+02	1.0662E+03	1.8132E+03	-1.0467E+04	6.8872E+04	3.0667E+01	-1.1327E+02	7.3830E+03	5.8440E+04
4.0936E+02	1.0306E+03	3.0412E+02	-1.0467E+04	6.3575E+04	2.1270E+03	-1.1327E+02	7.0474E+03	1.1997E+05
4.0936E+02	9.9508E+02	1.1638E+03	-1.0467E+04	5.8277E+04	2.9805E+03	-1.1327E+02	6.7118E+03	1.6277E+05
4.0936E+02	9.5955E+02	1.5809E+03	-1.0467E+04	5.2979E+04	4.0123E+03	-1.1327E+02	6.3762E+03	1.3188E+05
4.0936E+02	9.2401E+02	3.7341E+03	-1.0467E+04	4.7681E+04	8.0613E+03	-1.1327E+02	6.0406E+03	1.5531E+05
4.0936E+02	8.8847E+02	8.9569E+03	-1.0467E+04	4.2383E+04	7.4631E+02	-1.1327E+02	5.7050E+03	2.2517E+05
4.0936E+02	8.5293E+02	9.3024E+03	-1.0467E+04	3.7085E+04	1.7410E+03	-1.1327E+02	5.3694E+03	2.4547E+05
4.0936E+02	8.1739E+02	1.0234E+04	-1.0467E+04	3.1787E+04	4.2318E+03	-1.1327E+02	5.0338E+03	3.0569E+05
4.0936E+02	7.8185E+02	3.0516E+04	-1.0467E+04	2.6489E+04	1.0785E+04	-1.1327E+02	4.6982E+03	4.3202E+05
4.0936E+02	7.4631E+02	2.3823E+04	-1.0467E+04	2.1192E+04	2.5938E+04	-1.1327E+02	4.3627E+03	5.1364E+05
4.0936E+02	7.1077E+02	5.1476E+04	-1.0467E+04	1.5894E+04	2.7213E+04	-1.1327E+02	4.0271E+03	6.7092E+05
4.0936E+02	6.7524E+02	5.3703E+04	-1.0467E+04	1.0596E+04	3.6545E+05	-1.1327E+02	3.6915E+03	1.0666E+06
4.0936E+02	6.3970E+02	8.9839E+04	-1.0467E+04	5.2979E+03	2.8422E+06	-1.1327E+02	3.3559E+03	1.2152E+06

Markov Matrices								
Tower shear, bottom F_y [kN]			Tower bending, bottom M_x [kNm]			Tower torsion, bottom M_z [kNm]		
Level	Range	Cycles	Level	Range	Cycles	Level	Range	Cycles
4.0936E+02	6.0416E+02	1.4383E+05	-1.0467E+04	0.0000E+00	7.8913E+06	-1.1327E+02	3.0203E+03	1.4694E+06
4.0936E+02	5.6862E+02	2.3448E+05	-1.6183E+04	2.5430E+05	1.7500E+00	-1.1327E+02	2.6847E+03	2.2805E+06
4.0936E+02	5.3308E+02	2.7287E+05	-1.6183E+04	2.4370E+05	3.5000E+00	-1.1327E+02	2.3491E+03	2.9906E+06
4.0936E+02	4.9754E+02	2.7209E+05	-1.6183E+04	2.3311E+05	3.5000E+00	-1.1327E+02	2.0135E+03	3.8735E+06
4.0936E+02	4.6200E+02	4.4552E+05	-1.6183E+04	2.1192E+05	1.7500E+00	-1.1327E+02	1.6779E+03	4.4764E+06
4.0936E+02	4.2646E+02	5.1091E+05	-1.6183E+04	2.0132E+05	3.5000E+00	-1.1327E+02	1.3424E+03	5.6186E+06
4.0936E+02	3.9093E+02	6.7368E+05	-1.6183E+04	1.6423E+05	1.2500E+00	-1.1327E+02	1.0068E+03	5.4452E+06
4.0936E+02	3.5539E+02	9.1974E+05	-1.6183E+04	9.5362E+04	9.3335E+00	-1.1327E+02	6.7118E+02	7.4156E+06
4.0936E+02	3.1985E+02	1.3747E+06	-1.6183E+04	7.9468E+04	6.7050E+03	-1.1327E+02	3.3559E+02	1.7123E+07
4.0936E+02	2.8431E+02	1.9475E+06	-1.6183E+04	7.4170E+04	2.1992E+01	-1.1327E+02	0.0000E+00	4.8837E+07
4.0936E+02	2.4877E+02	2.6871E+06	-1.6183E+04	6.8872E+04	1.1974E+02	-4.8984E+02	1.2752E+04	1.1072E+03
4.0936E+02	2.1323E+02	3.6123E+06	-1.6183E+04	6.3575E+04	6.4025E+03	-4.8984E+02	1.2417E+04	2.3206E+03
4.0936E+02	1.7769E+02	4.4108E+06	-1.6183E+04	5.8277E+04	2.3669E+03	-4.8984E+02	1.2081E+04	3.5830E+03
4.0936E+02	1.4215E+02	5.6772E+06	-1.6183E+04	5.2979E+04	9.2269E+02	-4.8984E+02	1.1746E+04	1.7822E+03
4.0936E+02	1.0662E+02	5.9413E+06	-1.6183E+04	4.7681E+04	2.3402E+03	-4.8984E+02	1.1410E+04	3.0989E+02
4.0936E+02	7.1077E+01	6.9730E+06	-1.6183E+04	4.2383E+04	2.8137E+03	-4.8984E+02	1.0739E+04	3.0989E+02
4.0936E+02	3.5539E+01	1.4132E+07	-1.6183E+04	3.7085E+04	4.3080E+03	-4.8984E+02	1.0403E+04	1.0611E+04
4.0936E+02	0.0000E+00	2.7023E+07	-1.6183E+04	3.1787E+04	6.6533E+03	-4.8984E+02	1.0068E+04	3.6941E+04
3.6990E+02	1.1728E+03	1.0496E+02	-1.6183E+04	2.6489E+04	1.5193E+04	-4.8984E+02	9.7321E+03	8.0342E+04
3.6990E+02	1.0662E+03	1.3601E+02	-1.6183E+04	2.1192E+04	1.7338E+04	-4.8984E+02	9.3965E+03	3.3284E+04
3.6990E+02	1.0306E+03	6.3155E+01	-1.6183E+04	1.5894E+04	6.7947E+04	-4.8984E+02	9.0609E+03	4.3512E+04
3.6990E+02	9.9508E+02	1.3077E+03	-1.6183E+04	1.0596E+04	6.3973E+05	-4.8984E+02	8.7253E+03	5.4522E+04
3.6990E+02	9.5955E+02	2.4474E+03	-1.6183E+04	5.2979E+03	5.2157E+06	-4.8984E+02	8.3897E+03	6.4967E+04
3.6990E+02	9.2401E+02	4.0899E+03	-1.6183E+04	0.0000E+00	1.4606E+07	-4.8984E+02	8.0541E+03	3.2014E+04
3.6990E+02	8.8847E+02	1.9761E+03	-2.1898E+04	1.8543E+05	1.7500E+00	-4.8984E+02	7.7185E+03	7.5665E+04
3.6990E+02	8.5293E+02	5.6643E+03	-2.1898E+04	1.5364E+05	1.2500E+00	-4.8984E+02	7.3830E+03	1.0026E+05
3.6990E+02	8.1739E+02	9.1616E+03	-2.1898E+04	1.3245E+05	1.2500E+00	-4.8984E+02	7.0474E+03	4.0415E+04
3.6990E+02	7.8185E+02	1.3312E+04	-2.1898E+04	1.2715E+05	1.2500E+00	-4.8984E+02	6.7118E+03	1.4402E+05
3.6990E+02	7.4631E+02	1.6073E+04	-2.1898E+04	1.2185E+05	1.6625E+00	-4.8984E+02	6.3762E+03	9.4153E+04
3.6990E+02	7.1077E+02	1.9368E+04	-2.1898E+04	1.1126E+05	1.6625E+00	-4.8984E+02	6.0406E+03	1.2560E+05
3.6990E+02	6.7524E+02	2.9675E+04	-2.1898E+04	1.0596E+05	1.8667E+01	-4.8984E+02	5.7050E+03	1.5860E+05
3.6990E+02	6.3970E+02	3.9140E+04	-2.1898E+04	1.0066E+05	1.2500E+00	-4.8984E+02	5.3694E+03	2.9614E+05
3.6990E+02	6.0416E+02	5.4632E+04	-2.1898E+04	9.0064E+04	3.3994E+03	-4.8984E+02	5.0338E+03	2.5177E+05
3.6990E+02	5.6862E+02	7.0765E+04	-2.1898E+04	8.4766E+04	1.5041E+02	-4.8984E+02	4.6982E+03	4.9621E+05
3.6990E+02	5.3308E+02	9.9016E+04	-2.1898E+04	7.9468E+04	2.1567E+01	-4.8984E+02	4.3627E+03	6.7472E+05

Markov Matrices								
Tower shear, bottom F_y [kN]			Tower bending, bottom M_x [kNm]			Tower torsion, bottom M_z [kNm]		
Level	Range	Cycles	Level	Range	Cycles	Level	Range	Cycles
3.6990E+02	4.9754E+02	1.5451E+05	-2.1898E+04	7.4170E+04	3.4521E+03	-4.8984E+02	4.0271E+03	6.6533E+05
3.6990E+02	4.6200E+02	1.6952E+05	-2.1898E+04	6.8872E+04	2.7869E+01	-4.8984E+02	3.6915E+03	9.4399E+05
3.6990E+02	4.2646E+02	2.7935E+05	-2.1898E+04	6.3575E+04	3.6834E+03	-4.8984E+02	3.3559E+03	1.2348E+06
3.6990E+02	3.9093E+02	4.0651E+05	-2.1898E+04	5.8277E+04	6.8557E+03	-4.8984E+02	3.0203E+03	1.7933E+06
3.6990E+02	3.5539E+02	5.9802E+05	-2.1898E+04	5.2979E+04	1.0309E+04	-4.8984E+02	2.6847E+03	2.0598E+06
3.6990E+02	3.1985E+02	7.3308E+05	-2.1898E+04	4.7681E+04	7.3853E+03	-4.8984E+02	2.3491E+03	2.7514E+06
3.6990E+02	2.8431E+02	9.1330E+05	-2.1898E+04	4.2383E+04	9.6518E+03	-4.8984E+02	2.0135E+03	3.1752E+06
3.6990E+02	2.4877E+02	1.4221E+06	-2.1898E+04	3.7085E+04	3.9933E+03	-4.8984E+02	1.6779E+03	4.3921E+06
3.6990E+02	2.1323E+02	1.9368E+06	-2.1898E+04	3.1787E+04	5.8493E+02	-4.8984E+02	1.3424E+03	3.9932E+06
3.6990E+02	1.7769E+02	2.7568E+06	-2.1898E+04	2.6489E+04	1.1853E+04	-4.8984E+02	1.0068E+03	4.0396E+06
3.6990E+02	1.4215E+02	4.1078E+06	-2.1898E+04	2.1192E+04	1.5448E+04	-4.8984E+02	6.7118E+02	5.5525E+06
3.6990E+02	1.0662E+02	5.0829E+06	-2.1898E+04	1.5894E+04	1.4428E+05	-4.8984E+02	3.3559E+02	1.3398E+07
3.6990E+02	7.1077E+01	6.5247E+06	-2.1898E+04	1.0596E+04	2.0043E+06	-4.8984E+02	0.0000E+00	3.0723E+07
3.6990E+02	3.5539E+01	1.3772E+07	-2.1898E+04	5.2979E+03	1.0191E+07	-8.6642E+02	1.5102E+04	7.9735E+02
3.6990E+02	0.0000E+00	2.7398E+07	-2.1898E+04	0.0000E+00	2.8088E+07	-8.6642E+02	1.4766E+04	7.9735E+02
3.3044E+02	1.2083E+03	3.2098E+01	-2.7614E+04	2.2251E+05	5.2085E+00	-8.6642E+02	1.4430E+04	1.0496E+02
3.3044E+02	1.1372E+03	1.4542E+00	-2.7614E+04	2.1721E+05	5.2085E+00	-8.6642E+02	1.4095E+04	1.1072E+03
3.3044E+02	1.1017E+03	2.4608E+02	-2.7614E+04	2.1192E+05	5.2085E+00	-8.6642E+02	1.3759E+04	3.0989E+02
3.3044E+02	1.0662E+03	1.1370E+02	-2.7614E+04	2.0662E+05	5.2085E+00	-8.6642E+02	1.3424E+04	7.9735E+02
3.3044E+02	1.0306E+03	4.2708E+01	-2.7614E+04	2.0132E+05	5.2085E+00	-8.6642E+02	1.3088E+04	1.3793E+03
3.3044E+02	9.9508E+02	5.0973E+01	-2.7614E+04	1.9602E+05	1.0417E+01	-8.6642E+02	1.2417E+04	1.8871E+03
3.3044E+02	9.5955E+02	1.3809E+02	-2.7614E+04	1.3774E+05	1.2500E+00	-8.6642E+02	1.2081E+04	6.2226E+03
3.3044E+02	9.2401E+02	5.8981E+02	-2.7614E+04	1.3245E+05	5.6745E+01	-8.6642E+02	1.1746E+04	5.6333E+01
3.3044E+02	8.8847E+02	6.4263E+02	-2.7614E+04	1.2715E+05	3.7500E+00	-8.6642E+02	1.1410E+04	7.7443E+03
3.3044E+02	8.5293E+02	4.9970E+02	-2.7614E+04	1.1655E+05	5.6745E+01	-8.6642E+02	1.1074E+04	1.7914E+04
3.3044E+02	8.1739E+02	7.7009E+02	-2.7614E+04	1.1126E+05	1.6625E+00	-8.6642E+02	1.0739E+04	1.9053E+04
3.3044E+02	7.8185E+02	1.6085E+03	-2.7614E+04	1.0596E+05	1.6625E+00	-8.6642E+02	1.0403E+04	2.9259E+04
3.3044E+02	7.4631E+02	2.9761E+03	-2.7614E+04	9.5362E+04	6.9575E+00	-8.6642E+02	1.0068E+04	1.7939E+04
3.3044E+02	7.1077E+02	4.2008E+03	-2.7614E+04	9.0064E+04	7.3700E+00	-8.6642E+02	9.7321E+03	2.9953E+04
3.3044E+02	6.7524E+02	5.8210E+03	-2.7614E+04	8.4766E+04	3.8325E+01	-8.6642E+02	9.3965E+03	7.5534E+04
3.3044E+02	6.3970E+02	9.7552E+03	-2.7614E+04	7.9468E+04	4.2494E+01	-8.6642E+02	9.0609E+03	4.4574E+04
3.3044E+02	6.0416E+02	9.9551E+03	-2.7614E+04	7.4170E+04	7.8443E+01	-8.6642E+02	8.7253E+03	7.3759E+04
3.3044E+02	5.6862E+02	2.1174E+04	-2.7614E+04	6.8872E+04	4.2160E+01	-8.6642E+02	8.3897E+03	6.7084E+04
3.3044E+02	5.3308E+02	3.2125E+04	-2.7614E+04	6.3575E+04	8.1516E+01	-8.6642E+02	8.0541E+03	6.3189E+04
3.3044E+02	4.9754E+02	4.1583E+04	-2.7614E+04	5.8277E+04	2.5063E+02	-8.6642E+02	7.7185E+03	7.6497E+04

Markov Matrices								
Tower shear, bottom F_y [kN]			Tower bending, bottom M_x [kNm]			Tower torsion, bottom M_z [kNm]		
Level	Range	Cycles	Level	Range	Cycles	Level	Range	Cycles
3.3044E+02	4.6200E+02	6.1717E+04	-2.7614E+04	5.2979E+04	1.5330E+03	-8.6642E+02	7.3830E+03	7.1406E+04
3.3044E+02	4.2646E+02	1.2476E+05	-2.7614E+04	4.7681E+04	1.3659E+03	-8.6642E+02	7.0474E+03	9.5683E+04
3.3044E+02	3.9093E+02	1.1377E+05	-2.7614E+04	4.2383E+04	2.1296E+04	-8.6642E+02	6.7118E+03	5.6151E+04
3.3044E+02	3.5539E+02	2.3488E+05	-2.7614E+04	3.7085E+04	2.6833E+04	-8.6642E+02	6.3762E+03	5.8850E+04
3.3044E+02	3.1985E+02	2.1002E+05	-2.7614E+04	3.1787E+04	2.4102E+04	-8.6642E+02	6.0406E+03	1.1377E+05
3.3044E+02	2.8431E+02	3.9254E+05	-2.7614E+04	2.6489E+04	4.8965E+04	-8.6642E+02	5.7050E+03	1.6528E+05
3.3044E+02	2.4877E+02	6.7025E+05	-2.7614E+04	2.1192E+04	7.1173E+04	-8.6642E+02	5.3694E+03	2.3451E+05
3.3044E+02	2.1323E+02	9.7725E+05	-2.7614E+04	1.5894E+04	1.4556E+05	-8.6642E+02	5.0338E+03	2.0235E+05
3.3044E+02	1.7769E+02	2.2848E+06	-2.7614E+04	1.0596E+04	1.7756E+06	-8.6642E+02	4.6982E+03	4.0019E+05
3.3044E+02	1.4215E+02	3.7961E+06	-2.7614E+04	5.2979E+03	1.0598E+07	-8.6642E+02	4.3627E+03	4.2295E+05
3.3044E+02	1.0662E+02	5.2552E+06	-2.7614E+04	0.0000E+00	2.4240E+07	-8.6642E+02	4.0271E+03	6.4670E+05
3.3044E+02	7.1077E+01	7.1576E+06	-3.3329E+04	2.1721E+05	5.2085E+00	-8.6642E+02	3.6915E+03	9.2963E+05
3.3044E+02	3.5539E+01	1.2869E+07	-3.3329E+04	2.0662E+05	1.0417E+01	-8.6642E+02	3.3559E+03	1.0289E+06
3.3044E+02	0.0000E+00	3.0041E+07	-3.3329E+04	1.9072E+05	1.0417E+01	-8.6642E+02	3.0203E+03	1.4178E+06
2.9098E+02	1.3149E+03	5.2085E+00	-3.3329E+04	1.8543E+05	2.0834E+01	-8.6642E+02	2.6847E+03	1.5901E+06
2.9098E+02	1.2794E+03	5.2085E+00	-3.3329E+04	1.8013E+05	4.3417E+01	-8.6642E+02	2.3491E+03	2.2390E+06
2.9098E+02	1.2439E+03	5.2085E+00	-3.3329E+04	1.6423E+05	1.7500E+00	-8.6642E+02	2.0135E+03	2.2912E+06
2.9098E+02	1.2083E+03	6.4585E+00	-3.3329E+04	1.5894E+05	3.5000E+00	-8.6642E+02	1.6779E+03	2.8840E+06
2.9098E+02	1.1372E+03	3.2098E+01	-3.3329E+04	1.4834E+05	1.2500E+00	-8.6642E+02	1.3424E+03	3.0707E+06
2.9098E+02	1.1017E+03	6.0374E+00	-3.3329E+04	1.4304E+05	1.7500E+00	-8.6642E+02	1.0068E+03	2.7781E+06
2.9098E+02	1.0662E+03	4.4579E+01	-3.3329E+04	1.3245E+05	5.7583E+01	-8.6642E+02	6.7118E+02	3.6954E+06
2.9098E+02	1.0306E+03	6.3775E+01	-3.3329E+04	1.2715E+05	3.3333E+00	-8.6642E+02	3.3559E+02	1.0281E+07
2.9098E+02	9.9508E+02	3.2268E+02	-3.3329E+04	1.2185E+05	5.4125E+00	-8.6642E+02	0.0000E+00	2.1804E+07
2.9098E+02	9.5955E+02	1.3237E+02	-3.3329E+04	1.1655E+05	2.4875E+00	-1.2430E+03	1.5102E+04	1.0496E+02
2.9098E+02	9.2401E+02	1.5416E+02	-3.3329E+04	1.1126E+05	2.9125E+00	-1.2430E+03	1.4766E+04	1.0496E+02
2.9098E+02	8.8847E+02	1.8779E+02	-3.3329E+04	1.0596E+05	2.5000E+00	-1.2430E+03	1.4430E+04	1.2122E+03
2.9098E+02	8.5293E+02	1.6224E+02	-3.3329E+04	1.0066E+05	4.7792E+00	-1.2430E+03	1.3759E+04	3.0989E+02
2.9098E+02	8.1739E+02	1.7866E+02	-3.3329E+04	9.5362E+04	3.5417E+00	-1.2430E+03	1.3088E+04	1.2362E+02
2.9098E+02	7.8185E+02	5.2035E+02	-3.3329E+04	9.0064E+04	7.3700E+00	-1.2430E+03	1.2752E+04	6.5264E+03
2.9098E+02	7.4631E+02	1.1526E+03	-3.3329E+04	8.4766E+04	1.5800E+02	-1.2430E+03	1.2417E+04	4.1855E+03
2.9098E+02	7.1077E+02	1.6549E+03	-3.3329E+04	7.9468E+04	4.9115E+01	-1.2430E+03	1.2081E+04	8.2171E+03
2.9098E+02	6.7524E+02	2.1921E+03	-3.3329E+04	7.4170E+04	7.7281E+01	-1.2430E+03	1.1746E+04	1.3119E+04
2.9098E+02	6.3970E+02	2.5532E+03	-3.3329E+04	6.8872E+04	2.9271E+02	-1.2430E+03	1.1410E+04	7.1114E+03
2.9098E+02	6.0416E+02	5.4315E+03	-3.3329E+04	6.3575E+04	5.0736E+02	-1.2430E+03	1.1074E+04	1.3371E+04
2.9098E+02	5.6862E+02	2.3112E+03	-3.3329E+04	5.8277E+04	9.0780E+02	-1.2430E+03	1.0739E+04	2.2017E+04

Markov Matrices								
Tower shear, bottom F_y [kN]			Tower bending, bottom M_x [kNm]			Tower torsion, bottom M_z [kNm]		
Level	Range	Cycles	Level	Range	Cycles	Level	Range	Cycles
2.9098E+02	5.3308E+02	1.1226E+04	-3.3329E+04	5.2979E+04	1.8474E+04	-1.2430E+03	1.0403E+04	2.2472E+04
2.9098E+02	4.9754E+02	1.2654E+04	-3.3329E+04	4.7681E+04	1.9496E+04	-1.2430E+03	1.0068E+04	2.2747E+04
2.9098E+02	4.6200E+02	1.8556E+04	-3.3329E+04	4.2383E+04	4.6675E+04	-1.2430E+03	9.7321E+03	3.8904E+04
2.9098E+02	4.2646E+02	2.1377E+04	-3.3329E+04	3.7085E+04	1.3130E+04	-1.2430E+03	9.3965E+03	3.1137E+04
2.9098E+02	3.9093E+02	3.1059E+04	-3.3329E+04	3.1787E+04	2.9739E+04	-1.2430E+03	9.0609E+03	5.0722E+04
2.9098E+02	3.5539E+02	6.1556E+04	-3.3329E+04	2.6489E+04	5.7688E+03	-1.2430E+03	8.7253E+03	3.3861E+04
2.9098E+02	3.1985E+02	8.7706E+04	-3.3329E+04	2.1192E+04	4.1861E+04	-1.2430E+03	8.3897E+03	4.0716E+04
2.9098E+02	2.8431E+02	1.7566E+05	-3.3329E+04	1.5894E+04	1.1323E+05	-1.2430E+03	8.0541E+03	4.9650E+04
2.9098E+02	2.4877E+02	1.5020E+05	-3.3329E+04	1.0596E+04	1.4641E+06	-1.2430E+03	7.7185E+03	7.2901E+04
2.9098E+02	2.1323E+02	2.9544E+05	-3.3329E+04	5.2979E+03	9.3736E+06	-1.2430E+03	7.3830E+03	5.3866E+04
2.9098E+02	1.7769E+02	9.0061E+05	-3.3329E+04	0.0000E+00	1.5707E+07	-1.2430E+03	7.0474E+03	3.3360E+04
2.9098E+02	1.4215E+02	2.2303E+06	-3.9045E+04	2.1192E+05	1.7500E+00	-1.2430E+03	6.7118E+03	8.5881E+04
2.9098E+02	1.0662E+02	4.9455E+06	-3.9045E+04	2.0132E+05	5.2085E+00	-1.2430E+03	6.3762E+03	7.9721E+04
2.9098E+02	7.1077E+01	6.4538E+06	-3.9045E+04	1.9072E+05	5.2085E+00	-1.2430E+03	6.0406E+03	1.3950E+05
2.9098E+02	3.5539E+01	1.0932E+07	-3.9045E+04	1.8543E+05	4.1667E+01	-1.2430E+03	5.7050E+03	1.8216E+05
2.9098E+02	0.0000E+00	2.7183E+07	-3.9045E+04	1.8013E+05	1.2500E+02	-1.2430E+03	5.3694E+03	2.0067E+05
2.5151E+02	1.4926E+03	1.7500E+00	-3.9045E+04	1.7483E+05	5.9042E+01	-1.2430E+03	5.0338E+03	2.7587E+05
2.5151E+02	1.3860E+03	1.2500E+00	-3.9045E+04	1.6423E+05	3.5000E+00	-1.2430E+03	4.6982E+03	3.2988E+05
2.5151E+02	1.2794E+03	5.2085E+00	-3.9045E+04	1.4304E+05	1.2500E+00	-1.2430E+03	4.3627E+03	4.2306E+05
2.5151E+02	1.2439E+03	2.4508E+02	-3.9045E+04	1.3245E+05	4.1250E-01	-1.2430E+03	4.0271E+03	5.5488E+05
2.5151E+02	1.2083E+03	5.2083E+01	-3.9045E+04	1.2715E+05	1.6625E+00	-1.2430E+03	3.6915E+03	6.5426E+05
2.5151E+02	1.1728E+03	1.8308E+02	-3.9045E+04	1.2185E+05	4.1250E-01	-1.2430E+03	3.3559E+03	1.1025E+06
2.5151E+02	1.1372E+03	4.1250E-01	-3.9045E+04	1.1655E+05	5.7583E+01	-1.2430E+03	3.0203E+03	1.2336E+06
2.5151E+02	1.1017E+03	3.7500E+00	-3.9045E+04	1.1126E+05	8.2708E+01	-1.2430E+03	2.6847E+03	1.5669E+06
2.5151E+02	1.0662E+03	3.7594E+01	-3.9045E+04	1.0596E+05	2.4696E+01	-1.2430E+03	2.3491E+03	1.8190E+06
2.5151E+02	1.0306E+03	3.3333E+00	-3.9045E+04	1.0066E+05	6.4445E+01	-1.2430E+03	2.0135E+03	2.1481E+06
2.5151E+02	9.9508E+02	3.5011E+01	-3.9045E+04	9.5362E+04	6.9845E+01	-1.2430E+03	1.6779E+03	2.1094E+06
2.5151E+02	9.5955E+02	1.2240E+02	-3.9045E+04	9.0064E+04	1.0291E+01	-1.2430E+03	1.3424E+03	1.8596E+06
2.5151E+02	9.2401E+02	4.5301E+01	-3.9045E+04	8.4766E+04	4.8231E+02	-1.2430E+03	1.0068E+03	2.3047E+06
2.5151E+02	8.8847E+02	6.9070E+01	-3.9045E+04	7.9468E+04	4.4972E+01	-1.2430E+03	6.7118E+02	3.0143E+06
2.5151E+02	8.5293E+02	2.5013E+02	-3.9045E+04	7.4170E+04	3.4787E+01	-1.2430E+03	3.3559E+02	7.7372E+06
2.5151E+02	8.1739E+02	1.8355E+02	-3.9045E+04	6.8872E+04	5.1128E+02	-1.2430E+03	0.0000E+00	1.7676E+07
2.5151E+02	7.8185E+02	7.6599E+02	-3.9045E+04	6.3575E+04	7.5244E+02	-1.6196E+03	1.4430E+04	5.1980E+02
2.5151E+02	7.4631E+02	2.2054E+02	-3.9045E+04	5.8277E+04	1.4570E+03	-1.6196E+03	1.4095E+04	1.5000E+02
2.5151E+02	7.1077E+02	6.6797E+02	-3.9045E+04	5.2979E+04	1.0650E+03	-1.6196E+03	1.3759E+04	3.1056E+01

Markov Matrices								
Tower shear, bottom F_y [kN]			Tower bending, bottom M_x [kNm]			Tower torsion, bottom M_z [kNm]		
Level	Range	Cycles	Level	Range	Cycles	Level	Range	Cycles
2.5151E+02	6.7524E+02	1.3451E+03	-3.9045E+04	4.7681E+04	2.7573E+03	-1.6196E+03	1.3424E+04	3.1114E+02
2.5151E+02	6.3970E+02	1.1013E+03	-3.9045E+04	4.2383E+04	3.4151E+03	-1.6196E+03	1.3088E+04	1.1099E+03
2.5151E+02	6.0416E+02	2.7966E+03	-3.9045E+04	3.7085E+04	5.3267E+03	-1.6196E+03	1.2752E+04	3.3817E+03
2.5151E+02	5.6862E+02	3.7838E+03	-3.9045E+04	3.1787E+04	7.5985E+03	-1.6196E+03	1.2417E+04	3.2314E+03
2.5151E+02	5.3308E+02	2.5363E+03	-3.9045E+04	2.6489E+04	9.5043E+03	-1.6196E+03	1.2081E+04	7.3634E+03
2.5151E+02	4.9754E+02	5.7989E+03	-3.9045E+04	2.1192E+04	3.0896E+04	-1.6196E+03	1.1746E+04	8.5874E+03
2.5151E+02	4.6200E+02	8.4402E+03	-3.9045E+04	1.5894E+04	1.4278E+05	-1.6196E+03	1.1410E+04	1.0562E+04
2.5151E+02	4.2646E+02	7.0212E+03	-3.9045E+04	1.0596E+04	2.4008E+06	-1.6196E+03	1.1074E+04	9.2598E+03
2.5151E+02	3.9093E+02	9.8441E+03	-3.9045E+04	5.2979E+03	1.0796E+07	-1.6196E+03	1.0739E+04	5.9385E+03
2.5151E+02	3.5539E+02	2.3939E+04	-3.9045E+04	0.0000E+00	1.5061E+07	-1.6196E+03	1.0403E+04	1.1121E+04
2.5151E+02	3.1985E+02	1.7455E+04	-4.4760E+04	1.8013E+05	4.1667E+01	-1.6196E+03	1.0068E+04	1.1778E+04
2.5151E+02	2.8431E+02	3.8036E+04	-4.4760E+04	1.6953E+05	1.3021E+02	-1.6196E+03	9.7321E+03	2.1834E+04
2.5151E+02	2.4877E+02	5.3874E+04	-4.4760E+04	1.5894E+05	4.1667E+01	-1.6196E+03	9.3965E+03	2.0347E+04
2.5151E+02	2.1323E+02	2.9992E+05	-4.4760E+04	1.3774E+05	1.2500E+00	-1.6196E+03	9.0609E+03	3.5286E+04
2.5151E+02	1.7769E+02	7.6364E+05	-4.4760E+04	1.2185E+05	2.0833E+00	-1.6196E+03	8.7253E+03	5.3062E+03
2.5151E+02	1.4215E+02	2.8915E+06	-4.4760E+04	1.1655E+05	2.0833E+00	-1.6196E+03	8.3897E+03	1.6347E+04
2.5151E+02	1.0662E+02	5.2807E+06	-4.4760E+04	1.1126E+05	1.7262E+02	-1.6196E+03	8.0541E+03	6.0949E+03
2.5151E+02	7.1077E+01	7.7269E+06	-4.4760E+04	1.0596E+05	3.2511E+01	-1.6196E+03	7.7185E+03	4.2545E+04
2.5151E+02	3.5539E+01	9.2913E+06	-4.4760E+04	1.0066E+05	1.5104E+02	-1.6196E+03	7.3830E+03	3.2677E+04
2.5151E+02	0.0000E+00	2.4294E+07	-4.4760E+04	9.5362E+04	3.1056E+01	-1.6196E+03	7.0474E+03	1.5915E+04
2.1205E+02	1.4926E+03	5.2085E+00	-4.4760E+04	8.4766E+04	6.2113E+01	-1.6196E+03	6.7118E+03	3.5444E+04
2.1205E+02	1.4571E+03	5.2085E+00	-4.4760E+04	7.9468E+04	6.2113E+01	-1.6196E+03	6.3762E+03	5.0254E+04
2.1205E+02	1.3505E+03	5.2085E+00	-4.4760E+04	7.4170E+04	2.1211E+02	-1.6196E+03	6.0406E+03	6.6664E+04
2.1205E+02	1.3149E+03	4.2917E+01	-4.4760E+04	6.8872E+04	3.6211E+02	-1.6196E+03	5.7050E+03	1.2161E+05
2.1205E+02	1.2794E+03	1.7500E+00	-4.4760E+04	6.3575E+04	1.2629E+03	-1.6196E+03	5.3694E+03	1.8653E+05
2.1205E+02	1.2439E+03	7.3710E+00	-4.4760E+04	5.8277E+04	1.3752E+03	-1.6196E+03	5.0338E+03	1.9864E+05
2.1205E+02	1.2083E+03	1.0417E+01	-4.4760E+04	5.2979E+04	1.1521E+03	-1.6196E+03	4.6982E+03	2.7634E+05
2.1205E+02	1.1372E+03	1.7500E+00	-4.4760E+04	4.7681E+04	1.0918E+04	-1.6196E+03	4.3627E+03	4.4920E+05
2.1205E+02	1.1017E+03	2.1625E+00	-4.4760E+04	4.2383E+04	3.1077E+03	-1.6196E+03	4.0271E+03	5.5297E+05
2.1205E+02	1.0662E+03	2.0750E+00	-4.4760E+04	3.7085E+04	2.5997E+03	-1.6196E+03	3.6915E+03	7.4878E+05
2.1205E+02	1.0306E+03	1.9080E+01	-4.4760E+04	3.1787E+04	4.9409E+03	-1.6196E+03	3.3559E+03	9.0506E+05
2.1205E+02	9.9508E+02	1.2500E+00	-4.4760E+04	2.6489E+04	3.9037E+04	-1.6196E+03	3.0203E+03	9.2055E+05
2.1205E+02	9.5955E+02	2.0833E+00	-4.4760E+04	2.1192E+04	6.1450E+04	-1.6196E+03	2.6847E+03	9.0325E+05
2.1205E+02	9.2401E+02	1.2500E+00	-4.4760E+04	1.5894E+04	3.1347E+05	-1.6196E+03	2.3491E+03	1.7064E+06
2.1205E+02	8.8847E+02	6.2113E+01	-4.4760E+04	1.0596E+04	1.7864E+06	-1.6196E+03	2.0135E+03	1.7249E+06

Markov Matrices								
Tower shear, bottom F_y [kN]			Tower bending, bottom M_x [kNm]			Tower torsion, bottom M_z [kNm]		
Level	Range	Cycles	Level	Range	Cycles	Level	Range	Cycles
2.1205E+02	8.5293E+02	1.1417E+01	-4.4760E+04	5.2979E+03	7.2922E+06	-1.6196E+03	1.6779E+03	1.7674E+06
2.1205E+02	8.1739E+02	3.0000E+02	-4.4760E+04	0.0000E+00	1.4142E+07	-1.6196E+03	1.3424E+03	1.3938E+06
2.1205E+02	7.8185E+02	3.6048E+01	-5.0476E+04	2.0132E+05	5.2085E+00	-1.6196E+03	1.0068E+03	1.5148E+06
2.1205E+02	7.4631E+02	4.7462E+02	-5.0476E+04	1.8013E+05	5.2085E+00	-1.6196E+03	6.7118E+02	2.4316E+06
2.1205E+02	7.1077E+02	1.3942E+02	-5.0476E+04	1.6423E+05	4.1667E+01	-1.6196E+03	3.3559E+02	6.0134E+06
2.1205E+02	6.7524E+02	1.3755E+02	-5.0476E+04	1.1655E+05	1.2500E+00	-1.6196E+03	0.0000E+00	1.2801E+07
2.1205E+02	6.3970E+02	1.2624E+02	-5.0476E+04	1.1126E+05	6.2113E+01	-1.9961E+03	1.6444E+04	1.0496E+02
2.1205E+02	6.0416E+02	7.6582E+02	-5.0476E+04	1.0596E+05	1.2500E+00	-1.9961E+03	1.4430E+04	3.1056E+01
2.1205E+02	5.6862E+02	1.3102E+03	-5.0476E+04	1.0066E+05	3.1056E+01	-1.9961E+03	1.4095E+04	5.5126E+02
2.1205E+02	5.3308E+02	1.9268E+03	-5.0476E+04	9.5362E+04	9.3169E+01	-1.9961E+03	1.3759E+04	1.0600E+02
2.1205E+02	4.9754E+02	1.7066E+03	-5.0476E+04	9.0064E+04	1.2423E+02	-1.9961E+03	1.3424E+04	1.1383E+03
2.1205E+02	4.6200E+02	2.9879E+03	-5.0476E+04	8.4766E+04	2.1740E+02	-1.9961E+03	1.3088E+04	2.2766E+03
2.1205E+02	4.2646E+02	2.8800E+03	-5.0476E+04	7.9468E+04	3.3634E+02	-1.9961E+03	1.2752E+04	1.8690E+03
2.1205E+02	3.9093E+02	1.5642E+04	-5.0476E+04	7.4170E+04	1.5528E+02	-1.9961E+03	1.2417E+04	2.7030E+03
2.1205E+02	3.5539E+02	3.0907E+04	-5.0476E+04	6.8872E+04	1.9812E+02	-1.9961E+03	1.2081E+04	1.2942E+03
2.1205E+02	3.1985E+02	4.3906E+04	-5.0476E+04	6.3575E+04	3.2570E+02	-1.9961E+03	1.1746E+04	4.1904E+03
2.1205E+02	2.8431E+02	2.7163E+04	-5.0476E+04	5.8277E+04	4.9815E+02	-1.9961E+03	1.1410E+04	3.7978E+03
2.1205E+02	2.4877E+02	3.1784E+04	-5.0476E+04	5.2979E+04	2.3323E+03	-1.9961E+03	1.1074E+04	3.7331E+03
2.1205E+02	2.1323E+02	2.5795E+05	-5.0476E+04	4.7681E+04	8.8416E+02	-1.9961E+03	1.0739E+04	3.6358E+03
2.1205E+02	1.7769E+02	6.8649E+05	-5.0476E+04	4.2383E+04	4.9262E+03	-1.9961E+03	1.0403E+04	4.3288E+03
2.1205E+02	1.4215E+02	2.1706E+06	-5.0476E+04	3.7085E+04	2.1091E+04	-1.9961E+03	1.0068E+04	1.0881E+04
2.1205E+02	1.0662E+02	5.3049E+06	-5.0476E+04	3.1787E+04	1.1410E+04	-1.9961E+03	9.7321E+03	4.8871E+03
2.1205E+02	7.1077E+01	7.6207E+06	-5.0476E+04	2.6489E+04	3.8477E+04	-1.9961E+03	9.3965E+03	9.1738E+03
2.1205E+02	3.5539E+01	1.0051E+07	-5.0476E+04	2.1192E+04	1.0662E+05	-1.9961E+03	9.0609E+03	1.3605E+04
2.1205E+02	0.0000E+00	2.5924E+07	-5.0476E+04	1.5894E+04	3.6019E+05	-1.9961E+03	8.7253E+03	9.2983E+03
1.7259E+02	1.4571E+03	1.0417E+01	-5.0476E+04	1.0596E+04	2.3259E+06	-1.9961E+03	8.3897E+03	9.9583E+03
1.7259E+02	1.4215E+03	5.2085E+00	-5.0476E+04	5.2979E+03	7.5891E+06	-1.9961E+03	8.0541E+03	2.0981E+04
1.7259E+02	1.3860E+03	1.0417E+01	-5.0476E+04	0.0000E+00	1.6454E+07	-1.9961E+03	7.7185E+03	1.5669E+04
1.7259E+02	1.3505E+03	1.2500E+00	-5.6192E+04	1.3245E+05	8.3335E+01	-1.9961E+03	7.3830E+03	1.9138E+04
1.7259E+02	1.3149E+03	7.2918E+00	-5.6192E+04	1.1126E+05	3.1056E+01	-1.9961E+03	7.0474E+03	3.1774E+04
1.7259E+02	1.2439E+03	4.1667E+01	-5.6192E+04	1.0066E+05	8.5946E+02	-1.9961E+03	6.7118E+03	3.6674E+04
1.7259E+02	1.2083E+03	1.2500E+00	-5.6192E+04	9.5362E+04	3.1056E+01	-1.9961E+03	6.3762E+03	4.5076E+04
1.7259E+02	1.1728E+03	1.2500E+00	-5.6192E+04	8.4766E+04	6.2113E+01	-1.9961E+03	6.0406E+03	1.1370E+05
1.7259E+02	1.1372E+03	3.0000E+00	-5.6192E+04	7.9468E+04	2.6024E+02	-1.9961E+03	5.7050E+03	1.1491E+05
1.7259E+02	1.1017E+03	2.9125E+00	-5.6192E+04	7.4170E+04	5.1009E+02	-1.9961E+03	5.3694E+03	1.2130E+05

Markov Matrices								
Tower shear, bottom F_y [kN]			Tower bending, bottom M_x [kNm]			Tower torsion, bottom M_z [kNm]		
Level	Range	Cycles	Level	Range	Cycles	Level	Range	Cycles
1.7259E+02	1.0662E+03	1.8667E+01	-5.6192E+04	6.8872E+04	1.0920E+03	-1.9961E+03	5.0338E+03	2.3008E+05
1.7259E+02	9.2401E+02	1.2500E+00	-5.6192E+04	6.3575E+04	1.6011E+03	-1.9961E+03	4.6982E+03	2.7346E+05
1.7259E+02	8.5293E+02	1.2500E+00	-5.6192E+04	5.8277E+04	2.1803E+03	-1.9961E+03	4.3627E+03	3.1236E+05
1.7259E+02	8.1739E+02	1.4037E+01	-5.6192E+04	5.2979E+04	2.2587E+04	-1.9961E+03	4.0271E+03	4.5150E+05
1.7259E+02	7.8185E+02	2.4499E+01	-5.6192E+04	4.7681E+04	1.4525E+04	-1.9961E+03	3.6915E+03	5.5556E+05
1.7259E+02	7.4631E+02	2.2541E+01	-5.6192E+04	4.2383E+04	2.0894E+04	-1.9961E+03	3.3559E+03	8.6445E+05
1.7259E+02	7.1077E+02	7.2946E+01	-5.6192E+04	3.7085E+04	1.7174E+04	-1.9961E+03	3.0203E+03	8.5658E+05
1.7259E+02	6.7524E+02	2.1817E+01	-5.6192E+04	3.1787E+04	6.0712E+04	-1.9961E+03	2.6847E+03	1.1500E+06
1.7259E+02	6.3970E+02	1.3764E+02	-5.6192E+04	2.6489E+04	1.5546E+05	-1.9961E+03	2.3491E+03	1.2284E+06
1.7259E+02	6.0416E+02	5.5327E+01	-5.6192E+04	2.1192E+04	3.3661E+05	-1.9961E+03	2.0135E+03	1.1405E+06
1.7259E+02	5.6862E+02	5.1523E+02	-5.6192E+04	1.5894E+04	1.0890E+06	-1.9961E+03	1.6779E+03	9.8389E+05
1.7259E+02	5.3308E+02	7.3029E+02	-5.6192E+04	1.0596E+04	3.6617E+06	-1.9961E+03	1.3424E+03	1.3041E+06
1.7259E+02	4.9754E+02	2.7628E+02	-5.6192E+04	5.2979E+03	8.8230E+06	-1.9961E+03	1.0068E+03	1.2807E+06
1.7259E+02	4.6200E+02	4.4818E+02	-5.6192E+04	0.0000E+00	1.7949E+07	-1.9961E+03	6.7118E+02	1.9008E+06
1.7259E+02	4.2646E+02	4.0828E+03	-6.1907E+04	1.3774E+05	1.6667E+02	-1.9961E+03	3.3559E+02	4.6840E+06
1.7259E+02	3.9093E+02	1.0368E+04	-6.1907E+04	1.3245E+05	8.3335E+01	-1.9961E+03	0.0000E+00	9.6729E+06
1.7259E+02	3.5539E+02	1.4232E+04	-6.1907E+04	1.2715E+05	1.8655E+03	-2.3727E+03	1.5773E+04	3.1056E+01
1.7259E+02	3.1985E+02	2.9958E+04	-6.1907E+04	1.0596E+05	3.1056E+01	-2.3727E+03	1.4766E+04	1.0496E+02
1.7259E+02	2.8431E+02	4.9468E+04	-6.1907E+04	9.5362E+04	1.3601E+02	-2.3727E+03	1.4430E+04	9.0230E+02
1.7259E+02	2.4877E+02	5.9315E+04	-6.1907E+04	9.0064E+04	1.0496E+02	-2.3727E+03	1.4095E+04	4.1588E+02
1.7259E+02	2.1323E+02	6.1631E+04	-6.1907E+04	8.4766E+04	2.7202E+02	-2.3727E+03	1.3759E+04	2.0991E+02
1.7259E+02	1.7769E+02	2.5671E+05	-6.1907E+04	7.9468E+04	1.1917E+04	-2.3727E+03	1.3424E+04	6.2113E+01
1.7259E+02	1.4215E+02	1.1561E+06	-6.1907E+04	7.4170E+04	3.1474E+04	-2.3727E+03	1.3088E+04	8.2945E+02
1.7259E+02	1.0662E+02	4.7452E+06	-6.1907E+04	6.8872E+04	1.5878E+04	-2.3727E+03	1.2752E+04	1.2340E+03
1.7259E+02	7.1077E+01	1.0320E+07	-6.1907E+04	6.3575E+04	1.1053E+04	-2.3727E+03	1.2417E+04	9.3568E+02
1.7259E+02	3.5539E+01	1.4915E+07	-6.1907E+04	5.8277E+04	2.6746E+04	-2.3727E+03	1.2081E+04	6.2964E+02
1.7259E+02	0.0000E+00	3.8028E+07	-6.1907E+04	5.2979E+04	3.7263E+04	-2.3727E+03	1.1746E+04	7.6458E+02
1.3313E+02	1.6348E+03	3.5000E+00	-6.1907E+04	4.7681E+04	4.9698E+04	-2.3727E+03	1.1410E+04	2.7945E+03
1.3313E+02	1.5992E+03	1.7500E+00	-6.1907E+04	4.2383E+04	7.5298E+04	-2.3727E+03	1.1074E+04	5.1964E+03
1.3313E+02	1.5637E+03	1.7500E+00	-6.1907E+04	3.7085E+04	9.3095E+04	-2.3727E+03	1.0739E+04	6.2148E+03
1.3313E+02	1.3505E+03	1.7500E+00	-6.1907E+04	3.1787E+04	1.5470E+05	-2.3727E+03	1.0403E+04	3.9732E+03
1.3313E+02	1.3149E+03	5.2085E+00	-6.1907E+04	2.6489E+04	2.4029E+05	-2.3727E+03	1.0068E+04	6.9156E+03
1.3313E+02	1.2439E+03	1.2500E+00	-6.1907E+04	2.1192E+04	5.7947E+05	-2.3727E+03	9.7321E+03	1.3427E+03
1.3313E+02	1.1728E+03	1.7500E+00	-6.1907E+04	1.5894E+04	1.8047E+06	-2.3727E+03	9.3965E+03	3.9914E+03
1.3313E+02	1.1372E+03	3.0000E+00	-6.1907E+04	1.0596E+04	4.4117E+06	-2.3727E+03	9.0609E+03	8.0973E+02

Markov Matrices								
Tower shear, bottom F_y [kN]			Tower bending, bottom M_x [kNm]			Tower torsion, bottom M_z [kNm]		
Level	Range	Cycles	Level	Range	Cycles	Level	Range	Cycles
1.3313E+02	8.1739E+02	5.4166E+00	-6.1907E+04	5.2979E+03	8.7113E+06	-2.3727E+03	8.7253E+03	3.0569E+03
1.3313E+02	7.8185E+02	4.1666E+00	-6.1907E+04	0.0000E+00	1.9269E+07	-2.3727E+03	8.3897E+03	5.8062E+03
1.3313E+02	7.4631E+02	4.9958E+00	-6.7623E+04	1.5364E+05	8.3335E+01	-2.3727E+03	8.0541E+03	9.3695E+03
1.3313E+02	7.1077E+02	1.3492E+01	-6.7623E+04	9.5362E+04	6.2475E+02	-2.3727E+03	7.7185E+03	1.7118E+04
1.3313E+02	6.7524E+02	5.9163E+01	-6.7623E+04	9.0064E+04	1.0450E+04	-2.3727E+03	7.3830E+03	1.3639E+04
1.3313E+02	6.3970E+02	1.9158E+01	-6.7623E+04	8.4766E+04	1.7320E+03	-2.3727E+03	7.0474E+03	3.8750E+04
1.3313E+02	6.0416E+02	3.4041E+03	-6.7623E+04	7.9468E+04	2.8676E+03	-2.3727E+03	6.7118E+03	3.1949E+04
1.3313E+02	5.6862E+02	3.4320E+03	-6.7623E+04	7.4170E+04	8.2885E+03	-2.3727E+03	6.3762E+03	3.4517E+04
1.3313E+02	5.3308E+02	8.2592E+01	-6.7623E+04	6.8872E+04	3.9155E+04	-2.3727E+03	6.0406E+03	7.2169E+04
1.3313E+02	4.9754E+02	3.6079E+03	-6.7623E+04	6.3575E+04	4.3436E+04	-2.3727E+03	5.7050E+03	1.2190E+05
1.3313E+02	4.6200E+02	3.6150E+03	-6.7623E+04	5.8277E+04	3.6963E+04	-2.3727E+03	5.3694E+03	1.7868E+05
1.3313E+02	4.2646E+02	3.9374E+03	-6.7623E+04	5.2979E+04	8.0207E+04	-2.3727E+03	5.0338E+03	1.3669E+05
1.3313E+02	3.9093E+02	6.3843E+03	-6.7623E+04	4.7681E+04	1.2901E+05	-2.3727E+03	4.6982E+03	1.6774E+05
1.3313E+02	3.5539E+02	1.0799E+04	-6.7623E+04	4.2383E+04	1.3723E+05	-2.3727E+03	4.3627E+03	2.9789E+05
1.3313E+02	3.1985E+02	1.5752E+04	-6.7623E+04	3.7085E+04	1.5804E+05	-2.3727E+03	4.0271E+03	3.2595E+05
1.3313E+02	2.8431E+02	6.8666E+03	-6.7623E+04	3.1787E+04	2.7231E+05	-2.3727E+03	3.6915E+03	4.5405E+05
1.3313E+02	2.4877E+02	8.6183E+03	-6.7623E+04	2.6489E+04	4.1718E+05	-2.3727E+03	3.3559E+03	6.0794E+05
1.3313E+02	2.1323E+02	3.7157E+04	-6.7623E+04	2.1192E+04	8.1718E+05	-2.3727E+03	3.0203E+03	7.4860E+05
1.3313E+02	1.7769E+02	1.4584E+05	-6.7623E+04	1.5894E+04	2.6629E+06	-2.3727E+03	2.6847E+03	6.7950E+05
1.3313E+02	1.4215E+02	9.2457E+05	-6.7623E+04	1.0596E+04	5.8662E+06	-2.3727E+03	2.3491E+03	8.6355E+05
1.3313E+02	1.0662E+02	3.9045E+06	-6.7623E+04	5.2979E+03	9.4393E+06	-2.3727E+03	2.0135E+03	1.0576E+06
1.3313E+02	7.1077E+01	9.5594E+06	-6.7623E+04	0.0000E+00	1.8634E+07	-2.3727E+03	1.6779E+03	1.0409E+06
1.3313E+02	3.5539E+01	1.7035E+07	-7.3338E+04	1.5364E+05	1.7822E+03	-2.3727E+03	1.3424E+03	9.5158E+05
1.3313E+02	0.0000E+00	3.9729E+07	-7.3338E+04	1.0066E+05	3.0989E+02	-2.3727E+03	1.0068E+03	1.1950E+06
9.3665E+01	1.6348E+03	3.5000E+00	-7.3338E+04	9.5362E+04	9.3105E+03	-2.3727E+03	6.7118E+02	1.5760E+06
9.3665E+01	1.5992E+03	5.2500E+00	-7.3338E+04	9.0064E+04	1.0418E+04	-2.3727E+03	3.3559E+02	4.1922E+06
9.3665E+01	1.5282E+03	5.2500E+00	-7.3338E+04	8.4766E+04	3.3217E+03	-2.3727E+03	0.0000E+00	8.0132E+06
9.3665E+01	1.4926E+03	1.7500E+00	-7.3338E+04	7.9468E+04	4.3563E+03	-2.7493E+03	1.5102E+04	3.1056E+01
9.3665E+01	1.3860E+03	1.7500E+00	-7.3338E+04	7.4170E+04	9.1429E+03	-2.7493E+03	1.4430E+04	1.6625E+00
9.3665E+01	1.3505E+03	1.7500E+00	-7.3338E+04	6.8872E+04	3.0375E+04	-2.7493E+03	1.3759E+04	1.0496E+02
9.3665E+01	1.3149E+03	1.7500E+00	-7.3338E+04	6.3575E+04	2.3508E+04	-2.7493E+03	1.3088E+04	7.9735E+02
9.3665E+01	1.2439E+03	1.2500E+00	-7.3338E+04	5.8277E+04	4.9690E+04	-2.7493E+03	1.2752E+04	6.2475E+02
9.3665E+01	9.5955E+02	1.2500E+00	-7.3338E+04	5.2979E+04	6.6144E+04	-2.7493E+03	1.2417E+04	1.2134E+02
9.3665E+01	8.1739E+02	3.4125E+00	-7.3338E+04	4.7681E+04	1.0021E+05	-2.7493E+03	1.2081E+04	3.3265E+02
9.3665E+01	7.4631E+02	1.2500E+00	-7.3338E+04	4.2383E+04	1.1850E+05	-2.7493E+03	1.1746E+04	4.1982E+02

Markov Matrices								
Tower shear, bottom F_y [kN]			Tower bending, bottom M_x [kNm]			Tower torsion, bottom M_z [kNm]		
Level	Range	Cycles	Level	Range	Cycles	Level	Range	Cycles
9.3665E+01	7.1077E+02	7.2458E+00	-7.3338E+04	3.7085E+04	1.6115E+05	-2.7493E+03	1.1410E+04	7.2685E+02
9.3665E+01	6.7524E+02	1.7163E+01	-7.3338E+04	3.1787E+04	2.4192E+05	-2.7493E+03	1.1074E+04	5.4222E+02
9.3665E+01	6.3970E+02	8.2947E+01	-7.3338E+04	2.6489E+04	4.6715E+05	-2.7493E+03	1.0739E+04	9.3853E+02
9.3665E+01	6.0416E+02	5.7410E+01	-7.3338E+04	2.1192E+04	1.0409E+06	-2.7493E+03	1.0403E+04	1.3190E+03
9.3665E+01	5.6862E+02	7.8152E+01	-7.3338E+04	1.5894E+04	3.5264E+06	-2.7493E+03	1.0068E+04	1.5885E+03
9.3665E+01	5.3308E+02	3.4660E+03	-7.3338E+04	1.0596E+04	8.1273E+06	-2.7493E+03	9.7321E+03	2.6352E+03
9.3665E+01	4.9754E+02	3.6714E+02	-7.3338E+04	5.2979E+03	1.0811E+07	-2.7493E+03	9.3965E+03	6.2769E+03
9.3665E+01	4.6200E+02	1.8037E+03	-7.3338E+04	0.0000E+00	2.0543E+07	-2.7493E+03	9.0609E+03	3.8750E+02
9.3665E+01	4.2646E+02	1.6124E+03	-7.9054E+04	1.4304E+05	7.9735E+02	-2.7493E+03	8.7253E+03	2.3316E+03
9.3665E+01	3.9093E+02	3.9729E+03	-7.9054E+04	9.5362E+04	4.2406E+03	-2.7493E+03	8.3897E+03	3.4723E+03
9.3665E+01	3.5539E+02	4.3795E+03	-7.9054E+04	9.0064E+04	3.4993E+03	-2.7493E+03	8.0541E+03	3.3436E+03
9.3665E+01	3.1985E+02	3.5468E+03	-7.9054E+04	8.4766E+04	1.2875E+04	-2.7493E+03	7.7185E+03	1.7746E+04
9.3665E+01	2.8431E+02	4.7182E+03	-7.9054E+04	7.9468E+04	1.6318E+04	-2.7493E+03	7.3830E+03	5.2143E+03
9.3665E+01	2.4877E+02	3.1910E+03	-7.9054E+04	7.4170E+04	2.1411E+04	-2.7493E+03	7.0474E+03	1.1291E+04
9.3665E+01	2.1323E+02	2.2104E+04	-7.9054E+04	6.8872E+04	1.3272E+04	-2.7493E+03	6.7118E+03	3.0518E+04
9.3665E+01	1.7769E+02	2.5268E+04	-7.9054E+04	6.3575E+04	4.1202E+04	-2.7493E+03	6.3762E+03	2.9432E+04
9.3665E+01	1.4215E+02	2.3042E+05	-7.9054E+04	5.8277E+04	4.7990E+04	-2.7493E+03	6.0406E+03	6.9744E+04
9.3665E+01	1.0662E+02	1.5148E+06	-7.9054E+04	5.2979E+04	5.5916E+04	-2.7493E+03	5.7050E+03	7.1561E+04
9.3665E+01	7.1077E+01	4.4554E+06	-7.9054E+04	4.7681E+04	6.9933E+04	-2.7493E+03	5.3694E+03	1.0116E+05
9.3665E+01	3.5539E+01	7.1959E+06	-7.9054E+04	4.2383E+04	1.2050E+05	-2.7493E+03	5.0338E+03	1.1647E+05
9.3665E+01	0.0000E+00	1.9961E+07	-7.9054E+04	3.7085E+04	2.0358E+05	-2.7493E+03	4.6982E+03	1.1454E+05
5.4202E+01	1.7059E+03	1.7500E+00	-7.9054E+04	3.1787E+04	2.0794E+05	-2.7493E+03	4.3627E+03	2.2276E+05
5.4202E+01	1.6703E+03	3.5000E+00	-7.9054E+04	2.6489E+04	4.8634E+05	-2.7493E+03	4.0271E+03	2.4299E+05
5.4202E+01	1.6348E+03	1.7500E+00	-7.9054E+04	2.1192E+04	1.4021E+06	-2.7493E+03	3.6915E+03	3.5359E+05
5.4202E+01	1.5992E+03	7.0000E+00	-7.9054E+04	1.5894E+04	3.9767E+06	-2.7493E+03	3.3559E+03	4.5943E+05
5.4202E+01	1.5637E+03	1.7500E+00	-7.9054E+04	1.0596E+04	7.7593E+06	-2.7493E+03	3.0203E+03	6.2079E+05
5.4202E+01	1.5282E+03	5.2500E+00	-7.9054E+04	5.2979E+03	1.0195E+07	-2.7493E+03	2.6847E+03	6.9974E+05
5.4202E+01	1.4926E+03	1.7500E+00	-7.9054E+04	0.0000E+00	2.0329E+07	-2.7493E+03	2.3491E+03	7.2835E+05
5.4202E+01	1.4571E+03	3.5000E+00	-8.4769E+04	1.2185E+05	3.4433E+03	-2.7493E+03	2.0135E+03	8.5940E+05
5.4202E+01	1.3505E+03	1.7500E+00	-8.4769E+04	1.1655E+05	3.4433E+03	-2.7493E+03	1.6779E+03	7.2962E+05
5.4202E+01	1.3149E+03	1.7500E+00	-8.4769E+04	1.0066E+05	7.6839E+03	-2.7493E+03	1.3424E+03	7.9316E+05
5.4202E+01	8.1739E+02	3.3333E+00	-8.4769E+04	9.5362E+04	1.7822E+03	-2.7493E+03	1.0068E+03	9.0945E+05
5.4202E+01	7.8185E+02	6.5000E+00	-8.4769E+04	9.0064E+04	5.1590E+03	-2.7493E+03	6.7118E+02	1.2390E+06
5.4202E+01	7.4631E+02	5.1625E+00	-8.4769E+04	8.4766E+04	1.3174E+04	-2.7493E+03	3.3559E+02	3.5489E+06
5.4202E+01	7.1077E+02	2.1667E+01	-8.4769E+04	7.9468E+04	1.0693E+04	-2.7493E+03	0.0000E+00	6.5381E+06

Markov Matrices								
Tower shear, bottom F_y [kN]			Tower bending, bottom M_x [kNm]			Tower torsion, bottom M_z [kNm]		
Level	Range	Cycles	Level	Range	Cycles	Level	Range	Cycles
5.4202E+01	6.7524E+02	5.1246E+01	-8.4769E+04	7.4170E+04	2.1786E+04	-3.1259E+03	1.6779E+04	3.1056E+01
5.4202E+01	6.3970E+02	3.2250E+01	-8.4769E+04	6.8872E+04	1.9242E+04	-3.1259E+03	1.4430E+04	6.2113E+01
5.4202E+01	6.0416E+02	6.9417E+01	-8.4769E+04	6.3575E+04	1.7700E+04	-3.1259E+03	1.4095E+04	1.5000E+02
5.4202E+01	5.6862E+02	1.7992E+01	-8.4769E+04	5.8277E+04	5.1203E+04	-3.1259E+03	1.3759E+04	1.0496E+02
5.4202E+01	5.3308E+02	1.2508E+02	-8.4769E+04	5.2979E+04	4.0818E+04	-3.1259E+03	1.3424E+04	3.1056E+01
5.4202E+01	4.9754E+02	9.7240E+01	-8.4769E+04	4.7681E+04	8.6569E+04	-3.1259E+03	1.2752E+04	4.1484E+02
5.4202E+01	4.6200E+02	2.5839E+02	-8.4769E+04	4.2383E+04	1.0562E+05	-3.1259E+03	1.2417E+04	2.7202E+02
5.4202E+01	4.2646E+02	2.8280E+02	-8.4769E+04	3.7085E+04	1.2776E+05	-3.1259E+03	1.2081E+04	6.2113E+01
5.4202E+01	3.9093E+02	1.9757E+02	-8.4769E+04	3.1787E+04	2.2123E+05	-3.1259E+03	1.1746E+04	4.1347E+01
5.4202E+01	3.5539E+02	6.3194E+03	-8.4769E+04	2.6489E+04	4.9542E+05	-3.1259E+03	1.1410E+04	3.7444E+02
5.4202E+01	3.1985E+02	1.2448E+04	-8.4769E+04	2.1192E+04	1.1047E+06	-3.1259E+03	1.1074E+04	2.4862E+02
5.4202E+01	2.8431E+02	4.3484E+02	-8.4769E+04	1.5894E+04	3.8123E+06	-3.1259E+03	1.0739E+04	6.9233E+02
5.4202E+01	2.4877E+02	8.8591E+02	-8.4769E+04	1.0596E+04	7.3910E+06	-3.1259E+03	1.0403E+04	9.4450E+00
5.4202E+01	2.1323E+02	1.2324E+03	-8.4769E+04	5.2979E+03	9.3476E+06	-3.1259E+03	1.0068E+04	1.0123E+03
5.4202E+01	1.7769E+02	4.0459E+04	-8.4769E+04	0.0000E+00	1.8834E+07	-3.1259E+03	9.7321E+03	4.3016E+02
5.4202E+01	1.4215E+02	1.2133E+05	-9.0485E+04	1.0596E+05	6.8865E+03	-3.1259E+03	9.3965E+03	1.3142E+03
5.4202E+01	1.0662E+02	6.1625E+05	-9.0485E+04	1.0066E+05	3.4433E+03	-3.1259E+03	9.0609E+03	3.9063E+03
5.4202E+01	7.1077E+01	1.7797E+06	-9.0485E+04	9.5362E+04	5.3465E+03	-3.1259E+03	8.7253E+03	7.7810E+02
5.4202E+01	3.5539E+01	4.0843E+06	-9.0485E+04	8.4766E+04	2.1254E+04	-3.1259E+03	8.3897E+03	4.8376E+03
5.4202E+01	0.0000E+00	1.2536E+07	-9.0485E+04	7.9468E+04	3.0456E+04	-3.1259E+03	8.0541E+03	3.7346E+03
1.4740E+01	1.7769E+03	3.5000E+00	-9.0485E+04	7.4170E+04	2.9570E+04	-3.1259E+03	7.7185E+03	4.4774E+03
1.4740E+01	1.7059E+03	3.5000E+00	-9.0485E+04	6.8872E+04	3.3366E+04	-3.1259E+03	7.3830E+03	4.4220E+03
1.4740E+01	1.6703E+03	3.5000E+00	-9.0485E+04	6.3575E+04	6.1566E+04	-3.1259E+03	7.0474E+03	2.5267E+03
1.4740E+01	1.6348E+03	3.5000E+00	-9.0485E+04	5.8277E+04	8.9709E+04	-3.1259E+03	6.7118E+03	2.8230E+04
1.4740E+01	1.5992E+03	3.5000E+00	-9.0485E+04	5.2979E+04	6.8598E+04	-3.1259E+03	6.3762E+03	2.8439E+04
1.4740E+01	1.5637E+03	1.7500E+00	-9.0485E+04	4.7681E+04	1.1199E+05	-3.1259E+03	6.0406E+03	4.1623E+04
1.4740E+01	1.5282E+03	5.2500E+00	-9.0485E+04	4.2383E+04	6.0599E+04	-3.1259E+03	5.7050E+03	4.6165E+04
1.4740E+01	1.4926E+03	3.5000E+00	-9.0485E+04	3.7085E+04	1.3077E+05	-3.1259E+03	5.3694E+03	7.5509E+04
1.4740E+01	1.4571E+03	1.7500E+00	-9.0485E+04	3.1787E+04	1.6302E+05	-3.1259E+03	5.0338E+03	9.0625E+04
1.4740E+01	1.4215E+03	1.7500E+00	-9.0485E+04	2.6489E+04	3.2368E+05	-3.1259E+03	4.6982E+03	1.2820E+05
1.4740E+01	1.3860E+03	1.7500E+00	-9.0485E+04	2.1192E+04	1.0588E+06	-3.1259E+03	4.3627E+03	1.9777E+05
1.4740E+01	1.2794E+03	3.5000E+00	-9.0485E+04	1.5894E+04	3.4309E+06	-3.1259E+03	4.0271E+03	1.3612E+05
1.4740E+01	1.2439E+03	1.7500E+00	-9.0485E+04	1.0596E+04	7.2386E+06	-3.1259E+03	3.6915E+03	3.0864E+05
1.4740E+01	9.2401E+02	4.1667E+01	-9.0485E+04	5.2979E+03	9.7812E+06	-3.1259E+03	3.3559E+03	2.8389E+05
1.4740E+01	8.8847E+02	1.2500E+00	-9.0485E+04	0.0000E+00	1.8779E+07	-3.1259E+03	3.0203E+03	3.6542E+05

Markov Matrices								
Tower shear, bottom F_y [kN]			Tower bending, bottom M_x [kNm]			Tower torsion, bottom M_z [kNm]		
Level	Range	Cycles	Level	Range	Cycles	Level	Range	Cycles
1.4740E+01	8.5293E+02	1.7500E+00	-9.6201E+04	1.1126E+05	3.4433E+03	-3.1259E+03	2.6847E+03	5.4767E+05
1.4740E+01	8.1739E+02	1.7500E+00	-9.6201E+04	1.0066E+05	1.7822E+03	-3.1259E+03	2.3491E+03	5.1140E+05
1.4740E+01	7.8185E+02	2.1667E+01	-9.6201E+04	9.5362E+04	3.4433E+03	-3.1259E+03	2.0135E+03	5.4206E+05
1.4740E+01	7.4631E+02	4.0912E+01	-9.6201E+04	9.0064E+04	1.2909E+04	-3.1259E+03	1.6779E+03	6.0388E+05
1.4740E+01	7.1077E+02	9.0912E+01	-9.6201E+04	8.4766E+04	1.3894E+04	-3.1259E+03	1.3424E+03	5.5606E+05
1.4740E+01	6.7524E+02	1.1433E+02	-9.6201E+04	7.9468E+04	4.3672E+04	-3.1259E+03	1.0068E+03	6.9058E+05
1.4740E+01	6.3970E+02	7.8745E+01	-9.6201E+04	7.4170E+04	7.0439E+04	-3.1259E+03	6.7118E+02	1.0821E+06
1.4740E+01	6.0416E+02	1.1417E+02	-9.6201E+04	6.8872E+04	3.1584E+04	-3.1259E+03	3.3559E+02	2.6128E+06
1.4740E+01	5.6862E+02	1.8167E+01	-9.6201E+04	6.3575E+04	3.7550E+04	-3.1259E+03	0.0000E+00	4.7908E+06
1.4740E+01	5.3308E+02	8.3320E+01	-9.6201E+04	5.8277E+04	4.9058E+04	-3.5024E+03	1.3759E+04	3.1056E+01
1.4740E+01	4.9754E+02	8.5750E+00	-9.6201E+04	5.2979E+04	4.1047E+04	-3.5024E+03	1.3424E+04	1.5041E+02
1.4740E+01	4.6200E+02	1.8982E+02	-9.6201E+04	4.7681E+04	6.8366E+04	-3.5024E+03	1.3088E+04	3.2306E+01
1.4740E+01	4.2646E+02	2.4250E+01	-9.6201E+04	4.2383E+04	7.5814E+04	-3.5024E+03	1.2417E+04	1.0537E+02
1.4740E+01	3.9093E+02	1.4490E+02	-9.6201E+04	3.7085E+04	1.0913E+05	-3.5024E+03	1.2081E+04	7.1570E+01
1.4740E+01	3.5539E+02	2.4867E+02	-9.6201E+04	3.1787E+04	1.4632E+05	-3.5024E+03	1.1746E+04	4.1250E-01
1.4740E+01	3.1985E+02	2.7756E+02	-9.6201E+04	2.6489E+04	3.3873E+05	-3.5024E+03	1.1410E+04	4.8193E+02
1.4740E+01	2.8431E+02	3.4989E+03	-9.6201E+04	2.1192E+04	1.2340E+06	-3.5024E+03	1.1074E+04	7.6028E+01
1.4740E+01	2.4877E+02	1.3532E+04	-9.6201E+04	1.5894E+04	3.3133E+06	-3.5024E+03	1.0739E+04	9.0244E+02
1.4740E+01	2.1323E+02	7.1786E+04	-9.6201E+04	1.0596E+04	7.6446E+06	-3.5024E+03	1.0403E+04	7.1015E+02
1.4740E+01	1.7769E+02	2.9308E+05	-9.6201E+04	5.2979E+03	1.1630E+07	-3.5024E+03	1.0068E+04	3.5284E+02
1.4740E+01	1.4215E+02	7.1688E+05	-9.6201E+04	0.0000E+00	2.4988E+07	-3.5024E+03	9.7321E+03	4.1625E+00
1.4740E+01	1.0662E+02	1.4417E+06	-1.0192E+05	1.0596E+05	7.9735E+02	-3.5024E+03	9.3965E+03	4.6746E+02
1.4740E+01	7.1077E+01	3.0246E+06	-1.0192E+05	1.0066E+05	1.3773E+04	-3.5024E+03	9.0609E+03	4.4801E+02
1.4740E+01	3.5539E+01	7.1772E+06	-1.0192E+05	9.5362E+04	1.0330E+04	-3.5024E+03	8.7253E+03	2.4244E+03
1.4740E+01	0.0000E+00	3.6334E+07	-1.0192E+05	9.0064E+04	1.4986E+04	-3.5024E+03	8.3897E+03	8.3551E+02
-2.4722E+01	1.7414E+03	5.2500E+00	-1.0192E+05	8.4766E+04	5.1250E+03	-3.5024E+03	8.0541E+03	9.3299E+02
-2.4722E+01	1.6703E+03	3.5000E+00	-1.0192E+05	7.9468E+04	6.8865E+03	-3.5024E+03	7.7185E+03	9.6053E+02
-2.4722E+01	1.1372E+03	1.7500E+00	-1.0192E+05	7.4170E+04	5.2085E+00	-3.5024E+03	7.3830E+03	1.1911E+04
-2.4722E+01	1.0306E+03	1.2500E+00	-1.0192E+05	6.8872E+04	1.4901E+04	-3.5024E+03	7.0474E+03	1.1110E+04
-2.4722E+01	9.9508E+02	1.2500E+00	-1.0192E+05	6.3575E+04	4.7888E+04	-3.5024E+03	6.7118E+03	1.4387E+04
-2.4722E+01	8.1739E+02	2.5000E+00	-1.0192E+05	5.8277E+04	6.7720E+04	-3.5024E+03	6.3762E+03	2.6856E+04
-2.4722E+01	7.8185E+02	4.7667E+01	-1.0192E+05	5.2979E+04	1.2114E+05	-3.5024E+03	6.0406E+03	1.1654E+04
-2.4722E+01	7.4631E+02	4.7329E+01	-1.0192E+05	4.7681E+04	1.5266E+05	-3.5024E+03	5.7050E+03	3.0322E+04
-2.4722E+01	7.1077E+02	5.8083E+01	-1.0192E+05	4.2383E+04	1.9533E+05	-3.5024E+03	5.3694E+03	4.8533E+04
-2.4722E+01	6.7524E+02	5.3917E+01	-1.0192E+05	3.7085E+04	3.0328E+05	-3.5024E+03	5.0338E+03	5.4207E+04

Markov Matrices

Tower shear, bottom F_y [kN]			Tower bending, bottom M_x [kNm]			Tower torsion, bottom M_z [kNm]		
Level	Range	Cycles	Level	Range	Cycles	Level	Range	Cycles
-2.4722E+01	6.3970E+02	6.5000E+00	-1.0192E+05	3.1787E+04	2.6903E+05	-3.5024E+03	4.6982E+03	5.3923E+04
-2.4722E+01	6.0416E+02	1.2250E+01	-1.0192E+05	2.6489E+04	4.4453E+05	-3.5024E+03	4.3627E+03	8.6781E+04
-2.4722E+01	5.6862E+02	8.7500E+00	-1.0192E+05	2.1192E+04	1.3649E+06	-3.5024E+03	4.0271E+03	1.1052E+05
-2.4722E+01	5.3308E+02	1.3250E+01	-1.0192E+05	1.5894E+04	3.8718E+06	-3.5024E+03	3.6915E+03	1.2449E+05
-2.4722E+01	4.9754E+02	4.6250E+01	-1.0192E+05	1.0596E+04	1.0051E+07	-3.5024E+03	3.3559E+03	1.6719E+05
-2.4722E+01	4.6200E+02	5.2333E+01	-1.0192E+05	5.2979E+03	1.6647E+07	-3.5024E+03	3.0203E+03	3.0565E+05
-2.4722E+01	4.2646E+02	7.9417E+01	-1.0192E+05	0.0000E+00	3.7351E+07	-3.5024E+03	2.6847E+03	2.9410E+05
-2.4722E+01	3.9093E+02	1.6039E+02	-1.0763E+05	7.4170E+04	2.0198E+04	-3.5024E+03	2.3491E+03	3.1230E+05
-2.4722E+01	3.5539E+02	1.3748E+02	-1.0763E+05	6.8872E+04	1.8156E+04	-3.5024E+03	2.0135E+03	4.5177E+05
-2.4722E+01	3.1985E+02	2.0025E+02	-1.0763E+05	6.3575E+04	3.6881E+04	-3.5024E+03	1.6779E+03	3.7894E+05
-2.4722E+01	2.8431E+02	4.5941E+02	-1.0763E+05	5.8277E+04	7.6427E+04	-3.5024E+03	1.3424E+03	3.4333E+05
-2.4722E+01	2.4877E+02	1.0452E+03	-1.0763E+05	5.2979E+04	6.9759E+04	-3.5024E+03	1.0068E+03	4.9572E+05
-2.4722E+01	2.1323E+02	2.4077E+04	-1.0763E+05	4.7681E+04	1.6827E+05	-3.5024E+03	6.7118E+02	7.2547E+05
-2.4722E+01	1.7769E+02	4.2463E+04	-1.0763E+05	4.2383E+04	2.0805E+05	-3.5024E+03	3.3559E+02	1.6824E+06
-2.4722E+01	1.4215E+02	7.2606E+04	-1.0763E+05	3.7085E+04	3.5340E+05	-3.5024E+03	0.0000E+00	3.3900E+06
-2.4722E+01	1.0662E+02	1.0479E+05	-1.0763E+05	3.1787E+04	6.6228E+05	-3.8790E+03	1.3424E+04	6.9575E+00
-2.4722E+01	7.1077E+01	3.1745E+05	-1.0763E+05	2.6489E+04	1.1459E+06	-3.8790E+03	1.3088E+04	3.1056E+01
-2.4722E+01	3.5539E+01	1.8588E+06	-1.0763E+05	2.1192E+04	2.6453E+06	-3.8790E+03	1.2752E+04	3.1056E+01
-2.4722E+01	0.0000E+00	1.6732E+07	-1.0763E+05	1.5894E+04	6.1261E+06	-3.8790E+03	1.2081E+04	6.2113E+01
-6.4185E+01	1.0306E+03	1.7500E+00	-1.0763E+05	1.0596E+04	1.5578E+07	-3.8790E+03	1.1746E+04	1.5578E+01
-6.4185E+01	8.8847E+02	1.2500E+00	-1.0763E+05	5.2979E+03	2.2237E+07	-3.8790E+03	1.1410E+04	9.8700E+00
-6.4185E+01	7.8185E+02	1.7500E+00	-1.0763E+05	0.0000E+00	5.2103E+07	-3.8790E+03	1.1074E+04	1.0417E+00
-6.4185E+01	6.7524E+02	1.7500E+00	-1.1335E+05	7.4170E+04	5.2085E+00	-3.8790E+03	1.0739E+04	6.2113E+01
-6.4185E+01	6.3970E+02	7.0000E+00	-1.1335E+05	6.8872E+04	1.3498E+04	-3.8790E+03	1.0403E+04	1.5691E+02
-6.4185E+01	6.0416E+02	9.5000E+00	-1.1335E+05	6.3575E+04	1.3223E+04	-3.8790E+03	1.0068E+04	3.3408E+02
-6.4185E+01	5.6862E+02	8.5750E+00	-1.1335E+05	5.8277E+04	1.7500E+00	-3.8790E+03	9.7321E+03	3.6896E+02
-6.4185E+01	5.3308E+02	7.0000E+00	-1.1335E+05	5.2979E+04	5.2085E+00	-3.8790E+03	9.3965E+03	3.4805E+02
-6.4185E+01	4.9754E+02	5.4742E+01	-1.1335E+05	4.7681E+04	2.1514E+04	-3.8790E+03	9.0609E+03	1.7647E+02
-6.4185E+01	4.6200E+02	1.0250E+01	-1.1335E+05	4.2383E+04	4.6170E+04	-3.8790E+03	8.7253E+03	1.0144E+03
-6.4185E+01	4.2646E+02	1.5842E+02	-1.1335E+05	3.7085E+04	9.4258E+04	-3.8790E+03	8.3897E+03	5.7658E+02
-6.4185E+01	3.9093E+02	2.0683E+02	-1.1335E+05	3.1787E+04	2.2382E+05	-3.8790E+03	8.0541E+03	2.2970E+03
-6.4185E+01	3.5539E+02	2.9875E+02	-1.1335E+05	2.6489E+04	5.6243E+05	-3.8790E+03	7.7185E+03	6.9766E+02
-6.4185E+01	3.1985E+02	1.7458E+02	-1.1335E+05	2.1192E+04	1.1233E+06	-3.8790E+03	7.3830E+03	2.0517E+03
-6.4185E+01	2.8431E+02	5.6175E+02	-1.1335E+05	1.5894E+04	3.8014E+06	-3.8790E+03	7.0474E+03	3.3121E+03
-6.4185E+01	2.4877E+02	2.1082E+02	-1.1335E+05	1.0596E+04	1.1062E+07	-3.8790E+03	6.7118E+03	4.0150E+03

Markov Matrices								
Tower shear, bottom F_y [kN]			Tower bending, bottom M_x [kNm]			Tower torsion, bottom M_z [kNm]		
Level	Range	Cycles	Level	Range	Cycles	Level	Range	Cycles
-6.4185E+01	2.1323E+02	4.0167E+01	-1.1335E+05	5.2979E+03	1.9149E+07	-3.8790E+03	6.3762E+03	9.9696E+03
-6.4185E+01	1.7769E+02	3.6441E+03	-1.1335E+05	0.0000E+00	4.2560E+07	-3.8790E+03	6.0406E+03	3.5529E+03
-6.4185E+01	1.4215E+02	2.4000E+03	-1.1906E+05	3.7085E+04	8.2930E+03	-3.8790E+03	5.7050E+03	1.1006E+04
-6.4185E+01	1.0662E+02	3.3935E+04	-1.1906E+05	3.1787E+04	3.4433E+03	-3.8790E+03	5.3694E+03	7.2067E+03
-6.4185E+01	7.1077E+01	1.3118E+05	-1.1906E+05	2.6489E+04	7.1806E+04	-3.8790E+03	5.0338E+03	4.4205E+04
-6.4185E+01	3.5539E+01	3.5974E+05	-1.1906E+05	2.1192E+04	1.9177E+05	-3.8790E+03	4.6982E+03	5.0128E+04
-6.4185E+01	0.0000E+00	2.0184E+06	-1.1906E+05	1.5894E+04	8.6712E+05	-3.8790E+03	4.3627E+03	5.4135E+04
-1.0365E+02	1.1372E+03	1.7500E+00	-1.1906E+05	1.0596E+04	3.1972E+06	-3.8790E+03	4.0271E+03	9.8747E+04
-1.0365E+02	8.8847E+02	1.7500E+00	-1.1906E+05	5.2979E+03	6.3279E+06	-3.8790E+03	3.6915E+03	9.6788E+04
-1.0365E+02	7.1077E+02	1.7500E+00	-1.1906E+05	0.0000E+00	1.6735E+07	-3.8790E+03	3.3559E+03	9.7297E+04
-1.0365E+02	6.7524E+02	1.7500E+00	-1.2478E+05	3.1787E+04	1.7500E+00	-3.8790E+03	3.0203E+03	1.0589E+05
-1.0365E+02	6.3970E+02	3.5000E+00	-1.2478E+05	2.1192E+04	1.4036E+04	-3.8790E+03	2.6847E+03	1.2621E+05
-1.0365E+02	6.0416E+02	3.5000E+00	-1.2478E+05	1.5894E+04	1.2763E+05	-3.8790E+03	2.3491E+03	1.6854E+05
-1.0365E+02	5.6862E+02	5.0417E+01	-1.2478E+05	1.0596E+04	5.6583E+05	-3.8790E+03	2.0135E+03	2.3991E+05
-1.0365E+02	5.3308E+02	3.5000E+00	-1.2478E+05	5.2979E+03	1.2458E+06	-3.8790E+03	1.6779E+03	2.2711E+05
-1.0365E+02	4.9754E+02	1.1683E+02	-1.2478E+05	0.0000E+00	4.1228E+06	-3.8790E+03	1.3424E+03	2.3636E+05
-1.0365E+02	4.6200E+02	8.5167E+01	-1.3049E+05	1.5894E+04	4.0385E+04	-3.8790E+03	1.0068E+03	2.8452E+05
-1.0365E+02	4.2646E+02	1.4032E+02	-1.3049E+05	1.0596E+04	9.7455E+04	-3.8790E+03	6.7118E+02	4.2246E+05
-1.0365E+02	3.9093E+02	1.7550E+02	-1.3049E+05	5.2979E+03	3.1038E+05	-3.8790E+03	3.3559E+02	1.0215E+06
-1.0365E+02	3.5539E+02	1.2508E+02	-1.3049E+05	0.0000E+00	9.2754E+05	-3.8790E+03	0.0000E+00	2.6530E+06
-1.0365E+02	3.1985E+02	1.9850E+02	-1.3621E+05	1.5894E+04	8.4830E+03	-4.2556E+03	1.2417E+04	2.0872E+01
-1.0365E+02	2.8431E+02	6.8250E+00	-1.3621E+05	1.0596E+04	3.9834E+04	-4.2556E+03	1.1746E+04	1.0703E+02
-1.0365E+02	2.4877E+02	4.3250E+00	-1.3621E+05	5.2979E+03	8.4541E+04	-4.2556E+03	1.1410E+04	2.9125E+00
-1.0365E+02	2.1323E+02	5.0667E+01	-1.3621E+05	0.0000E+00	2.9301E+05	-4.2556E+03	1.1074E+04	1.0621E+02
-1.0365E+02	1.7769E+02	1.7449E+02	-1.4193E+05	1.0596E+04	1.8932E+04	-4.2556E+03	1.0739E+04	4.5750E+00
-1.0365E+02	1.4215E+02	4.0300E+02	-1.4193E+05	5.2979E+03	1.3236E+04	-4.2556E+03	1.0403E+04	3.1056E+01
-1.0365E+02	1.0662E+02	4.8866E+02	-1.4193E+05	0.0000E+00	7.4941E+04	-4.2556E+03	1.0068E+04	2.0991E+02
-1.0365E+02	7.1077E+01	3.8475E+03	-1.4764E+05	5.2979E+03	1.0417E+01	-4.2556E+03	9.7321E+03	3.0000E+02
-1.0365E+02	3.5539E+01	8.5203E+03	-1.4764E+05	0.0000E+00	1.0461E+04	-4.2556E+03	9.3965E+03	6.3775E+01
-1.0365E+02	0.0000E+00	1.2859E+05	-1.5336E+05	0.0000E+00	1.0417E+01	-4.2556E+03	9.0609E+03	5.0976E+02
-1.4311E+02	1.2083E+03	1.7500E+00				-4.2556E+03	8.7253E+03	6.3350E+01
-1.4311E+02	1.1728E+03	1.7500E+00				-4.2556E+03	8.3897E+03	6.3567E+01
-1.4311E+02	1.1372E+03	1.7500E+00				-4.2556E+03	8.0541E+03	8.7588E+02
-1.4311E+02	1.0662E+03	5.2500E+00				-4.2556E+03	7.7185E+03	4.3498E+02
-1.4311E+02	1.0306E+03	5.2500E+00				-4.2556E+03	7.3830E+03	5.2198E+02

Markov Matrices								
Tower shear, bottom F_y [kN]			Tower bending, bottom M_x [kNm]			Tower torsion, bottom M_z [kNm]		
Level	Range	Cycles	Level	Range	Cycles	Level	Range	Cycles
-1.4311E+02	9.9508E+02	1.7500E+00				-4.2556E+03	7.0474E+03	9.2026E+01
-1.4311E+02	8.8847E+02	3.5000E+00				-4.2556E+03	6.7118E+03	2.4285E+03
-1.4311E+02	8.5293E+02	1.7500E+00				-4.2556E+03	6.3762E+03	1.4539E+03
-1.4311E+02	7.1077E+02	1.7500E+00				-4.2556E+03	6.0406E+03	6.3326E+03
-1.4311E+02	5.3308E+02	1.7500E+00				-4.2556E+03	5.7050E+03	2.0564E+04
-1.4311E+02	4.9754E+02	4.2500E+00				-4.2556E+03	5.3694E+03	1.3844E+04
-1.4311E+02	4.2646E+02	8.3333E+01				-4.2556E+03	5.0338E+03	4.9163E+03
-1.4311E+02	3.5539E+02	3.5000E+00				-4.2556E+03	4.6982E+03	9.4109E+03
-1.4311E+02	2.4877E+02	1.6417E+01				-4.2556E+03	4.3627E+03	4.0292E+04
-1.4311E+02	2.1323E+02	1.7367E+02				-4.2556E+03	4.0271E+03	5.4871E+04
-1.4311E+02	1.7769E+02	2.8492E+02				-4.2556E+03	3.6915E+03	6.4178E+04
-1.4311E+02	1.4215E+02	4.4541E+02				-4.2556E+03	3.3559E+03	4.6427E+04
-1.4311E+02	1.0662E+02	2.2607E+02				-4.2556E+03	3.0203E+03	4.2653E+04
-1.4311E+02	7.1077E+01	2.5332E+02				-4.2556E+03	2.6847E+03	8.2476E+04
-1.4311E+02	3.5539E+01	1.2957E+03				-4.2556E+03	2.3491E+03	8.8598E+04
-1.4311E+02	0.0000E+00	1.0520E+04				-4.2556E+03	2.0135E+03	8.4994E+04
-1.8257E+02	1.3149E+03	1.7500E+00				-4.2556E+03	1.6779E+03	1.1968E+05
-1.8257E+02	1.2439E+03	1.7500E+00				-4.2556E+03	1.3424E+03	9.0168E+04
-1.8257E+02	1.2083E+03	3.5000E+00				-4.2556E+03	1.0068E+03	1.5081E+05
-1.8257E+02	1.1728E+03	1.7500E+00				-4.2556E+03	6.7118E+02	2.2257E+05
-1.8257E+02	1.1372E+03	1.7500E+00				-4.2556E+03	3.3559E+02	6.9193E+05
-1.8257E+02	1.1017E+03	5.2500E+00				-4.2556E+03	0.0000E+00	1.5580E+06
-1.8257E+02	1.0662E+03	1.7500E+00				-4.6321E+03	1.1746E+04	4.1250E-01
-1.8257E+02	1.0306E+03	7.0000E+00				-4.6321E+03	1.1410E+04	4.1250E-01
-1.8257E+02	9.9508E+02	3.5000E+00				-4.6321E+03	1.1074E+04	1.2500E+00
-1.8257E+02	9.5955E+02	1.7500E+00				-4.6321E+03	1.0403E+04	9.3169E+01
-1.8257E+02	9.2401E+02	1.7500E+00				-4.6321E+03	1.0068E+04	2.9125E+00
-1.8257E+02	8.8847E+02	1.7500E+00				-4.6321E+03	9.7321E+03	4.1250E-01
-1.8257E+02	8.5293E+02	1.7500E+00				-4.6321E+03	9.0609E+03	6.9575E+00
-1.8257E+02	7.8185E+02	1.7500E+00				-4.6321E+03	8.7253E+03	2.0833E+00
-1.8257E+02	4.2646E+02	1.7500E+00				-4.6321E+03	8.3897E+03	1.2594E+02
-1.8257E+02	3.1985E+02	8.3333E+01				-4.6321E+03	8.0541E+03	4.7916E+00
-1.8257E+02	2.4877E+02	8.3333E+01				-4.6321E+03	7.7185E+03	4.8567E+02
-1.8257E+02	2.1323E+02	9.5000E+00				-4.6321E+03	7.3830E+03	1.5704E+02
-1.8257E+02	1.7769E+02	2.0150E+02				-4.6321E+03	7.0474E+03	6.9955E+02

Markov Matrices								
Tower shear, bottom F_y [kN]			Tower bending, bottom M_x [kNm]			Tower torsion, bottom M_z [kNm]		
Level	Range	Cycles	Level	Range	Cycles	Level	Range	Cycles
-1.8257E+02	1.4215E+02	1.0775E+02				-4.6321E+03	6.7118E+03	2.4256E+03
-1.8257E+02	1.0662E+02	3.2367E+02				-4.6321E+03	6.3762E+03	3.3303E+03
-1.8257E+02	7.1077E+01	2.6865E+02				-4.6321E+03	6.0406E+03	4.1658E+03
-1.8257E+02	3.5539E+01	4.7916E+02				-4.6321E+03	5.7050E+03	1.2718E+03
-1.8257E+02	0.0000E+00	1.7277E+03				-4.6321E+03	5.3694E+03	3.1722E+03
-2.2203E+02	1.3505E+03	1.7500E+00				-4.6321E+03	5.0338E+03	3.9144E+03
-2.2203E+02	1.3149E+03	5.2500E+00				-4.6321E+03	4.6982E+03	1.2192E+04
-2.2203E+02	1.2083E+03	1.7500E+00				-4.6321E+03	4.3627E+03	9.1451E+03
-2.2203E+02	1.1728E+03	1.7500E+00				-4.6321E+03	4.0271E+03	1.0859E+04
-2.2203E+02	1.1372E+03	1.7500E+00				-4.6321E+03	3.6915E+03	4.2024E+04
-2.2203E+02	1.1017E+03	5.2500E+00				-4.6321E+03	3.3559E+03	2.3677E+04
-2.2203E+02	1.0306E+03	7.0000E+00				-4.6321E+03	3.0203E+03	3.0759E+04
-2.2203E+02	9.9508E+02	1.7500E+00				-4.6321E+03	2.6847E+03	3.5900E+04
-2.2203E+02	9.2401E+02	3.5000E+00				-4.6321E+03	2.3491E+03	2.9981E+04
-2.2203E+02	8.8847E+02	1.7500E+00				-4.6321E+03	2.0135E+03	4.8036E+04
-2.2203E+02	8.5293E+02	1.7500E+00				-4.6321E+03	1.6779E+03	3.0100E+04
-2.2203E+02	3.1985E+02	3.5000E+00				-4.6321E+03	1.3424E+03	4.1314E+04
-2.2203E+02	2.8431E+02	3.5000E+00				-4.6321E+03	1.0068E+03	1.1571E+05
-2.2203E+02	2.4877E+02	9.3750E+01				-4.6321E+03	6.7118E+02	1.5144E+05
-2.2203E+02	2.1323E+02	1.4000E+01				-4.6321E+03	3.3559E+02	3.7864E+05
-2.2203E+02	1.7769E+02	1.7367E+02				-4.6321E+03	0.0000E+00	9.3900E+05
-2.2203E+02	1.4215E+02	2.4417E+01				-5.0087E+03	7.7185E+03	1.6707E+02
-2.2203E+02	1.0662E+02	1.9700E+02				-5.0087E+03	7.3830E+03	1.6707E+02
-2.2203E+02	7.1077E+01	2.8017E+02				-5.0087E+03	7.0474E+03	2.8594E+02
-2.2203E+02	3.5539E+01	8.1558E+02				-5.0087E+03	6.7118E+03	1.2538E+03
-2.2203E+02	0.0000E+00	1.8681E+03				-5.0087E+03	6.3762E+03	4.4064E+02
-2.6150E+02	1.2083E+03	5.2500E+00				-5.0087E+03	6.0406E+03	1.5139E+03
-2.6150E+02	1.1728E+03	1.7500E+00				-5.0087E+03	5.7050E+03	1.9911E+02
-2.6150E+02	1.1017E+03	3.5000E+00				-5.0087E+03	5.3694E+03	4.5636E+03
-2.6150E+02	3.9093E+02	2.5000E+00				-5.0087E+03	5.0338E+03	4.6646E+03
-2.6150E+02	2.4877E+02	7.0000E+00				-5.0087E+03	4.6982E+03	1.1317E+04
-2.6150E+02	2.1323E+02	7.0000E+00				-5.0087E+03	4.3627E+03	5.2906E+03
-2.6150E+02	1.7769E+02	3.5000E+00				-5.0087E+03	4.0271E+03	5.5386E+03
-2.6150E+02	1.4215E+02	1.7500E+01				-5.0087E+03	3.6915E+03	4.0760E+03
-2.6150E+02	1.0662E+02	3.4917E+01				-5.0087E+03	3.3559E+03	6.6402E+03

Markov Matrices								
Tower shear, bottom F_y [kN]			Tower bending, bottom M_x [kNm]			Tower torsion, bottom M_z [kNm]		
Level	Range	Cycles	Level	Range	Cycles	Level	Range	Cycles
-2.6150E+02	7.1077E+01	2.1758E+02				-5.0087E+03	3.0203E+03	1.9324E+04
-2.6150E+02	3.5539E+01	2.3050E+02				-5.0087E+03	2.6847E+03	1.2748E+04
-2.6150E+02	0.0000E+00	8.6600E+02				-5.0087E+03	2.3491E+03	1.9543E+04
-3.0096E+02	2.8431E+02	3.5000E+00				-5.0087E+03	2.0135E+03	1.9096E+04
-3.0096E+02	2.1323E+02	1.3917E+01				-5.0087E+03	1.6779E+03	1.3854E+04
-3.0096E+02	1.7769E+02	1.0500E+01				-5.0087E+03	1.3424E+03	3.0016E+04
-3.0096E+02	1.4215E+02	3.1334E+01				-5.0087E+03	1.0068E+03	4.7957E+04
-3.0096E+02	1.0662E+02	3.1251E+01				-5.0087E+03	6.7118E+02	8.1187E+04
-3.0096E+02	7.1077E+01	7.6585E+01				-5.0087E+03	3.3559E+02	1.9524E+05
-3.0096E+02	3.5539E+01	7.2334E+01				-5.0087E+03	0.0000E+00	4.7754E+05
-3.0096E+02	0.0000E+00	4.3541E+02				-5.3853E+03	1.3424E+04	1.2500E+00
-3.4042E+02	2.4877E+02	3.5000E+00				-5.3853E+03	1.3088E+04	2.0750E+00
-3.4042E+02	2.1323E+02	3.5000E+00				-5.3853E+03	8.7253E+03	8.2500E-01
-3.4042E+02	1.7769E+02	1.0417E+01				-5.3853E+03	8.3897E+03	4.1250E-01
-3.4042E+02	1.4215E+02	3.5000E+00				-5.3853E+03	7.3830E+03	2.5095E+02
-3.4042E+02	1.0662E+02	3.4834E+01				-5.3853E+03	7.0474E+03	1.2423E+02
-3.4042E+02	7.1077E+01	3.1334E+01				-5.3853E+03	6.7118E+03	2.9493E+01
-3.4042E+02	3.5539E+01	7.5751E+01				-5.3853E+03	6.3762E+03	1.6568E+03
-3.4042E+02	0.0000E+00	2.9000E+02				-5.3853E+03	6.0406E+03	6.2113E+01
-3.7988E+02	2.4877E+02	3.5000E+00				-5.3853E+03	5.7050E+03	6.5010E+02
-3.7988E+02	2.1323E+02	1.4000E+01				-5.3853E+03	5.3694E+03	1.7827E+03
-3.7988E+02	1.7769E+02	1.0500E+01				-5.3853E+03	5.0338E+03	1.2881E+02
-3.7988E+02	1.4215E+02	1.0500E+01				-5.3853E+03	4.6982E+03	2.2559E+03
-3.7988E+02	1.0662E+02	2.4417E+01				-5.3853E+03	4.3627E+03	4.2311E+03
-3.7988E+02	7.1077E+01	2.8000E+01				-5.3853E+03	4.0271E+03	6.2518E+03
-3.7988E+02	3.5539E+01	2.4500E+01				-5.3853E+03	3.6915E+03	5.4344E+03
-3.7988E+02	0.0000E+00	5.2251E+01				-5.3853E+03	3.3559E+03	1.3795E+04
-4.1935E+02	2.4877E+02	3.5000E+00				-5.3853E+03	3.0203E+03	6.9999E+03
-4.1935E+02	2.1323E+02	3.5000E+00				-5.3853E+03	2.6847E+03	1.4967E+04
-4.1935E+02	1.7769E+02	3.5000E+00				-5.3853E+03	2.3491E+03	4.3830E+03
-4.1935E+02	1.4215E+02	3.5000E+00				-5.3853E+03	2.0135E+03	6.0894E+03
-4.1935E+02	1.0662E+02	2.7917E+01				-5.3853E+03	1.6779E+03	1.3337E+04
-4.1935E+02	7.1077E+01	1.4000E+01				-5.3853E+03	1.3424E+03	7.4531E+03
-4.1935E+02	3.5539E+01	2.4500E+01				-5.3853E+03	1.0068E+03	2.4319E+04
-4.1935E+02	0.0000E+00	3.5000E+01				-5.3853E+03	6.7118E+02	2.6987E+04

Markov Matrices								
Tower shear, bottom F_y [kN]			Tower bending, bottom M_x [kNm]			Tower torsion, bottom M_z [kNm]		
Level	Range	Cycles	Level	Range	Cycles	Level	Range	Cycles
-4.5881E+02	3.9093E+02	3.5000E+00				-5.3853E+03	3.3559E+02	8.8791E+04
-4.5881E+02	2.4877E+02	7.0000E+00				-5.3853E+03	0.0000E+00	3.1123E+05
-4.5881E+02	2.1323E+02	3.5000E+00				-5.7619E+03	7.0474E+03	3.3250E+00
-4.5881E+02	1.4215E+02	2.4417E+01				-5.7619E+03	6.3762E+03	6.5333E+02
-4.5881E+02	1.0662E+02	1.0500E+01				-5.7619E+03	6.0406E+03	1.6086E+03
-4.5881E+02	7.1077E+01	2.1000E+01				-5.7619E+03	5.7050E+03	6.7938E+01
-4.5881E+02	3.5539E+01	3.1500E+01				-5.7619E+03	5.3694E+03	7.1180E+02
-4.5881E+02	0.0000E+00	7.3334E+01				-5.7619E+03	5.0338E+03	1.2631E+02
-4.9827E+02	1.7769E+02	7.0000E+00				-5.7619E+03	4.6982E+03	2.3091E+02
-4.9827E+02	1.4215E+02	1.4000E+01				-5.7619E+03	4.3627E+03	1.6761E+03
-4.9827E+02	1.0662E+02	1.4000E+01				-5.7619E+03	4.0271E+03	7.8002E+03
-4.9827E+02	7.1077E+01	3.1417E+01				-5.7619E+03	3.6915E+03	3.0150E+02
-4.9827E+02	3.5539E+01	3.5000E+01				-5.7619E+03	3.3559E+03	5.7860E+03
-4.9827E+02	0.0000E+00	3.5000E+01				-5.7619E+03	3.0203E+03	1.1062E+03
-5.3773E+02	2.8431E+02	3.5000E+00				-5.7619E+03	2.6847E+03	1.0427E+03
-5.3773E+02	2.1323E+02	3.5000E+00				-5.7619E+03	2.3491E+03	1.2583E+04
-5.3773E+02	1.7769E+02	7.0000E+00				-5.7619E+03	2.0135E+03	5.9863E+03
-5.3773E+02	1.0662E+02	7.0000E+00				-5.7619E+03	1.6779E+03	1.3208E+03
-5.3773E+02	7.1077E+01	1.4000E+01				-5.7619E+03	1.3424E+03	1.0615E+03
-5.3773E+02	3.5539E+01	2.8000E+01				-5.7619E+03	1.0068E+03	1.1477E+04
-5.3773E+02	0.0000E+00	3.8500E+01				-5.7619E+03	6.7118E+02	2.2612E+04
-5.7719E+02	3.9093E+02	3.5000E+00				-5.7619E+03	3.3559E+02	7.0423E+04
-5.7719E+02	3.5539E+02	3.5000E+00				-5.7619E+03	0.0000E+00	1.7445E+05
-5.7719E+02	2.4877E+02	3.5000E+00				-6.1384E+03	8.0541E+03	8.2500E-01
-5.7719E+02	2.1323E+02	3.5000E+00				-6.1384E+03	6.7118E+03	6.4613E+01
-5.7719E+02	1.7769E+02	3.5000E+00				-6.1384E+03	5.7050E+03	2.5000E+00
-5.7719E+02	1.4215E+02	7.0000E+00				-6.1384E+03	5.3694E+03	8.2500E-01
-5.7719E+02	1.0662E+02	2.1000E+01				-6.1384E+03	5.0338E+03	6.9184E+02
-5.7719E+02	7.1077E+01	1.4000E+01				-6.1384E+03	4.6982E+03	6.2113E+01
-5.7719E+02	3.5539E+01	2.8000E+01				-6.1384E+03	4.3627E+03	6.2938E+01
-5.7719E+02	0.0000E+00	2.8000E+01				-6.1384E+03	4.0271E+03	6.5217E+02
-6.1666E+02	2.8431E+02	7.0000E+00				-6.1384E+03	3.6915E+03	1.3814E+02
-6.1666E+02	2.1323E+02	3.5000E+00				-6.1384E+03	3.3559E+03	1.5972E+03
-6.1666E+02	1.7769E+02	3.5000E+00				-6.1384E+03	3.0203E+03	1.8235E+03
-6.1666E+02	1.4215E+02	3.5000E+00				-6.1384E+03	2.6847E+03	2.7452E+02

Markov Matrices								
Tower shear, bottom F_y [kN]			Tower bending, bottom M_x [kNm]			Tower torsion, bottom M_z [kNm]		
Level	Range	Cycles	Level	Range	Cycles	Level	Range	Cycles
-6.1666E+02	1.0662E+02	1.4000E+01				-6.1384E+03	2.3491E+03	4.3828E+01
-6.1666E+02	7.1077E+01	2.4500E+01				-6.1384E+03	2.0135E+03	4.4245E+01
-6.1666E+02	3.5539E+01	3.8500E+01				-6.1384E+03	1.6779E+03	1.5414E+02
-6.1666E+02	0.0000E+00	4.9000E+01				-6.1384E+03	1.3424E+03	3.1559E+03
-6.5612E+02	2.4877E+02	3.5000E+00				-6.1384E+03	1.0068E+03	1.7071E+03
-6.5612E+02	2.1323E+02	7.0000E+00				-6.1384E+03	6.7118E+02	9.4949E+03
-6.5612E+02	1.7769E+02	7.0000E+00				-6.1384E+03	3.3559E+02	3.0504E+04
-6.5612E+02	1.4215E+02	7.0000E+00				-6.1384E+03	0.0000E+00	7.8488E+04
-6.5612E+02	1.0662E+02	3.5000E+00				-6.5150E+03	4.0271E+03	6.2227E+02
-6.5612E+02	7.1077E+01	7.0000E+00				-6.5150E+03	3.6915E+03	2.5000E+00
-6.5612E+02	3.5539E+01	2.4500E+01				-6.5150E+03	3.3559E+03	1.2630E+02
-6.5612E+02	0.0000E+00	4.2000E+01				-6.5150E+03	3.0203E+03	3.4063E+01
-6.9558E+02	2.4877E+02	3.5000E+00				-6.5150E+03	2.6847E+03	4.3799E+02
-6.9558E+02	1.4215E+02	7.0000E+00				-6.5150E+03	2.3491E+03	1.8831E+03
-6.9558E+02	3.5539E+01	1.4000E+01				-6.5150E+03	2.0135E+03	2.4269E+03
-6.9558E+02	0.0000E+00	2.8000E+01				-6.5150E+03	1.6779E+03	3.6197E+02
-7.3504E+02	3.5539E+01	7.0000E+00				-6.5150E+03	1.3424E+03	6.2310E+02
-7.3504E+02	0.0000E+00	1.4000E+01				-6.5150E+03	1.0068E+03	1.0772E+03
-7.7451E+02	0.0000E+00	1.4000E+01				-6.5150E+03	6.7118E+02	2.7305E+03
						-6.5150E+03	3.3559E+02	2.2358E+04
						-6.5150E+03	0.0000E+00	3.2261E+04
						-6.8916E+03	5.0338E+03	5.0000E+00
						-6.8916E+03	4.6982E+03	8.2500E-01
						-6.8916E+03	4.0271E+03	2.5000E+00
						-6.8916E+03	3.6915E+03	1.3915E+01
						-6.8916E+03	3.3559E+03	2.5000E+00
						-6.8916E+03	3.0203E+03	6.2113E+01
						-6.8916E+03	2.6847E+03	4.9585E+02
						-6.8916E+03	2.0135E+03	1.6600E+02
						-6.8916E+03	1.6779E+03	4.2065E+02
						-6.8916E+03	1.3424E+03	2.7202E+02
						-6.8916E+03	1.0068E+03	2.8926E+02
						-6.8916E+03	6.7118E+02	3.5055E+02
						-6.8916E+03	3.3559E+02	5.2893E+03
						-6.8916E+03	0.0000E+00	1.8891E+04

Markov Matrices								
Tower shear, bottom F_y [kN]			Tower bending, bottom M_x [kNm]			Tower torsion, bottom M_z [kNm]		
Level	Range	Cycles	Level	Range	Cycles	Level	Range	Cycles
						-7.2682E+03	6.0406E+03	2.5000E+00
						-7.2682E+03	5.3694E+03	8.2500E-01
						-7.2682E+03	4.6982E+03	6.2113E+01
						-7.2682E+03	4.3627E+03	1.8915E+01
						-7.2682E+03	3.6915E+03	1.2500E+00
						-7.2682E+03	2.3491E+03	1.3814E+02
						-7.2682E+03	2.0135E+03	3.7500E+00
						-7.2682E+03	1.6779E+03	3.0989E+02
						-7.2682E+03	1.0068E+03	6.2938E+01
						-7.2682E+03	6.7118E+02	2.7452E+02
						-7.2682E+03	3.3559E+02	3.6088E+03
						-7.2682E+03	0.0000E+00	1.0897E+04
						-7.6447E+03	7.7185E+03	3.1056E+01
						-7.6447E+03	6.3762E+03	8.2500E-01
						-7.6447E+03	4.3627E+03	8.2500E-01
						-7.6447E+03	4.0271E+03	6.2113E+01
						-7.6447E+03	2.0135E+03	2.5000E+00
						-7.6447E+03	1.3424E+03	6.1977E+02
						-7.6447E+03	6.7118E+02	8.2500E-01
						-7.6447E+03	3.3559E+02	6.9707E+02
						-7.6447E+03	0.0000E+00	1.7697E+03
						-8.0213E+03	2.6847E+03	1.2500E+00
						-8.0213E+03	6.7118E+02	6.1977E+02
						-8.0213E+03	3.3559E+02	1.5980E+03
						-8.0213E+03	0.0000E+00	1.6669E+03
						-8.3979E+03	3.0203E+03	8.2500E-01
						-8.3979E+03	2.6847E+03	8.2500E-01
						-8.3979E+03	3.3559E+02	6.2113E+01
						-8.3979E+03	0.0000E+00	6.3368E+02
						-8.7745E+03	0.0000E+00	3.1877E+02
						-9.1510E+03	6.7118E+02	2.5000E+00
						-9.1510E+03	3.3559E+02	1.5947E+03
						-9.1510E+03	0.0000E+00	8.2500E-01
						-9.5276E+03	0.0000E+00	2.5000E+00
						-9.9042E+03	0.0000E+00	8.2500E-01

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Markov Matrices								
Tower shear, bottom F_y [kN]			Tower bending, bottom M_x [kNm]			Tower torsion, bottom M_z [kNm]		
Level	Range	Cycles	Level	Range	Cycles	Level	Range	Cycles

Table 5-4 Markov Matrices - 4.0 MW

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Appendix E. Markov matrices - 4.2 MW

This appendix contains the Markov Matrices for the shear force, the bending moment and the torsional moment in the bottom of the tower for ref. [2]. Foundation design must be verified for the most critical Markov matrices.

Markov Matrices								
Tower shear, bottom F_y [kN]			Tower bending, bottom M_x [kNm]			Tower torsion, bottom M_z [kNm]		
Level	Range	Cycles	Level	Range	Cycles	Level	Range	Cycles
9.4406E+02	0.0000E+00	3.0560E+03	1.2342E+05	5.2889E+03	3.5000E+00	5.7385E+03	0.0000E+00	5.6574E+01
9.0434E+02	1.0522E+02	6.8209E+03	1.1772E+05	5.2889E+03	7.0000E+00	4.9647E+03	0.0000E+00	1.5846E+03
9.0434E+02	3.5075E+01	2.6782E+04	1.1772E+05	0.0000E+00	2.8000E+01	4.5777E+03	0.0000E+00	2.1164E+03
9.0434E+02	0.0000E+00	4.6168E+04	1.1202E+05	1.0578E+04	3.5000E+00	4.1908E+03	1.3541E+03	3.5000E+00
8.6461E+02	2.8060E+02	1.5280E+03	1.1202E+05	5.2889E+03	1.4000E+01	4.1908E+03	1.0156E+03	3.4642E+03
8.6461E+02	2.1045E+02	6.7642E+03	1.1202E+05	0.0000E+00	3.5000E+01	4.1908E+03	3.3854E+02	3.8505E+03
8.6461E+02	1.0522E+02	6.7642E+03	1.0632E+05	5.2889E+03	7.0000E+00	4.1908E+03	0.0000E+00	5.5821E+04
8.6461E+02	7.0149E+01	1.5280E+03	1.0632E+05	0.0000E+00	4.9000E+01	3.8039E+03	2.7083E+03	1.6026E+04
8.6461E+02	3.5075E+01	1.7067E+04	1.0062E+05	5.2889E+03	1.4000E+01	3.8039E+03	2.3698E+03	3.5000E+00
8.6461E+02	0.0000E+00	1.6830E+05	1.0062E+05	0.0000E+00	3.1500E+01	3.8039E+03	3.3854E+02	6.7557E+04
8.2489E+02	3.5075E+02	1.5280E+03	9.4925E+04	5.2889E+03	7.0000E+00	3.8039E+03	0.0000E+00	1.2834E+05
8.2489E+02	2.8060E+02	3.3600E+03	9.4925E+04	0.0000E+00	3.1500E+01	3.4169E+03	4.4010E+03	5.6574E+01
8.2489E+02	2.4552E+02	3.4713E+03	8.9226E+04	5.2889E+03	1.4000E+01	3.4169E+03	3.7239E+03	1.6026E+04
8.2489E+02	1.7537E+02	9.7823E+03	8.9226E+04	0.0000E+00	1.7500E+01	3.4169E+03	3.0468E+03	1.5280E+03
8.2489E+02	1.4030E+02	6.7642E+03	8.3527E+04	5.2889E+03	3.5000E+00	3.4169E+03	2.7083E+03	3.5000E+00
8.2489E+02	1.0522E+02	2.3723E+04	8.3527E+04	0.0000E+00	3.1417E+01	3.4169E+03	2.3698E+03	1.6026E+04
8.2489E+02	7.0149E+01	4.8571E+04	7.7828E+04	0.0000E+00	1.0500E+01	3.4169E+03	1.6927E+03	1.6026E+04
8.2489E+02	3.5075E+01	1.9471E+05	7.2129E+04	5.2889E+03	7.0000E+00	3.4169E+03	1.3541E+03	1.6030E+04
8.2489E+02	0.0000E+00	3.8459E+05	7.2129E+04	0.0000E+00	3.5000E+00	3.4169E+03	6.7707E+02	8.4533E+03
7.8517E+02	3.1567E+02	1.5208E+04	6.6430E+04	5.2889E+03	3.5000E+00	3.4169E+03	3.3854E+02	1.9331E+05
7.8517E+02	2.8060E+02	3.0417E+04	6.6430E+04	0.0000E+00	2.0917E+01	3.4169E+03	0.0000E+00	5.8308E+05
7.8517E+02	2.4552E+02	2.6773E+04	6.0731E+04	5.2889E+03	1.0417E+01	3.0300E+03	4.4010E+03	1.9481E+02
7.8517E+02	2.1045E+02	3.0438E+04	6.0731E+04	0.0000E+00	3.8334E+01	3.0300E+03	3.7239E+03	3.5000E+00
7.8517E+02	1.7537E+02	3.7612E+04	5.5032E+04	5.2889E+03	1.3917E+01	3.0300E+03	3.3854E+03	3.5000E+00
7.8517E+02	1.4030E+02	6.9872E+04	5.5032E+04	0.0000E+00	4.6984E+01	3.0300E+03	3.0468E+03	1.5315E+03
7.8517E+02	1.0522E+02	8.6519E+04	4.9333E+04	1.6396E+05	1.7500E+00	3.0300E+03	2.7083E+03	1.1310E+04
7.8517E+02	7.0149E+01	2.1409E+05	4.9333E+04	5.2889E+03	3.8334E+01	3.0300E+03	2.3698E+03	3.2052E+04
7.8517E+02	3.5075E+01	7.5769E+05	4.9333E+04	0.0000E+00	1.5900E+02	3.0300E+03	2.0312E+03	3.2109E+04
7.8517E+02	0.0000E+00	1.8215E+06	4.3634E+04	1.6924E+05	1.7500E+00	3.0300E+03	1.6927E+03	6.5827E+04
7.4544E+02	4.2090E+02	3.3600E+03	4.3634E+04	1.5867E+05	5.2500E+00	3.0300E+03	1.3541E+03	7.7274E+04
7.4544E+02	3.8582E+02	1.3528E+04	4.3634E+04	1.5338E+05	1.7500E+00	3.0300E+03	1.0156E+03	4.6736E+04

Markov Matrices								
Tower shear, bottom F_y [kN]			Tower bending, bottom M_x [kNm]			Tower torsion, bottom M_z [kNm]		
Level	Range	Cycles	Level	Range	Cycles	Level	Range	Cycles
7.4544E+02	3.5075E+02	3.3834E+04	4.3634E+04	1.4280E+05	3.5000E+00	3.0300E+03	6.7707E+02	7.2198E+04
7.4544E+02	3.1567E+02	4.3217E+04	4.3634E+04	1.3751E+05	1.7500E+00	3.0300E+03	3.3854E+02	4.0243E+05
7.4544E+02	2.8060E+02	8.3196E+04	4.3634E+04	1.0578E+04	3.5000E+00	3.0300E+03	0.0000E+00	1.3214E+06
7.4544E+02	2.4552E+02	6.8304E+04	4.3634E+04	5.2889E+03	1.8767E+02	2.6431E+03	6.7707E+03	4.2500E+00
7.4544E+02	2.1045E+02	1.1633E+05	4.3634E+04	0.0000E+00	3.9224E+02	2.6431E+03	4.7395E+03	5.8494E+02
7.4544E+02	1.7537E+02	1.7004E+05	3.7935E+04	1.7453E+05	5.2500E+00	2.6431E+03	4.4010E+03	5.6574E+01
7.4544E+02	1.4030E+02	3.4856E+05	3.7935E+04	1.6924E+05	3.5000E+00	2.6431E+03	4.0624E+03	1.7601E+03
7.4544E+02	1.0522E+02	4.5142E+05	3.7935E+04	1.6396E+05	5.2500E+00	2.6431E+03	3.7239E+03	1.6026E+04
7.4544E+02	7.0149E+01	9.4479E+05	3.7935E+04	1.5867E+05	7.0000E+00	2.6431E+03	3.3854E+03	1.9082E+04
7.4544E+02	3.5075E+01	3.2686E+06	3.7935E+04	1.5338E+05	7.0000E+00	2.6431E+03	3.0468E+03	2.3960E+04
7.4544E+02	0.0000E+00	6.0365E+06	3.7935E+04	1.4280E+05	1.7500E+00	2.6431E+03	2.7083E+03	1.1315E+05
7.0572E+02	6.3134E+02	1.6800E+03	3.7935E+04	1.3751E+05	3.5000E+00	2.6431E+03	2.3698E+03	1.5564E+05
7.0572E+02	5.2612E+02	1.6800E+03	3.7935E+04	1.3222E+05	3.5000E+00	2.6431E+03	2.0312E+03	1.4205E+05
7.0572E+02	4.9104E+02	1.7500E+00	3.7935E+04	1.2164E+05	1.7500E+00	2.6431E+03	1.6927E+03	1.6196E+05
7.0572E+02	4.5597E+02	1.0225E+04	3.7935E+04	1.1636E+05	1.7500E+00	2.6431E+03	1.3541E+03	1.1584E+05
7.0572E+02	4.2090E+02	2.0013E+04	3.7935E+04	1.5867E+04	8.3333E+01	2.6431E+03	1.0156E+03	2.4229E+05
7.0572E+02	3.8582E+02	3.5620E+04	3.7935E+04	1.0578E+04	1.0075E+02	2.6431E+03	6.7707E+02	4.4270E+05
7.0572E+02	3.5075E+02	6.6941E+04	3.7935E+04	5.2889E+03	1.1475E+02	2.6431E+03	3.3854E+02	1.0707E+06
7.0572E+02	3.1567E+02	1.9080E+05	3.7935E+04	0.0000E+00	7.1066E+02	2.6431E+03	0.0000E+00	2.8579E+06
7.0572E+02	2.8060E+02	2.6827E+05	3.2236E+04	1.9040E+05	1.7500E+00	2.2561E+03	5.4166E+03	3.4609E+03
7.0572E+02	2.4552E+02	6.0283E+05	3.2236E+04	1.7453E+05	3.5000E+00	2.2561E+03	5.0781E+03	3.3250E+00
7.0572E+02	2.1045E+02	8.1000E+05	3.2236E+04	1.6924E+05	5.2500E+00	2.2561E+03	4.7395E+03	1.9481E+02
7.0572E+02	1.7537E+02	1.0243E+06	3.2236E+04	1.6396E+05	8.7500E+00	2.2561E+03	4.4010E+03	1.3441E+04
7.0572E+02	1.4030E+02	1.1655E+06	3.2236E+04	1.5867E+05	1.7500E+00	2.2561E+03	4.0624E+03	4.5247E+04
7.0572E+02	1.0522E+02	1.5707E+06	3.2236E+04	1.5338E+05	1.7500E+00	2.2561E+03	3.7239E+03	8.3591E+04
7.0572E+02	7.0149E+01	4.1132E+06	3.2236E+04	1.4809E+05	3.5000E+00	2.2561E+03	3.3854E+03	1.5967E+05
7.0572E+02	3.5075E+01	1.0469E+07	3.2236E+04	1.5867E+04	7.0000E+00	2.2561E+03	3.0468E+03	1.3740E+05
7.0572E+02	0.0000E+00	1.5900E+07	3.2236E+04	1.0578E+04	9.0333E+01	2.2561E+03	2.7083E+03	1.6611E+05
6.6599E+02	8.0672E+02	3.3821E+03	3.2236E+04	5.2889E+03	3.5265E+02	2.2561E+03	2.3698E+03	2.1981E+05
6.6599E+02	7.3657E+02	3.3600E+03	3.2236E+04	0.0000E+00	4.5405E+02	2.2561E+03	2.0312E+03	3.6822E+05
6.6599E+02	6.6642E+02	1.6800E+03	2.6537E+04	1.8511E+05	1.7500E+00	2.2561E+03	1.6927E+03	3.7612E+05
6.6599E+02	6.3134E+02	3.4609E+03	2.6537E+04	1.7453E+05	1.7500E+00	2.2561E+03	1.3541E+03	5.2380E+05
6.6599E+02	5.9627E+02	1.6800E+03	2.6537E+04	1.6396E+05	1.7500E+00	2.2561E+03	1.0156E+03	5.0646E+05
6.6599E+02	5.6119E+02	1.7633E+03	2.6537E+04	1.5338E+05	1.7500E+00	2.2561E+03	6.7707E+02	7.1022E+05
6.6599E+02	5.2612E+02	4.6077E+04	2.6537E+04	1.4809E+05	1.7500E+00	2.2561E+03	3.3854E+02	2.0428E+06

Markov Matrices								
Tower shear, bottom F_y [kN]			Tower bending, bottom M_x [kNm]			Tower torsion, bottom M_z [kNm]		
Level	Range	Cycles	Level	Range	Cycles	Level	Range	Cycles
6.6599E+02	4.9104E+02	3.2625E+04	2.6537E+04	1.2164E+05	1.7500E+00	2.2561E+03	0.0000E+00	4.7623E+06
6.6599E+02	4.5597E+02	6.1038E+04	2.6537E+04	1.1107E+05	1.7500E+00	1.8692E+03	8.4634E+03	1.7500E+00
6.6599E+02	4.2090E+02	1.8739E+05	2.6537E+04	7.4044E+04	1.7500E+00	1.8692E+03	7.7864E+03	3.7334E+01
6.6599E+02	3.8582E+02	2.9919E+05	2.6537E+04	6.3467E+04	1.7500E+00	1.8692E+03	6.7707E+03	1.7500E+00
6.6599E+02	3.5075E+02	5.2047E+05	2.6537E+04	2.1156E+04	7.0000E+00	1.8692E+03	6.4322E+03	1.7500E+00
6.6599E+02	3.1567E+02	1.1260E+06	2.6537E+04	1.5867E+04	1.1267E+02	1.8692E+03	6.0937E+03	3.4626E+03
6.6599E+02	2.8060E+02	2.1184E+06	2.6537E+04	1.0578E+04	1.2917E+01	1.8692E+03	5.7551E+03	3.4609E+03
6.6599E+02	2.4552E+02	3.3657E+06	2.6537E+04	5.2889E+03	6.3074E+02	1.8692E+03	5.4166E+03	1.5280E+03
6.6599E+02	2.1045E+02	4.1944E+06	2.6537E+04	0.0000E+00	1.1974E+03	1.8692E+03	5.0781E+03	3.5108E+04
6.6599E+02	1.7537E+02	5.7140E+06	2.0838E+04	1.5338E+05	3.5000E+00	1.8692E+03	4.7395E+03	7.4160E+04
6.6599E+02	1.4030E+02	5.9004E+06	2.0838E+04	1.3751E+05	1.7500E+00	1.8692E+03	4.4010E+03	3.4457E+04
6.6599E+02	1.0522E+02	7.1313E+06	2.0838E+04	1.2164E+05	1.7500E+00	1.8692E+03	4.0624E+03	2.0195E+05
6.6599E+02	7.0149E+01	1.1097E+07	2.0838E+04	1.1636E+05	1.7500E+00	1.8692E+03	3.7239E+03	8.3762E+04
6.6599E+02	3.5075E+01	2.3205E+07	2.0838E+04	1.0049E+05	1.7500E+00	1.8692E+03	3.3854E+03	2.3814E+05
6.6599E+02	0.0000E+00	2.9777E+07	2.0838E+04	8.9911E+04	3.5000E+00	1.8692E+03	3.0468E+03	4.6256E+05
6.2627E+02	8.4179E+02	1.6800E+03	2.0838E+04	8.4622E+04	1.7500E+00	1.8692E+03	2.7083E+03	3.7078E+05
6.2627E+02	7.7164E+02	5.0621E+03	2.0838E+04	7.9333E+04	1.7500E+00	1.8692E+03	2.3698E+03	4.5470E+05
6.2627E+02	7.3657E+02	1.6911E+04	2.0838E+04	7.4044E+04	3.2417E+01	1.8692E+03	2.0312E+03	7.0197E+05
6.2627E+02	7.0149E+02	1.7304E+03	2.0838E+04	6.3467E+04	1.0567E+02	1.8692E+03	1.6927E+03	6.2227E+05
6.2627E+02	6.6642E+02	2.6649E+04	2.0838E+04	5.8178E+04	1.0983E+02	1.8692E+03	1.3541E+03	9.2875E+05
6.2627E+02	6.3134E+02	5.0877E+04	2.0838E+04	5.2889E+04	1.7500E+00	1.8692E+03	1.0156E+03	9.6557E+05
6.2627E+02	5.9627E+02	4.9905E+04	2.0838E+04	4.7600E+04	1.7500E+00	1.8692E+03	6.7707E+02	1.2498E+06
6.2627E+02	5.6119E+02	1.2736E+05	2.0838E+04	2.6444E+04	8.3333E+01	1.8692E+03	3.3854E+02	3.2123E+06
6.2627E+02	5.2612E+02	1.4093E+05	2.0838E+04	2.1156E+04	6.0000E+00	1.8692E+03	0.0000E+00	7.2524E+06
6.2627E+02	4.9104E+02	2.3959E+05	2.0838E+04	1.5867E+04	9.3250E+00	1.4823E+03	9.1405E+03	7.6400E+02
6.2627E+02	4.5597E+02	3.4747E+05	2.0838E+04	1.0578E+04	2.1600E+02	1.4823E+03	7.1093E+03	3.2584E+03
6.2627E+02	4.2090E+02	7.1437E+05	2.0838E+04	5.2889E+03	6.7050E+02	1.4823E+03	6.7707E+03	6.8430E+03
6.2627E+02	3.8582E+02	1.2021E+06	2.0838E+04	0.0000E+00	8.4684E+03	1.4823E+03	6.4322E+03	1.7500E+00
6.2627E+02	3.5075E+02	2.0060E+06	1.5139E+04	1.0049E+05	3.5000E+00	1.4823E+03	6.0937E+03	8.0713E+03
6.2627E+02	3.1567E+02	2.9281E+06	1.5139E+04	8.9911E+04	7.0000E+00	1.4823E+03	5.7551E+03	9.9789E+03
6.2627E+02	2.8060E+02	5.2027E+06	1.5139E+04	8.4622E+04	7.0000E+00	1.4823E+03	5.4166E+03	2.9367E+04
6.2627E+02	2.4552E+02	6.7427E+06	1.5139E+04	7.9333E+04	1.0500E+01	1.4823E+03	5.0781E+03	4.0965E+04
6.2627E+02	2.1045E+02	9.9950E+06	1.5139E+04	7.4044E+04	1.0500E+01	1.4823E+03	4.7395E+03	7.1005E+04
6.2627E+02	1.7537E+02	1.1029E+07	1.5139E+04	6.8755E+04	1.0500E+01	1.4823E+03	4.4010E+03	1.6529E+05
6.2627E+02	1.4030E+02	1.1579E+07	1.5139E+04	6.3467E+04	1.0650E+02	1.4823E+03	4.0624E+03	2.5669E+05

Markov Matrices								
Tower shear, bottom F_y [kN]			Tower bending, bottom M_x [kNm]			Tower torsion, bottom M_z [kNm]		
Level	Range	Cycles	Level	Range	Cycles	Level	Range	Cycles
6.2627E+02	1.0522E+02	1.2502E+07	1.5139E+04	5.8178E+04	2.7333E+02	1.4823E+03	3.7239E+03	3.7088E+05
6.2627E+02	7.0149E+01	1.8392E+07	1.5139E+04	5.2889E+04	8.6749E+01	1.4823E+03	3.3854E+03	5.7240E+05
6.2627E+02	3.5075E+01	3.3657E+07	1.5139E+04	4.7600E+04	1.0300E+02	1.4823E+03	3.0468E+03	5.8173E+05
6.2627E+02	0.0000E+00	4.2013E+07	1.5139E+04	4.2311E+04	8.3750E+01	1.4823E+03	2.7083E+03	8.2078E+05
5.8654E+02	9.1194E+02	7.6400E+02	1.5139E+04	3.7022E+04	6.1333E+01	1.4823E+03	2.3698E+03	1.2058E+06
5.8654E+02	8.4179E+02	5.1125E+03	1.5139E+04	3.1733E+04	8.3333E+01	1.4823E+03	2.0312E+03	1.3397E+06
5.8654E+02	8.0672E+02	1.0146E+04	1.5139E+04	2.6444E+04	1.1767E+02	1.4823E+03	1.6927E+03	1.3661E+06
5.8654E+02	7.7164E+02	1.2072E+04	1.5139E+04	2.1156E+04	9.5333E+01	1.4823E+03	1.3541E+03	1.4574E+06
5.8654E+02	7.3657E+02	1.5259E+04	1.5139E+04	1.5867E+04	2.8966E+02	1.4823E+03	1.0156E+03	1.2638E+06
5.8654E+02	7.0149E+02	2.7059E+04	1.5139E+04	1.0578E+04	1.9564E+02	1.4823E+03	6.7707E+02	2.0999E+06
5.8654E+02	6.6642E+02	5.0080E+04	1.5139E+04	5.2889E+03	1.4794E+05	1.4823E+03	3.3854E+02	4.7999E+06
5.8654E+02	6.3134E+02	4.3968E+04	1.5139E+04	0.0000E+00	4.6606E+05	1.4823E+03	0.0000E+00	1.2321E+07
5.8654E+02	5.9627E+02	1.0123E+05	9.4398E+03	1.0049E+05	5.2500E+00	1.0953E+03	8.4634E+03	2.9247E+02
5.8654E+02	5.6119E+02	1.8391E+05	9.4398E+03	9.5200E+04	3.5000E+00	1.0953E+03	8.1249E+03	1.5280E+03
5.8654E+02	5.2612E+02	2.7080E+05	9.4398E+03	8.9911E+04	5.3917E+01	1.0953E+03	7.7864E+03	1.9481E+02
5.8654E+02	4.9104E+02	2.8230E+05	9.4398E+03	8.4622E+04	5.0417E+01	1.0953E+03	7.4478E+03	1.5280E+03
5.8654E+02	4.5597E+02	4.8141E+05	9.4398E+03	7.9333E+04	5.2500E+00	1.0953E+03	7.1093E+03	1.1069E+04
5.8654E+02	4.2090E+02	7.1961E+05	9.4398E+03	7.4044E+04	5.6750E+01	1.0953E+03	6.7707E+03	9.5462E+03
5.8654E+02	3.8582E+02	8.6949E+05	9.4398E+03	6.8755E+04	7.5167E+01	1.0953E+03	6.4322E+03	1.4974E+04
5.8654E+02	3.5075E+02	1.6816E+06	9.4398E+03	6.3467E+04	1.2600E+02	1.0953E+03	6.0937E+03	2.3963E+04
5.8654E+02	3.1567E+02	2.5689E+06	9.4398E+03	5.8178E+04	3.5000E+00	1.0953E+03	5.7551E+03	7.4015E+04
5.8654E+02	2.8060E+02	3.7339E+06	9.4398E+03	5.2889E+04	5.3917E+01	1.0953E+03	5.4166E+03	4.3288E+04
5.8654E+02	2.4552E+02	5.7386E+06	9.4398E+03	4.7600E+04	1.1700E+02	1.0953E+03	5.0781E+03	1.9895E+05
5.8654E+02	2.1045E+02	7.7432E+06	9.4398E+03	4.2311E+04	5.4350E+02	1.0953E+03	4.7395E+03	2.3887E+05
5.8654E+02	1.7537E+02	8.4182E+06	9.4398E+03	3.7022E+04	8.4333E+02	1.0953E+03	4.4010E+03	3.5254E+05
5.8654E+02	1.4030E+02	9.0922E+06	9.4398E+03	3.1733E+04	3.2425E+02	1.0953E+03	4.0624E+03	5.1798E+05
5.8654E+02	1.0522E+02	1.0229E+07	9.4398E+03	2.6444E+04	1.3968E+03	1.0953E+03	3.7239E+03	4.6330E+05
5.8654E+02	7.0149E+01	1.5342E+07	9.4398E+03	2.1156E+04	1.5678E+04	1.0953E+03	3.3854E+03	8.5411E+05
5.8654E+02	3.5075E+01	2.9570E+07	9.4398E+03	1.5867E+04	1.4761E+04	1.0953E+03	3.0468E+03	1.1310E+06
5.8654E+02	0.0000E+00	4.1702E+07	9.4398E+03	1.0578E+04	1.3551E+04	1.0953E+03	2.7083E+03	1.4156E+06
5.4682E+02	1.1575E+03	9.7405E+01	9.4398E+03	5.2889E+03	1.9139E+05	1.0953E+03	2.3698E+03	1.8344E+06
5.4682E+02	9.8209E+02	5.1125E+03	9.4398E+03	0.0000E+00	2.4174E+06	1.0953E+03	2.0312E+03	2.2177E+06
5.4682E+02	9.4702E+02	1.7304E+03	3.7408E+03	2.5387E+05	3.5000E+00	1.0953E+03	1.6927E+03	2.5338E+06
5.4682E+02	8.7687E+02	3.3821E+03	3.7408E+03	2.3800E+05	1.7500E+00	1.0953E+03	1.3541E+03	2.2717E+06
5.4682E+02	8.4179E+02	1.0225E+04	3.7408E+03	2.3271E+05	1.7500E+00	1.0953E+03	1.0156E+03	2.7573E+06

Markov Matrices								
Tower shear, bottom F_y [kN]			Tower bending, bottom M_x [kNm]			Tower torsion, bottom M_z [kNm]		
Level	Range	Cycles	Level	Range	Cycles	Level	Range	Cycles
5.4682E+02	8.0672E+02	5.1125E+03	3.7408E+03	2.2742E+05	1.7500E+00	1.0953E+03	6.7707E+02	3.4092E+06
5.4682E+02	7.7164E+02	1.7273E+04	3.7408E+03	2.0627E+05	1.7500E+00	1.0953E+03	3.3854E+02	8.3796E+06
5.4682E+02	7.3657E+02	1.8720E+04	3.7408E+03	1.1107E+05	2.9329E+01	1.0953E+03	0.0000E+00	1.8079E+07
5.4682E+02	7.0149E+02	4.0572E+04	3.7408E+03	1.0578E+05	5.2500E+00	7.0840E+02	1.3880E+04	1.6625E+00
5.4682E+02	6.6642E+02	6.9328E+04	3.7408E+03	1.0049E+05	8.2000E+01	7.0840E+02	1.0833E+04	1.2500E+00
5.4682E+02	6.3134E+02	8.6066E+04	3.7408E+03	9.5200E+04	5.9583E+01	7.0840E+02	1.0495E+04	1.2500E+00
5.4682E+02	5.9627E+02	1.4385E+05	3.7408E+03	8.9911E+04	1.4000E+01	7.0840E+02	9.8176E+03	5.8494E+02
5.4682E+02	5.6119E+02	1.4658E+05	3.7408E+03	8.4622E+04	5.2500E+00	7.0840E+02	8.8020E+03	8.7770E+03
5.4682E+02	5.2612E+02	1.2480E+05	3.7408E+03	7.9333E+04	2.8917E+01	7.0840E+02	8.4634E+03	7.6400E+02
5.4682E+02	4.9104E+02	2.4360E+05	3.7408E+03	7.4044E+04	4.7500E+00	7.0840E+02	8.1249E+03	1.9481E+02
5.4682E+02	4.5597E+02	2.8093E+05	3.7408E+03	6.8755E+04	5.2500E+00	7.0840E+02	7.7864E+03	1.0131E+04
5.4682E+02	4.2090E+02	4.8164E+05	3.7408E+03	6.3467E+04	1.0413E+01	7.0840E+02	7.4478E+03	1.3025E+04
5.4682E+02	3.8582E+02	9.6857E+05	3.7408E+03	5.8178E+04	2.1000E+01	7.0840E+02	7.1093E+03	2.4592E+04
5.4682E+02	3.5075E+02	1.1814E+06	3.7408E+03	5.2889E+04	2.8000E+01	7.0840E+02	6.7707E+03	2.0878E+04
5.4682E+02	3.1567E+02	1.9842E+06	3.7408E+03	4.7600E+04	4.7250E+01	7.0840E+02	6.4322E+03	3.4719E+04
5.4682E+02	2.8060E+02	2.8800E+06	3.7408E+03	4.2311E+04	1.2020E+04	7.0840E+02	6.0937E+03	1.0942E+05
5.4682E+02	2.4552E+02	4.0016E+06	3.7408E+03	3.7022E+04	1.5204E+04	7.0840E+02	5.7551E+03	1.0194E+05
5.4682E+02	2.1045E+02	4.4085E+06	3.7408E+03	3.1733E+04	8.4419E+04	7.0840E+02	5.4166E+03	8.9878E+04
5.4682E+02	1.7537E+02	5.9138E+06	3.7408E+03	2.6444E+04	3.0945E+05	7.0840E+02	5.0781E+03	1.9609E+05
5.4682E+02	1.4030E+02	5.7962E+06	3.7408E+03	2.1156E+04	5.5574E+05	7.0840E+02	4.7395E+03	3.3390E+05
5.4682E+02	1.0522E+02	7.0467E+06	3.7408E+03	1.5867E+04	1.0956E+06	7.0840E+02	4.4010E+03	3.5816E+05
5.4682E+02	7.0149E+01	1.0720E+07	3.7408E+03	1.0578E+04	2.0394E+06	7.0840E+02	4.0624E+03	6.7233E+05
5.4682E+02	3.5075E+01	2.3797E+07	3.7408E+03	5.2889E+03	3.6496E+06	7.0840E+02	3.7239E+03	7.5100E+05
5.4682E+02	0.0000E+00	3.5304E+07	3.7408E+03	0.0000E+00	1.5252E+07	7.0840E+02	3.3854E+03	1.0658E+06
5.0709E+02	1.1925E+03	9.7405E+01	-1.9583E+03	2.5916E+05	1.7500E+00	7.0840E+02	3.0468E+03	1.4579E+06
5.0709E+02	1.1224E+03	7.6400E+02	-1.9583E+03	2.5387E+05	3.5000E+00	7.0840E+02	2.7083E+03	1.2621E+06
5.0709E+02	1.0522E+03	1.7304E+03	-1.9583E+03	2.4858E+05	7.0000E+00	7.0840E+02	2.3698E+03	2.1301E+06
5.0709E+02	9.8209E+02	5.3988E+02	-1.9583E+03	2.4329E+05	7.0000E+00	7.0840E+02	2.0312E+03	2.2164E+06
5.0709E+02	9.4702E+02	2.9247E+02	-1.9583E+03	2.3800E+05	1.7500E+00	7.0840E+02	1.6927E+03	3.2317E+06
5.0709E+02	9.1194E+02	1.7317E+03	-1.9583E+03	2.3271E+05	3.5000E+00	7.0840E+02	1.3541E+03	3.3654E+06
5.0709E+02	8.7687E+02	3.5509E+03	-1.9583E+03	2.1156E+05	1.7500E+00	7.0840E+02	1.0156E+03	3.4611E+06
5.0709E+02	8.4179E+02	4.4210E+03	-1.9583E+03	2.0098E+05	1.7500E+00	7.0840E+02	6.7707E+02	4.1669E+06
5.0709E+02	8.0672E+02	8.6399E+03	-1.9583E+03	1.0578E+05	7.5167E+01	7.0840E+02	3.3854E+02	1.0969E+07
5.0709E+02	7.7164E+02	2.5687E+04	-1.9583E+03	1.0049E+05	7.0000E+00	7.0840E+02	0.0000E+00	2.4778E+07
5.0709E+02	7.3657E+02	1.6866E+04	-1.9583E+03	9.5200E+04	3.4167E+01	3.2147E+02	1.4896E+04	1.6625E+00

Markov Matrices								
Tower shear, bottom F_y [kN]			Tower bending, bottom M_x [kNm]			Tower torsion, bottom M_z [kNm]		
Level	Range	Cycles	Level	Range	Cycles	Level	Range	Cycles
5.0709E+02	7.0149E+02	3.2545E+04	-1.9583E+03	8.9911E+04	1.0475E+02	3.2147E+02	1.3203E+04	7.6400E+02
5.0709E+02	6.6642E+02	4.9104E+04	-1.9583E+03	7.9333E+04	4.3329E+01	3.2147E+02	1.2864E+04	1.8667E+01
5.0709E+02	6.3134E+02	8.2661E+04	-1.9583E+03	7.4044E+04	2.1625E+00	3.2147E+02	1.2187E+04	1.2500E+00
5.0709E+02	5.9627E+02	1.0972E+05	-1.9583E+03	6.8755E+04	1.9150E+02	3.2147E+02	1.0833E+04	1.5280E+03
5.0709E+02	5.6119E+02	1.3547E+05	-1.9583E+03	6.3467E+04	6.3745E+01	3.2147E+02	1.0495E+04	2.8287E+01
5.0709E+02	5.2612E+02	2.2548E+05	-1.9583E+03	5.8178E+04	1.1049E+02	3.2147E+02	1.0156E+04	1.5280E+03
5.0709E+02	4.9104E+02	2.7618E+05	-1.9583E+03	5.2889E+04	3.5992E+01	3.2147E+02	9.8176E+03	1.7500E+00
5.0709E+02	4.5597E+02	3.6616E+05	-1.9583E+03	4.7600E+04	3.4560E+03	3.2147E+02	9.1405E+03	3.4626E+03
5.0709E+02	4.2090E+02	5.8909E+05	-1.9583E+03	4.2311E+04	5.1673E+03	3.2147E+02	8.8020E+03	9.3670E+03
5.0709E+02	3.8582E+02	8.7803E+05	-1.9583E+03	3.7022E+04	4.6825E+01	3.2147E+02	8.4634E+03	1.3558E+04
5.0709E+02	3.5075E+02	1.2620E+06	-1.9583E+03	3.1733E+04	5.1453E+02	3.2147E+02	8.1249E+03	2.9787E+03
5.0709E+02	3.1567E+02	1.8145E+06	-1.9583E+03	2.6444E+04	1.6188E+03	3.2147E+02	7.7864E+03	1.2597E+04
5.0709E+02	2.8060E+02	2.9263E+06	-1.9583E+03	2.1156E+04	5.6988E+04	3.2147E+02	7.4478E+03	3.2725E+04
5.0709E+02	2.4552E+02	3.5960E+06	-1.9583E+03	1.5867E+04	1.0666E+05	3.2147E+02	7.1093E+03	3.5387E+04
5.0709E+02	2.1045E+02	4.4206E+06	-1.9583E+03	1.0578E+04	2.7654E+05	3.2147E+02	6.7707E+03	6.2497E+04
5.0709E+02	1.7537E+02	4.9153E+06	-1.9583E+03	5.2889E+03	1.0919E+06	3.2147E+02	6.4322E+03	6.1226E+04
5.0709E+02	1.4030E+02	5.0343E+06	-1.9583E+03	0.0000E+00	7.6891E+06	3.2147E+02	6.0937E+03	8.4105E+04
5.0709E+02	1.0522E+02	5.9440E+06	-7.6573E+03	2.5916E+05	1.7500E+00	3.2147E+02	5.7551E+03	1.2553E+05
5.0709E+02	7.0149E+01	8.2579E+06	-7.6573E+03	2.5387E+05	5.2500E+00	3.2147E+02	5.4166E+03	1.9366E+05
5.0709E+02	3.5075E+01	1.8030E+07	-7.6573E+03	2.4858E+05	8.7500E+00	3.2147E+02	5.0781E+03	3.3739E+05
5.0709E+02	0.0000E+00	2.8962E+07	-7.6573E+03	2.4329E+05	7.0000E+00	3.2147E+02	4.7395E+03	4.0229E+05
4.6737E+02	1.0873E+03	1.2569E+02	-7.6573E+03	2.3800E+05	3.5000E+00	3.2147E+02	4.4010E+03	4.4158E+05
4.6737E+02	1.0522E+03	1.9481E+02	-7.6573E+03	2.3271E+05	7.0000E+00	3.2147E+02	4.0624E+03	6.9336E+05
4.6737E+02	1.0172E+03	2.7814E+02	-7.6573E+03	2.2742E+05	1.7500E+00	3.2147E+02	3.7239E+03	9.5647E+05
4.6737E+02	9.8209E+02	2.6893E+03	-7.6573E+03	2.2213E+05	1.7500E+00	3.2147E+02	3.3854E+03	8.6238E+05
4.6737E+02	9.4702E+02	2.4212E+03	-7.6573E+03	2.1684E+05	3.5000E+00	3.2147E+02	3.0468E+03	1.4329E+06
4.6737E+02	9.1194E+02	1.9331E+03	-7.6573E+03	2.1156E+05	1.7500E+00	3.2147E+02	2.7083E+03	2.1189E+06
4.6737E+02	8.7687E+02	5.2821E+03	-7.6573E+03	2.0627E+05	1.7500E+00	3.2147E+02	2.3698E+03	2.7439E+06
4.6737E+02	8.4179E+02	9.3277E+03	-7.6573E+03	1.9040E+05	1.7500E+00	3.2147E+02	2.0312E+03	3.3551E+06
4.6737E+02	8.0672E+02	9.8203E+03	-7.6573E+03	1.2164E+05	3.0000E+00	3.2147E+02	1.6927E+03	4.4468E+06
4.6737E+02	7.7164E+02	9.3308E+03	-7.6573E+03	1.1107E+05	3.0000E+00	3.2147E+02	1.3541E+03	5.1091E+06
4.6737E+02	7.3657E+02	3.0157E+04	-7.6573E+03	1.0578E+05	1.7500E+00	3.2147E+02	1.0156E+03	5.0087E+06
4.6737E+02	7.0149E+02	5.1115E+04	-7.6573E+03	8.9911E+04	1.7500E+00	3.2147E+02	6.7707E+02	6.1370E+06
4.6737E+02	6.6642E+02	4.4020E+04	-7.6573E+03	8.4622E+04	1.7500E+00	3.2147E+02	3.3854E+02	1.4928E+07
4.6737E+02	6.3134E+02	7.6300E+04	-7.6573E+03	7.9333E+04	1.6625E+00	3.2147E+02	0.0000E+00	3.3991E+07

Markov Matrices								
Tower shear, bottom F_y [kN]			Tower bending, bottom M_x [kNm]			Tower torsion, bottom M_z [kNm]		
Level	Range	Cycles	Level	Range	Cycles	Level	Range	Cycles
4.6737E+02	5.9627E+02	1.0485E+05	-7.6573E+03	7.4044E+04	2.1580E+01	-6.5463E+01	1.4219E+04	9.7405E+01
4.6737E+02	5.6119E+02	1.9226E+05	-7.6573E+03	6.8755E+04	4.5404E+01	-6.5463E+01	1.3541E+04	2.9247E+02
4.6737E+02	5.2612E+02	2.1058E+05	-7.6573E+03	6.3467E+04	5.6292E+01	-6.5463E+01	1.2526E+04	1.2500E+00
4.6737E+02	4.9104E+02	3.0365E+05	-7.6573E+03	5.8178E+04	1.7740E+02	-6.5463E+01	1.1849E+04	7.6400E+02
4.6737E+02	4.5597E+02	4.9399E+05	-7.6573E+03	5.2889E+04	6.5480E+03	-6.5463E+01	1.1510E+04	1.7304E+03
4.6737E+02	4.2090E+02	6.3701E+05	-7.6573E+03	4.7600E+04	7.7519E+03	-6.5463E+01	1.0833E+04	1.7304E+03
4.6737E+02	3.8582E+02	9.6268E+05	-7.6573E+03	4.2311E+04	3.2741E+02	-6.5463E+01	1.0495E+04	8.7770E+03
4.6737E+02	3.5075E+02	1.2627E+06	-7.6573E+03	3.7022E+04	1.2110E+03	-6.5463E+01	1.0156E+04	1.7304E+03
4.6737E+02	3.1567E+02	2.1676E+06	-7.6573E+03	3.1733E+04	2.0732E+03	-6.5463E+01	9.8176E+03	1.6790E+04
4.6737E+02	2.8060E+02	2.7376E+06	-7.6573E+03	2.6444E+04	6.9169E+03	-6.5463E+01	9.4790E+03	1.5280E+03
4.6737E+02	2.4552E+02	3.5460E+06	-7.6573E+03	2.1156E+04	2.9637E+04	-6.5463E+01	9.1405E+03	3.5918E+04
4.6737E+02	2.1045E+02	3.8465E+06	-7.6573E+03	1.5867E+04	2.3492E+04	-6.5463E+01	8.8020E+03	4.7109E+04
4.6737E+02	1.7537E+02	4.2310E+06	-7.6573E+03	1.0578E+04	2.8356E+05	-6.5463E+01	8.4634E+03	8.3495E+03
4.6737E+02	1.4030E+02	4.8877E+06	-7.6573E+03	5.2889E+03	1.9972E+06	-6.5463E+01	8.1249E+03	2.2573E+04
4.6737E+02	1.0522E+02	5.6149E+06	-7.6573E+03	0.0000E+00	6.5166E+06	-6.5463E+01	7.7864E+03	2.9118E+04
4.6737E+02	7.0149E+01	7.1355E+06	-1.3356E+04	2.6444E+05	3.5000E+00	-6.5463E+01	7.4478E+03	5.7014E+04
4.6737E+02	3.5075E+01	1.5211E+07	-1.3356E+04	2.5916E+05	3.5000E+00	-6.5463E+01	7.1093E+03	9.2030E+04
4.6737E+02	0.0000E+00	2.5842E+07	-1.3356E+04	2.4858E+05	1.7500E+00	-6.5463E+01	6.7707E+03	1.6091E+05
4.2764E+02	1.1224E+03	1.9481E+02	-1.3356E+04	2.3800E+05	1.7500E+00	-6.5463E+01	6.4322E+03	1.4328E+05
4.2764E+02	1.0873E+03	9.7405E+01	-1.3356E+04	2.3271E+05	1.7500E+00	-6.5463E+01	6.0937E+03	1.3934E+05
4.2764E+02	1.0522E+03	5.7375E+01	-1.3356E+04	2.0098E+05	1.7500E+00	-6.5463E+01	5.7551E+03	1.8069E+05
4.2764E+02	1.0172E+03	8.4377E+01	-1.3356E+04	1.7982E+05	1.7500E+00	-6.5463E+01	5.4166E+03	2.0004E+05
4.2764E+02	9.8209E+02	5.4385E+02	-1.3356E+04	1.4809E+05	4.1250E-01	-6.5463E+01	5.0781E+03	3.5167E+05
4.2764E+02	9.4702E+02	3.2986E+03	-1.3356E+04	8.9911E+04	4.1250E-01	-6.5463E+01	4.7395E+03	4.0690E+05
4.2764E+02	9.1194E+02	5.7019E+03	-1.3356E+04	8.4622E+04	1.2375E+00	-6.5463E+01	4.4010E+03	5.3037E+05
4.2764E+02	8.7687E+02	3.8729E+03	-1.3356E+04	7.9333E+04	1.2500E+00	-6.5463E+01	4.0624E+03	8.6483E+05
4.2764E+02	8.4179E+02	5.6141E+03	-1.3356E+04	7.4044E+04	4.2904E+01	-6.5463E+01	3.7239E+03	9.1604E+05
4.2764E+02	8.0672E+02	1.5443E+04	-1.3356E+04	6.8755E+04	8.2333E+01	-6.5463E+01	3.3854E+03	1.3208E+06
4.2764E+02	7.7164E+02	2.1904E+04	-1.3356E+04	6.3467E+04	8.5763E+03	-6.5463E+01	3.0468E+03	1.4601E+06
4.2764E+02	7.3657E+02	4.3260E+04	-1.3356E+04	5.8178E+04	4.9678E+03	-6.5463E+01	2.7083E+03	2.2091E+06
4.2764E+02	7.0149E+02	4.9001E+04	-1.3356E+04	5.2889E+04	3.0066E+03	-6.5463E+01	2.3698E+03	3.0080E+06
4.2764E+02	6.6642E+02	7.4200E+04	-1.3356E+04	4.7600E+04	9.8012E+02	-6.5463E+01	2.0312E+03	3.8111E+06
4.2764E+02	6.3134E+02	1.0252E+05	-1.3356E+04	4.2311E+04	9.5540E+02	-6.5463E+01	1.6927E+03	4.6467E+06
4.2764E+02	5.9627E+02	1.3031E+05	-1.3356E+04	3.7022E+04	4.0330E+03	-6.5463E+01	1.3541E+03	5.4982E+06
4.2764E+02	5.6119E+02	1.6242E+05	-1.3356E+04	3.1733E+04	4.2172E+03	-6.5463E+01	1.0156E+03	6.0999E+06

Markov Matrices								
Tower shear, bottom F_y [kN]			Tower bending, bottom M_x [kNm]			Tower torsion, bottom M_z [kNm]		
Level	Range	Cycles	Level	Range	Cycles	Level	Range	Cycles
4.2764E+02	5.2612E+02	2.2408E+05	-1.3356E+04	2.6444E+04	1.0540E+04	-6.5463E+01	6.7707E+02	7.8356E+06
4.2764E+02	4.9104E+02	2.4992E+05	-1.3356E+04	2.1156E+04	2.0401E+04	-6.5463E+01	3.3854E+02	1.7872E+07
4.2764E+02	4.5597E+02	3.9606E+05	-1.3356E+04	1.5867E+04	2.4424E+04	-6.5463E+01	0.0000E+00	4.9755E+07
4.2764E+02	4.2090E+02	5.6958E+05	-1.3356E+04	1.0578E+04	4.7082E+05	-4.5239E+02	1.4557E+04	7.6400E+02
4.2764E+02	3.8582E+02	7.0193E+05	-1.3356E+04	5.2889E+03	4.0607E+06	-4.5239E+02	1.3880E+04	2.9247E+02
4.2764E+02	3.5075E+02	1.1131E+06	-1.3356E+04	0.0000E+00	1.0404E+07	-4.5239E+02	1.3541E+04	1.8667E+01
4.2764E+02	3.1567E+02	1.6217E+06	-1.9055E+04	2.1684E+05	6.9585E+00	-4.5239E+02	1.3203E+04	1.2500E+00
4.2764E+02	2.8060E+02	2.2240E+06	-1.9055E+04	1.4280E+05	1.2500E+00	-4.5239E+02	1.2526E+04	2.9247E+02
4.2764E+02	2.4552E+02	2.6003E+06	-1.9055E+04	1.3751E+05	1.7500E+00	-4.5239E+02	1.1849E+04	1.0565E+03
4.2764E+02	2.1045E+02	3.9919E+06	-1.9055E+04	1.0049E+05	4.1250E-01	-4.5239E+02	1.1510E+04	3.5172E+03
4.2764E+02	1.7537E+02	4.3022E+06	-1.9055E+04	9.5200E+04	4.1250E-01	-4.5239E+02	1.1172E+04	1.7228E+03
4.2764E+02	1.4030E+02	5.2409E+06	-1.9055E+04	8.4622E+04	1.6625E+00	-4.5239E+02	1.0495E+04	5.8619E+02
4.2764E+02	1.0522E+02	5.2865E+06	-1.9055E+04	7.9333E+04	6.7245E+03	-4.5239E+02	1.0156E+04	2.4193E+04
4.2764E+02	7.0149E+01	6.5131E+06	-1.9055E+04	7.4044E+04	3.3681E+03	-4.5239E+02	9.8176E+03	4.6773E+04
4.2764E+02	3.5075E+01	1.3447E+07	-1.9055E+04	6.8755E+04	7.5908E+01	-4.5239E+02	9.4790E+03	6.3397E+04
4.2764E+02	0.0000E+00	2.5211E+07	-1.9055E+04	6.3467E+04	3.9775E+01	-4.5239E+02	9.1405E+03	4.4094E+04
3.8792E+02	1.1925E+03	1.8203E+02	-1.9055E+04	5.8178E+04	3.6134E+03	-4.5239E+02	8.8020E+03	4.7779E+04
3.8792E+02	1.1575E+03	1.5000E+02	-1.9055E+04	5.2889E+04	3.5948E+03	-4.5239E+02	8.4634E+03	5.6411E+04
3.8792E+02	1.1224E+03	2.8287E+01	-1.9055E+04	4.7600E+04	9.0320E+03	-4.5239E+02	8.1249E+03	3.9834E+04
3.8792E+02	1.0873E+03	2.9247E+02	-1.9055E+04	4.2311E+04	2.9641E+03	-4.5239E+02	7.7864E+03	1.1008E+05
3.8792E+02	1.0522E+03	2.1055E+02	-1.9055E+04	3.7022E+04	2.0706E+03	-4.5239E+02	7.4478E+03	9.3506E+04
3.8792E+02	1.0172E+03	7.9732E+02	-1.9055E+04	3.1733E+04	5.3684E+03	-4.5239E+02	7.1093E+03	4.0887E+04
3.8792E+02	9.8209E+02	1.4505E+03	-1.9055E+04	2.6444E+04	1.1919E+04	-4.5239E+02	6.7707E+03	1.1265E+05
3.8792E+02	9.4702E+02	2.8559E+03	-1.9055E+04	2.1156E+04	1.1295E+04	-4.5239E+02	6.4322E+03	1.3729E+05
3.8792E+02	9.1194E+02	4.2817E+03	-1.9055E+04	1.5867E+04	1.5940E+05	-4.5239E+02	6.0937E+03	1.8182E+05
3.8792E+02	8.7687E+02	5.8033E+03	-1.9055E+04	1.0578E+04	1.3420E+06	-4.5239E+02	5.7551E+03	1.7812E+05
3.8792E+02	8.4179E+02	7.0020E+03	-1.9055E+04	5.2889E+03	7.9622E+06	-4.5239E+02	5.4166E+03	1.5885E+05
3.8792E+02	8.0672E+02	9.0517E+03	-1.9055E+04	0.0000E+00	2.2344E+07	-4.5239E+02	5.0781E+03	3.5183E+05
3.8792E+02	7.7164E+02	1.1470E+04	-2.4754E+04	2.2213E+05	5.2085E+00	-4.5239E+02	4.7395E+03	4.3106E+05
3.8792E+02	7.3657E+02	1.3100E+04	-2.4754E+04	2.1156E+05	1.7500E+00	-4.5239E+02	4.4010E+03	4.8810E+05
3.8792E+02	7.0149E+02	2.1310E+04	-2.4754E+04	2.0098E+05	6.9585E+00	-4.5239E+02	4.0624E+03	7.4083E+05
3.8792E+02	6.6642E+02	2.8721E+04	-2.4754E+04	1.7453E+05	1.7500E+00	-4.5239E+02	3.7239E+03	1.1221E+06
3.8792E+02	6.3134E+02	5.3450E+04	-2.4754E+04	1.6396E+05	1.7500E+00	-4.5239E+02	3.3854E+03	1.0886E+06
3.8792E+02	5.9627E+02	1.0308E+05	-2.4754E+04	1.4280E+05	1.2500E+00	-4.5239E+02	3.0468E+03	1.7749E+06
3.8792E+02	5.6119E+02	1.2492E+05	-2.4754E+04	1.2693E+05	2.5000E+00	-4.5239E+02	2.7083E+03	2.1252E+06

Markov Matrices								
Tower shear, bottom F_y [kN]			Tower bending, bottom M_x [kNm]			Tower torsion, bottom M_z [kNm]		
Level	Range	Cycles	Level	Range	Cycles	Level	Range	Cycles
3.8792E+02	5.2612E+02	1.2143E+05	-2.4754E+04	1.2164E+05	1.2500E+00	-4.5239E+02	2.3698E+03	2.8430E+06
3.8792E+02	4.9104E+02	1.3751E+05	-2.4754E+04	1.0049E+05	4.1250E-01	-4.5239E+02	2.0312E+03	3.5586E+06
3.8792E+02	4.5597E+02	2.1066E+05	-2.4754E+04	9.5200E+04	1.2500E+00	-4.5239E+02	1.6927E+03	4.5927E+06
3.8792E+02	4.2090E+02	2.6359E+05	-2.4754E+04	8.9911E+04	3.4276E+03	-4.5239E+02	1.3541E+03	4.5949E+06
3.8792E+02	3.8582E+02	3.7933E+05	-2.4754E+04	8.4622E+04	1.8791E+02	-4.5239E+02	1.0156E+03	4.4438E+06
3.8792E+02	3.5075E+02	5.4641E+05	-2.4754E+04	7.9333E+04	1.0983E+01	-4.5239E+02	6.7707E+02	5.6271E+06
3.8792E+02	3.1567E+02	7.1902E+05	-2.4754E+04	7.4044E+04	3.3150E+01	-4.5239E+02	3.3854E+02	1.3806E+07
3.8792E+02	2.8060E+02	1.0935E+06	-2.4754E+04	6.8755E+04	5.7263E+01	-4.5239E+02	0.0000E+00	3.2312E+07
3.8792E+02	2.4552E+02	1.6701E+06	-2.4754E+04	6.3467E+04	3.7032E+03	-8.3933E+02	1.6588E+04	1.9481E+02
3.8792E+02	2.1045E+02	2.2478E+06	-2.4754E+04	5.8178E+04	3.4999E+03	-8.3933E+02	1.5573E+04	9.7405E+01
3.8792E+02	1.7537E+02	3.1800E+06	-2.4754E+04	5.2889E+04	8.1444E+03	-8.3933E+02	1.5234E+04	2.9372E+02
3.8792E+02	1.4030E+02	4.4960E+06	-2.4754E+04	4.7600E+04	1.0633E+03	-8.3933E+02	1.3541E+04	1.6254E+03
3.8792E+02	1.0522E+02	4.9120E+06	-2.4754E+04	4.2311E+04	2.1192E+04	-8.3933E+02	1.3203E+04	1.7304E+03
3.8792E+02	7.0149E+01	5.6043E+06	-2.4754E+04	3.7022E+04	2.1344E+04	-8.3933E+02	1.2864E+04	4.2249E+03
3.8792E+02	3.5075E+01	1.2242E+07	-2.4754E+04	3.1733E+04	1.0073E+04	-8.3933E+02	1.2526E+04	2.0803E+03
3.8792E+02	0.0000E+00	2.5955E+07	-2.4754E+04	2.6444E+04	5.3882E+04	-8.3933E+02	1.2187E+04	1.9789E+03
3.4819E+02	1.1925E+03	2.8287E+01	-2.4754E+04	2.1156E+04	8.8924E+04	-8.3933E+02	1.1849E+04	4.8381E+03
3.4819E+02	1.0873E+03	1.9820E+02	-2.4754E+04	1.5867E+04	1.4481E+05	-8.3933E+02	1.1510E+04	6.7642E+03
3.4819E+02	1.0522E+03	1.5627E+02	-2.4754E+04	1.0578E+04	2.0439E+06	-8.3933E+02	1.1172E+04	1.9496E+03
3.4819E+02	1.0172E+03	9.7405E+01	-2.4754E+04	5.2889E+03	1.0128E+07	-8.3933E+02	1.0833E+04	1.8692E+04
3.4819E+02	9.8209E+02	4.1816E+02	-2.4754E+04	0.0000E+00	2.7049E+07	-8.3933E+02	1.0495E+04	2.5826E+04
3.4819E+02	9.4702E+02	2.4009E+02	-3.0453E+04	2.1156E+05	5.2085E+00	-8.3933E+02	1.0156E+04	3.0620E+04
3.4819E+02	9.1194E+02	8.0424E+02	-3.0453E+04	2.0627E+05	5.2085E+00	-8.3933E+02	9.8176E+03	6.6411E+04
3.4819E+02	8.7687E+02	5.8117E+02	-3.0453E+04	1.9040E+05	5.2085E+00	-8.3933E+02	9.4790E+03	5.3006E+04
3.4819E+02	8.4179E+02	9.9994E+02	-3.0453E+04	1.8511E+05	1.5625E+01	-8.3933E+02	9.1405E+03	4.7976E+04
3.4819E+02	8.0672E+02	1.3345E+03	-3.0453E+04	1.7453E+05	1.7500E+00	-8.3933E+02	8.8020E+03	7.6864E+04
3.4819E+02	7.7164E+02	1.4828E+03	-3.0453E+04	1.3751E+05	4.1250E-01	-8.3933E+02	8.4634E+03	4.7666E+04
3.4819E+02	7.3657E+02	5.1462E+03	-3.0453E+04	1.3222E+05	1.2500E+00	-8.3933E+02	8.1249E+03	8.5711E+04
3.4819E+02	7.0149E+02	2.9584E+03	-3.0453E+04	1.2693E+05	5.9245E+01	-8.3933E+02	7.7864E+03	8.9150E+04
3.4819E+02	6.6642E+02	4.8001E+03	-3.0453E+04	1.1636E+05	3.7375E+00	-8.3933E+02	7.4478E+03	6.5599E+04
3.4819E+02	6.3134E+02	8.9995E+03	-3.0453E+04	1.1107E+05	5.6333E+01	-8.3933E+02	7.1093E+03	1.1606E+05
3.4819E+02	5.9627E+02	9.2396E+03	-3.0453E+04	1.0578E+05	4.1250E-01	-8.3933E+02	6.7707E+03	5.5267E+04
3.4819E+02	5.6119E+02	2.0426E+04	-3.0453E+04	1.0049E+05	2.0330E+01	-8.3933E+02	6.4322E+03	9.5222E+04
3.4819E+02	5.2612E+02	3.1157E+04	-3.0453E+04	9.5200E+04	2.5000E+00	-8.3933E+02	6.0937E+03	1.4532E+05
3.4819E+02	4.9104E+02	5.1648E+04	-3.0453E+04	8.9911E+04	7.2632E+00	-8.3933E+02	5.7551E+03	1.6909E+05

Markov Matrices								
Tower shear, bottom F_y [kN]			Tower bending, bottom M_x [kNm]			Tower torsion, bottom M_z [kNm]		
Level	Range	Cycles	Level	Range	Cycles	Level	Range	Cycles
3.4819E+02	4.5597E+02	7.6468E+04	-3.0453E+04	8.4622E+04	7.0465E+00	-8.3933E+02	5.4166E+03	1.9736E+05
3.4819E+02	4.2090E+02	8.0605E+04	-3.0453E+04	7.9333E+04	6.0099E+01	-8.3933E+02	5.0781E+03	2.2363E+05
3.4819E+02	3.8582E+02	1.5222E+05	-3.0453E+04	7.4044E+04	8.2288E+01	-8.3933E+02	4.7395E+03	3.2657E+05
3.4819E+02	3.5075E+02	2.1614E+05	-3.0453E+04	6.8755E+04	2.2548E+02	-8.3933E+02	4.4010E+03	4.4544E+05
3.4819E+02	3.1567E+02	2.8176E+05	-3.0453E+04	6.3467E+04	1.5272E+02	-8.3933E+02	4.0624E+03	7.0735E+05
3.4819E+02	2.8060E+02	4.0710E+05	-3.0453E+04	5.8178E+04	5.7373E+02	-8.3933E+02	3.7239E+03	7.7118E+05
3.4819E+02	2.4552E+02	7.0864E+05	-3.0453E+04	5.2889E+04	9.2903E+03	-8.3933E+02	3.3854E+03	1.0236E+06
3.4819E+02	2.1045E+02	1.3186E+06	-3.0453E+04	4.7600E+04	2.6676E+04	-8.3933E+02	3.0468E+03	1.3512E+06
3.4819E+02	1.7537E+02	2.5068E+06	-3.0453E+04	4.2311E+04	2.7842E+04	-8.3933E+02	2.7083E+03	1.9769E+06
3.4819E+02	1.4030E+02	3.7696E+06	-3.0453E+04	3.7022E+04	1.1526E+04	-8.3933E+02	2.3698E+03	2.1473E+06
3.4819E+02	1.0522E+02	5.4359E+06	-3.0453E+04	3.1733E+04	4.2292E+04	-8.3933E+02	2.0312E+03	2.4410E+06
3.4819E+02	7.0149E+01	6.1073E+06	-3.0453E+04	2.6444E+04	7.4001E+03	-8.3933E+02	1.6927E+03	2.7945E+06
3.4819E+02	3.5075E+01	1.3980E+07	-3.0453E+04	2.1156E+04	1.3248E+04	-8.3933E+02	1.3541E+03	2.8983E+06
3.4819E+02	0.0000E+00	2.8653E+07	-3.0453E+04	1.5867E+04	1.1434E+05	-8.3933E+02	1.0156E+03	3.0440E+06
3.0847E+02	1.2627E+03	1.0417E+01	-3.0453E+04	1.0578E+04	1.6910E+06	-8.3933E+02	6.7707E+02	3.8669E+06
3.0847E+02	1.2276E+03	2.0833E+00	-3.0453E+04	5.2889E+03	1.0887E+07	-8.3933E+02	3.3854E+02	1.0331E+07
3.0847E+02	1.1925E+03	4.1250E-01	-3.0453E+04	0.0000E+00	2.0636E+07	-8.3933E+02	0.0000E+00	2.2000E+07
3.0847E+02	1.1575E+03	6.9953E+01	-3.6152E+04	2.1684E+05	5.2085E+00	-1.2263E+03	1.5573E+04	2.9247E+02
3.0847E+02	1.1224E+03	2.9125E+00	-3.6152E+04	2.0627E+05	5.2085E+00	-1.2263E+03	1.4557E+04	2.9247E+02
3.0847E+02	1.0873E+03	1.2500E+00	-3.6152E+04	1.9569E+05	1.7375E+01	-1.2263E+03	1.4219E+04	5.8494E+02
3.0847E+02	1.0522E+03	7.3078E+01	-3.6152E+04	1.9040E+05	1.0417E+01	-1.2263E+03	1.3880E+04	2.9247E+02
3.0847E+02	1.0172E+03	2.7042E+00	-3.6152E+04	1.7982E+05	4.8625E+01	-1.2263E+03	1.3541E+04	1.1539E+03
3.0847E+02	9.8209E+02	1.8601E+02	-3.6152E+04	1.6924E+05	4.1667E+01	-1.2263E+03	1.3203E+04	3.5509E+03
3.0847E+02	9.4702E+02	1.7117E+02	-3.6152E+04	1.6396E+05	1.7500E+00	-1.2263E+03	1.2864E+04	7.8100E+02
3.0847E+02	9.1194E+02	1.1551E+02	-3.6152E+04	1.5867E+05	5.2085E+00	-1.2263E+03	1.2526E+04	2.8252E+03
3.0847E+02	8.7687E+02	1.7763E+02	-3.6152E+04	1.4809E+05	1.7500E+00	-1.2263E+03	1.2187E+04	5.7686E+03
3.0847E+02	8.4179E+02	3.1282E+02	-3.6152E+04	1.3751E+05	4.1250E-01	-1.2263E+03	1.1849E+04	5.6741E+03
3.0847E+02	8.0672E+02	4.9606E+02	-3.6152E+04	1.3222E+05	5.8833E+01	-1.2263E+03	1.1510E+04	5.4685E+03
3.0847E+02	7.7164E+02	1.3364E+03	-3.6152E+04	1.2693E+05	5.2042E+00	-1.2263E+03	1.1172E+04	1.1879E+04
3.0847E+02	7.3657E+02	1.5737E+03	-3.6152E+04	1.2164E+05	6.2362E+01	-1.2263E+03	1.0833E+04	2.0399E+04
3.0847E+02	7.0149E+02	1.6077E+03	-3.6152E+04	1.1636E+05	2.4913E+01	-1.2263E+03	1.0495E+04	2.1823E+04
3.0847E+02	6.6642E+02	2.1468E+03	-3.6152E+04	1.1107E+05	2.9125E+00	-1.2263E+03	1.0156E+04	2.3193E+04
3.0847E+02	6.3134E+02	2.5387E+03	-3.6152E+04	1.0578E+05	6.6945E+01	-1.2263E+03	9.8176E+03	4.4534E+04
3.0847E+02	5.9627E+02	6.6528E+03	-3.6152E+04	1.0049E+05	2.2830E+01	-1.2263E+03	9.4790E+03	1.3070E+04
3.0847E+02	5.6119E+02	7.9633E+03	-3.6152E+04	9.5200E+04	2.5000E+00	-1.2263E+03	9.1405E+03	3.1046E+04

Markov Matrices								
Tower shear, bottom F_y [kN]			Tower bending, bottom M_x [kNm]			Tower torsion, bottom M_z [kNm]		
Level	Range	Cycles	Level	Range	Cycles	Level	Range	Cycles
3.0847E+02	5.2612E+02	5.5897E+03	-3.6152E+04	8.9911E+04	1.6244E+02	-1.2263E+03	8.8020E+03	4.1538E+04
3.0847E+02	4.9104E+02	1.5275E+04	-3.6152E+04	8.4622E+04	4.5747E+02	-1.2263E+03	8.4634E+03	2.3555E+04
3.0847E+02	4.5597E+02	1.9591E+04	-3.6152E+04	7.9333E+04	9.3783E+01	-1.2263E+03	8.1249E+03	3.7712E+04
3.0847E+02	4.2090E+02	2.5249E+04	-3.6152E+04	7.4044E+04	6.5616E+01	-1.2263E+03	7.7864E+03	3.1865E+04
3.0847E+02	3.8582E+02	4.2538E+04	-3.6152E+04	6.8755E+04	3.9091E+02	-1.2263E+03	7.4478E+03	4.7199E+04
3.0847E+02	3.5075E+02	9.1105E+04	-3.6152E+04	6.3467E+04	3.8840E+02	-1.2263E+03	7.1093E+03	3.6760E+04
3.0847E+02	3.1567E+02	8.3856E+04	-3.6152E+04	5.8178E+04	9.7894E+02	-1.2263E+03	6.7707E+03	7.6596E+04
3.0847E+02	2.8060E+02	1.5882E+05	-3.6152E+04	5.2889E+04	1.3106E+03	-1.2263E+03	6.4322E+03	6.2082E+04
3.0847E+02	2.4552E+02	3.2312E+05	-3.6152E+04	4.7600E+04	1.2052E+04	-1.2263E+03	6.0937E+03	9.5426E+04
3.0847E+02	2.1045E+02	5.6467E+05	-3.6152E+04	4.2311E+04	3.1252E+04	-1.2263E+03	5.7551E+03	2.1912E+05
3.0847E+02	1.7537E+02	1.4432E+06	-3.6152E+04	3.7022E+04	4.7980E+03	-1.2263E+03	5.4166E+03	1.6258E+05
3.0847E+02	1.4030E+02	2.9710E+06	-3.6152E+04	3.1733E+04	6.0794E+03	-1.2263E+03	5.0781E+03	1.8501E+05
3.0847E+02	1.0522E+02	5.0814E+06	-3.6152E+04	2.6444E+04	2.3967E+04	-1.2263E+03	4.7395E+03	3.7776E+05
3.0847E+02	7.0149E+01	5.9886E+06	-3.6152E+04	2.1156E+04	2.6150E+04	-1.2263E+03	4.4010E+03	4.7353E+05
3.0847E+02	3.5075E+01	1.2627E+07	-3.6152E+04	1.5867E+04	1.8533E+05	-1.2263E+03	4.0624E+03	6.1246E+05
3.0847E+02	0.0000E+00	2.6906E+07	-3.6152E+04	1.0578E+04	1.9403E+06	-1.2263E+03	3.7239E+03	7.0964E+05
2.6874E+02	1.3328E+03	6.4585E+00	-3.6152E+04	5.2889E+03	9.5975E+06	-1.2263E+03	3.3854E+03	9.7815E+05
2.6874E+02	1.2978E+03	1.2500E+00	-3.6152E+04	0.0000E+00	1.4249E+07	-1.2263E+03	3.0468E+03	1.2716E+06
2.6874E+02	1.2276E+03	1.4133E+02	-4.1851E+04	1.9569E+05	5.2085E+00	-1.2263E+03	2.7083E+03	1.5303E+06
2.6874E+02	1.1925E+03	4.9121E+01	-4.1851E+04	1.7453E+05	1.3542E+02	-1.2263E+03	2.3698E+03	1.7957E+06
2.6874E+02	1.1575E+03	4.8208E+01	-4.1851E+04	1.6924E+05	4.1667E+01	-1.2263E+03	2.0312E+03	2.1384E+06
2.6874E+02	1.1224E+03	6.8710E+00	-4.1851E+04	1.6396E+05	4.5167E+01	-1.2263E+03	1.6927E+03	2.1542E+06
2.6874E+02	1.0873E+03	4.3958E+01	-4.1851E+04	1.5338E+05	5.2085E+00	-1.2263E+03	1.3541E+03	2.4118E+06
2.6874E+02	1.0522E+03	7.4529E+01	-4.1851E+04	1.4809E+05	1.7500E+00	-1.2263E+03	1.0156E+03	2.2116E+06
2.6874E+02	1.0172E+03	2.9083E+00	-4.1851E+04	1.4280E+05	3.7500E+00	-1.2263E+03	6.7707E+02	3.2832E+06
2.6874E+02	9.8209E+02	1.5708E+02	-4.1851E+04	1.3751E+05	4.1250E-01	-1.2263E+03	3.3854E+02	8.2722E+06
2.6874E+02	9.4702E+02	1.3594E+02	-4.1851E+04	1.3222E+05	1.2500E+00	-1.2263E+03	0.0000E+00	1.6643E+07
2.6874E+02	9.1194E+02	1.1419E+02	-4.1851E+04	1.2164E+05	1.2500E+00	-1.6132E+03	1.6250E+04	9.7405E+01
2.6874E+02	8.7687E+02	3.5758E+01	-4.1851E+04	1.1636E+05	5.9458E+01	-1.6132E+03	1.4557E+04	1.2569E+02
2.6874E+02	8.4179E+02	5.8909E+02	-4.1851E+04	1.1107E+05	4.5833E+00	-1.6132E+03	1.4219E+04	4.4351E+02
2.6874E+02	8.0672E+02	1.8675E+02	-4.1851E+04	1.0578E+05	4.1501E+01	-1.6132E+03	1.3880E+04	4.4749E+02
2.6874E+02	7.7164E+02	7.5513E+02	-4.1851E+04	1.0049E+05	1.5583E+02	-1.6132E+03	1.3541E+04	2.9247E+02
2.6874E+02	7.3657E+02	5.3035E+02	-4.1851E+04	9.5200E+04	2.2792E+00	-1.6132E+03	1.3203E+04	1.1130E+03
2.6874E+02	7.0149E+02	1.2081E+03	-4.1851E+04	8.9911E+04	1.0417E+00	-1.6132E+03	1.2864E+04	4.7682E+02
2.6874E+02	6.6642E+02	1.2642E+03	-4.1851E+04	8.4622E+04	1.1315E+02	-1.6132E+03	1.2526E+04	1.5720E+03

Markov Matrices								
Tower shear, bottom F_y [kN]			Tower bending, bottom M_x [kNm]			Tower torsion, bottom M_z [kNm]		
Level	Range	Cycles	Level	Range	Cycles	Level	Range	Cycles
2.6874E+02	6.3134E+02	1.7977E+03	-4.1851E+04	7.9333E+04	2.0657E+02	-1.6132E+03	1.2187E+04	1.1536E+03
2.6874E+02	5.9627E+02	3.0111E+03	-4.1851E+04	7.4044E+04	1.1315E+02	-1.6132E+03	1.1849E+04	1.3809E+04
2.6874E+02	5.6119E+02	4.6425E+03	-4.1851E+04	6.8755E+04	7.9789E+02	-1.6132E+03	1.1510E+04	1.6475E+04
2.6874E+02	5.2612E+02	4.3316E+03	-4.1851E+04	6.3467E+04	6.6433E+02	-1.6132E+03	1.1172E+04	2.2539E+04
2.6874E+02	4.9104E+02	5.1036E+03	-4.1851E+04	5.8178E+04	2.6119E+03	-1.6132E+03	1.0833E+04	2.2980E+04
2.6874E+02	4.5597E+02	7.5870E+03	-4.1851E+04	5.2889E+04	1.0499E+03	-1.6132E+03	1.0495E+04	1.1077E+04
2.6874E+02	4.2090E+02	9.4928E+03	-4.1851E+04	4.7600E+04	1.1511E+04	-1.6132E+03	1.0156E+04	9.3522E+03
2.6874E+02	3.8582E+02	2.1252E+04	-4.1851E+04	4.2311E+04	2.2601E+03	-1.6132E+03	9.8176E+03	1.0494E+04
2.6874E+02	3.5075E+02	5.1945E+04	-4.1851E+04	3.7022E+04	3.4356E+03	-1.6132E+03	9.4790E+03	1.4877E+04
2.6874E+02	3.1567E+02	2.1964E+04	-4.1851E+04	3.1733E+04	6.5249E+03	-1.6132E+03	9.1405E+03	1.9828E+04
2.6874E+02	2.8060E+02	2.6869E+04	-4.1851E+04	2.6444E+04	2.7628E+04	-1.6132E+03	8.8020E+03	3.3271E+04
2.6874E+02	2.4552E+02	1.2164E+05	-4.1851E+04	2.1156E+04	4.5916E+04	-1.6132E+03	8.4634E+03	3.1598E+04
2.6874E+02	2.1045E+02	2.4402E+05	-4.1851E+04	1.5867E+04	1.4433E+05	-1.6132E+03	8.1249E+03	3.6129E+04
2.6874E+02	1.7537E+02	8.2238E+05	-4.1851E+04	1.0578E+04	2.1926E+06	-1.6132E+03	7.7864E+03	2.5195E+04
2.6874E+02	1.4030E+02	2.2464E+06	-4.1851E+04	5.2889E+03	9.4419E+06	-1.6132E+03	7.4478E+03	1.9690E+04
2.6874E+02	1.0522E+02	4.4058E+06	-4.1851E+04	0.0000E+00	1.4987E+07	-1.6132E+03	7.1093E+03	3.5687E+04
2.6874E+02	7.0149E+01	6.6466E+06	-4.7550E+04	1.6924E+05	4.1667E+01	-1.6132E+03	6.7707E+03	5.3190E+04
2.6874E+02	3.5075E+01	1.0376E+07	-4.7550E+04	1.6396E+05	8.3333E+01	-1.6132E+03	6.4322E+03	4.7678E+04
2.6874E+02	0.0000E+00	2.5526E+07	-4.7550E+04	1.5338E+05	4.1667E+01	-1.6132E+03	6.0937E+03	8.9713E+04
2.2902E+02	1.4381E+03	1.7500E+00	-4.7550E+04	1.4809E+05	4.3417E+01	-1.6132E+03	5.7551E+03	1.0247E+05
2.2902E+02	1.3679E+03	1.5625E+01	-4.7550E+04	1.2693E+05	1.0417E+00	-1.6132E+03	5.4166E+03	1.3822E+05
2.2902E+02	1.3328E+03	4.6875E+01	-4.7550E+04	1.2164E+05	1.0417E+00	-1.6132E+03	5.0781E+03	2.6192E+05
2.2902E+02	1.2978E+03	6.2501E+00	-4.7550E+04	1.1636E+05	4.1250E-01	-1.6132E+03	4.7395E+03	3.3182E+05
2.2902E+02	1.2627E+03	5.6210E+00	-4.7550E+04	1.1107E+05	1.6867E+02	-1.6132E+03	4.4010E+03	3.9409E+05
2.2902E+02	1.2276E+03	1.0417E+01	-4.7550E+04	1.0578E+05	2.8700E+01	-1.6132E+03	4.0624E+03	6.6660E+05
2.2902E+02	1.1925E+03	9.1954E+01	-4.7550E+04	8.9911E+04	5.6574E+01	-1.6132E+03	3.7239E+03	6.8000E+05
2.2902E+02	1.1575E+03	2.9125E+00	-4.7550E+04	8.4622E+04	5.6574E+01	-1.6132E+03	3.3854E+03	9.7015E+05
2.2902E+02	1.1224E+03	1.0850E+02	-4.7550E+04	7.9333E+04	8.4861E+01	-1.6132E+03	3.0468E+03	1.1223E+06
2.2902E+02	1.0873E+03	4.1250E-01	-4.7550E+04	7.4044E+04	1.1315E+02	-1.6132E+03	2.7083E+03	1.3971E+06
2.2902E+02	1.0522E+03	2.2917E+00	-4.7550E+04	6.8755E+04	1.9801E+02	-1.6132E+03	2.3698E+03	1.3707E+06
2.2902E+02	1.0172E+03	3.6166E+00	-4.7550E+04	6.3467E+04	6.0182E+02	-1.6132E+03	2.0312E+03	1.7707E+06
2.2902E+02	9.8209E+02	2.8287E+01	-4.7550E+04	5.8178E+04	5.4742E+02	-1.6132E+03	1.6927E+03	1.7689E+06
2.2902E+02	9.4702E+02	6.1778E+01	-4.7550E+04	5.2889E+04	1.4806E+03	-1.6132E+03	1.3541E+03	1.5054E+06
2.2902E+02	9.1194E+02	3.3333E+00	-4.7550E+04	4.7600E+04	1.5759E+03	-1.6132E+03	1.0156E+03	1.6473E+06
2.2902E+02	8.7687E+02	2.8287E+01	-4.7550E+04	4.2311E+04	4.7648E+03	-1.6132E+03	6.7707E+02	2.4963E+06

Markov Matrices								
Tower shear, bottom F_y [kN]			Tower bending, bottom M_x [kNm]			Tower torsion, bottom M_z [kNm]		
Level	Range	Cycles	Level	Range	Cycles	Level	Range	Cycles
2.2902E+02	8.4179E+02	3.0830E+02	-4.7550E+04	3.7022E+04	2.2267E+04	-1.6132E+03	3.3854E+02	6.5716E+06
2.2902E+02	8.0672E+02	9.8554E+01	-4.7550E+04	3.1733E+04	4.2790E+03	-1.6132E+03	0.0000E+00	1.3315E+07
2.2902E+02	7.7164E+02	6.4179E+02	-4.7550E+04	2.6444E+04	1.9859E+04	-2.0001E+03	1.6927E+04	9.7405E+01
2.2902E+02	7.3657E+02	5.7767E+02	-4.7550E+04	2.1156E+04	3.2314E+04	-2.0001E+03	1.4557E+04	7.6400E+02
2.2902E+02	7.0149E+02	1.9505E+02	-4.7550E+04	1.5867E+04	2.8552E+05	-2.0001E+03	1.3880E+04	6.8209E+02
2.2902E+02	6.6642E+02	3.8910E+02	-4.7550E+04	1.0578E+04	1.7705E+06	-2.0001E+03	1.3541E+04	1.4338E+03
2.2902E+02	6.3134E+02	8.1962E+02	-4.7550E+04	5.2889E+03	7.3648E+06	-2.0001E+03	1.3203E+04	2.6125E+03
2.2902E+02	5.9627E+02	9.5446E+02	-4.7550E+04	0.0000E+00	1.5091E+07	-2.0001E+03	1.2864E+04	1.2534E+03
2.2902E+02	5.6119E+02	1.4345E+03	-5.3249E+04	1.9569E+05	5.2085E+00	-2.0001E+03	1.2526E+04	7.8049E+02
2.2902E+02	5.2612E+02	3.6016E+03	-5.3249E+04	1.6924E+05	5.2085E+00	-2.0001E+03	1.2187E+04	2.8714E+02
2.2902E+02	4.9104E+02	2.9959E+03	-5.3249E+04	1.2693E+05	1.0417E+00	-2.0001E+03	1.1849E+04	1.9927E+03
2.2902E+02	4.5597E+02	4.6071E+03	-5.3249E+04	1.1107E+05	7.6400E+02	-2.0001E+03	1.1510E+04	4.8267E+03
2.2902E+02	4.2090E+02	4.3546E+03	-5.3249E+04	1.0578E+05	2.8287E+01	-2.0001E+03	1.1172E+04	3.3343E+03
2.2902E+02	3.8582E+02	1.6027E+04	-5.3249E+04	1.0049E+05	2.8287E+01	-2.0001E+03	1.0833E+04	4.3466E+03
2.2902E+02	3.5075E+02	1.6419E+04	-5.3249E+04	9.5200E+04	1.4143E+02	-2.0001E+03	1.0495E+04	4.4905E+03
2.2902E+02	3.1567E+02	2.6738E+04	-5.3249E+04	8.9911E+04	1.1315E+02	-2.0001E+03	1.0156E+04	1.2031E+04
2.2902E+02	2.8060E+02	1.1593E+04	-5.3249E+04	7.9333E+04	3.1972E+02	-2.0001E+03	9.8176E+03	1.7059E+04
2.2902E+02	2.4552E+02	6.1706E+04	-5.3249E+04	7.4044E+04	2.3884E+02	-2.0001E+03	9.4790E+03	8.5722E+03
2.2902E+02	2.1045E+02	3.0257E+05	-5.3249E+04	6.8755E+04	1.6972E+02	-2.0001E+03	9.1405E+03	1.3727E+04
2.2902E+02	1.7537E+02	1.0440E+06	-5.3249E+04	6.3467E+04	7.5934E+02	-2.0001E+03	8.8020E+03	1.0994E+04
2.2902E+02	1.4030E+02	2.7853E+06	-5.3249E+04	5.8178E+04	2.2963E+02	-2.0001E+03	8.4634E+03	1.3409E+04
2.2902E+02	1.0522E+02	6.0503E+06	-5.3249E+04	5.2889E+04	1.9875E+04	-2.0001E+03	8.1249E+03	6.5268E+03
2.2902E+02	7.0149E+01	8.0973E+06	-5.3249E+04	4.7600E+04	1.6909E+03	-2.0001E+03	7.7864E+03	1.5782E+04
2.2902E+02	3.5075E+01	8.9627E+06	-5.3249E+04	4.2311E+04	1.3689E+03	-2.0001E+03	7.4478E+03	3.7055E+04
2.2902E+02	0.0000E+00	2.3977E+07	-5.3249E+04	3.7022E+04	1.9892E+03	-2.0001E+03	7.1093E+03	2.1536E+04
1.8929E+02	1.4381E+03	1.7500E+00	-5.3249E+04	3.1733E+04	2.8557E+04	-2.0001E+03	6.7707E+03	2.9306E+04
1.8929E+02	1.4030E+03	5.2085E+00	-5.3249E+04	2.6444E+04	1.1525E+05	-2.0001E+03	6.4322E+03	4.2618E+04
1.8929E+02	1.3679E+03	5.2085E+00	-5.3249E+04	2.1156E+04	1.5891E+05	-2.0001E+03	6.0937E+03	8.1126E+04
1.8929E+02	1.3328E+03	5.2085E+00	-5.3249E+04	1.5867E+04	5.4633E+05	-2.0001E+03	5.7551E+03	1.4894E+05
1.8929E+02	1.2978E+03	5.2085E+00	-5.3249E+04	1.0578E+04	2.3938E+06	-2.0001E+03	5.4166E+03	9.5618E+04
1.8929E+02	1.2627E+03	5.2085E+00	-5.3249E+04	5.2889E+03	7.4700E+06	-2.0001E+03	5.0781E+03	1.8479E+05
1.8929E+02	1.2276E+03	1.7500E+00	-5.3249E+04	0.0000E+00	1.7394E+07	-2.0001E+03	4.7395E+03	2.5100E+05
1.8929E+02	1.1925E+03	1.1667E+01	-5.8948E+04	1.3222E+05	8.3335E+01	-2.0001E+03	4.4010E+03	3.0769E+05
1.8929E+02	1.1224E+03	1.7500E+00	-5.8948E+04	1.2693E+05	2.5001E+02	-2.0001E+03	4.0624E+03	4.4774E+05
1.8929E+02	1.0522E+03	2.0330E+01	-5.8948E+04	1.2164E+05	2.8287E+01	-2.0001E+03	3.7239E+03	5.6991E+05

Markov Matrices								
Tower shear, bottom F_y [kN]			Tower bending, bottom M_x [kNm]			Tower torsion, bottom M_z [kNm]		
Level	Range	Cycles	Level	Range	Cycles	Level	Range	Cycles
1.8929E+02	9.8209E+02	2.0833E+00	-5.8948E+04	1.1107E+05	2.8287E+01	-2.0001E+03	3.3854E+03	9.0170E+05
1.8929E+02	9.4702E+02	6.2215E+00	-5.8948E+04	1.0578E+05	2.8287E+01	-2.0001E+03	3.0468E+03	7.8026E+05
1.8929E+02	8.7687E+02	2.0833E+00	-5.8948E+04	1.0049E+05	5.6574E+01	-2.0001E+03	2.7083E+03	9.6819E+05
1.8929E+02	8.4179E+02	4.1250E-01	-5.8948E+04	9.5200E+04	2.8287E+01	-2.0001E+03	2.3698E+03	1.2159E+06
1.8929E+02	8.0672E+02	1.5776E+01	-5.8948E+04	8.9911E+04	1.2569E+02	-2.0001E+03	2.0312E+03	1.1544E+06
1.8929E+02	7.7164E+02	3.0913E+02	-5.8948E+04	8.4622E+04	9.7405E+01	-2.0001E+03	1.6927E+03	1.3591E+06
1.8929E+02	7.3657E+02	2.1180E+01	-5.8948E+04	7.9333E+04	3.0962E+02	-2.0001E+03	1.3541E+03	1.3331E+06
1.8929E+02	7.0149E+02	2.7209E+01	-5.8948E+04	7.4044E+04	5.8573E+02	-2.0001E+03	1.0156E+03	1.2589E+06
1.8929E+02	6.6642E+02	2.6862E+02	-5.8948E+04	6.8755E+04	1.2415E+03	-2.0001E+03	6.7707E+02	2.0014E+06
1.8929E+02	6.3134E+02	6.7738E+01	-5.8948E+04	6.3467E+04	1.0502E+04	-2.0001E+03	3.3854E+02	5.1331E+06
1.8929E+02	5.9627E+02	1.7952E+02	-5.8948E+04	5.8178E+04	2.5604E+03	-2.0001E+03	0.0000E+00	1.0695E+07
1.8929E+02	5.6119E+02	2.4136E+02	-5.8948E+04	5.2889E+04	2.8267E+03	-2.3871E+03	1.5234E+04	2.8287E+01
1.8929E+02	5.2612E+02	1.0015E+03	-5.8948E+04	4.7600E+04	1.8900E+04	-2.3871E+03	1.4896E+04	9.7405E+01
1.8929E+02	4.9104E+02	1.1556E+03	-5.8948E+04	4.2311E+04	2.3276E+04	-2.3871E+03	1.4557E+04	9.7405E+01
1.8929E+02	4.5597E+02	8.7247E+02	-5.8948E+04	3.7022E+04	1.5657E+04	-2.3871E+03	1.3880E+04	9.7405E+01
1.8929E+02	4.2090E+02	2.2442E+03	-5.8948E+04	3.1733E+04	3.4910E+04	-2.3871E+03	1.3541E+04	3.9610E+02
1.8929E+02	3.8582E+02	5.7547E+03	-5.8948E+04	2.6444E+04	7.7277E+04	-2.3871E+03	1.3203E+04	9.0690E+02
1.8929E+02	3.5075E+02	2.8888E+04	-5.8948E+04	2.1156E+04	3.5115E+05	-2.3871E+03	1.2864E+04	3.5149E+02
1.8929E+02	3.1567E+02	5.6980E+04	-5.8948E+04	1.5867E+04	1.0728E+06	-2.3871E+03	1.2526E+04	8.5903E+01
1.8929E+02	2.8060E+02	5.5129E+04	-5.8948E+04	1.0578E+04	4.1019E+06	-2.3871E+03	1.2187E+04	9.3995E+01
1.8929E+02	2.4552E+02	5.6052E+04	-5.8948E+04	5.2889E+03	8.5519E+06	-2.3871E+03	1.1849E+04	1.8223E+03
1.8929E+02	2.1045E+02	5.0382E+04	-5.8948E+04	0.0000E+00	1.8882E+07	-2.3871E+03	1.1510E+04	4.2145E+02
1.8929E+02	1.7537E+02	4.1988E+05	-6.4647E+04	1.4809E+05	8.3335E+01	-2.3871E+03	1.1172E+04	3.6227E+02
1.8929E+02	1.4030E+02	1.7872E+06	-6.4647E+04	1.1107E+05	2.8287E+01	-2.3871E+03	1.0833E+04	1.0375E+03
1.8929E+02	1.0522E+02	5.0280E+06	-6.4647E+04	1.0578E+05	7.6400E+02	-2.3871E+03	1.0495E+04	2.1147E+03
1.8929E+02	7.0149E+01	9.8018E+06	-6.4647E+04	8.9911E+04	9.6592E+03	-2.3871E+03	1.0156E+04	5.6633E+03
1.8929E+02	3.5075E+01	1.2154E+07	-6.4647E+04	8.4622E+04	1.0309E+03	-2.3871E+03	9.8176E+03	4.7121E+03
1.8929E+02	0.0000E+00	3.2489E+07	-6.4647E+04	7.9333E+04	1.1859E+04	-2.3871E+03	9.4790E+03	4.4506E+03
1.4957E+02	1.5082E+03	6.9585E+00	-6.4647E+04	7.4044E+04	3.1931E+04	-2.3871E+03	9.1405E+03	1.6643E+03
1.4957E+02	1.2978E+03	1.7500E+00	-6.4647E+04	6.8755E+04	3.4371E+04	-2.3871E+03	8.8020E+03	8.9388E+03
1.4957E+02	1.2627E+03	5.2085E+00	-6.4647E+04	6.3467E+04	2.1672E+04	-2.3871E+03	8.4634E+03	3.3068E+03
1.4957E+02	1.2276E+03	5.2500E+00	-6.4647E+04	5.8178E+04	1.9726E+04	-2.3871E+03	8.1249E+03	1.0330E+04
1.4957E+02	1.1224E+03	1.0417E+00	-6.4647E+04	5.2889E+04	4.7435E+04	-2.3871E+03	7.7864E+03	1.2831E+04
1.4957E+02	8.7687E+02	6.6340E+00	-6.4647E+04	4.7600E+04	4.6715E+04	-2.3871E+03	7.4478E+03	1.3435E+04
1.4957E+02	8.4179E+02	4.1666E+00	-6.4647E+04	4.2311E+04	5.8648E+04	-2.3871E+03	7.1093E+03	3.3766E+04

Markov Matrices								
Tower shear, bottom F_y [kN]			Tower bending, bottom M_x [kNm]			Tower torsion, bottom M_z [kNm]		
Level	Range	Cycles	Level	Range	Cycles	Level	Range	Cycles
1.4957E+02	8.0672E+02	2.0833E+00	-6.4647E+04	3.7022E+04	1.0170E+05	-2.3871E+03	6.7707E+03	5.3203E+04
1.4957E+02	7.7164E+02	1.2500E+00	-6.4647E+04	3.1733E+04	1.7854E+05	-2.3871E+03	6.4322E+03	4.9783E+04
1.4957E+02	7.3657E+02	2.0772E+01	-6.4647E+04	2.6444E+04	2.3184E+05	-2.3871E+03	6.0937E+03	5.8295E+04
1.4957E+02	7.0149E+02	5.5772E+01	-6.4647E+04	2.1156E+04	5.1627E+05	-2.3871E+03	5.7551E+03	7.7666E+04
1.4957E+02	6.6642E+02	1.2866E+02	-6.4647E+04	1.5867E+04	1.7793E+06	-2.3871E+03	5.4166E+03	1.7120E+05
1.4957E+02	6.3134E+02	1.1307E+02	-6.4647E+04	1.0578E+04	4.1969E+06	-2.3871E+03	5.0781E+03	1.3272E+05
1.4957E+02	5.9627E+02	3.4091E+03	-6.4647E+04	5.2889E+03	8.1124E+06	-2.3871E+03	4.7395E+03	2.3609E+05
1.4957E+02	5.6119E+02	3.4187E+03	-6.4647E+04	0.0000E+00	1.5198E+07	-2.3871E+03	4.4010E+03	3.5845E+05
1.4957E+02	5.2612E+02	1.8138E+02	-7.0347E+04	1.4280E+05	8.3335E+01	-2.3871E+03	4.0624E+03	3.8379E+05
1.4957E+02	4.9104E+02	3.5571E+03	-7.0347E+04	1.1636E+05	1.7304E+03	-2.3871E+03	3.7239E+03	4.7687E+05
1.4957E+02	4.5597E+02	3.8798E+02	-7.0347E+04	1.0049E+05	1.9481E+02	-2.3871E+03	3.3854E+03	6.5335E+05
1.4957E+02	4.2090E+02	3.8412E+03	-7.0347E+04	9.5200E+04	1.1696E+03	-2.3871E+03	3.0468E+03	7.4288E+05
1.4957E+02	3.8582E+02	8.5457E+03	-7.0347E+04	8.9911E+04	2.9351E+02	-2.3871E+03	2.7083E+03	8.1859E+05
1.4957E+02	3.5075E+02	1.2218E+04	-7.0347E+04	8.4622E+04	1.2162E+04	-2.3871E+03	2.3698E+03	9.8995E+05
1.4957E+02	3.1567E+02	1.7044E+04	-7.0347E+04	7.9333E+04	2.5026E+03	-2.3871E+03	2.0312E+03	7.5490E+05
1.4957E+02	2.8060E+02	1.2818E+04	-7.0347E+04	7.4044E+04	5.1198E+03	-2.3871E+03	1.6927E+03	9.8528E+05
1.4957E+02	2.4552E+02	3.0493E+04	-7.0347E+04	6.8755E+04	2.4200E+04	-2.3871E+03	1.3541E+03	1.0436E+06
1.4957E+02	2.1045E+02	6.1851E+04	-7.0347E+04	6.3467E+04	2.8816E+04	-2.3871E+03	1.0156E+03	1.0577E+06
1.4957E+02	1.7537E+02	1.4753E+05	-7.0347E+04	5.8178E+04	4.3815E+04	-2.3871E+03	6.7707E+02	1.7770E+06
1.4957E+02	1.4030E+02	1.0393E+06	-7.0347E+04	5.2889E+04	7.5587E+04	-2.3871E+03	3.3854E+02	4.0406E+06
1.4957E+02	1.0522E+02	4.6006E+06	-7.0347E+04	4.7600E+04	1.1477E+05	-2.3871E+03	0.0000E+00	7.9229E+06
1.4957E+02	7.0149E+01	1.0992E+07	-7.0347E+04	4.2311E+04	1.4356E+05	-2.7740E+03	1.4557E+04	2.8287E+01
1.4957E+02	3.5075E+01	1.7816E+07	-7.0347E+04	3.7022E+04	1.3487E+05	-2.7740E+03	1.4219E+04	7.6400E+02
1.4957E+02	0.0000E+00	4.2933E+07	-7.0347E+04	3.1733E+04	2.3275E+05	-2.7740E+03	1.3541E+04	3.4606E+02
1.0985E+02	1.6836E+03	1.7500E+00	-7.0347E+04	2.6444E+04	2.8954E+05	-2.7740E+03	1.3203E+04	2.3824E+02
1.0985E+02	1.6485E+03	3.5000E+00	-7.0347E+04	2.1156E+04	7.9050E+05	-2.7740E+03	1.2864E+04	8.8969E+02
1.0985E+02	1.6134E+03	1.7500E+00	-7.0347E+04	1.5867E+04	2.5391E+06	-2.7740E+03	1.2526E+04	4.2543E+02
1.0985E+02	1.5433E+03	1.7500E+00	-7.0347E+04	1.0578E+04	6.0248E+06	-2.7740E+03	1.2187E+04	1.5622E+02
1.0985E+02	1.4381E+03	1.7500E+00	-7.0347E+04	5.2889E+03	9.6537E+06	-2.7740E+03	1.1849E+04	1.9212E+03
1.0985E+02	1.4030E+03	5.2085E+00	-7.0347E+04	0.0000E+00	1.7375E+07	-2.7740E+03	1.1510E+04	1.0171E+03
1.0985E+02	1.3679E+03	1.7500E+00	-7.6046E+04	1.5867E+05	7.6400E+02	-2.7740E+03	1.1172E+04	5.1305E+02
1.0985E+02	1.2276E+03	1.2500E+00	-7.6046E+04	1.2693E+05	7.6400E+02	-2.7740E+03	1.0833E+04	2.5073E+03
1.0985E+02	1.0522E+03	1.2500E+00	-7.6046E+04	9.5200E+04	9.3670E+03	-2.7740E+03	1.0495E+04	6.8161E+02
1.0985E+02	1.0172E+03	1.7500E+00	-7.6046E+04	8.9911E+04	2.9247E+02	-2.7740E+03	1.0156E+04	1.3230E+03
1.0985E+02	9.8209E+02	1.7500E+00	-7.6046E+04	8.4622E+04	2.3366E+04	-2.7740E+03	9.8176E+03	5.8994E+02

Markov Matrices								
Tower shear, bottom F_y [kN]			Tower bending, bottom M_x [kNm]			Tower torsion, bottom M_z [kNm]		
Level	Range	Cycles	Level	Range	Cycles	Level	Range	Cycles
1.0985E+02	9.4702E+02	1.2500E+00	-7.6046E+04	7.9333E+04	1.0743E+04	-2.7740E+03	9.4790E+03	1.5018E+03
1.0985E+02	8.4179E+02	1.7500E+00	-7.6046E+04	7.4044E+04	2.2215E+04	-2.7740E+03	9.1405E+03	4.0024E+03
1.0985E+02	8.0672E+02	2.5000E+00	-7.6046E+04	6.8755E+04	7.2979E+03	-2.7740E+03	8.8020E+03	2.4125E+03
1.0985E+02	7.7164E+02	1.2500E+00	-7.6046E+04	6.3467E+04	3.0246E+04	-2.7740E+03	8.4634E+03	1.5264E+03
1.0985E+02	7.3657E+02	3.3333E+00	-7.6046E+04	5.8178E+04	4.0834E+04	-2.7740E+03	8.1249E+03	2.3006E+03
1.0985E+02	7.0149E+02	2.6742E+01	-7.6046E+04	5.2889E+04	6.5491E+04	-2.7740E+03	7.7864E+03	1.1709E+04
1.0985E+02	6.6642E+02	1.3825E+01	-7.6046E+04	4.7600E+04	6.3698E+04	-2.7740E+03	7.4478E+03	7.3266E+03
1.0985E+02	6.3134E+02	3.8405E+01	-7.6046E+04	4.2311E+04	1.0580E+05	-2.7740E+03	7.1093E+03	1.2085E+04
1.0985E+02	5.9627E+02	6.4318E+01	-7.6046E+04	3.7022E+04	1.6587E+05	-2.7740E+03	6.7707E+03	2.9453E+04
1.0985E+02	5.6119E+02	8.8631E+01	-7.6046E+04	3.1733E+04	2.1352E+05	-2.7740E+03	6.4322E+03	3.4523E+04
1.0985E+02	5.2612E+02	3.7413E+03	-7.6046E+04	2.6444E+04	4.3209E+05	-2.7740E+03	6.0937E+03	2.3463E+04
1.0985E+02	4.9104E+02	2.6871E+02	-7.6046E+04	2.1156E+04	1.3787E+06	-2.7740E+03	5.7551E+03	4.4955E+04
1.0985E+02	4.5597E+02	5.3668E+03	-7.6046E+04	1.5867E+04	3.6507E+06	-2.7740E+03	5.4166E+03	9.8255E+04
1.0985E+02	4.2090E+02	5.2724E+03	-7.6046E+04	1.0578E+04	7.7243E+06	-2.7740E+03	5.0781E+03	1.2183E+05
1.0985E+02	3.8582E+02	1.0635E+04	-7.6046E+04	5.2889E+03	9.8777E+06	-2.7740E+03	4.7395E+03	1.3932E+05
1.0985E+02	3.5075E+02	5.1742E+03	-7.6046E+04	0.0000E+00	1.8635E+07	-2.7740E+03	4.4010E+03	1.3521E+05
1.0985E+02	3.1567E+02	3.3595E+03	-8.1745E+04	1.3751E+05	1.7304E+03	-2.7740E+03	4.0624E+03	3.2921E+05
1.0985E+02	2.8060E+02	6.3239E+03	-8.1745E+04	1.0049E+05	1.0565E+03	-2.7740E+03	3.7239E+03	4.2992E+05
1.0985E+02	2.4552E+02	6.5720E+03	-8.1745E+04	9.5200E+04	1.8205E+03	-2.7740E+03	3.3854E+03	3.7274E+05
1.0985E+02	2.1045E+02	1.5677E+04	-8.1745E+04	8.9911E+04	3.2584E+03	-2.7740E+03	3.0468E+03	5.7784E+05
1.0985E+02	1.7537E+02	9.2795E+04	-8.1745E+04	8.4622E+04	1.7304E+03	-2.7740E+03	2.7083E+03	6.7320E+05
1.0985E+02	1.4030E+02	4.1928E+05	-8.1745E+04	7.9333E+04	7.0118E+03	-2.7740E+03	2.3698E+03	6.6600E+05
1.0985E+02	1.0522E+02	2.4702E+06	-8.1745E+04	7.4044E+04	2.6559E+04	-2.7740E+03	2.0312E+03	6.8867E+05
1.0985E+02	7.0149E+01	6.2804E+06	-8.1745E+04	6.8755E+04	9.7100E+03	-2.7740E+03	1.6927E+03	8.0997E+05
1.0985E+02	3.5075E+01	1.0939E+07	-8.1745E+04	6.3467E+04	2.9193E+04	-2.7740E+03	1.3541E+03	7.5114E+05
1.0985E+02	0.0000E+00	2.7654E+07	-8.1745E+04	5.8178E+04	3.1687E+04	-2.7740E+03	1.0156E+03	8.0995E+05
7.0121E+01	1.6836E+03	5.2500E+00	-8.1745E+04	5.2889E+04	5.2800E+04	-2.7740E+03	6.7707E+02	1.3746E+06
7.0121E+01	1.6485E+03	7.0000E+00	-8.1745E+04	4.7600E+04	8.0410E+04	-2.7740E+03	3.3854E+02	3.4140E+06
7.0121E+01	1.6134E+03	3.5000E+00	-8.1745E+04	4.2311E+04	1.1052E+05	-2.7740E+03	0.0000E+00	6.4421E+06
7.0121E+01	1.5433E+03	1.7500E+00	-8.1745E+04	3.7022E+04	1.4753E+05	-3.1609E+03	1.4219E+04	1.2569E+02
7.0121E+01	1.5082E+03	3.5000E+00	-8.1745E+04	3.1733E+04	2.6014E+05	-3.1609E+03	1.3880E+04	9.8655E+01
7.0121E+01	1.4381E+03	1.7500E+00	-8.1745E+04	2.6444E+04	4.7309E+05	-3.1609E+03	1.3541E+04	9.9373E+02
7.0121E+01	1.3679E+03	3.5000E+00	-8.1745E+04	2.1156E+04	1.4462E+06	-3.1609E+03	1.3203E+04	9.7405E+01
7.0121E+01	1.2627E+03	1.7500E+00	-8.1745E+04	1.5867E+04	3.7757E+06	-3.1609E+03	1.2864E+04	2.8287E+01
7.0121E+01	9.1194E+02	1.6625E+00	-8.1745E+04	1.0578E+04	7.1054E+06	-3.1609E+03	1.2526E+04	6.2675E+01

Markov Matrices								
Tower shear, bottom F_y [kN]			Tower bending, bottom M_x [kNm]			Tower torsion, bottom M_z [kNm]		
Level	Range	Cycles	Level	Range	Cycles	Level	Range	Cycles
7.0121E+01	8.4179E+02	3.5000E+00	-8.1745E+04	5.2889E+03	9.0811E+06	-3.1609E+03	1.2187E+04	6.2215E+00
7.0121E+01	8.0672E+02	4.4167E+01	-8.1745E+04	0.0000E+00	1.9825E+07	-3.1609E+03	1.1849E+04	6.2796E+01
7.0121E+01	7.7164E+02	6.0000E+00	-8.7444E+04	1.0578E+05	4.1461E+03	-3.1609E+03	1.1510E+04	9.7405E+01
7.0121E+01	7.3657E+02	1.1158E+01	-8.7444E+04	1.0049E+05	5.8765E+03	-3.1609E+03	1.1172E+04	6.3620E+01
7.0121E+01	7.0149E+02	4.4833E+01	-8.7444E+04	9.5200E+04	1.7304E+03	-3.1609E+03	1.0833E+04	8.6651E+02
7.0121E+01	6.6642E+02	7.2375E+00	-8.7444E+04	8.9911E+04	3.2584E+03	-3.1609E+03	1.0495E+04	1.1866E+03
7.0121E+01	6.3134E+02	2.8809E+01	-8.7444E+04	8.4622E+04	2.0251E+04	-3.1609E+03	1.0156E+04	1.7711E+03
7.0121E+01	5.9627E+02	7.7496E+01	-8.7444E+04	7.9333E+04	2.9870E+04	-3.1609E+03	9.8176E+03	5.5703E+02
7.0121E+01	5.6119E+02	1.0132E+02	-8.7444E+04	7.4044E+04	1.0304E+04	-3.1609E+03	9.4790E+03	1.2111E+03
7.0121E+01	5.2612E+02	5.3730E+01	-8.7444E+04	6.8755E+04	1.5497E+04	-3.1609E+03	9.1405E+03	1.5120E+03
7.0121E+01	4.9104E+02	1.5647E+02	-8.7444E+04	6.3467E+04	1.0225E+04	-3.1609E+03	8.8020E+03	1.2720E+03
7.0121E+01	4.5597E+02	3.3513E+02	-8.7444E+04	5.8178E+04	4.4272E+04	-3.1609E+03	8.4634E+03	1.0249E+03
7.0121E+01	4.2090E+02	3.0591E+02	-8.7444E+04	5.2889E+04	7.2298E+04	-3.1609E+03	8.1249E+03	3.7442E+03
7.0121E+01	3.8582E+02	1.6104E+03	-8.7444E+04	4.7600E+04	7.4576E+04	-3.1609E+03	7.7864E+03	3.0262E+03
7.0121E+01	3.5075E+02	5.5043E+03	-8.7444E+04	4.2311E+04	8.6128E+04	-3.1609E+03	7.4478E+03	5.2179E+03
7.0121E+01	3.1567E+02	1.1508E+04	-8.7444E+04	3.7022E+04	1.6267E+05	-3.1609E+03	7.1093E+03	1.0929E+04
7.0121E+01	2.8060E+02	1.4235E+03	-8.7444E+04	3.1733E+04	2.0796E+05	-3.1609E+03	6.7707E+03	6.0331E+03
7.0121E+01	2.4552E+02	1.4724E+03	-8.7444E+04	2.6444E+04	3.3191E+05	-3.1609E+03	6.4322E+03	1.2917E+04
7.0121E+01	2.1045E+02	1.5573E+04	-8.7444E+04	2.1156E+04	1.2832E+06	-3.1609E+03	6.0937E+03	2.6782E+04
7.0121E+01	1.7537E+02	4.5614E+04	-8.7444E+04	1.5867E+04	3.4654E+06	-3.1609E+03	5.7551E+03	4.7939E+04
7.0121E+01	1.4030E+02	1.4627E+05	-8.7444E+04	1.0578E+04	7.3350E+06	-3.1609E+03	5.4166E+03	4.2337E+04
7.0121E+01	1.0522E+02	8.7197E+05	-8.7444E+04	5.2889E+03	9.3657E+06	-3.1609E+03	5.0781E+03	9.0758E+04
7.0121E+01	7.0149E+01	2.6724E+06	-8.7444E+04	0.0000E+00	1.8848E+07	-3.1609E+03	4.7395E+03	1.0429E+05
7.0121E+01	3.5075E+01	5.0578E+06	-9.3143E+04	1.0049E+05	5.1125E+03	-3.1609E+03	4.4010E+03	1.4161E+05
7.0121E+01	0.0000E+00	1.4295E+07	-9.3143E+04	9.5200E+04	6.8430E+03	-3.1609E+03	4.0624E+03	2.2469E+05
3.0396E+01	1.7537E+03	1.7500E+00	-9.3143E+04	8.9911E+04	3.4609E+03	-3.1609E+03	3.7239E+03	2.3514E+05
3.0396E+01	1.7187E+03	3.5000E+00	-9.3143E+04	8.4622E+04	2.7293E+04	-3.1609E+03	3.3854E+03	3.2951E+05
3.0396E+01	1.6485E+03	5.2500E+00	-9.3143E+04	7.9333E+04	2.5081E+04	-3.1609E+03	3.0468E+03	4.1991E+05
3.0396E+01	1.6134E+03	8.7500E+00	-9.3143E+04	7.4044E+04	2.8787E+04	-3.1609E+03	2.7083E+03	5.4970E+05
3.0396E+01	1.5784E+03	3.5000E+00	-9.3143E+04	6.8755E+04	8.3787E+04	-3.1609E+03	2.3698E+03	6.0103E+05
3.0396E+01	1.5433E+03	8.7500E+00	-9.3143E+04	6.3467E+04	8.3306E+04	-3.1609E+03	2.0312E+03	6.0536E+05
3.0396E+01	1.5082E+03	3.5000E+00	-9.3143E+04	5.8178E+04	7.3561E+04	-3.1609E+03	1.6927E+03	4.8431E+05
3.0396E+01	1.4030E+03	5.2500E+00	-9.3143E+04	5.2889E+04	5.9179E+04	-3.1609E+03	1.3541E+03	5.5627E+05
3.0396E+01	1.3679E+03	1.7500E+00	-9.3143E+04	4.7600E+04	7.1105E+04	-3.1609E+03	1.0156E+03	6.2503E+05
3.0396E+01	1.0172E+03	1.2500E+00	-9.3143E+04	4.2311E+04	8.9190E+04	-3.1609E+03	6.7707E+02	1.1466E+06

Markov Matrices								
Tower shear, bottom F_y [kN]			Tower bending, bottom M_x [kNm]			Tower torsion, bottom M_z [kNm]		
Level	Range	Cycles	Level	Range	Cycles	Level	Range	Cycles
3.0396E+01	9.1194E+02	1.7500E+00	-9.3143E+04	3.7022E+04	9.2630E+04	-3.1609E+03	3.3854E+02	2.3642E+06
3.0396E+01	8.4179E+02	4.7500E+00	-9.3143E+04	3.1733E+04	1.3217E+05	-3.1609E+03	0.0000E+00	4.8652E+06
3.0396E+01	8.0672E+02	2.1625E+00	-9.3143E+04	2.6444E+04	4.4580E+05	-3.5479E+03	1.3541E+04	2.8287E+01
3.0396E+01	7.7164E+02	8.1625E+00	-9.3143E+04	2.1156E+04	1.1279E+06	-3.5479E+03	1.2864E+04	6.6340E+00
3.0396E+01	7.3657E+02	4.5246E+01	-9.3143E+04	1.5867E+04	3.5343E+06	-3.5479E+03	1.2526E+04	2.9329E+01
3.0396E+01	7.0149E+02	6.2833E+01	-9.3143E+04	1.0578E+04	7.4371E+06	-3.5479E+03	1.2187E+04	2.3590E+02
3.0396E+01	6.6642E+02	9.6821E+01	-9.3143E+04	5.2889E+03	1.0367E+07	-3.5479E+03	1.1849E+04	7.4715E+00
3.0396E+01	6.3134E+02	1.0142E+02	-9.3143E+04	0.0000E+00	2.1338E+07	-3.5479E+03	1.1510E+04	1.1315E+02
3.0396E+01	5.9627E+02	4.3417E+01	-9.8842E+04	1.0578E+05	5.1125E+03	-3.5479E+03	1.1172E+04	3.7004E+01
3.0396E+01	5.6119E+02	1.3108E+02	-9.8842E+04	1.0049E+05	3.3821E+03	-3.5479E+03	1.0833E+04	2.0699E+02
3.0396E+01	5.2612E+02	1.2521E+02	-9.8842E+04	9.5200E+04	3.3821E+03	-3.5479E+03	1.0495E+04	2.5221E+02
3.0396E+01	4.9104E+02	1.4663E+01	-9.8842E+04	8.9911E+04	1.1826E+04	-3.5479E+03	1.0156E+04	1.2808E+02
3.0396E+01	4.5597E+02	5.0251E+01	-9.8842E+04	8.4622E+04	2.3703E+04	-3.5479E+03	9.8176E+03	3.8196E+02
3.0396E+01	4.2090E+02	2.6441E+02	-9.8842E+04	7.9333E+04	1.7708E+04	-3.5479E+03	9.4790E+03	1.1163E+03
3.0396E+01	3.8582E+02	8.9400E+01	-9.8842E+04	7.4044E+04	3.5084E+04	-3.5479E+03	9.1405E+03	3.8521E+02
3.0396E+01	3.5075E+02	1.1241E+02	-9.8842E+04	6.8755E+04	6.6560E+04	-3.5479E+03	8.8020E+03	3.5996E+02
3.0396E+01	3.1567E+02	4.7830E+03	-9.8842E+04	6.3467E+04	4.0132E+04	-3.5479E+03	8.4634E+03	1.9700E+03
3.0396E+01	2.8060E+02	2.1269E+03	-9.8842E+04	5.8178E+04	9.3855E+04	-3.5479E+03	8.1249E+03	4.7181E+02
3.0396E+01	2.4552E+02	2.0249E+03	-9.8842E+04	5.2889E+04	1.2056E+05	-3.5479E+03	7.7864E+03	2.6867E+03
3.0396E+01	2.1045E+02	8.9726E+03	-9.8842E+04	4.7600E+04	1.0677E+05	-3.5479E+03	7.4478E+03	1.8470E+03
3.0396E+01	1.7537E+02	5.9432E+04	-9.8842E+04	4.2311E+04	1.1729E+05	-3.5479E+03	7.1093E+03	7.3376E+03
3.0396E+01	1.4030E+02	2.7134E+05	-9.8842E+04	3.7022E+04	1.3192E+05	-3.5479E+03	6.7707E+03	9.5720E+03
3.0396E+01	1.0522E+02	6.2604E+05	-9.8842E+04	3.1733E+04	1.4342E+05	-3.5479E+03	6.4322E+03	7.2085E+03
3.0396E+01	7.0149E+01	1.4158E+06	-9.8842E+04	2.6444E+04	2.8459E+05	-3.5479E+03	6.0937E+03	1.9219E+04
3.0396E+01	3.5075E+01	4.2716E+06	-9.8842E+04	2.1156E+04	9.8430E+05	-3.5479E+03	5.7551E+03	4.0892E+04
3.0396E+01	0.0000E+00	2.1123E+07	-9.8842E+04	1.5867E+04	3.4959E+06	-3.5479E+03	5.4166E+03	3.7286E+04
-9.3284E+00	1.7187E+03	1.7500E+00	-9.8842E+04	1.0578E+04	8.4142E+06	-3.5479E+03	5.0781E+03	5.8762E+04
-9.3284E+00	1.6485E+03	1.7500E+00	-9.8842E+04	5.2889E+03	1.2987E+07	-3.5479E+03	4.7395E+03	8.4834E+04
-9.3284E+00	1.6134E+03	3.5000E+00	-9.8842E+04	0.0000E+00	2.9524E+07	-3.5479E+03	4.4010E+03	8.7930E+04
-9.3284E+00	1.5433E+03	3.5000E+00	-1.0454E+05	1.0578E+05	2.4440E+03	-3.5479E+03	4.0624E+03	1.1449E+05
-9.3284E+00	1.5082E+03	1.7500E+00	-1.0454E+05	1.0049E+05	3.3821E+03	-3.5479E+03	3.7239E+03	1.3149E+05
-9.3284E+00	1.4381E+03	1.7500E+00	-1.0454E+05	9.5200E+04	1.3528E+04	-3.5479E+03	3.3854E+03	1.6115E+05
-9.3284E+00	8.0672E+02	1.7500E+00	-1.0454E+05	7.9333E+04	1.5208E+04	-3.5479E+03	3.0468E+03	2.4545E+05
-9.3284E+00	7.7164E+02	3.7500E+00	-1.0454E+05	7.4044E+04	1.9736E+04	-3.5479E+03	2.7083E+03	3.0288E+05
-9.3284E+00	7.3657E+02	4.7500E+00	-1.0454E+05	6.8755E+04	2.8577E+04	-3.5479E+03	2.3698E+03	3.2700E+05

Markov Matrices								
Tower shear, bottom F_y [kN]			Tower bending, bottom M_x [kNm]			Tower torsion, bottom M_z [kNm]		
Level	Range	Cycles	Level	Range	Cycles	Level	Range	Cycles
-9.3284E+00	7.0149E+02	4.6329E+01	-1.0454E+05	6.3467E+04	3.3273E+04	-3.5479E+03	2.0312E+03	3.2382E+05
-9.3284E+00	6.6642E+02	9.5583E+01	-1.0454E+05	5.8178E+04	6.6080E+04	-3.5479E+03	1.6927E+03	4.0734E+05
-9.3284E+00	6.3134E+02	5.7417E+01	-1.0454E+05	5.2889E+04	1.0808E+05	-3.5479E+03	1.3541E+03	3.5319E+05
-9.3284E+00	5.9627E+02	6.4833E+01	-1.0454E+05	4.7600E+04	1.8918E+05	-3.5479E+03	1.0156E+03	3.6951E+05
-9.3284E+00	5.6119E+02	1.1250E+01	-1.0454E+05	4.2311E+04	3.5547E+05	-3.5479E+03	6.7707E+02	7.7431E+05
-9.3284E+00	5.2612E+02	9.1625E+00	-1.0454E+05	3.7022E+04	3.8599E+05	-3.5479E+03	3.3854E+02	1.6381E+06
-9.3284E+00	4.9104E+02	4.1750E+01	-1.0454E+05	3.1733E+04	4.7313E+05	-3.5479E+03	0.0000E+00	3.6187E+06
-9.3284E+00	4.5597E+02	3.9167E+01	-1.0454E+05	2.6444E+04	9.9957E+05	-3.9348E+03	1.2864E+04	2.8287E+01
-9.3284E+00	4.2090E+02	1.9825E+01	-1.0454E+05	2.1156E+04	2.0418E+06	-3.9348E+03	1.2187E+04	4.1980E+01
-9.3284E+00	3.8582E+02	1.0623E+02	-1.0454E+05	1.5867E+04	5.2899E+06	-3.9348E+03	1.1172E+04	1.4106E+01
-9.3284E+00	3.5075E+02	1.0833E+02	-1.0454E+05	1.0578E+04	1.2809E+07	-3.9348E+03	1.0833E+04	1.2848E+02
-9.3284E+00	3.1567E+02	3.9323E+02	-1.0454E+05	5.2889E+03	2.0097E+07	-3.9348E+03	1.0495E+04	2.7751E+02
-9.3284E+00	2.8060E+02	4.3628E+02	-1.0454E+05	0.0000E+00	4.5922E+07	-3.9348E+03	1.0156E+04	4.1250E-01
-9.3284E+00	2.4552E+02	1.8937E+04	-1.1024E+05	8.9911E+04	1.6800E+03	-3.9348E+03	9.8176E+03	3.1418E+02
-9.3284E+00	2.1045E+02	8.4148E+04	-1.1024E+05	7.9333E+04	5.2085E+00	-3.9348E+03	9.4790E+03	3.7649E+02
-9.3284E+00	1.7537E+02	3.0309E+05	-1.1024E+05	7.4044E+04	4.8911E+03	-3.9348E+03	9.1405E+03	2.9247E+02
-9.3284E+00	1.4030E+02	6.2966E+05	-1.1024E+05	6.8755E+04	2.1330E+04	-3.9348E+03	8.8020E+03	6.8611E+02
-9.3284E+00	1.0522E+02	1.1305E+06	-1.1024E+05	6.3467E+04	3.7791E+04	-3.9348E+03	8.4634E+03	2.9434E+02
-9.3284E+00	7.0149E+01	2.4105E+06	-1.1024E+05	5.8178E+04	5.0751E+04	-3.9348E+03	8.1249E+03	2.3146E+02
-9.3284E+00	3.5075E+01	6.0363E+06	-1.1024E+05	5.2889E+04	3.4866E+04	-3.9348E+03	7.7864E+03	1.2969E+03
-9.3284E+00	0.0000E+00	3.4689E+07	-1.1024E+05	4.7600E+04	7.5909E+04	-3.9348E+03	7.4478E+03	4.4371E+02
-4.9053E+01	1.7187E+03	1.7500E+00	-1.1024E+05	4.2311E+04	1.5602E+05	-3.9348E+03	7.1093E+03	3.2934E+03
-4.9053E+01	8.7687E+02	1.7500E+00	-1.1024E+05	3.7022E+04	2.9669E+05	-3.9348E+03	6.7707E+03	4.5826E+03
-4.9053E+01	8.0672E+02	1.7500E+00	-1.1024E+05	3.1733E+04	5.1545E+05	-3.9348E+03	6.4322E+03	3.7724E+03
-4.9053E+01	7.7164E+02	1.7500E+00	-1.1024E+05	2.6444E+04	1.0660E+06	-3.9348E+03	6.0937E+03	6.6406E+03
-4.9053E+01	7.3657E+02	4.3417E+01	-1.1024E+05	2.1156E+04	2.3051E+06	-3.9348E+03	5.7551E+03	1.3947E+04
-4.9053E+01	7.0149E+02	4.5167E+01	-1.1024E+05	1.5867E+04	5.8531E+06	-3.9348E+03	5.4166E+03	1.2176E+04
-4.9053E+01	6.6642E+02	3.5000E+00	-1.1024E+05	1.0578E+04	1.6051E+07	-3.9348E+03	5.0781E+03	1.7762E+04
-4.9053E+01	6.3134E+02	7.0000E+00	-1.1024E+05	5.2889E+03	2.5021E+07	-3.9348E+03	4.7395E+03	1.7183E+04
-4.9053E+01	5.9627E+02	8.7500E+00	-1.1024E+05	0.0000E+00	5.5079E+07	-3.9348E+03	4.4010E+03	3.9453E+04
-4.9053E+01	5.6119E+02	1.1250E+01	-1.1594E+05	7.9333E+04	1.6800E+03	-3.9348E+03	4.0624E+03	5.5825E+04
-4.9053E+01	5.2612E+02	1.4000E+01	-1.1594E+05	6.3467E+04	6.5781E+03	-3.9348E+03	3.7239E+03	8.4893E+04
-4.9053E+01	4.9104E+02	1.2632E+02	-1.1594E+05	5.8178E+04	4.8929E+03	-3.9348E+03	3.3854E+03	9.5082E+04
-4.9053E+01	4.5597E+02	4.3334E+01	-1.1594E+05	5.2889E+04	1.4679E+04	-3.9348E+03	3.0468E+03	1.1319E+05
-4.9053E+01	4.2090E+02	2.3449E+02	-1.1594E+05	4.7600E+04	6.8254E+03	-3.9348E+03	2.7083E+03	1.8483E+05

Markov Matrices								
Tower shear, bottom F_y [kN]			Tower bending, bottom M_x [kNm]			Tower torsion, bottom M_z [kNm]		
Level	Range	Cycles	Level	Range	Cycles	Level	Range	Cycles
-4.9053E+01	3.8582E+02	2.1116E+02	-1.1594E+05	4.2311E+04	1.3440E+04	-3.9348E+03	2.3698E+03	1.2723E+05
-4.9053E+01	3.5075E+02	2.8699E+02	-1.1594E+05	3.7022E+04	7.3962E+04	-3.9348E+03	2.0312E+03	1.6002E+05
-4.9053E+01	3.1567E+02	3.1090E+02	-1.1594E+05	3.1733E+04	2.4803E+04	-3.9348E+03	1.6927E+03	1.7268E+05
-4.9053E+01	2.8060E+02	7.4557E+02	-1.1594E+05	2.6444E+04	2.7551E+05	-3.9348E+03	1.3541E+03	1.6425E+05
-4.9053E+01	2.4552E+02	3.3307E+02	-1.1594E+05	2.1156E+04	7.5147E+05	-3.9348E+03	1.0156E+03	2.7826E+05
-4.9053E+01	2.1045E+02	1.8217E+02	-1.1594E+05	1.5867E+04	2.0996E+06	-3.9348E+03	6.7707E+02	4.0310E+05
-4.9053E+01	1.7537E+02	5.1932E+03	-1.1594E+05	1.0578E+04	7.0029E+06	-3.9348E+03	3.3854E+02	1.1288E+06
-4.9053E+01	1.4030E+02	1.9374E+04	-1.1594E+05	5.2889E+03	1.3375E+07	-3.9348E+03	0.0000E+00	2.1101E+06
-4.9053E+01	1.0522E+02	3.7681E+04	-1.1594E+05	0.0000E+00	3.1745E+07	-4.3217E+03	1.3541E+04	1.2500E+00
-4.9053E+01	7.0149E+01	1.7355E+05	-1.2164E+05	6.8755E+04	1.6800E+03	-4.3217E+03	1.3203E+04	4.1250E-01
-4.9053E+01	3.5075E+01	6.8344E+05	-1.2164E+05	3.1733E+04	6.9585E+00	-4.3217E+03	1.2526E+04	1.2443E+01
-4.9053E+01	0.0000E+00	4.3050E+06	-1.2164E+05	2.6444E+04	1.7500E+00	-4.3217E+03	1.2187E+04	9.7405E+01
-8.8778E+01	1.4030E+03	1.7500E+00	-1.2164E+05	2.1156E+04	1.0569E+05	-4.3217E+03	1.1849E+04	2.5000E+00
-8.8778E+01	1.1575E+03	1.7500E+00	-1.2164E+05	1.5867E+04	5.4662E+05	-4.3217E+03	1.1510E+04	9.7817E+01
-8.8778E+01	1.0873E+03	3.5000E+00	-1.2164E+05	1.0578E+04	1.7001E+06	-4.3217E+03	1.1172E+04	1.0407E+02
-8.8778E+01	1.0522E+03	1.7500E+00	-1.2164E+05	5.2889E+03	3.1167E+06	-4.3217E+03	1.0495E+04	6.2215E+00
-8.8778E+01	8.0672E+02	1.7500E+00	-1.2164E+05	0.0000E+00	1.0134E+07	-4.3217E+03	1.0156E+04	1.8664E+01
-8.8778E+01	7.3657E+02	3.5000E+00	-1.2734E+05	2.1156E+04	1.3585E+04	-4.3217E+03	9.8176E+03	1.2443E+01
-8.8778E+01	7.0149E+02	5.2500E+00	-1.2734E+05	1.5867E+04	9.0040E+04	-4.3217E+03	9.4790E+03	9.7304E+01
-8.8778E+01	6.6642E+02	1.7500E+00	-1.2734E+05	1.0578E+04	2.7758E+05	-4.3217E+03	9.1405E+03	1.5388E+02
-8.8778E+01	6.3134E+02	1.7500E+00	-1.2734E+05	5.2889E+03	7.7455E+05	-4.3217E+03	8.8020E+03	6.5296E+01
-8.8778E+01	5.9627E+02	1.0500E+01	-1.2734E+05	0.0000E+00	2.5407E+06	-4.3217E+03	8.4634E+03	5.2160E+02
-8.8778E+01	5.6119E+02	7.0000E+00	-1.3304E+05	2.1156E+04	6.7642E+03	-4.3217E+03	8.1249E+03	6.8982E+02
-8.8778E+01	5.2612E+02	5.0417E+01	-1.3304E+05	1.5867E+04	1.3528E+04	-4.3217E+03	7.7864E+03	6.0311E+02
-8.8778E+01	4.9104E+02	3.9417E+01	-1.3304E+05	1.0578E+04	1.2709E+05	-4.3217E+03	7.4478E+03	6.1411E+02
-8.8778E+01	4.5597E+02	1.2192E+02	-1.3304E+05	5.2889E+03	2.0656E+05	-4.3217E+03	7.1093E+03	3.6456E+03
-8.8778E+01	4.2090E+02	2.3292E+02	-1.3304E+05	0.0000E+00	5.8737E+05	-4.3217E+03	6.7707E+03	1.7723E+03
-8.8778E+01	3.8582E+02	2.5500E+02	-1.3873E+05	1.5867E+04	1.7500E+00	-4.3217E+03	6.4322E+03	3.7008E+03
-8.8778E+01	3.5075E+02	9.2083E+01	-1.3873E+05	1.0578E+04	2.3311E+04	-4.3217E+03	6.0937E+03	9.9893E+03
-8.8778E+01	3.1567E+02	2.0100E+02	-1.3873E+05	5.2889E+03	6.1539E+04	-4.3217E+03	5.7551E+03	8.5270E+03
-8.8778E+01	2.8060E+02	8.6658E+01	-1.3873E+05	0.0000E+00	2.0027E+05	-4.3217E+03	5.4166E+03	8.5574E+03
-8.8778E+01	2.4552E+02	9.6333E+01	-1.4443E+05	1.5867E+04	1.5280E+03	-4.3217E+03	5.0781E+03	1.7092E+04
-8.8778E+01	2.1045E+02	1.6325E+01	-1.4443E+05	1.0578E+04	1.0236E+04	-4.3217E+03	4.7395E+03	1.9625E+04
-8.8778E+01	1.7537E+02	1.8817E+02	-1.4443E+05	0.0000E+00	1.3696E+04	-4.3217E+03	4.4010E+03	2.7049E+04
-8.8778E+01	1.4030E+02	4.7932E+02	-1.5013E+05	1.0578E+04	1.5280E+03	-4.3217E+03	4.0624E+03	2.8748E+04

Markov Matrices								
Tower shear, bottom F_y [kN]			Tower bending, bottom M_x [kNm]			Tower torsion, bottom M_z [kNm]		
Level	Range	Cycles	Level	Range	Cycles	Level	Range	Cycles
-8.8778E+01	1.0522E+02	1.1038E+04	-1.5013E+05	0.0000E+00	6.8417E+03	-4.3217E+03	3.7239E+03	2.1210E+04
-8.8778E+01	7.0149E+01	3.5244E+04				-4.3217E+03	3.3854E+03	4.8717E+04
-8.8778E+01	3.5075E+01	9.6196E+04				-4.3217E+03	3.0468E+03	6.3464E+04
-8.8778E+01	0.0000E+00	4.3763E+05				-4.3217E+03	2.7083E+03	1.2196E+05
-1.2850E+02	1.3328E+03	1.7500E+00				-4.3217E+03	2.3698E+03	5.3547E+04
-1.2850E+02	1.2627E+03	1.7500E+00				-4.3217E+03	2.0312E+03	9.3615E+04
-1.2850E+02	1.1925E+03	3.5000E+00				-4.3217E+03	1.6927E+03	1.2591E+05
-1.2850E+02	1.1575E+03	3.5000E+00				-4.3217E+03	1.3541E+03	1.1626E+05
-1.2850E+02	1.1224E+03	1.7500E+00				-4.3217E+03	1.0156E+03	1.0195E+05
-1.2850E+02	1.0522E+03	1.7500E+00				-4.3217E+03	6.7707E+02	2.9658E+05
-1.2850E+02	8.7687E+02	1.7500E+00				-4.3217E+03	3.3854E+02	6.2816E+05
-1.2850E+02	8.4179E+02	1.7500E+00				-4.3217E+03	0.0000E+00	1.3497E+06
-1.2850E+02	7.7164E+02	1.7500E+00				-4.7087E+03	1.3880E+04	1.2500E+00
-1.2850E+02	5.9627E+02	1.7500E+00				-4.7087E+03	1.2526E+04	2.5000E+00
-1.2850E+02	5.6119E+02	1.7500E+00				-4.7087E+03	1.2187E+04	4.1250E-01
-1.2850E+02	5.2612E+02	1.7500E+00				-4.7087E+03	1.1849E+04	1.2500E+00
-1.2850E+02	4.2090E+02	4.2750E+01				-4.7087E+03	1.1510E+04	4.1250E-01
-1.2850E+02	3.8582E+02	2.5000E+00				-4.7087E+03	9.4790E+03	5.6574E+01
-1.2850E+02	3.5075E+02	2.5000E+00				-4.7087E+03	9.1405E+03	5.6574E+01
-1.2850E+02	3.1567E+02	3.5000E+00				-4.7087E+03	8.8020E+03	3.0000E+02
-1.2850E+02	2.8060E+02	3.5000E+00				-4.7087E+03	8.4634E+03	2.5299E+01
-1.2850E+02	2.4552E+02	1.3917E+01				-4.7087E+03	7.7864E+03	5.9070E+01
-1.2850E+02	2.1045E+02	1.1283E+02				-4.7087E+03	7.4478E+03	4.6405E+02
-1.2850E+02	1.7537E+02	1.7967E+02				-4.7087E+03	7.1093E+03	5.2540E+02
-1.2850E+02	1.4030E+02	3.8117E+02				-4.7087E+03	6.7707E+03	8.3695E+02
-1.2850E+02	1.0522E+02	3.6466E+02				-4.7087E+03	6.4322E+03	6.4965E+02
-1.2850E+02	7.0149E+01	4.4639E+02				-4.7087E+03	6.0937E+03	2.8397E+03
-1.2850E+02	3.5075E+01	1.4610E+03				-4.7087E+03	5.7551E+03	2.4957E+03
-1.2850E+02	0.0000E+00	6.8310E+04				-4.7087E+03	5.4166E+03	3.5087E+03
-1.6823E+02	1.2978E+03	1.7500E+00				-4.7087E+03	5.0781E+03	7.2982E+03
-1.6823E+02	1.2627E+03	1.7500E+00				-4.7087E+03	4.7395E+03	5.2127E+03
-1.6823E+02	1.1575E+03	8.7500E+00				-4.7087E+03	4.4010E+03	1.7090E+04
-1.6823E+02	1.0873E+03	3.5000E+00				-4.7087E+03	4.0624E+03	8.3142E+03
-1.6823E+02	1.0172E+03	1.7500E+00				-4.7087E+03	3.7239E+03	1.7870E+04
-1.6823E+02	9.8209E+02	1.7500E+00				-4.7087E+03	3.3854E+03	1.2791E+04

Markov Matrices								
Tower shear, bottom F_y [kN]			Tower bending, bottom M_x [kNm]			Tower torsion, bottom M_z [kNm]		
Level	Range	Cycles	Level	Range	Cycles	Level	Range	Cycles
-1.6823E+02	8.7687E+02	1.7500E+00				-4.7087E+03	3.0468E+03	2.1602E+04
-1.6823E+02	8.4179E+02	1.7500E+00				-4.7087E+03	2.7083E+03	2.5066E+04
-1.6823E+02	4.5597E+02	3.5000E+00				-4.7087E+03	2.3698E+03	2.8068E+04
-1.6823E+02	3.5075E+02	8.6833E+01				-4.7087E+03	2.0312E+03	4.8578E+04
-1.6823E+02	2.8060E+02	2.5000E+00				-4.7087E+03	1.6927E+03	5.7069E+04
-1.6823E+02	2.4552E+02	8.6833E+01				-4.7087E+03	1.3541E+03	3.0418E+04
-1.6823E+02	2.1045E+02	1.7267E+02				-4.7087E+03	1.0156E+03	6.1894E+04
-1.6823E+02	1.7537E+02	1.1717E+02				-4.7087E+03	6.7707E+02	1.0450E+05
-1.6823E+02	1.4030E+02	2.0508E+02				-4.7087E+03	3.3854E+02	3.9889E+05
-1.6823E+02	1.0522E+02	1.2042E+02				-4.7087E+03	0.0000E+00	8.3034E+05
-1.6823E+02	7.0149E+01	4.1265E+02				-5.0956E+03	1.2526E+04	1.2500E+00
-1.6823E+02	3.5075E+01	4.9063E+02				-5.0956E+03	1.2187E+04	4.1250E-01
-1.6823E+02	0.0000E+00	1.9397E+03				-5.0956E+03	1.1172E+04	4.1250E-01
-2.0795E+02	1.2978E+03	1.7500E+00				-5.0956E+03	1.0833E+04	1.2500E+00
-2.0795E+02	1.2627E+03	3.5000E+00				-5.0956E+03	1.0495E+04	2.8287E+01
-2.0795E+02	1.1925E+03	3.5000E+00				-5.0956E+03	9.4790E+03	1.2500E+00
-2.0795E+02	1.1575E+03	3.5000E+00				-5.0956E+03	8.8020E+03	1.9481E+02
-2.0795E+02	1.1224E+03	7.0000E+00				-5.0956E+03	8.4634E+03	3.7458E+00
-2.0795E+02	1.0873E+03	7.0000E+00				-5.0956E+03	8.1249E+03	1.0417E+00
-2.0795E+02	1.0522E+03	3.5000E+00				-5.0956E+03	7.7864E+03	4.1250E-01
-2.0795E+02	1.0172E+03	1.7500E+00				-5.0956E+03	7.4478E+03	1.2500E+00
-2.0795E+02	9.4702E+02	3.5000E+00				-5.0956E+03	7.1093E+03	5.9074E+01
-2.0795E+02	9.1194E+02	1.7500E+00				-5.0956E+03	6.7707E+03	2.0833E+00
-2.0795E+02	8.4179E+02	1.7500E+00				-5.0956E+03	6.4322E+03	1.9481E+02
-2.0795E+02	3.8582E+02	3.5000E+00				-5.0956E+03	6.0937E+03	6.6640E+02
-2.0795E+02	2.8060E+02	1.0417E+01				-5.0956E+03	5.7551E+03	8.5847E+02
-2.0795E+02	2.4552E+02	9.0333E+01				-5.0956E+03	5.4166E+03	7.3813E+02
-2.0795E+02	2.1045E+02	9.0333E+01				-5.0956E+03	5.0781E+03	1.7990E+03
-2.0795E+02	1.7537E+02	1.7242E+01				-5.0956E+03	4.7395E+03	3.8732E+03
-2.0795E+02	1.4030E+02	2.4500E+01				-5.0956E+03	4.4010E+03	2.4147E+03
-2.0795E+02	1.0522E+02	9.0075E+01				-5.0956E+03	4.0624E+03	1.0360E+04
-2.0795E+02	7.0149E+01	3.7599E+02				-5.0956E+03	3.7239E+03	1.1062E+04
-2.0795E+02	3.5075E+01	9.6431E+02				-5.0956E+03	3.3854E+03	7.4138E+03
-2.0795E+02	0.0000E+00	2.1944E+03				-5.0956E+03	3.0468E+03	1.2843E+04
-2.4768E+02	1.0873E+03	3.5000E+00				-5.0956E+03	2.7083E+03	1.4677E+04

Markov Matrices								
Tower shear, bottom F_y [kN]			Tower bending, bottom M_x [kNm]			Tower torsion, bottom M_z [kNm]		
Level	Range	Cycles	Level	Range	Cycles	Level	Range	Cycles
-2.4768E+02	1.0522E+03	1.7500E+00				-5.0956E+03	2.3698E+03	6.2004E+03
-2.4768E+02	1.0172E+03	1.7500E+00				-5.0956E+03	2.0312E+03	1.1276E+04
-2.4768E+02	9.8209E+02	3.5000E+00				-5.0956E+03	1.6927E+03	9.3993E+03
-2.4768E+02	2.4552E+02	7.0000E+00				-5.0956E+03	1.3541E+03	1.6181E+04
-2.4768E+02	2.1045E+02	9.0333E+01				-5.0956E+03	1.0156E+03	6.0342E+04
-2.4768E+02	1.7537E+02	8.2500E-01				-5.0956E+03	6.7707E+02	3.8975E+04
-2.4768E+02	1.4030E+02	1.0325E+02				-5.0956E+03	3.3854E+02	1.4181E+05
-2.4768E+02	1.0522E+02	5.5834E+01				-5.0956E+03	0.0000E+00	4.2339E+05
-2.4768E+02	7.0149E+01	2.0975E+02				-5.4825E+03	1.2864E+04	1.2500E+00
-2.4768E+02	3.5075E+01	1.9750E+02				-5.4825E+03	7.4478E+03	8.2500E-01
-2.4768E+02	0.0000E+00	9.2392E+02				-5.4825E+03	6.7707E+03	5.6574E+01
-2.8740E+02	1.1925E+03	1.7500E+00				-5.4825E+03	6.4322E+03	6.9017E+01
-2.8740E+02	1.0522E+03	1.7500E+00				-5.4825E+03	6.0937E+03	6.9891E+02
-2.8740E+02	2.8060E+02	3.5000E+00				-5.4825E+03	5.7551E+03	6.4080E+02
-2.8740E+02	2.1045E+02	1.0500E+01				-5.4825E+03	5.0781E+03	1.5917E+03
-2.8740E+02	1.7537E+02	2.4334E+01				-5.4825E+03	4.7395E+03	3.7884E+03
-2.8740E+02	1.4030E+02	2.4334E+01				-5.4825E+03	4.4010E+03	3.8554E+03
-2.8740E+02	1.0522E+02	2.1825E+01				-5.4825E+03	4.0624E+03	3.3840E+03
-2.8740E+02	7.0149E+01	4.9659E+01				-5.4825E+03	3.7239E+03	6.3532E+03
-2.8740E+02	3.5075E+01	1.4867E+02				-5.4825E+03	3.3854E+03	6.1109E+03
-2.8740E+02	0.0000E+00	5.5600E+02				-5.4825E+03	3.0468E+03	4.5255E+03
-3.2713E+02	1.7537E+02	1.4000E+01				-5.4825E+03	2.7083E+03	4.4492E+03
-3.2713E+02	1.4030E+02	3.5000E+00				-5.4825E+03	2.3698E+03	9.9657E+03
-3.2713E+02	1.0522E+02	3.4834E+01				-5.4825E+03	2.0312E+03	5.9169E+03
-3.2713E+02	7.0149E+01	4.9576E+01				-5.4825E+03	1.6927E+03	1.0384E+04
-3.2713E+02	3.5075E+01	6.6251E+01				-5.4825E+03	1.3541E+03	3.0353E+04
-3.2713E+02	0.0000E+00	4.7999E+02				-5.4825E+03	1.0156E+03	1.9802E+04
-3.6685E+02	2.4552E+02	3.5000E+00				-5.4825E+03	6.7707E+02	3.4081E+04
-3.6685E+02	2.1045E+02	7.0000E+00				-5.4825E+03	3.3854E+02	8.0112E+04
-3.6685E+02	1.7537E+02	7.0000E+00				-5.4825E+03	0.0000E+00	2.8046E+05
-3.6685E+02	1.4030E+02	3.5000E+00				-5.8694E+03	7.1093E+03	6.9017E+01
-3.6685E+02	1.0522E+02	1.0500E+01				-5.8694E+03	6.4322E+03	8.7361E+01
-3.6685E+02	7.0149E+01	1.7417E+01				-5.8694E+03	6.0937E+03	6.2215E+00
-3.6685E+02	3.5075E+01	3.4834E+01				-5.8694E+03	5.7551E+03	8.2500E-01
-3.6685E+02	0.0000E+00	1.2283E+02				-5.8694E+03	5.4166E+03	1.2443E+01

Markov Matrices								
Tower shear, bottom F_y [kN]			Tower bending, bottom M_x [kNm]			Tower torsion, bottom M_z [kNm]		
Level	Range	Cycles	Level	Range	Cycles	Level	Range	Cycles
-4.0658E+02	2.8060E+02	3.5000E+00				-5.8694E+03	5.0781E+03	1.8268E+01
-4.0658E+02	2.4552E+02	3.5000E+00				-5.8694E+03	4.7395E+03	2.5471E+02
-4.0658E+02	1.7537E+02	3.5000E+00				-5.8694E+03	4.4010E+03	4.4619E+02
-4.0658E+02	1.4030E+02	7.0000E+00				-5.8694E+03	4.0624E+03	5.6841E+02
-4.0658E+02	1.0522E+02	1.7417E+01				-5.8694E+03	3.7239E+03	1.1193E+03
-4.0658E+02	7.0149E+01	1.0500E+01				-5.8694E+03	3.3854E+03	5.5011E+03
-4.0658E+02	3.5075E+01	5.2417E+01				-5.8694E+03	3.0468E+03	8.7018E+02
-4.0658E+02	0.0000E+00	4.1917E+01				-5.8694E+03	2.7083E+03	2.7429E+03
-4.4630E+02	2.1045E+02	7.0000E+00				-5.8694E+03	2.3698E+03	4.8524E+03
-4.4630E+02	1.4030E+02	1.0500E+01				-5.8694E+03	2.0312E+03	4.4323E+03
-4.4630E+02	1.0522E+02	1.0500E+01				-5.8694E+03	1.6927E+03	1.3407E+03
-4.4630E+02	7.0149E+01	2.4500E+01				-5.8694E+03	1.3541E+03	3.8144E+03
-4.4630E+02	3.5075E+01	3.8417E+01				-5.8694E+03	1.0156E+03	4.3678E+03
-4.4630E+02	0.0000E+00	9.4251E+01				-5.8694E+03	6.7707E+02	1.5196E+04
-4.8602E+02	2.1045E+02	1.0500E+01				-5.8694E+03	3.3854E+02	5.2197E+04
-4.8602E+02	1.7537E+02	1.0500E+01				-5.8694E+03	0.0000E+00	1.0156E+05
-4.8602E+02	1.4030E+02	1.3917E+01				-6.2564E+03	8.1249E+03	1.6625E+00
-4.8602E+02	1.0522E+02	1.0500E+01				-6.2564E+03	7.4478E+03	2.5000E+00
-4.8602E+02	7.0149E+01	2.4417E+01				-6.2564E+03	6.0937E+03	2.5000E+00
-4.8602E+02	3.5075E+01	2.1000E+01				-6.2564E+03	5.4166E+03	2.8287E+01
-4.8602E+02	0.0000E+00	2.4500E+01				-6.2564E+03	4.7395E+03	5.7399E+01
-5.2575E+02	2.1045E+02	7.0000E+00				-6.2564E+03	4.0624E+03	2.7877E+02
-5.2575E+02	1.4030E+02	1.7500E+01				-6.2564E+03	3.7239E+03	4.5864E+02
-5.2575E+02	1.0522E+02	3.5000E+00				-6.2564E+03	3.3854E+03	6.5886E+02
-5.2575E+02	7.0149E+01	2.1000E+01				-6.2564E+03	3.0468E+03	1.3968E+02
-5.2575E+02	3.5075E+01	1.0500E+01				-6.2564E+03	2.7083E+03	4.5119E+02
-5.2575E+02	0.0000E+00	6.3000E+01				-6.2564E+03	2.3698E+03	2.8697E+03
-5.6547E+02	2.4552E+02	1.4000E+01				-6.2564E+03	2.0312E+03	7.2297E+02
-5.6547E+02	2.1045E+02	3.5000E+00				-6.2564E+03	1.6927E+03	3.6739E+03
-5.6547E+02	1.7537E+02	7.0000E+00				-6.2564E+03	1.3541E+03	2.5015E+03
-5.6547E+02	1.4030E+02	7.0000E+00				-6.2564E+03	1.0156E+03	5.2143E+03
-5.6547E+02	1.0522E+02	2.1000E+01				-6.2564E+03	6.7707E+02	3.0085E+03
-5.6547E+02	7.0149E+01	2.8000E+01				-6.2564E+03	3.3854E+02	2.7485E+04
-5.6547E+02	3.5075E+01	2.4500E+01				-6.2564E+03	0.0000E+00	8.3394E+04
-5.6547E+02	0.0000E+00	5.2500E+01				-6.6433E+03	6.4322E+03	3.0787E+01

Markov Matrices								
Tower shear, bottom F_y [kN]			Tower bending, bottom M_x [kNm]			Tower torsion, bottom M_z [kNm]		
Level	Range	Cycles	Level	Range	Cycles	Level	Range	Cycles
-6.0520E+02	2.4552E+02	3.5000E+00				-6.6433E+03	6.0937E+03	8.2500E-01
-6.0520E+02	1.7537E+02	7.0000E+00				-6.6433E+03	5.4166E+03	5.7824E+01
-6.0520E+02	1.4030E+02	7.0000E+00				-6.6433E+03	4.4010E+03	6.9017E+01
-6.0520E+02	1.0522E+02	1.4000E+01				-6.6433E+03	4.0624E+03	5.9486E+01
-6.0520E+02	7.0149E+01	3.1500E+01				-6.6433E+03	3.7239E+03	5.7399E+01
-6.0520E+02	3.5075E+01	2.1000E+01				-6.6433E+03	3.3854E+03	5.6574E+01
-6.0520E+02	0.0000E+00	4.5500E+01				-6.6433E+03	3.0468E+03	1.9689E+02
-6.4492E+02	2.8060E+02	3.5000E+00				-6.6433E+03	2.7083E+03	2.0725E+02
-6.4492E+02	2.4552E+02	1.0500E+01				-6.6433E+03	2.3698E+03	1.2443E+01
-6.4492E+02	2.1045E+02	1.0500E+01				-6.6433E+03	2.0312E+03	9.6124E+02
-6.4492E+02	1.7537E+02	1.0500E+01				-6.6433E+03	1.6927E+03	1.1848E+03
-6.4492E+02	1.4030E+02	1.0500E+01				-6.6433E+03	1.3541E+03	5.9738E+02
-6.4492E+02	7.0149E+01	3.1500E+01				-6.6433E+03	1.0156E+03	2.7627E+02
-6.4492E+02	3.5075E+01	4.5500E+01				-6.6433E+03	6.7707E+02	1.7733E+03
-6.4492E+02	0.0000E+00	4.2000E+01				-6.6433E+03	3.3854E+02	8.2049E+03
-6.8465E+02	7.0149E+01	1.0500E+01				-6.6433E+03	0.0000E+00	2.1796E+04
-6.8465E+02	3.5075E+01	7.0000E+00				-7.0302E+03	5.7551E+03	1.2500E+00
-6.8465E+02	0.0000E+00	2.8000E+01				-7.0302E+03	5.4166E+03	2.5000E+00
-7.2437E+02	1.4030E+02	3.5000E+00				-7.0302E+03	4.0624E+03	1.2443E+01
-7.2437E+02	7.0149E+01	3.5000E+00				-7.0302E+03	3.7239E+03	2.5000E+00
-7.2437E+02	3.5075E+01	3.5000E+00				-7.0302E+03	3.3854E+03	3.0787E+01
-7.2437E+02	0.0000E+00	3.5000E+01				-7.0302E+03	2.7083E+03	5.6574E+01
-7.6410E+02	3.5075E+01	3.5000E+00				-7.0302E+03	2.3698E+03	1.9731E+02
-7.6410E+02	0.0000E+00	3.5000E+00				-7.0302E+03	2.0312E+03	5.6574E+01
						-7.0302E+03	1.6927E+03	5.9899E+01
						-7.0302E+03	1.3541E+03	5.6574E+01
						-7.0302E+03	1.0156E+03	1.4943E+01
						-7.0302E+03	6.7707E+02	6.4100E+02
						-7.0302E+03	3.3854E+02	4.1501E+03
						-7.0302E+03	0.0000E+00	1.8846E+04
						-7.4172E+03	4.4010E+03	8.2500E-01
						-7.4172E+03	1.6927E+03	8.2500E-01
						-7.4172E+03	1.3541E+03	5.6574E+01
						-7.4172E+03	6.7707E+02	1.5280E+03
						-7.4172E+03	3.3854E+02	9.8668E+02

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Markov Matrices								
Tower shear, bottom F _y [kN]			Tower bending, bottom M _x [kNm]			Tower torsion, bottom M _z [kNm]		
Level	Range	Cycles	Level	Range	Cycles	Level	Range	Cycles
						-7.4172E+03	0.0000E+00	7.2297E+03
						-7.8041E+03	7.4478E+03	2.5000E+00
						-7.8041E+03	1.6927E+03	2.9125E+00
						-7.8041E+03	1.3541E+03	1.2500E+00
						-7.8041E+03	1.0156E+03	5.0000E+00
						-7.8041E+03	6.7707E+02	1.5326E+03
						-7.8041E+03	3.3854E+02	2.6548E+02
						-7.8041E+03	0.0000E+00	3.8867E+03
						-8.1910E+03	2.3698E+03	2.5000E+00
						-8.1910E+03	3.3854E+02	6.6500E+00
						-8.1910E+03	0.0000E+00	1.8068E+03
						-8.5780E+03	2.7083E+03	8.2500E-01
						-8.5780E+03	6.7707E+02	8.2500E-01
						-8.5780E+03	3.3854E+02	1.2443E+01
						-8.5780E+03	0.0000E+00	2.0095E+03
						-8.9649E+03	1.0156E+03	8.2500E-01
						-8.9649E+03	0.0000E+00	1.5768E+01
						-9.3518E+03	0.0000E+00	1.5768E+01

Table 5-5 Markov Matrices - 4.2 MW