/ATLAS/ ALLOWABLE TOWER LOADS
JOB: 666 Ft. Gus Tower - REVISED ANALYSIS - 75 h Basic Vel., EIA 222E

ALLOWABLE LOADS ARE INCREASED BY A FACTOR OF: 1.333

NO	TYPE	DIMENSIONS (IN)	UNS LTH (IN)	RAD (IN)	XSECT (SQIN)	BOLT (SQIN)	YIELD (KSI)	MAX LOAD (KIPS)	CLASS
1	PIPE	3.500x 0.300	60.00	1.136	3.016	0.000	50.0	96.13	CMPR1
2	PIPE	3.500x 0.216	60.00	1.164	2.228	0.000	50.0	71.62	CMPR1
3	ROD	0.625	0.00	0.156	0.307	0.000	50.0	12.28	TENSN
4	ROD	1.000	45.00	0.250	0.785	0.000	50.0	4.82	CMPR1

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PART II
COMPUTER INPUT DATA

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1666' Guyed Tower - REVISED ANALYSIS - 75Mph Basi  Vel.; EIA 222E        WIND A  (1)
 2  7  0  1  1 1      0. 0. 0. 0.     0.000      30      0.
 3  1  3  1  1 1 0   81.200      0.00      0.00      0.00 0.00      0.00      0.00
 3  2  3  1  1 1 0   87.900      0.00      0.00      0.00 0.00      0.00      0.00
 3  3  3  1  1 1 0   92.600      0.00      0.00      0.00 0.00      0.00      0.00
 3  4  3  1  1 1 0   96.200      0.00      0.00      0.00 0.00      0.00      0.00
 3  5  3  1  1 1 0   99.200      0.00      0.00      0.00 0.00      0.00      0.00
 3  6  3  1  1 1 0  101.700      0.00      0.00      0.00 0.00      0.00      0.00
 3  7  3  1  1 1 0  103.900      0.00      0.00      0.00 0.00      0.00      0.00
 4  1  1  0  0 0 0   60.00      0.00    0. 0. 0. 0. 0.
 4  2  1  0  0 0 0   60.00      0.00    0. 0. 0. 0. 0.
 4  3  1  0  0 0 0   60.00      0.00    0. 0. 0. 0. 0.
 4  4  1  0  0 0 0   60.00      0.00    0. 0. 0. 0. 0.
 4  5  1  0  0 0 0   60.00      0.00    0. 0. 0. 0. 0.
 4  6  1  0  0 0 0   60.00      0.00    0. 0. 0. 0. 0.
 4  7  1  0  0 0 0   60.00      0.00    0. 0. 0. 0. 0.
 5  1  1  1  6 0 0    0.10      0.08      0.00      0.00      0.00      0.00 0.
 5  2  1  2  1 0 0    0.10      0.09      0.00      0.00      0.00      0.00 0.
 5  2  2  2  5 0 0    0.10      0.09      0.00      0.00      0.00      0.00 0.
 5  2  3  2 13 0 0    0.10      0.09      0.00      0.00      0.00      0.00 0.
 5  2  4  2 15 0 0    0.10      0.09      0.00      0.00      0.00      0.00 0.
 5  2  5  2 17 0 0    0.10      0.09      0.00      0.00      0.00      0.00 0.
 5  2  6  2 19 0 0    0.10      0.25      0.00      0.00      0.00      0.00 0.
 5  3  1  3  8 0 0    0.20      0.30      0.00      0.00      0.00      0.00 0.
 5  4  1  4  1 0 0    0.10      0.14      0.00      0.00      0.00      0.00 0.
 5  4  2  4 16 0 0    0.10      0.15      0.00      0.00      0.00      0.00 0.
 5  4  3  4 18 0 0    0.10      0.15      0.00      0.00      0.00      0.00 0.
 5  5  1  5  3 0 0    0.10      0.15      0.00      0.00      0.00      0.00 0.
 5  5  2  5  5 0 0    0.10      0.16      0.00      0.00      0.00      0.00 0.
 5  5  3  5  5 0 0    0.10      0.16      0.00      0.00      0.00      0.00 0.
 5  6  1  6  2 0 0    0.10      0.16      0.00      0.00      0.00      0.00 0.
 5  6  2  6  5 0 0    0.10      0.16      0.00      0.00      0.00      0.00 0.
 5  6  3  6  7 0 0    0.10      0.16      0.00      0.00      0.00      0.00 0.
 5  6  4  6 10 0 0    0.10      0.17      0.00      0.00      0.00      0.00 0.
 5  6  5  6 13 0 0    0.10      0.17      0.00      0.00      0.00      0.00 0.
 5  6  6  6 15 0 0    0.15      0.24      0.00      0.00      0.00      0.00 0.
 5  6  7  6 19 0 0    0.15      0.24      0.00      0.00      0.00      0.00 0.
 5  7  1  7  4 0 0    0.15      0.24      0.00      0.00      0.00      0.00 0.
 5  7  2  7  8 0 0    0.15      0.24      0.00      0.00      0.00      0.00 0.
 5  7  3  7 12 0 0    0.15      0.24      0.00      0.00      0.00      0.00 0.
 5  7  4  7 14 0 0    0.15      0.20      0.00      0.00      0.00      0.00 0.
 5  7  5  7 16 0 0    0.15      0.20      0.00      0.00      0.00      0.00 0.
 5  7  6  7 16 0 0    0.10      0.18      0.00      0.00      0.00      0.00 0.
 6  1  1  0  0 0 0  260.00    103.50      5.00    0.8130    0.6250     4700.    2.500
 6  2  1  0  0 0 0  260.00    198.50      5.00    0.8130    0.6250     4700.    2.500
 6  3  1  0  0 0 0  260.00    294.00      6.00    1.1550    0.7500     6720.    2.500
 6  4  1  0  0 0 0  400.00    393.50      4.00    0.8130    0.6250     4700.    2.500
 6  5  1  0  0 0 0  400.00    488.00      6.00    1.1550    0.7500     6720.    2.500
 6  6  1  0  0 0 0  400.00    583.00      6.00    1.1550    0.7500     6720.    2.500
 6  7  1  0  0 0 0  400.00    678.00     12.00    2.0730    1.0000    11940.    2.500
 8  1  0  0  0 0 0  93.500     24.21     7.013     4.911      0.00      0.00    104.23
 8  2  0  0  0 0 0  95.167     24.21     7.219     7.143      0.00      0.00    104.23
 8  3  0  0  0 0 0  95.167     24.21     6.969     8.099      0.00      0.00    104.23
 8  4  0  0  0 0 0  95.167     24.21     6.866     8.775      0.00      0.00    104.23
 8  5  0  0  0 0 0  94.500     24.21     6.603     8.899      0.00      0.00    104.23
 8  6  0  0  0 0 0  95.167     19.55     5.871     8.655      0.00      0.00    104.23
 8  7  0  0  0 0 0  94.432     17.89     5.351     7.533      0.00      0.00    104.23
 9  0  0  0  0 3 1   17.00      8.90    393.60     0.         0.        0.00 0.
10  1 17  1  0 0 0   4.000     5.000     3.500     5.000    0. 0. 0.
10  2 17  1  0 0 0   4.000     5.084     5.083     5.000    0. 0. 0.
10  3 17  1  0 0 0   4.000     5.084     5.083     5.000    0. 0. 0.
10  4 17  1  0 0 0   4.000     5.084     5.083     5.000    0. 0. 0.
10  5 17  1  0 0 0   4.000     4.750     4.750     5.000    0. 0. 0.
10  6 17  1  0 0 0   4.000     5.084     5.083     5.000    0. 0. 0.
10  7 17  1  0 0 0   4.000     4.716     4.716     5.000    0. 0. 0.
99  0  0  0  0 0 0   0. 0. 0. 0. 0. 0. 0.
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1666' Guyed Tow  - REVISED ANALYSIS - 75Mph Bas.  Vel., EIA 222E        WIND R  (2)
 2  7  0 -1  1 1 7    0. 0. 0. 0.     0.000      30.0   0.
 3  1  3  1  1 1 0   81.200      0.00      0.00      0.00 0.00      0.00      0.00
 3  2  3  1  1 1 0   87.900      0.00      0.00      0.00 0.00      0.00      0.00
 3  3  3  1  1 1 0   92.600      0.00      0.00      0.00 0.00      0.00      0.00
 3  4  3  1  1 1 0   96.200      0.00      0.00      0.00 0.00      0.00      0.00
 3  5  3  1  1 1 0   99.200      0.00      0.00      0.00 0.00      0.00      0.00
 3  6  3  1  1 1 0  101.700      0.00      0.00      0.00 0.00      0.00      0.00
 3  7  3  1  1 1 0  103.900      0.00      0.00      0.00 0.00      0.00      0.00
 4  1  1  0  0 0 0     0.00      0.00   0. 0. 0. 0. 0.
 4  2  1  0  0 0 0     0.00      0.00   0. 0. 0. 0. 0.
 4  3  1  0  0 0 0     0.00      0.00   0. 0. 0. 0. 0.
 4  4  1  0  0 0 0     0.00      0.00   0. 0. 0. 0. 0.
 4  5  1  0  0 0 0     0.00      0.00   0. 0. 0. 0. 0.
 4  6  1  0  0 0 0     0.00      0.00   0. 0. 0. 0. 0.
 4  7  1  0  0 0 0     0.00      0.00   0. 0. 0. 0. 0.
 5  1  1  1  6 0 0     0.10      0.08      0.00      0.00      0.00      0.00 0.
 5  2  1  2  1 0 0     0.10      0.09      0.00      0.00      0.00      0.00 0.
 5  2  2  2  5 0 0     0.10      0.09      0.00      0.00      0.00      0.00 0.
 5  2  3  2 13 0 0     0.10      0.09      0.00      0.00      0.00      0.00 0.
 5  2  4  2 15 0 0     0.10      0.09      0.00      0.00      0.00      0.00 0.
 5  2  5  2 17 0 0     0.10      0.09      0.00      0.00      0.00      0.00 0.
 5  2  6  2 19 0 0     0.10      0.25      0.00      0.00      0.00      0.00 0.
 5  3  1  3  8 0 0     0.20      0.30      0.00      0.00      0.00      0.00 0.
 5  4  1  4  1 0 0     0.10      0.14      0.00      0.00      0.00      0.00 0.
 5  4  2  4 16 0 0     0.10      0.15      0.00      0.00      0.00      0.00 0.
 5  4  3  4 18 0 0     0.10      0.15      0.00      0.00      0.00      0.00 0.
 5  5  1  5  3 0 0     0.10      0.15      0.00      0.00      0.00      0.00 0.
 5  5  2  5  5 0 0     0.10      0.16      0.00      0.00      0.00      0.00 0.
 5  5  3  5  5 0 0     0.10      0.16      0.00      0.00      0.00      0.00 0.
 5  6  1  6  2 0 0     0.10      0.16      0.00      0.00      0.00      0.00 0.
 5  6  2  6  5 0 0     0.10      0.16      0.00      0.00      0.00      0.00 0.
 5  6  3  6  7 0 0     0.10      0.16      0.00      0.00      0.00      0.00 0.
 5  6  4  6 10 0 0     0.10      0.17      0.00      0.00      0.00      0.00 0.
 5  6  5  6 13 0 0     0.10      0.17      0.00      0.00      0.00      0.00 0.
 5  6  6  6 15 0 0     0.15      0.24      0.00      0.00      0.00      0.00 0.
 5  6  7  6 19 0 0     0.15      0.24      0.00      0.00      0.00      0.00 0.
 5  7  1  7  4 0 0     0.15      0.24      0.00      0.00      0.00      0.00 0.
 5  7  2  7  8 0 0     0.15      0.24      0.00      0.00      0.00      0.00 0.
 5  7  3  7 12 0 0     0.15      0.24      0.00      0.00      0.00      0.00 0.
 5  7  4  7 14 0 0     0.15      0.20      0.00      0.00      0.00      0.00 0.
 5  7  5  7 16 0 0     0.15      0.20      0.00      0.00      0.00      0.00 0.
 5  7  6  7 16 0 0     0.10      0.18      0.00      0.00      0.00      0.00 0.
 6  1  1  0  0 0 0   260.00    103.50      5.00    0.8130    0.6250     4700.   2.500
 6  2  1  0  0 0 0   260.00    198.50      5.00    0.8130    0.6250     4700.   2.500
 6  3  1  0  0 0 0   260.00    294.00      6.00    1.1550    0.7500     6720.   2.500
 6  4  1  0  0 0 0   400.00    393.50      4.00    0.8130    0.6250     4700.   2.500
 6  5  1  0  0 0 0   400.00    488.00      6.00    1.1550    0.7500     6720.   2.500
 6  6  1  0  0 0 0   400.00    583.00      6.00    1.1550    0.7500     6720.   2.500
 6  7  1  0  0 0 0   400.00    678.00     12.00    2.0730    1.0000    11940.   2.500
 8  1  0  0  0 0 0   93.500     24.21     7.013     4.911      0.00      0.00   104.23
 8  2  0  0  0 0 0   95.167     24.21     7.219     7.143      0.00      0.00   104.23
 8  3  0  0  0 0 0   95.167     24.21     6.969     8.099      0.00      0.00   104.23
 8  4  0  0  0 0 0   95.167     24.21     6.866     8.775      0.00      0.00   104.23
 8  5  0  0  0 0 0   94.500     24.21     6.603     8.899      0.00      0.00   104.23
 8  6  0  0  0 0 0   95.167     19.55     5.871     8.655      0.00      0.00   104.23
 8  7  0  0  0 0 0   94.432     17.89     5.351     7.533      0.00      0.00   104.23
 9  0  0  0  0 3 1    17.00      8.90    393.60     0.         0.        0.00 0.
10  1 17  1  0 0 0    4.000     5.000     3.500     5.000   0. 0. 0.
10  2 17  1  0 0 0    4.000     5.084     5.083     5.000   0. 0. 0.
10  3 17  1  0 0 0    4.000     5.084     5.083     5.000   0. 0. 0.
10  4 17  1  0 0 0    4.000     5.084     5.083     5.000   0. 0. 0.
10  5 17  1  0 0 0    4.000     4.750     4.750     5.000   0. 0. 0.
10  6 17  1  0 0 0    4.000     5.084     5.083     5.000   0. 0. 0.
10  7 17  1  0 0 0    4.000     4.716     4.716     5.000   0. 0. 0.
99  0  0  0  0 0 0   0. 0. 0. 0. 0. 0. 0.
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1666' Guyed Tower - REVISED ANALYSIS - 75Mph Basic Vel., EIA 222F WIND C (3)

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 2  7  0  2  1  1      0. 0. 0. 0.     0.000      3(      0.
 3  1  3  1  1  1  0   81.200      0.00      0.00      0.00 0.00      0.00      0.00
 3  2  3  1  1  1  0   87.900      0.00      0.00      0.00 0.00      0.00      0.00
 3  3  3  1  1  1  0   92.600      0.00      0.00      0.00 0.00      0.00      0.00
 3  4  3  1  1  1  0   96.200      0.00      0.00      0.00 0.00      0.00      0.00
 3  5  3  1  1  1  0   99.200      0.00      0.00      0.00 0.00      0.00      0.00
 3  6  3  1  1  1  0  101.700      0.00      0.00      0.00 0.00      0.00      0.00
 3  7  3  1  1  1  0  103.900      0.00      0.00      0.00 0.00      0.00      0.00
 4  1  1  0  0  0  0   30.00      0.00    0. 0. 0. 0. 0.
 4  2  1  0  0  0  0   30.00      0.00    0. 0. 0. 0. 0.
 4  3  1  0  0  0  0   30.00      0.00    0. 0. 0. 0. 0.
 4  4  1  0  0  0  0   30.00      0.00    0. 0. 0. 0. 0.
 4  5  1  0  0  0  0   30.00      0.00    0. 0. 0. 0. 0.
 4  6  1  0  0  0  0   30.00      0.00    0. 0. 0. 0. 0.
 4  7  1  0  0  0  0   30.00      0.00    0. 0. 0. 0. 0.
 5  1  1  1  6  0  0    0.10      0.08      0.00      0.00      0.00      0.00 0.
 5  2  1  2  1  0  0    0.10      0.09      0.00      0.00      0.00      0.00 0.
 5  2  2  2  5  0  0    0.10      0.09      0.00      0.00      0.00      0.00 0.
 5  2  3  2 13  0  0    0.10      0.09      0.00      0.00      0.00      0.00 0.
 5  2  4  2 15  0  0    0.10      0.09      0.00      0.00      0.00      0.00 0.
 5  2  5  2 17  0  0    0.10      0.09      0.00      0.00      0.00      0.00 0.
 5  2  6  2 19  0  0    0.10      0.25      0.00      0.00      0.00      0.00 0.
 5  3  1  3  8  0  0    0.20      0.30      0.00      0.00      0.00      0.00 0.
 5  4  1  4  1  0  0    0.10      0.14      0.00      0.00      0.00      0.00 0.
 5  4  2  4 16  0  0    0.10      0.15      0.00      0.00      0.00      0.00 0.
 5  4  3  4 18  0  0    0.10      0.15      0.00      0.00      0.00      0.00 0.
 5  5  1  5  3  0  0    0.10      0.15      0.00      0.00      0.00      0.00 0.
 5  5  2  5  5  0  0    0.10      0.16      0.00      0.00      0.00      0.00 0.
 5  5  3  5  5  0  0    0.10      0.16      0.00      0.00      0.00      0.00 0.
 5  6  1  6  2  0  0    0.10      0.16      0.00      0.00      0.00      0.00 0.
 5  6  2  6  5  0  0    0.10      0.16      0.00      0.00      0.00      0.00 0.
 5  6  3  6  7  0  0    0.10      0.16      0.00      0.00      0.00      0.00 0.
 5  6  4  6 10  0  0    0.10      0.17      0.00      0.00      0.00      0.00 0.
 5  6  5  6 13  0  0    0.10      0.17      0.00      0.00      0.00      0.00 0.
 5  6  6  6 15  0  0    0.15      0.24      0.00      0.00      0.00      0.00 0.
 5  6  7  6 19  0  0    0.15      0.24      0.00      0.00      0.00      0.00 0.
 5  7  1  7  4  0  0    0.15      0.24      0.00      0.00      0.00      0.00 0.
 5  7  2  7  8  0  0    0.15      0.24      0.00      0.00      0.00      0.00 0.
 5  7  3  7 12  0  0    0.15      0.24      0.00      0.00      0.00      0.00 0.
 5  7  4  7 14  0  0    0.15      0.20      0.00      0.00      0.00      0.00 0.
 5  7  5  7 16  0  0    0.15      0.20      0.00      0.00      0.00      0.00 0.
 5  7  6  7 16  0  0    0.10      0.18      0.00      0.00      0.00      0.00 0.
 6  1  1  0  0  0  0  260.00    103.50      5.00   0.8130    0.6250     4700.   2.500
 6  2  1  0  0  0  0  260.00    198.50      5.00   0.8130    0.6250     4700.   2.500
 6  3  1  0  0  0  0  260.00    294.00      6.00   1.1550    0.7500     6720.   2.500
 6  4  1  0  0  0  0  400.00    393.50      4.00   0.8130    0.6250     4700.   2.500
 6  5  1  0  0  0  0  400.00    488.00      6.00   1.1550    0.7500     6720.   2.500
 6  6  1  0  0  0  0  400.00    583.00      6.00   1.1550    0.7500     6720.   2.500
 6  7  1  0  0  0  0  400.00    678.00     12.00   2.0730    1.0000    11940.   2.500
 8  1  0  0  0  0  0  93.500     24.21     7.013    4.911      0.00      0.00    104.23
 8  2  0  0  0  0  0  95.167     24.21     7.219    7.143      0.00      0.00    104.23
 8  3  0  0  0  0  0  95.167     24.21     6.969    8.099      0.00      0.00    104.23
 8  4  0  0  0  0  0  95.167     24.21     6.866    8.775      0.00      0.00    104.23
 8  5  0  0  0  0  0  94.500     24.21     6.603    8.899      0.00      0.00    104.23
 8  6  0  0  0  0  0  95.167     19.55     5.871    8.655      0.00      0.00    104.23
 8  7  0  0  0  0  0  94.432     17.89     5.351    7.533      0.00      0.00    104.23
 9  0  0  0  0  3  1   17.00      8.90    393.60    0.         0.        0.00 0.
10  1 17  1  0  0  0   4.000     5.000     3.500    5.000    0. 0. 0.
10  2 17  1  0  0  0   4.000     5.084     5.083    5.000    0. 0. 0.
10  3 17  1  0  0  0   4.000     5.084     5.083    5.000    0. 0. 0.
10  4 17  1  0  0  0   4.000     5.084     5.083    5.000    0. 0. 0.
10  5 17  1  0  0  0   4.000     4.750     4.750    5.000    0. 0. 0.
10  6 17  1  0  0  0   4.000     5.084     5.083    5.000    0. 0. 0.
10  7 17  1  0  0  0   4.000     4.716     4.716    5.000    0. 0. 0.
 0  0  0  0  0  0  0   0. 0. 0. 0. 0. 0. 0.
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1666' Guyed Tower - ONE BUNDLE XMSN LINE - 75 Mph Basic Vel., EIA 222F  WIND A
 2  7  0  1  1 1 7    0. 0. 0. 0.    0.000     30.0   0.
 3  1  3  1  1 1 0   81.200     0.00     0.00     0.00 0.00     0.00     0.00
 3  2  3  1  1 1 0   87.900     0.00     0.00     0.00 0.00     0.00     0.00
 3  3  3  1  1 1 0   92.600     0.00     0.00     0.00 0.00     0.00     0.00
 3  4  3  1  1 1 0   96.200     0.00     0.00     0.00 0.00     0.00     0.00
 3  5  3  1  1 1 0   99.200     0.00     0.00     0.00 0.00     0.00     0.00
 3  6  3  1  1 1 0  101.700     0.00     0.00     0.00 0.00     0.00     0.00
 3  7  3  1  1 1 0  103.900     0.00     0.00     0.00 0.00     0.00     0.00
 4  1  1  0  0 0 0    60.00     0.00   0. 0. 0. 0. 0.
 4  2  1  0  0 0 0    60.00     0.00   0. 0. 0. 0. 0.
 4  3  1  0  0 0 0    60.00     0.00   0. 0. 0. 0. 0.
 4  4  1  0  0 0 0    60.00     0.00   0. 0. 0. 0. 0.
 4  5  1  0  0 0 0    60.00     0.00   0. 0. 0. 0. 0.
 4  6  1  0  0 0 0    60.00     0.00   0. 0. 0. 0. 0.
 4  7  1  0  0 0 0    60.00     0.00   0. 0. 0. 0. 0.
 5  1  1  1  6 0 0     0.10     0.08     0.00     0.00     0.00     0.00 0.
 5  2  1  2  1 0 0     0.10     0.09     0.00     0.00     0.00     0.00 0.
 5  2  2  2  5 0 0     0.10     0.09     0.00     0.00     0.00     0.00 0.
 5  2  3  2 13 0 0     0.10     0.09     0.00     0.00     0.00     0.00 0.
 5  2  4  2 15 0 0     0.10     0.09     0.00     0.00     0.00     0.00 0.
 5  2  5  2 17 0 0     0.10     0.09     0.00     0.00     0.00     0.00 0.
 5  2  6  2 19 0 0     0.10     0.25     0.00     0.00     0.00     0.00 0.
 5  3  1  3  8 0 0     0.20     0.30     0.00     0.00     0.00     0.00 0.
 5  4  1  4  1 0 0     0.10     0.14     0.00     0.00     0.00     0.00 0.
 5  4  2  4 16 0 0     0.10     0.15     0.00     0.00     0.00     0.00 0.
 5  4  3  4 18 0 0     0.10     0.15     0.00     0.00     0.00     0.00 0.
 5  5  1  5  3 0 0     0.10     0.15     0.00     0.00     0.00     0.00 0.
 5  5  2  5  5 0 0     0.10     0.16     0.00     0.00     0.00     0.00 0.
 5  5  3  5  5 0 0     0.10     0.16     0.00     0.00     0.00     0.00 0.
 5  6  1  6  2 0 0     0.10     0.16     0.00     0.00     0.00     0.00 0.
 5  6  2  6  5 0 0     0.10     0.16     0.00     0.00     0.00     0.00 0.
 5  6  3  6  7 0 0     0.10     0.16     0.00     0.00     0.00     0.00 0.
 5  6  4  6 10 0 0     0.10     0.17     0.00     0.00     0.00     0.00 0.
 5  6  5  6 13 0 0     0.10     0.17     0.00     0.00     0.00     0.00 0.
 5  6  6  6 15 0 0     0.15     0.24     0.00     0.00     0.00     0.00 0.
 5  6  7  6 19 0 0     0.15     0.24     0.00     0.00     0.00     0.00 0.
 5  7  1  7  4 0 0     0.15     0.24     0.00     0.00     0.00     0.00 0.
 5  7  2  7  8 0 0     0.15     0.24     0.00     0.00     0.00     0.00 0.
 5  7  3  7 12 0 0     0.15     0.24     0.00     0.00     0.00     0.00 0.
 5  7  4  7 14 0 0     0.15     0.20     0.00     0.00     0.00     0.00 0.
 5  7  5  7 16 0 0     0.15     0.20     0.00     0.00     0.00     0.00 0.
 5  7  6  7 16 0 0     0.10     0.18     0.00     0.00     0.00     0.00 0.
 6  1  1  0  0 0 0   260.00   103.50     5.00   0.8130   0.6250    4700.   2.500
 6  2  1  0  0 0 0   260.00   198.50     5.00   0.8130   0.6250    4700.   2.500
 6  3  1  0  0 0 0   260.00   294.00     6.00   1.1550   0.7500    6720.   2.500
 6  4  1  0  0 0 0   400.00   393.50     4.00   0.8130   0.6250    4700.   2.500
 6  5  1  0  0 0 0   400.00   488.00     6.00   1.1550   0.7500    6720.   2.500
 6  6  1  0  0 0 0   400.00   583.00     6.00   1.1550   0.7500    6720.   2.500
 6  7  1  0  0 0 0   400.00   678.00    12.00   2.0730   1.0000   11940.   2.500
 8  1  0  0  0 0 0   93.500    24.21    7.013    4.496     0.00     0.00   104.23
 8  2  0  0  0 0 0   95.167    24.21    7.219    6.511     0.00     0.00   104.23
 8  3  0  0  0 0 0   95.167    24.21    6.969    7.558     0.00     0.00   104.23
 8  4  0  0  0 0 0   95.167    24.21    6.866    8.312     0.00     0.00   104.23
 8  5  0  0  0 0 0   94.500    24.21    6.603    8.531     0.00     0.00   104.23
 8  6  0  0  0 0 0   95.167    19.55    5.871    8.526     0.00     0.00   104.23
 8  7  0  0  0 0 0   94.432    17.89    5.351    7.533     0.00     0.00   104.23
 9  0  0  0  0 3 1    17.00     8.90   393.60    0.        0.       0.00 0.
10  1 17  1  0 0 0    4.000    5.000    3.500    5.000   0. 0. 0.
10  2 17  1  0 0 0    4.000    5.084    5.083    5.000   0. 0. 0.
10  3 17  1  0 0 0    4.000    5.084    5.083    5.000   0. 0. 0.
10  4 17  1  0 0 0    4.000    5.084    5.083    5.000   0. 0. 0.
10  5 17  1  0 0 0    4.000    4.750    4.750    5.000   0. 0. 0.
10  6 17  1  0 0 0    4.000    5.084    5.083    5.000   0. 0. 0.
10  7 17  1  0 0 0    4.000    4.716    4.716    5.000   0. 0. 0.
99  0  0  0  0 0 0   0. 0. 0. 0. 0. 0. 0.
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(5)

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1666' Guyed Tower - ONE BUNDLE XMSN LINE - 75 Mph Basic Vel., EIA 222E  WIND R
 2  7  0 -1  1 1 7    0. 0. 0. 0.    0.000     30.0   0.
 3  1  3  1  1 1 0   81.200     0.00     0.00     0.00 0.00     0.00     0.00
 3  2  3  1  1 1 0   87.900     0.00     0.00     0.00 0.00     0.00     0.00
 3  3  3  1  1 1 0   92.600     0.00     0.00     0.00 0.00     0.00     0.00
 3  4  3  1  1 1 0   96.200     0.00     0.00     0.00 0.00     0.00     0.00
 3  5  3  1  1 1 0   99.200     0.00     0.00     0.00 0.00     0.00     0.00
 3  6  3  1  1 1 0  101.700     0.00     0.00     0.00 0.00     0.00     0.00
 3  7  3  1  1 1 0  103.900     0.00     0.00     0.00 0.00     0.00     0.00
 4  1  1  0  0 0 0     0.00     0.00   0. 0. 0. 0. 0.
 4  2  1  0  0 0 0     0.00     0.00   0. 0. 0. 0. 0.
 4  3  1  0  0 0 0     0.00     0.00   0. 0. 0. 0. 0.
 4  4  1  0  0 0 0     0.00     0.00   0. 0. 0. 0. 0.
 4  5  1  0  0 0 0     0.00     0.00   0. 0. 0. 0. 0.
 4  6  1  0  0 0 0     0.00     0.00   0. 0. 0. 0. 0.
 4  7  1  0  0 0 0     0.00     0.00   0. 0. 0. 0. 0.
 5  1  1  1  6 0 0     0.10     0.08     0.00     0.00     0.00     0.00 0.
 5  2  1  2  1 0 0     0.10     0.09     0.00     0.00     0.00     0.00 0.
 5  2  2  2  5 0 0     0.10     0.09     0.00     0.00     0.00     0.00 0.
 5  2  3  2 13 0 0     0.10     0.09     0.00     0.00     0.00     0.00 0.
 5  2  4  2 15 0 0     0.10     0.09     0.00     0.00     0.00     0.00 0.
 5  2  5  2 17 0 0     0.10     0.09     0.00     0.00     0.00     0.00 0.
 5  2  6  2 19 0 0     0.10     0.25     0.00     0.00     0.00     0.00 0.
 5  3  1  3  8 0 0     0.20     0.30     0.00     0.00     0.00     0.00 0.
 5  4  1  4  1 0 0     0.10     0.14     0.00     0.00     0.00     0.00 0.
 5  4  2  4 16 0 0     0.10     0.15     0.00     0.00     0.00     0.00 0.
 5  4  3  4 18 0 0     0.10     0.15     0.00     0.00     0.00     0.00 0.
 5  5  1  5  3 0 0     0.10     0.15     0.00     0.00     0.00     0.00 0.
 5  5  2  5  5 0 0     0.10     0.16     0.00     0.00     0.00     0.00 0.
 5  5  3  5  5 0 0     0.10     0.16     0.00     0.00     0.00     0.00 0.
 5  6  1  6  2 0 0     0.10     0.16     0.00     0.00     0.00     0.00 0.
 5  6  2  6  5 0 0     0.10     0.16     0.00     0.00     0.00     0.00 0.
 5  6  3  6  7 0 0     0.10     0.16     0.00     0.00     0.00     0.00 0.
 5  6  4  6 10 0 0     0.10     0.17     0.00     0.00     0.00     0.00 0.
 5  6  5  6 13 0 0     0.10     0.17     0.00     0.00     0.00     0.00 0.
 5  6  6  6 15 0 0     0.15     0.24     0.00     0.00     0.00     0.00 0.
 5  6  7  6 19 0 0     0.15     0.24     0.00     0.00     0.00     0.00 0.
 5  7  1  7  4 0 0     0.15     0.24     0.00     0.00     0.00     0.00 0.
 5  7  2  7  8 0 0     0.15     0.24     0.00     0.00     0.00     0.00 0.
 5  7  3  7 12 0 0     0.15     0.24     0.00     0.00     0.00     0.00 0.
 5  7  4  7 14 0 0     0.15     0.20     0.00     0.00     0.00     0.00 0.
 5  7  5  7 16 0 0     0.15     0.20     0.00     0.00     0.00     0.00 0.
 5  7  6  7 16 0 0     0.10     0.18     0.00     0.00     0.00     0.00 0.
 6  1  1  0  0 0 0   260.00   103.50     5.00   0.8130   0.6250    4700.   2.500
 6  2  1  0  0 0 0   260.00   198.50     5.00   0.8130   0.6250    4700.   2.500
 6  3  1  0  0 0 0   260.00   294.00     6.00   1.1550   0.7500    6720.   2.500
 6  4  1  0  0 0 0   400.00   393.50     4.00   0.8130   0.6250    4700.   2.500
 6  5  1  0  0 0 0   400.00   488.00     6.00   1.1550   0.7500    6720.   2.500
 6  6  1  0  0 0 0   400.00   583.00     6.00   1.1550   0.7500    6720.   2.500
 6  7  1  0  0 0 0   400.00   678.00    12.00   2.0730   1.0000   11940.   2.500
 8  1  0  0  0 0 0   93.500    24.21    7.013    4.496     0.00     0.00   104.23
 8  2  0  0  0 0 0   95.167    24.21    7.219    6.511     0.00     0.00   104.23
 8  3  0  0  0 0 0   95.167    24.21    6.969    7.558     0.00     0.00   104.23
 8  4  0  0  0 0 0   95.167    24.21    6.866    8.312     0.00     0.00   104.23
 8  5  0  0  0 0 0   94.500    24.21    6.603    8.531     0.00     0.00   104.23
 8  6  0  0  0 0 0   95.167    19.55    5.871    8.526     0.00     0.00   104.23
 8  7  0  0  0 0 0   94.432    17.89    5.351    7.533     0.00     0.00   104.23
 9  0  0  0  0 3 1    17.00     8.90   393.60    0.        0.       0.00 0.
10  1 17  1  0 0 0    4.000    5.000    3.500    5.000   0. 0. 0.
10  2 17  1  0 0 0    4.000    5.084    5.083    5.000   0. 0. 0.
10  3 17  1  0 0 0    4.000    5.084    5.083    5.000   0. 0. 0.
10  4 17  1  0 0 0    4.000    5.084    5.083    5.000   0. 0. 0.
10  5 17  1  0 0 0    4.000    4.750    4.750    5.000   0. 0. 0.
10  6 17  1  0 0 0    4.000    5.084    5.083    5.000   0. 0. 0.
10  7 17  1  0 0 0    4.000    4.716    4.716    5.000   0. 0. 0.
99  0  0  0  0 0 0   0. 0. 0. 0. 0. 0. 0.
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1666' Guyed Tower - ONE BUNDLE XMSN LINE - 75 Mph Basic Vel., EIA 222E  WIND C
 2  7  0  2  1 1 7     0. 0. 0. 0.    0.000      30.0   0.
 3  1  3  1  1 1 0   81.200      0.00      0.00      0.00 0.00      0.00      0.00
 3  2  3  1  1 1 0   87.900      0.00      0.00      0.00 0.00      0.00      0.00
 3  3  3  1  1 1 0   92.600      0.00      0.00      0.00 0.00      0.00      0.00
 3  4  3  1  1 1 0   96.200      0.00      0.00      0.00 0.00      0.00      0.00
 3  5  3  1  1 1 0   99.200      0.00      0.00      0.00 0.00      0.00      0.00
 3  6  3  1  1 1 0  101.700      0.00      0.00      0.00 0.00      0.00      0.00
 3  7  3  1  1 1 0  103.900      0.00      0.00      0.00 0.00      0.00      0.00
 4  1  1  0  0 0 0    30.00      0.00   0. 0. 0. 0. 0.
 4  2  1  0  0 0 0    30.00      0.00   0. 0. 0. 0. 0.
 4  3  1  0  0 0 0    30.00      0.00   0. 0. 0. 0. 0.
 4  4  1  0  0 0 0    30.00      0.00   0. 0. 0. 0. 0.
 4  5  1  0  0 0 0    30.00      0.00   0. 0. 0. 0. 0.
 4  6  1  0  0 0 0    30.00      0.00   0. 0. 0. 0. 0.
 4  7  1  0  0 0 0    30.00      0.00   0. 0. 0. 0. 0.
 5  1  1  1  6 0 0     0.10      0.08      0.00      0.00      0.00      0.00 0.
 5  2  1  2  1 0 0     0.10      0.09      0.00      0.00      0.00      0.00 0.
 5  2  2  2  5 0 0     0.10      0.09      0.00      0.00      0.00      0.00 0.
 5  2  3  2 13 0 0     0.10      0.09      0.00      0.00      0.00      0.00 0.
 5  2  4  2 15 0 0     0.10      0.09      0.00      0.00      0.00      0.00 0.
 5  2  5  2 17 0 0     0.10      0.09      0.00      0.00      0.00      0.00 0.
 5  2  6  2 19 0 0     0.10      0.25      0.00      0.00      0.00      0.00 0.
 5  3  1  3  8 0 0     0.20      0.30      0.00      0.00      0.00      0.00 0.
 5  4  1  4  1 0 0     0.10      0.14      0.00      0.00      0.00      0.00 0.
 5  4  2  4 16 0 0     0.10      0.15      0.00      0.00      0.00      0.00 0.
 5  4  3  4 18 0 0     0.10      0.15      0.00      0.00      0.00      0.00 0.
 5  5  1  5  3 0 0     0.10      0.15      0.00      0.00      0.00      0.00 0.
 5  5  2  5  5 0 0     0.10      0.16      0.00      0.00      0.00      0.00 0.
 5  5  3  5  5 0 0     0.10      0.16      0.00      0.00      0.00      0.00 0.
 5  6  1  6  2 0 0     0.10      0.16      0.00      0.00      0.00      0.00 0.
 5  6  2  6  5 0 0     0.10      0.16      0.00      0.00      0.00      0.00 0.
 5  6  3  6  7 0 0     0.10      0.16      0.00      0.00      0.00      0.00 0.
 5  6  4  6 10 0 0     0.10      0.17      0.00      0.00      0.00      0.00 0.
 5  6  5  6 13 0 0     0.10      0.17      0.00      0.00      0.00      0.00 0.
 5  6  6  6 15 0 0     0.15      0.24      0.00      0.00      0.00      0.00 0.
 5  6  7  6 19 0 0     0.15      0.24      0.00      0.00      0.00      0.00 0.
 5  7  1  7  4 0 0     0.15      0.24      0.00      0.00      0.00      0.00 0.
 5  7  2  7  8 0 0     0.15      0.24      0.00      0.00      0.00      0.00 0.
 5  7  3  7 12 0 0     0.15      0.24      0.00      0.00      0.00      0.00 0.
 5  7  4  7 14 0 0     0.15      0.20      0.00      0.00      0.00      0.00 0.
 5  7  5  7 16 0 0     0.15      0.20      0.00      0.00      0.00      0.00 0.
 5  7  6  7 16 0 0     0.10      0.18      0.00      0.00      0.00      0.00 0.
 6  1  1  0  0 0 0   260.00    103.50      5.00    0.8130    0.6250     4700.  2.500
 6  2  1  0  0 0 0   260.00    198.50      5.00    0.8130    0.6250     4700.  2.500
 6  3  1  0  0 0 0   260.00    294.00      6.00    1.1550    0.7500     6720.  2.500
 6  4  1  0  0 0 0   400.00    393.50      4.00    0.8130    0.6250     4700.  2.500
 6  5  1  0  0 0 0   400.00    488.00      6.00    1.1550    0.7500     6720.  2.500
 6  6  1  0  0 0 0   400.00    583.00      6.00    1.1550    0.7500     6720.  2.500
 6  7  1  0  0 0 0   400.00    678.00     12.00    2.0730    1.0000    11940.  2.500
 8  1  0  0  0 0 0   93.500     24.21     7.013     4.496      0.00      0.00   104.23
 8  2  0  0  0 0 0   95.167     24.21     7.219     6.511      0.00      0.00   104.23
 8  3  0  0  0 0 0   95.167     24.21     6.969     7.558      0.00      0.00   104.23
 8  4  0  0  0 0 0   95.167     24.21     6.866     8.312      0.00      0.00   104.23
 8  5  0  0  0 0 0   94.500     24.21     6.603     8.531      0.00      0.00   104.23
 8  6  0  0  0 0 0   95.167     19.55     5.871     8.526      0.00      0.00   104.23
 8  7  0  0  0 0 0   94.432     17.89     5.351     7.533      0.00      0.00   104.23
 9  0  0  0  0 3 1    17.00      8.90    393.60     0.         0.        0.00 0.
10  1 17  1  0 0 0    4.000     5.000     3.500     5.000   0. 0. 0.
10  2 17  1  0 0 0    4.000     5.084     5.083     5.000   0. 0. 0.
10  3 17  1  0 0 0    4.000     5.084     5.083     5.000   0. 0. 0.
10  4 17  1  0 0 0    4.000     5.084     5.083     5.000   0. 0. 0.
10  5 17  1  0 0 0    4.000     4.750     4.750     5.000   0. 0. 0.
10  6 17  1  0 0 0    4.000     5.084     5.083     5.000   0. 0. 0.
10  7 17  1  0 0 0    4.000     4.716     4.716     5.000   0. 0. 0.
 0  0  0  0  0 0 0   0. 0. 0. 0. 0. 0. 0.
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PART III
COMPUTER ANALYSIS RESULTS

CONTROL PARAMETERS

7 GUY LEVELS
HINGED BASE
WIND LOADING DIRECTION 'A'
TWO-WAY BENDING CONSIDERED
WIND LOADS ARE INPUT ITEMS

ANALYSIS PARAMETERS

0.000 INCH RADIAL ICE ON GUYS (SP WT 56.0 LB/CUFT)
AMBIENT TEMPERATURE = 30.00 DEG F
NORMAL TEMPERATURE = 70.00 DEG F
HEIGHT TO TOWER BASE = 0.0 FT
TOWER SHAFT MODULUS OF ELASTICITY = 29000.

INPUT ECHO: LOCAL LOADS AT GUY LEVELS AND PULL-OFF DATA

LVL	WIND VEL (MI/HR)	CONCENTRATED LOADS (KIPS) VERTICAL	HORIZONTAL WINDWARD	HORIZONTAL NORMAL	MOMENTS (KIP-FT) WINDWARD	MOMENTS (KIP-FT) NORMAL	MOMENTS (KIP-FT) TWIST	INSULATOR CLUSTERS WEIGHT (KIPS)	INSULATOR CLUSTERS DRAG (KIPS)
1	81.20	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2	83.90	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
3	92.60	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
4	96.20	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
5	99.50	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
6	101.70	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
7	103.90	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
TOP		17.00	8.93	0.00	393.60	0.00	0.00		

INPUT ECHO: SPAN LOADS CONCENTRATED AT PANEL POINTS

SPAN	POINT	VERTICAL (KIPS)	HORIZONTAL (KIPS) WINDWARD	HORIZONTAL (KIPS) NORMAL	MOMENTS (KIP-FT) WINDWARD	MOMENTS (KIP-FT) NORMAL	MOMENTS (KIP-FT) TWIST
1	0	0.10	0.08	0.00	0.00	0.00	0.00
2	1	0.10	0.09	0.00	0.00	0.00	0.00
2	5	0.10	0.09	0.00	0.00	0.00	0.00
2	13	0.10	0.09	0.00	0.00	0.00	0.00
2	15	0.10	0.09	0.00	0.00	0.00	0.00
2	17	0.10	0.09	0.00	0.00	0.00	0.00
2	19	0.10	0.25	0.00	0.00	0.00	0.00
3	8	0.20	0.30	0.00	0.00	0.00	0.00
4	1	0.10	0.14	0.00	0.00	0.00	0.00
4	16	0.10	0.15	0.00	0.00	0.00	0.00
4	18	0.10	0.15	0.00	0.00	0.00	0.00
5	3	0.10	0.15	0.00	0.00	0.00	0.00
5	5	0.10	0.16	0.00	0.00	0.00	0.00
5	5	0.10	0.16	0.00	0.00	0.00	0.00
6	2	0.10	0.16	0.00	0.00	0.00	0.00
6	5	0.10	0.16	0.00	0.00	0.00	0.00
6	7	0.10	0.16	0.00	0.00	0.00	0.00
6	10	0.10	0.17	0.00	0.00	0.00	0.00
6	13	0.10	0.17	0.00	0.00	0.00	0.00
6	15	0.15	0.24	0.00	0.00	0.00	0.00
6	19	0.15	0.24	0.00	0.00	0.00	0.00
7	4	0.15	0.24	0.00	0.00	0.00	0.00
7	9	0.15	0.24	0.00	0.00	0.00	0.00
7	12	0.15	0.24	0.00	0.00	0.00	0.00
7	14	0.15	0.20	0.00	0.00	0.00	0.00
7	16	0.15	0.20	0.00	0.00	0.00	0.00
7	18	0.10	0.18	0.00	0.00	0.00	0.00

INPUT ECHO: SPAN DATA

SPAN	LENGTH (FT)	FACE WD (FT)	PANEL TYPE	PANEL HT (FT) TOP	PANEL HT (FT) BOTTOM	PANEL HT (FT) UNIFORM	# UNIF PANELS	SPAN MOM OF INER (INFT)**2	SPAN TORS STIFFNESS (KIP-FT)	SPAN WEIGHT (KIPS)	SPAN WIND LOAD (KIPS)
1	93.500	4.000	N	5.000	3.500	5.000	17	24.21	104.23	7.01	4.911
2	95.167	4.000	N	5.084	5.083	5.000	17	24.21	104.23	7.22	7.143
3	95.167	4.000	N	5.084	5.083	5.000	17	24.21	104.23	6.97	8.099

INPUT ECHO: GUY DATA AND RELATED INFORMATION

LVL	GUY #	DISTANCE (FT) HORIZ	DISTANCE (FT) VERT	TENS (KIPS)	UNIT WT (LB/FT)	DIAM (IN)	AE (KIPS)	LEV ARM (FT)	WIND ANGLES (DEG) WIND TO GUY	WIND ANGLES (DEG) WIND TO LEV ARM	INSULATORS ON GUY WEIGHT (LBS)	INSULATORS ON GUY AREA (SQFT)	INSULATORS ON GUY LENGTH (FT)	ANCHOR PI HT ABV GN. (FT)
1	1	260.00	103.50	5.00	0.8130	0.6250	4700.	2.500	60.00	60.00	0.00	0.00	0.000	
1	2	260.00	103.50	5.00	0.8130	0.6250	4700.	2.500	180.00	180.00	0.00	0.00	0.000	
1	3	260.00	103.50	5.00	0.8130	0.6250	4700.	2.500	300.00	300.00	0.00	0.00	0.000	
2	1	260.00	198.50	5.00	0.8130	0.6250	4700.	2.500	60.00	60.00	0.00	0.00	0.000	
2	2	260.00	198.50	5.00	0.8130	0.6250	4700.	2.500	180.00	180.00	0.00	0.00	0.000	
2	3	260.00	198.50	5.00	0.8130	0.6250	4700.	2.500	300.00	300.00	0.00	0.00	0.000	
3	1	260.00	294.00	6.00	1.1550	0.7500	6720.	2.500	60.00	60.00	0.00	0.00	0.000	
3	2	260.00	294.00	6.00	1.1550	0.7500	6720.	2.500	180.00	180.00	0.00	0.00	0.000	
3	3	260.00	294.00	6.00	1.1550	0.7500	6720.	2.500	300.00	300.00	0.00	0.00	0.000	
4	1	400.00	393.50	4.00	0.8130	0.6250	4700.	2.500	60.00	60.00	0.00	0.00	0.000	
4	2	400.00	393.50	4.00	0.8130	0.6250	4700.	2.500	180.00	180.00	0.00	0.00	0.000	
4	3	400.00	393.50	4.00	0.8130	0.6250	4700.	2.500	300.00	300.00	0.00	0.00	0.000	
5	1	400.00	488.00	6.00	1.1550	0.7500	6720.	2.500	60.00	60.00	0.00	0.00	0.000	
5	2	400.00	488.00	6.00	1.1550	0.7500	6720.	2.500	180.00	180.00	0.00	0.00	0.000	
5	3	400.00	488.00	6.00	1.1550	0.7500	6720.	2.500	300.00	300.00	0.00	0.00	0.000	
6	1	400.00	583.00	6.00	1.1550	0.7500	6720.	2.500	60.00	60.00	0.00	0.00	0.000	
6	2	400.00	583.00	6.00	1.1550	0.7500	6720.	2.500	180.00	180.00	0.00	0.00	0.000	
6	3	400.00	583.00	6.00	1.1550	0.7500	6720.	2.500	300.00	300.00	0.00	0.00	0.000	
7	1	400.00	678.00	12.00	2.0730	1.0000	11940.	2.500	60.00	60.00	0.00	0.00	0.000	
7	2	400.00	678.00	12.00	2.0730	1.0000	11940.	2.500	180.00	180.00	0.00	0.00	0.000	
7	3	400.00	678.00	12.00	2.0730	1.0000	11940.	2.500	300.00	300.00	0.00	0.00	0.000	

OUTPUT: WIND LOADS

SPAN	TOWER WIND LOAD (KIPS)	LEVEL	INSULATOR CLUSTERS WIND LOAD (KIPS)
1	4.91	1	0.00
2	7.14	2	0.00
3	8.10	3	0.00
4	8.77	4	0.00
5	8.90	5	0.00
6	8.66	6	0.00
7	7.53	7	0.00

OUTPUT: GUY WEIGHTS, LENGTHS AND FORCES

LVL	GUY #	EFF D (IN)	TOTAL WT (KIPS)	UNSTRESSED LENGTH (FT)	FORCES AT TOWER (KIPS) TENSION	WINDWARD	NORMAL	VERT	FORCES AT ANCHORAGE (KIPS) UPLIFT	M	N	TWIST (KIP-FT)
1	1	0.6250	0.227	279.56	8.79	4.01	7.06	3.36	3.17	8.31	0.06	-0.135
1	2	0.6250	0.227	279.56	1.81	-1.45	0.00	0.75	0.56	1.63	0.00	0.000
1	3	0.6250	0.227	279.56	8.79	4.01	-7.06	3.36	3.18	8.31	-0.06	0.135
2	1	0.6250	0.266	326.78	10.43	4.03	7.15	6.44	6.26	8.45	0.11	-0.217
2	2	0.6250	0.266	326.78	0.50	-0.39	0.00	0.33	0.18	0.29	0.00	0.000
2	3	0.6250	0.266	326.78	10.43	4.03	-7.15	6.44	6.26	8.45	-0.11	0.217
3	1	0.7500	0.453	392.15	16.89	5.40	9.62	12.79	12.49	11.41	0.20	-0.348
3	2	0.7500	0.453	392.15	0.45	-0.32	0.00	0.32	0.10	0.05	0.00	0.000
3	3	0.7500	0.453	392.15	16.89	5.40	-9.62	12.79	12.49	11.41	-0.20	0.348
4	1	0.6250	0.456	560.75	12.98	4.38	7.96	9.27	9.01	9.57	0.25	-0.478
4	2	0.6250	0.456	560.75	0.47	-0.36	0.00	0.30	0.14	0.08	0.00	0.000
4	3	0.6250	0.456	560.75	12.98	4.38	-7.96	9.27	9.01	9.57	-0.25	0.478
5	1	0.7500	0.728	630.54	17.08	4.99	9.28	13.44	12.99	11.22	0.39	-0.798
5	2	0.7500	0.728	630.54	1.33	-0.94	0.00	0.95	0.67	0.39	0.00	0.000
5	3	0.7500	0.728	630.54	17.08	4.99	-9.28	13.44	12.99	11.22	-0.39	0.798
6	1	0.7500	0.816	706.52	17.06	4.29	8.26	14.30	13.80	10.08	0.49	-1.033
6	2	0.7500	0.816	706.52	2.40	-1.55	0.00	1.83	1.56	0.76	0.00	0.000
6	3	0.7500	0.816	706.52	17.06	4.29	-8.26	14.30	13.80	10.08	-0.49	1.033
7	1	1.0000	1.630	786.50	41.35	9.82	17.95	35.93	34.76	21.65	0.78	-1.167
7	2	1.0000	1.630	786.50	3.72	-2.00	0.00	2.65	1.84	0.61	0.00	0.000
7	3	1.0000	1.630	786.50	41.35	9.82	-17.95	35.93	34.76	21.65	-0.78	1.167

OUTPUT: TOWER BEHAVIOR AT GUY LEVELS

LVL	DEFLECTION (FT) WINDWARD	DEFLECTION (FT) NORMAL	TWIST (DEG)	REACTIONS (KIPS) WINDWARD	REACTIONS (KIPS) NORMAL	REACTIONS (KIPS) VERT	REACTIONS (KIP-FT) WINDWARD	REACTIONS (KIP-FT) NORMAL	REACTIONS (KIP-FT) TWIST	AXIAL FORCE (KIPS)	PHI
1	0.372	0.000	0.000	6.38	0.00	7.46	6.52	0.00	0.00	260.64	1.57243
2	0.827	0.000	0.000	7.68	0.00	13.20	15.27	0.00	0.00	245.80	1.55281
3	1.798	0.000	0.000	10.47	0.00	25.90	31.18	0.00	0.00	225.02	1.48599
4	2.958	0.000	0.000	8.39	0.00	18.84	22.42	0.00	0.00	192.01	1.39001
5	3.016	0.000	0.000	9.04	0.00	27.83	31.22	0.00	0.00	166.02	1.31632
6	3.664	0.000	0.000	7.03	0.00	30.44	31.17	0.00	0.00	131.54	1.31434
7	7.228	0.000	0.000	17.65	0.00	74.51	93.20	0.00	0.00	94.69	1.22897

OUTPUT: BEHAVIOR AT TOWER EXTREMITIES

BASE MOMENTS (KIP-FT) WINDWARD	BASE MOMENTS (KIP-FT) NORMAL	BASE SHEAR (KIPS) WINDWARD	BASE SHEAR (KIPS) NORMAL	BASE VERTICAL (KIPS)	CANTILEVER DEFL (FT) WINDWARD	CANTILEVER DEFL (FT) NORMAL	MOMENT ABOVE TOP GL (KIP-FT) WINDWARD	MOMENT ABOVE TOP GL (KIP-FT) NORMAL
0.00	0.00	0.87	0.00	264.21	7.228	0.000	-393.60	0.00

OUTPUT: SPAN PARAMETERS

SPAN	BENDING MOMENTS (KIP-FT) WINDWARD TOP	BENDING MOMENTS (KIP-FT) WINDWARD BOTTOM	BENDING MOMENTS (KIP-FT) NORMAL TOP	BENDING MOMENTS (KIP-FT) NORMAL BOTTOM	TOTAL SHEARS (KIPS) WINDWARD TOP	TOTAL SHEARS (KIPS) WINDWARD BOTTOM	TOTAL SHEARS (KIPS) NORMAL TOP	TOTAL SHEARS (KIPS) NORMAL BOTTOM
1	-57.30	0.00	-0.02	0.00	-3.22	2.38	0.00	0.00
2	-98.12	-63.82	0.02	-0.02	-3.66	3.10	0.00	0.00
3	-98.49	-113.40	-0.01	0.02	-3.34	3.63	0.00	0.00
4	55.65	-129.68	0.00	-0.01	-3.76	6.69	0.00	0.00
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

CONTROL PARAMETERS

7 GUY LEVELS
HINGED BASE
WIND LOADING DIRECTION "B"
TWO-WAY BENDING CONSIDERED
WIND LOADS ARE INPUT ITEMS

ANALYSIS PARAMETERS

0.000 INCH RADIAL ICE ON GUYS (SP WT 56.0 LB/CUFT)
AMBIENT TEMPERATURE = 30.00 DEG F
NORMAL TEMPERATURE = 70.00 DEG F
HEIGHT TO TOWER BASE = 0.0 FT
TOWER SHAFT MODULUS OF ELASTICITY = 29000.

INPUT ECHO: LOCAL LOADS AT GUY LEVELS AND PULL-OFF DATA

LVL	WIND VEL (MI/HR)	CONCENTRATED LOADS (KIPS) VERTICAL	HORIZONTAL WINDWARD	HORIZONTAL NORMAL	MOMENTS (KIP-FT) WINDWARD	MOMENTS (KIP-FT) NORMAL	MOMENTS (KIP-FT) TWIST	INSULATOR CLUSTERS WEIGHT (KIPS)	INSULATOR CLUSTERS DRAG (KIPS)
1	81.20	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2	87.50	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
3	93.60	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
4	99.70	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
5	[illegible]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
6	107.70	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
7	113.90	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
TOP		17.00	5.50	0.00	393.60	0.00	0.00		

INPUT ECHO: SPAN LOADS CONCENTRATED AT PANEL POINTS

SPAN	POINT	VERTICAL (KIPS)	HORIZONTAL (KIPS) WINDWARD	HORIZONTAL (KIPS) NORMAL	MOMENTS (KIP-FT) WINDWARD	MOMENTS (KIP-FT) NORMAL	MOMENTS (KIP-FT) TWIST
1	1	0.10	0.08	0.00	0.00	0.00	0.00
2	1	0.10	0.09	0.00	0.00	0.00	0.00
2	5	0.10	0.09	0.00	0.00	0.00	0.00
2	11	0.10	0.09	0.00	0.00	0.00	0.00
2	15	0.10	0.09	0.00	0.00	0.00	0.00
2	17	0.10	0.09	0.00	0.00	0.00	0.00
2	19	0.10	0.25	0.00	0.00	0.00	0.00
3	5	0.20	0.30	0.00	0.00	0.00	0.00
4	1	0.10	0.14	0.00	0.00	0.00	0.00
4	16	0.10	0.15	0.00	0.00	0.00	0.00
4	19	0.10	0.15	0.00	0.00	0.00	0.00
5	3	0.10	0.15	0.00	0.00	0.00	0.00
5	5	0.10	0.16	0.00	0.00	0.00	0.00
5	9	0.10	0.16	0.00	0.00	0.00	0.00
6	2	0.10	0.16	0.00	0.00	0.00	0.00
6	5	0.10	0.16	0.00	0.00	0.00	0.00
6	7	0.10	0.16	0.00	0.00	0.00	0.00
6	10	0.10	0.17	0.00	0.00	0.00	0.00
6	13	0.10	0.17	0.00	0.00	0.00	0.00
6	15	0.15	0.24	0.00	0.00	0.00	0.00
6	19	0.15	0.24	0.00	0.00	0.00	0.00
7	4	0.15	0.24	0.00	0.00	0.00	0.00
7	8	0.15	0.24	0.00	0.00	0.00	0.00
7	12	0.15	0.24	0.00	0.00	0.00	0.00
7	14	0.15	0.20	0.00	0.00	0.00	0.00
7	16	0.15	0.20	0.00	0.00	0.00	0.00
7	19	0.10	0.18	0.00	0.00	0.00	0.00

INPUT ECHO: SPAN DATA

SPAN	LENGTH (FT)	FACE WD (FT)	PANEL TYPE	PANEL HT (FT) TOP	PANEL HT (FT) BOTTOM	PANEL HT (FT) UNIFORM	# UNIF PANELS	SPAN MOM OF INER (INFT)**2	SPAN TORS STIFFNESS (KIP-FT)	SPAN WEIGHT (KIPS)	SPAN WIND LOAD (KIPS)
1	93.500	4.000	N	5.000	3.500	5.000	17	24.21	104.23	7.01	4.911
2	95.167	4.000	N	5.084	5.083	5.000	17	24.21	104.23	7.22	7.143
3	95.167	4.000	N	5.084	5.083	5.000	17	24.21	104.23	6.97	8.099
4	95.167	4.000	N	5.084	5.083	5.000	17	24.21	104.23	6.87	8.775
5	94.500	4.000	N	4.750	4.750	5.000	17	24.21	104.23	6.60	8.899
6	95.167	4.000	N	5.084	5.083	5.000	17	19.55	104.23	5.87	8.655
7	94.432	4.000	N	4.716	4.716	5.000	17	17.99	104.23	5.35	7.533

INPUT ECHO: GUY DATA AND RELATED INFORMATION

LVL	GUY #	DISTANCE (FT) HORIZ	DISTANCE (FT) VERT	TENS (KIPS)	UNIT WT (LB/FT)	DIAM (IN)	AE (KIPS)	LEV ARM (FT)	WIND ANGLES (DEG) WIND TO GUY	WIND ANGLES (DEG) WIND TO LEV ARM	INSULATORS ON GUY WEIGHT (LBS)	INSULATORS ON GUY AREA (SQFT)	INSULATORS ON GUY LENGTH (FT)	ANCHOR PT HT ABV GN (FT)
1	1	260.00	103.50	5.00	0.8130	0.6250	4700.	2.500	0.00	0.00	0.00	0.00	0.000	
1	2	260.00	103.50	5.00	0.8130	0.6250	4700.	2.500	120.00	120.00	0.00	0.00	0.000	
1	3	260.00	103.50	5.00	0.8130	0.6250	4700.	2.500	240.00	240.00	0.00	0.00	0.000	
2	1	260.00	198.50	5.00	0.8130	0.6250	4700.	2.500	0.00	0.00	0.00	0.00	0.000	
2	2	260.00	198.50	5.00	0.8130	0.6250	4700.	2.500	120.00	120.00	0.00	0.00	0.000	
2	3	260.00	198.50	5.00	0.8130	0.6250	4700.	2.500	240.00	240.00	0.00	0.00	0.000	
3	1	260.00	294.00	6.00	1.1550	0.7500	6720.	2.500	0.00	0.00	0.00	0.00	0.000	
3	2	260.00	294.00	6.00	1.1550	0.7500	6720.	2.500	120.00	120.00	0.00	0.00	0.000	
3	3	260.00	294.00	6.00	1.1550	0.7500	6720.	2.500	240.00	240.00	0.00	0.00	0.000	
4	1	400.00	393.50	4.00	0.8130	0.6250	4700.	2.500	0.00	0.00	0.00	0.00	0.000	
4	2	400.00	393.50	4.00	0.8130	0.6250	4700.	2.500	120.00	120.00	0.00	0.00	0.000	
4	3	400.00	393.50	4.00	0.8130	0.6250	4700.	2.500	240.00	240.00	0.00	0.00	0.000	
5	1	400.00	488.00	6.00	1.1550	0.7500	6720.	2.500	0.00	0.00	0.00	0.00	0.000	
5	2	400.00	488.00	6.00	1.1550	0.7500	6720.	2.500	120.00	120.00	0.00	0.00	0.000	
5	3	400.00	488.00	6.00	1.1550	0.7500	6720.	2.500	240.00	240.00	0.00	0.00	0.000	
6	1	400.00	583.00	6.00	1.1550	0.7500	6720.	2.500	0.00	0.00	0.00	0.00	0.000	
6	2	400.00	583.00	6.00	1.1550	0.7500	6720.	2.500	120.00	120.00	0.00	0.00	0.000	
6	3	400.00	583.00	6.00	1.1550	0.7500	6720.	2.500	240.00	240.00	0.00	0.00	0.000	
7	1	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	

OUTPUT: WIND LOADS

SPAN	TOWER WIND LOAD (KIPS)	LEVEL	INSULATOR CLUSTERS WIND LOAD (KIPS)
1	4.91	1	0.00
2	7.14	2	0.00
3	8.10	3	0.00
4	8.77	4	0.00
5	8.90	5	0.00
6	8.66	6	0.00
7	7.53	7	0.00

OUTPUT: GUY WEIGHTS, LENGTHS AND FORCES

LVL	GUY #	SEG D (IN)	TOTAL WT (KIPS)	UNSTRESSED LENGTH (FT)	FORCES AT TOWER (KIPS) TENSION	WINDWARD	NORMAL	VERT	FORCES AT ANCHORAGE (KIPS) UPLIFT	M	N	TWIST (KIP-FT)
1	1	0.6250	0.227	279.56	11.40	10.75	0.00	4.37	4.18	10.76	0.00	0.000
1	2	0.6250	0.227	279.56	3.92	-1.90	3.07	1.53	1.34	3.59	0.11	-0.272
1	3	0.6250	0.227	279.56	3.92	-1.90	-3.07	1.53	1.34	3.59	-0.11	0.272
2	1	0.6250	0.266	326.79	13.42	10.63	0.00	8.20	8.05	10.72	0.00	0.000
2	2	0.6250	0.266	326.79	3.53	-1.52	2.32	2.18	2.00	2.70	0.16	-0.386
2	3	0.6250	0.266	326.79	3.53	-1.52	-2.32	2.18	2.00	2.70	-0.16	0.386
3	1	0.7500	0.453	392.15	20.30	13.36	0.00	15.29	15.08	13.63	0.00	0.000
3	2	0.7500	0.453	392.15	4.26	-1.61	2.29	3.21	2.91	2.62	0.26	-0.632
3	3	0.7500	0.453	392.15	4.26	-1.61	-2.29	3.21	2.91	2.62	-0.26	0.632
4	1	0.6250	0.456	560.75	16.69	11.82	0.00	11.79	11.62	12.11	0.00	0.000
4	2	0.6250	0.456	560.75	3.84	-1.63	2.18	2.71	2.45	2.52	0.34	-0.809
4	3	0.6250	0.456	560.75	3.84	-1.63	-2.18	2.71	2.45	2.52	-0.34	0.809
5	1	0.7500	0.728	630.54	27.93	14.36	0.00	17.87	17.60	14.91	0.00	0.000
5	2	0.7500	0.728	630.54	5.95	-2.25	2.96	4.53	4.08	3.35	0.49	-1.175
5	3	0.7500	0.728	630.54	5.86	-2.25	-2.96	4.53	4.08	3.35	-0.49	1.175
6	1	0.7500	0.816	706.52	20.99	11.60	0.00	17.49	17.21	12.39	0.00	0.000
6	2	0.7500	0.816	706.52	6.96	-2.46	3.15	5.72	5.20	3.50	0.58	-1.400
6	3	0.7500	0.816	706.52	6.97	-2.46	-3.15	5.71	5.20	3.50	-0.58	1.400
7	1	1.0000	1.630	786.50	47.65	23.73	0.00	41.33	40.51	25.13	0.00	0.000
7	2	1.0000	1.630	786.50	10.82	-3.49	4.33	9.29	8.12	4.72	0.91	-2.149
7	3	1.0000	1.630	786.50	10.82	-3.49	-4.33	9.28	8.11	4.72	-0.91	2.149

OUTPUT: TOWER BEHAVIOR AT GUY LEVELS

LVL	DEFLECTION (FT) WINDWARD	DEFLECTION (FT) NORMAL	TWIST (DEG)	REACTIONS (KIPS) WINDWARD	REACTIONS (KIPS) NORMAL	REACTIONS (KIPS) VERT	REACTIONS (KIP-FT) WINDWARD	REACTIONS (KIP-FT) NORMAL	REACTIONS (KIP-FT) TWIST	AXIAL FORCE (KIPS)	PHI
1	0.371	0.000	0.000	6.95	0.00	7.42	7.11	0.00	0.00	237.08	1.49789
2	0.691	0.000	0.000	7.59	0.00	12.56	15.05	0.00	0.00	222.28	1.47757
3	1.232	0.000	0.000	10.13	0.00	21.77	30.19	0.00	0.00	202.14	1.41825
4	2.195	0.000	0.000	9.55	0.00	17.20	22.69	0.00	0.00	173.31	1.34052
5	2.570	-0.001	0.000	9.86	0.00	24.93	33.36	0.00	0.00	148.96	1.27582
6	3.842	-0.001	0.000	6.67	0.00	28.90	29.47	0.00	0.00	115.39	1.26655
7	4.628	0.001	0.000	16.75	-0.00	59.89	80.08	-0.00	0.00	80.07	1.18769

OUTPUT: BEHAVIOR AT TOWER EXTREMITIES

BASE MOMENTS (KIP-FT) WINDWARD	BASE MOMENTS (KIP-FT) NORMAL	BASE SHEAR (KIPS) WINDWARD	BASE SHEAR (KIPS) NORMAL	BASE VERTICAL (KIPS)	CANTILEVER DEFL (FT) WINDWARD	CANTILEVER DEFL (FT) NORMAL	MOMENT ABOVE TOP GL (KIP-FT) WINDWARD	MOMENT ABOVE TOP GL (KIP-FT) NORMAL
0.00	0.00	1.01	0.00	240.65	4.628	0.001	-393.60	0.00

OUTPUT: SPAN PARAMETERS

SPAN	BENDING MOMENTS (KIP-FT) WINDWARD TOP	BENDING MOMENTS (KIP-FT) WINDWARD BOTTOM	BENDING MOMENTS (KIP-FT) NORMAL TOP	BENDING MOMENTS (KIP-FT) NORMAL BOTTOM	TOTAL SHEARS (KIPS) WINDWARD TOP	TOTAL SHEARS (KIPS) WINDWARD BOTTOM	TOTAL SHEARS (KIPS) NORMAL TOP	TOTAL SHEARS (KIPS) NORMAL BOTTOM
1	-53.42	0.00	0.00	0.00	-3.31	2.46	0.00	0.00
2	-67.50	-60.53	-0.04	0.00	-3.84	3.69	0.00	0.00
3	-112.19	-80.56	0.05	-0.04	-3.94	3.43	0.00	0.00
4	9.10	-147.37	0.06	0.05	-3.41	5.95	0.00	0.00
5	-55.70	-13.59	-0.03	0.06	-5.42	4.95	0.00	0.00
6	-114.58	-88.54	-0.10	-0.08	-4.83	4.40	0.00	0.00
7	-313.51	-144.65	0.00	-0.10	-4.83	1.41	0.00	0.00

OUTPUT: TOTAL FORCES AT GUY ANCHORS

ANCHOR #	LOCATION REF ANGLE (DEG)	LOCATION HORIZ DIST (FT)	TOTAL FORCES (KIPS) UPLIFT	TOTAL FORCES (KIPS) M	TOTAL FORCES (KIPS) RESULT	ELEV ANGLE (DEG)
1	0.00	360.00	27.31	35.11	44.48	37.88
2	120.00	260.00	6.25	8.91	10.88	35.05
3	240.00	260.00	6.25	8.91	10.88	35.05
4	0.00	400.00	86.94	64.53	108.27	53.42
5	120.00	400.00	19.85	14.09	24.34	54.63
6	240.00	400.00	19.84	14.09	24.33	54.62

CONTROL PARAMETERS

7 GUY LEVELS
HINGED BASE
WIND LOADING DIRECTION 'C'
TWO-WAY BENDING CONSIDERED
WIND LOADS ARE INPUT ITEMS

ANALYSIS PARAMETERS

0.000 INCH RADIAL ICE ON GUYS (SP WT 56.0 LB/CUFT)
AMBIENT TEMPERATURE = 30.00 DEG F
NORMAL TEMPERATURE = 70.00 DEG F
HEIGHT TO TOWER BASE = 0.0 FT
TOWER SHAFT MODULUS OF ELASTICITY = 29000.

INPUT ECHO1 LOCAL LOADS AT GUY LEVELS AND PULL-OFF DATA

LVL	WIND VEL (MI/HR)	CONCENTRATED LOADS (KIPS) VERTICAL	HORIZONTAL WINDWARD	HORIZONTAL NORMAL	MOMENTS (KIP-FT) WINDWARD	MOMENTS (KIP-FT) NORMAL	MOMENTS (KIP-FT) TWIST	INSULATOR CLUSTERS WEIGHT (KIPS)	INSULATOR CLUSTERS DRAG (KIPS)
1	11.20	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2	82.90	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
3	92.60	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
4	96.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
5	99.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
6	101.70	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	103.90	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
TOP		17.00	0.00	0.00	793.60	0.00	0.00		

INPUT ECHO1 SPAN LOADS CONCENTRATED AT PANEL POINTS

SPAN	POINT	VERTICAL (KIPS)	HORIZONTAL (KIPS) WINDWARD	HORIZONTAL (KIPS) NORMAL	MOMENTS (KIP-FT) WINDWARD	MOMENTS (KIP-FT) NORMAL	MOMENTS (KIP-FT) TWIST
1	1	0.10	0.08	0.00	0.00	0.00	0.00
2	1	0.10	0.09	0.00	0.00	0.00	0.00
2	9	0.10	0.09	0.00	0.00	0.00	0.00
2	13	0.10	0.09	0.00	0.00	0.00	0.00
2	15	0.10	0.09	0.00	0.00	0.00	0.00
2	17	0.10	0.09	0.00	0.00	0.00	0.00
2	19	0.10	0.09	0.00	0.00	0.00	0.00
3	8	0.20	0.30	0.00	0.00	0.00	0.00
4	1	0.10	0.14	0.00	0.00	0.00	0.00
4	16	0.10	0.15	0.00	0.00	0.00	0.00
4	18	0.10	0.15	0.00	0.00	0.00	0.00
5	3	0.10	0.15	0.00	0.00	0.00	0.00
5	5	0.10	0.16	0.00	0.00	0.00	0.00
5	5	0.10	0.16	0.00	0.00	0.00	0.00
6	3	0.10	0.16	0.00	0.00	0.00	0.00
6	5	0.10	0.16	0.00	0.00	0.00	0.00
6	7	0.10	0.16	0.00	0.00	0.00	0.00
6	10	0.10	0.17	0.00	0.00	0.00	0.00
6	13	0.10	0.17	0.00	0.00	0.00	0.00
6	15	0.15	0.24	0.00	0.00	0.00	0.00
6	19	0.15	0.24	0.00	0.00	0.00	0.00
7	4	0.15	0.24	0.00	0.00	0.00	0.00
7	8	0.15	0.24	0.00	0.00	0.00	0.00
7	12	0.15	0.24	0.00	0.00	0.00	0.00
7	14	0.15	0.20	0.00	0.00	0.00	0.00
7	16	0.15	0.20	0.00	0.00	0.00	0.00
7	18	0.10	0.18	0.00	0.00	0.00	0.00

INPUT ECHO1 SPAN DATA

SPAN	LENGTH (FT)	FACE WD (FT)	PANEL TYPE	PANEL HT (FT) TOP	PANEL HT (FT) BOTTOM	PANEL HT (FT) UNIFORM	# UNIF PANELS	SPAN MOM OF INER (INCH)**2	SPAN TORS STIFFNESS (KIP-FT)	SPAN WEIGHT (KIPS)	SPAN WIND LOAD (KIPS)
1	93.500	4.000	N	5.000	3.500	5.000	17	24.21	104.23	7.01	4.911
2	95.167	4.000	N	5.084	5.083	5.000	17	24.21	104.23	7.22	7.143
3	95.167	4.000	N	5.084	5.083	5.000	17	24.21	104.23	6.97	8.099
4	95.167	4.000	N	5.084	5.083	5.000	17	24.21	104.23	6.87	8.775
5	94.500	4.000	N	4.750	4.750	5.000	17	24.21	104.23	6.60	8.899
6	95.167	4.000	N	5.084	5.083	5.000	17	19.55	104.23	5.87	8.655
7	94.432	4.000	N	4.716	4.716	5.000	17	17.89	104.23	5.35	7.533

INPUT ECHO: GUY DATA AND RELATED INFORMATION

LVL	GUY #	DISTANCE (FT) HORIZ	DISTANCE (FT) VERT	TENS (KIPS)	UNIT WT (LB/FT)	DIAM (IN)	AE (KIPS)	LEV ARM (FT)	WIND ANGLES (DEG) WIND TO GUY	WIND ANGLES (DEG) WIND TO LEV ARM	INSULATORS ON GUY WEIGHT (LBS)	INSULATORS ON GUY AREA (SQFT)	INSULATORS ON GUY LENGTH (FT)	ANCHOR PI HT ABV GN (FT)
1	1	260.00	103.50	5.00	0.8130	0.6250	4700.	2.500	30.00	30.00	0.00	0.00	0.000	
1	2	260.00	103.50	5.00	0.8130	0.6250	4700.	2.500	150.00	150.00	0.00	0.00	0.000	
1	3	260.00	103.50	5.00	0.8130	0.6250	4700.	2.500	270.00	270.00	0.00	0.00	0.000	
2	1	260.00	198.50	5.00	0.8130	0.6250	4700.	2.500	30.00	30.00	0.00	0.00	0.000	
2	2	260.00	198.50	5.00	0.8130	0.6250	4700.	2.500	150.00	150.00	0.00	0.00	0.000	
2	3	260.00	198.50	5.00	0.8130	0.6250	4700.	2.500	270.00	270.00	0.00	0.00	0.000	
3	1	260.00	294.00	6.00	1.1550	0.7500	6720.	2.500	30.00	30.00	0.00	0.00	0.000	
3	2	260.00	294.00	6.00	1.1550	0.7500	6720.	2.500	150.00	150.00	0.00	0.00	0.000	
3	3	260.00	294.00	6.00	1.1550	0.7500	6720.	2.500	270.00	270.00	0.00	0.00	0.000	
4	1	400.00	393.50	4.00	0.8130	0.6250	4700.	2.500	30.00	30.00	0.00	0.00	0.000	
4	2	400.00	393.50	4.00	0.8130	0.6250	4700.	2.500	150.00	150.00	0.00	0.00	0.000	
4	3	400.00	393.50	4.00	0.8130	0.6250	4700.	2.500	270.00	270.00	0.00	0.00	0.000	
5	1	400.00	488.00	6.00	1.1550	0.7500	6720.	2.500	30.00	30.00	0.00	0.00	0.000	
5	2	400.00	488.00	6.00	1.1550	0.7500	6720.	2.500	150.00	150.00	0.00	0.00	0.000	
5	3	400.00	488.00	6.00	1.1550	0.7500	6720.	2.500	270.00	270.00	0.00	0.00	0.000	
6	1	400.00	583.00	6.00	1.1550	0.7500	6720.	2.500	30.00	30.00	0.00	0.00	0.000	
6	2	400.00	583.00	6.00	1.1550	0.7500	6720.	2.500	150.00	150.00	0.00	0.00	0.000	
6	3	400.00	583.00	6.00	1.1550	0.7500	6720.	2.500	270.00	270.00	0.00	0.00	0.000	
7	1	400.00	678.00	12.00	2.0770	1.0000	11940.	2.500	30.00	30.00	0.00	0.00	0.000	
7	2	400.00	678.00	12.00	2.0770	1.0000	11940.	2.500	150.00	150.00	0.00	0.00	0.000	
7	3	400.00	678.00	12.00	2.0770	1.0000	11940.	2.500	270.00	270.00	0.00	0.00	0.000	

OUTPUT: WIND LOADS

SPAN	TOWER WIND LOAD (KIPS)	LEVEL	INSULATOR CLUSTERS WIND LOAD (KIPS)
1	4.91	1	0.00
2	7.14	2	0.00
3	8.10	3	0.00
4	8.77	4	0.00
5	3.90	5	0.00
6	8.66	6	0.00
7	7.53	7	0.00

OUTPUT: GUY WEIGHTS, LENGTHS AND FORCES

LVL	GUY #	EFF E (IN)	TOTAL WT (KIPS)	UNSTRESSED LENGTH (FT)	FORCES AT TOWER (KIPS) TENSION	WINDWARD	NORMAL	VERT	FORCES AT ANCHORAGE (KIPS) UPLIFT	M	N	TWIST (KIP-FT)
1	1	0.6250	0.227	279.56	10.74	8.62	4.96	4.06	3.88	10.07	-0.01	-0.143
1	2	0.6250	0.227	279.56	2.37	-1.90	1.05	0.95	0.77	2.15	0.04	-0.147
1	3	0.6250	0.227	279.56	6.13	-0.14	-5.66	7.36	2.14	5.66	-0.15	0.242
2	1	0.6250	0.266	326.78	12.75	9.74	5.03	7.81	7.67	10.25	0.00	-0.173
2	2	0.6250	0.266	326.78	1.26	-0.89	0.43	0.79	0.65	0.89	0.07	-0.200
2	3	0.6250	0.266	326.78	7.04	-0.19	-5.53	4.35	4.09	5.53	-0.20	0.353
3	1	0.7500	0.453	392.15	20.29	11.48	6.62	15.23	15.00	13.61	0.04	-0.271
3	2	0.7500	0.453	392.15	1.46	-0.91	0.38	1.08	0.86	0.72	0.13	-0.348
3	3	0.7500	0.453	392.15	11.02	-0.28	-7.19	8.35	7.39	7.19	-0.37	0.541
4	1	0.6250	0.456	560.75	16.14	9.87	5.69	11.44	11.26	11.81	0.04	-0.266
4	2	0.6250	0.456	560.75	1.49	-1.01	0.40	1.01	0.84	0.80	0.16	-0.430
4	3	0.6250	0.456	560.75	8.47	-0.39	-5.92	6.04	5.59	5.92	-0.42	0.790
5	1	0.7500	0.728	630.54	21.57	11.62	6.76	16.87	16.56	14.13	0.10	-0.463
5	2	0.7500	0.728	630.54	2.66	-1.64	0.66	1.99	1.68	1.24	0.25	-0.658
5	3	0.7500	0.728	630.54	11.41	-0.54	-7.05	8.96	8.73	7.06	-0.60	1.175
6	1	0.7500	0.816	706.52	20.05	9.59	5.65	16.92	16.60	12.02	0.16	-0.547
6	2	0.7500	0.816	706.52	3.60	-2.05	0.83	2.85	2.53	1.47	0.31	-0.808
6	3	0.7500	0.816	706.52	12.42	-0.64	-6.83	10.35	9.54	6.84	-0.70	1.431
7	1	1.0000	1.630	786.50	48.15	20.71	12.01	41.78	40.89	25.42	0.29	-0.700
7	2	1.0000	1.630	786.50	4.92	-2.61	0.95	4.07	3.18	1.48	0.49	-1.763
7	3	1.0000	1.630	786.50	26.47	-0.88	-13.22	23.14	21.51	13.24	-1.09	1.886

OUTPUT: TOWER BEHAVIOR AT GUY LEVELS

LVL	DEFLECTION (FT) WINDWARD	DEFLECTION (FT) NORMAL	TWIST (DEG)	REACTIONS (KIPS) WINDWARD	REACTIONS (KIPS) NORMAL	REACTIONS (KIPS) VERT	REACTIONS (KIP-FT) WINDWARD	REACTIONS (KIP-FT) NORMAL	REACTIONS (KIP-FT) TWIST	AXIAL FORCE (KIPS)	PHI
1	0.352	0.023	-0.434	6.58	0.35	7.37	6.73	-0.35	-0.05	252.85	1.54707
2	0.760	-0.052	-0.461	7.66	-0.07	12.95	15.21	0.13	-0.02	238.11	1.52745
3	1.576	-0.292	-0.499	10.29	-0.19	24.66	30.63	0.48	-0.08	217.57	1.46330
4	2.653	-0.402	-0.579	8.43	0.17	19.50	32.57	-0.45	0.09	185.81	1.37323
5	2.872	-0.277	-0.609	9.43	0.37	27.81	32.22	-1.17	0.05	160.16	1.30215
6	2.327	-0.242	-0.607	5.90	-0.24	30.12	30.46	1.17	0.07	125.70	1.29669
7	6.133	-1.320	-0.565	17.22	-0.26	68.99	81.65	0.54	-0.08	89.17	1.21309

OUTPUT: BEHAVIOR AT TOWER EXTREMITIES

BASE MOMENTS (KIP-FT) WINDWARD	BASE MOMENTS (KIP-FT) NORMAL	BASE SHEAR (KIPS) WINDWARD	BASE SHEAR (KIPS) NORMAL	BASE VERTICAL (KIPS)	CANTILEVER DEFL (FT) WINDWARD	CANTILEVER DEFL (FT) NORMAL	MOMENT ABOVE TOP GL (KIP-FT) WINDWARD	MOMENT ABOVE TOP GL (KIP-FT) NORMAL
0.00	0.00	0.94	-0.02	256.43	6.133	-1.320	-393.60	0.00

OUTPUT: SPAN PARAMETERS

SPAN	BENDING MOMENTS (KIP-FT) WINDWARD TOP	BENDING MOMENTS (KIP-FT) WINDWARD BOTTOM	BENDING MOMENTS (KIP-FT) NORMAL TOP	BENDING MOMENTS (KIP-FT) NORMAL BOTTOM	TOTAL SHEARS (KIPS) WINDWARD TOP	TOTAL SHEARS (KIPS) WINDWARD BOTTOM	TOTAL SHEARS (KIPS) NORMAL TOP	TOTAL SHEARS (KIPS) NORMAL BOTTOM
1	-58.03	0.00	4.03	0.00	-3.21	2.35	-0.02	0.08
2	-86.95	-64.76	16.99	3.69	-3.70	3.32	-0.13	0.33
3	-107.38	-102.15	-10.69	17.12	-3.56	3.59	-0.28	-0.16
4	36.18	-134.01	-24.58	-10.22	-3.65	5.37	0.16	-0.40
5	-74.93	13.41	16.74	-25.04	-5.92	4.65	0.42	0.31
6	-124.28	-107.15	52.11	15.56	-4.66	3.52	-0.11	0.75
7	-311.94	-204.75	-0.54	53.73	-3.79	1.57	-0.74	-0.25

OUTPUT: TOTAL FORCES AT GUY ANCHORS

ANCHOR #	LOCATION REF ANGLE (DEG)	LOCATION HORIZ DIST (FT)	TOTAL FORCES (KIPS) UPLIFT	TOTAL FORCES (KIPS) H	TOTAL FORCES (KIPS) RESULT	ELEV ANGLE (DEG)
1	30.00	260.00	26.55	33.89	43.05	38.08
2	150.00	260.00	2.28	3.76	4.40	31.23
3	270.00	260.00	14.12	18.38	23.18	37.53
4	30.00	400.00	85.31	63.38	106.28	53.39
5	150.00	400.00	8.23	4.99	9.62	58.77
6	270.00	400.00	44.87	33.06	55.73	53.62

OUTPUT: APPLIED AND ALLOWABLE LFR LOADS

SECT	TYPE	DIMENSIONS (IN)	MODE	LOAD (KIPS) MIN APPL		MAX APPL		ALLOW	% OVER
1	PIPE	3.500x 0.300	CMPR1	75.95	B	91.93	C	96.13	
2	PIPE	3.500x 0.300	CMPR1	72.67	B	96.09	C	96.13	
3	PIPE	3.500x 0.300	CMPR1	72.91	B	96.00	C	96.13	
4	PIPE	3.500x 0.300	CMPR1	74.27	B	91.40	C	96.13	
5	PIPE	3.500x 0.300	CMPR1	57.90	B	102.24	A	96.13	6.4
6	PIPE	3.500x 0.300	CMPR1	42.98	B	97.16	A	96.13	1.1
7	PIPE	3.500x 0.300	CMPR1	70.07	B	84.57	A	96.13	
8	PIPE	3.500x 0.300	CMPR1	69.79	B	84.74	C	96.13	
9	PIPE	3.500x 0.300	CMPR1	68.76	B	95.14	A	96.13	
10	PIPE	3.500x 0.300	CMPR1	44.75	B	109.97	A	96.13	13.4
11	PIPE	3.500x 0.300	CMPR1	53.52	B	98.92	A	96.13	2.9
12	PIPE	3.500x 0.300	CMPR1	64.58	B	84.50	A	96.13	
13	PIPE	3.500x 0.300	CMPR1	59.19	B	82.24	A	96.13	
14	PIPE	3.500x 0.300	CMPR1	43.95	B	93.61	A	96.13	
15	PIPE	3.500x 0.300	CMPR1	16.41	B	102.62	A	96.13	6.8
16	PIPE	3.500x 0.300	CMPR1	39.43	B	75.63	A	96.13	
17	PIPE	3.500x 0.300	CMPR1	36.35	A	77.75	A	96.13	
18	PIPE	3.500x 0.300	CMPR1	31.68	A	80.39	C	96.13	
19	PIPE	3.500x 0.300	CMPR1	32.97	A	78.69	C	96.13	
20	PIPE	3.500x 0.300	CMPR1	30.99	A	89.09	C	96.13	
21	PIPE	3.500x 0.300	CMPR1	32.62	A	78.01	C	96.13	
22	PIPE	3.500x 0.300	CMPR1	22.95	A	78.28	C	96.13	
23	PIPE	3.500x 0.300	CMPR1	32.84	A	72.12	C	96.13	
24	PIPE	3.500x 0.300	CMPR1	13.99	B	79.40	A	96.13	
25	PIPE	3.500x 0.300	CMPR1	20.06	B	75.14	A	96.13	
26	PIPE	3.500x 0.216	CMPR1	30.19	C	65.13	A	71.62	
27	PIPE	3.500x 0.216	CMPR1	27.48	C	71.55	A	71.62	
28	PIPE	3.500x 0.216	CMPR1	20.54	A	88.15	A	71.62	23.1
29	PIPE	3.500x 0.216	CMPR1	-13.89	B	105.98	A	71.62	48.0
30	PIPE	3.500x 0.216	CMPR1	-10.91	B	100.44	A	71.62	40.2
31	PIPE	3.500x 0.216	CMPR1	-15.87	B	95.44	A	71.62	33.3
32	PIPE	3.500x 0.216	CMPR1	-29.65	B	100.63	A	71.62	40.5
33	PIPE	3.500x 0.216	CMPR1	-34.87	B	120.11	A	71.62	67.7

OUTPUT: GUY TENSIONS AND SAFETY FACTORS

LVL	STRAND TYPE	DIAM (IN)	TOT WT (KIPS)	BREAK STR (KIPS)	MAX TENS (KIPS)		SA FA
1	EHS7	0.6250	0.68	42.40	11.60	B	3
2	EHS7	0.6250	0.80	42.40	13.42	B	3
3	EHS19	0.7500	1.36	58.30	20.30	B	2
4	EHS7	0.6250	1.37	42.40	16.69	B	2
5	EHS19	0.7500	2.18	58.30	22.93	B	2
6	EHS19	0.7500	2.45	58.30	26.99	B	2
7	EHS19	1.0000	4.89	104.50	48.15	C	2

TOTAL CABLE WT 13.73

OUTPUT: APPLIED AND ALLOWABLE DIAGONAL AND HORIZONTAL LOADS

DIAGONALS

SECT	TYPE	DIMENSIONS (IN)	MODE	LOAD (KIPS) MAX APPL		ALLOW	% OVER
1	ROD	0.625	TENSN	2.00	C	12.28	
2	ROD	0.625	TENSN	0.98	C	12.28	
3	ROD	0.625	TENSN	1.60	C	12.28	
4	ROD	0.625	TENSN	2.79	C	12.28	
5	ROD	0.625	TENSN	3.43	C	12.28	
6	ROD	0.625	TENSN	2.29	C	12.28	
7	ROD	0.625	TENSN	1.29	B	12.28	
8	ROD	0.625	TENSN	1.70	C	12.28	
9	ROD	0.625	TENSN	3.31	C	12.28	
10	ROD	0.625	TENSN	4.01	C	12.28	
11	ROD	0.625	TENSN	2.81	C	12.28	
12	ROD	0.625	TENSN	1.23	A	12.28	
13	ROD	0.625	TENSN	2.15	B	12.28	
14	ROD	0.625	TENSN	3.52	C	12.28	
15	ROD	0.625	TENSN	6.46	C	12.28	
16	ROD	0.625	TENSN	5.03	C	12.28	
17	ROD	0.625	TENSN	2.95	C	12.28	
18	ROD	0.625	TENSN	1.30	C	12.28	
19	ROD	0.625	TENSN	4.01	C	12.28	
20	ROD	0.625	TENSN	4.29	C	12.28	
21	ROD	0.625	TENSN	2.10	B	12.28	
22	ROD	0.625	TENSN	2.76	C	12.28	
23	ROD	0.625	TENSN	4.99	C	12.28	
24	ROD	0.625	TENSN	6.15	C	12.28	
25	ROD	0.625	TENSN	1.34	B	12.28	
26	ROD	0.625	TENSN	1.43	B	12.28	
27	ROD	0.625	TENSN	2.41	C	12.28	
28	ROD	0.625	TENSN	4.34	C	12.28	
29	ROD	0.625	TENSN	5.02	C	12.28	
30	ROD	0.625	TENSN	1.03	A	12.28	
31	ROD	0.625	TENSN	1.84	B	12.28	
32	ROD	0.625	TENSN	3.01	B	12.28	
33	ROD	0.625	TENSN	4.31	B	12.28	

HORIZONTALS

SECT	TYPE	DIMENSIONS (IN)	MODE	LOAD (KIPS) MAX APPL		ALLOW	% OVER
1	ROD	1.000	CMPR1	1.44	C	4.82	
2	ROD	1.000	CMPR1	0.61	C	4.82	
3	ROD	1.000	CMPR1	1.00	C	4.82	
4	ROD	1.000	CMPR1	1.74	C	4.82	
5	ROD	1.000	CMPR1	2.03	C	4.82	
6	ROD	1.000	CMPR1	1.74	C	4.82	
7	ROD	1.000	CMPR1	0.81	B	4.82	
8	ROD	1.000	CMPR1	1.07	C	4.82	
9	ROD	1.000	CMPR1	2.07	C	4.82	
10	ROD	1.000	CMPR1	2.31	C	4.82	
11	ROD	1.000	CMPR1	1.75	C	4.82	
12	ROD	1.000	CMPR1	0.77	A	4.82	
13	ROD	1.000	CMPR1	1.34	B	4.82	
14	ROD	1.000	CMPR1	2.20	C	4.82	
15	ROD	1.000	CMPR1	4.00	C	4.82	
16	ROD	1.000	CMPR1	3.14	C	4.82	
17	ROD	1.000	CMPR1	1.84	C	4.82	
18	ROD	1.000	CMPR1	0.81	C	4.82	
19	ROD	1.000	CMPR1	2.02	C	4.82	
20	ROD	1.000	CMPR1	2.76	C	4.82	
21	ROD	1.000	CMPR1	1.31	B	4.82	
22	ROD	1.000	CMPR1	1.72	C	4.82	
23	ROD	1.000	CMPR1	3.11	C	4.82	
24	ROD	1.000	CMPR1	3.71	C	4.82	
25	ROD	1.000	CMPR1	2.08	B	4.82	
26	ROD	1.000	CMPR1	0.89	B	4.82	
27	ROD	1.000	CMPR1	1.50	C	4.82	
28	ROD	1.000	CMPR1	2.71	C	4.82	
29	ROD	1.000	CMPR1	2.91	C	4.82	
30	ROD	1.000	CMPR1	0.64	A	4.82	
31	ROD	1.000	CMPR1	1.15	B	4.82	
32	ROD	1.000	CMPR1	1.88	B	4.82	
33	ROD	1.000	CMPR1	2.70	B	4.82	

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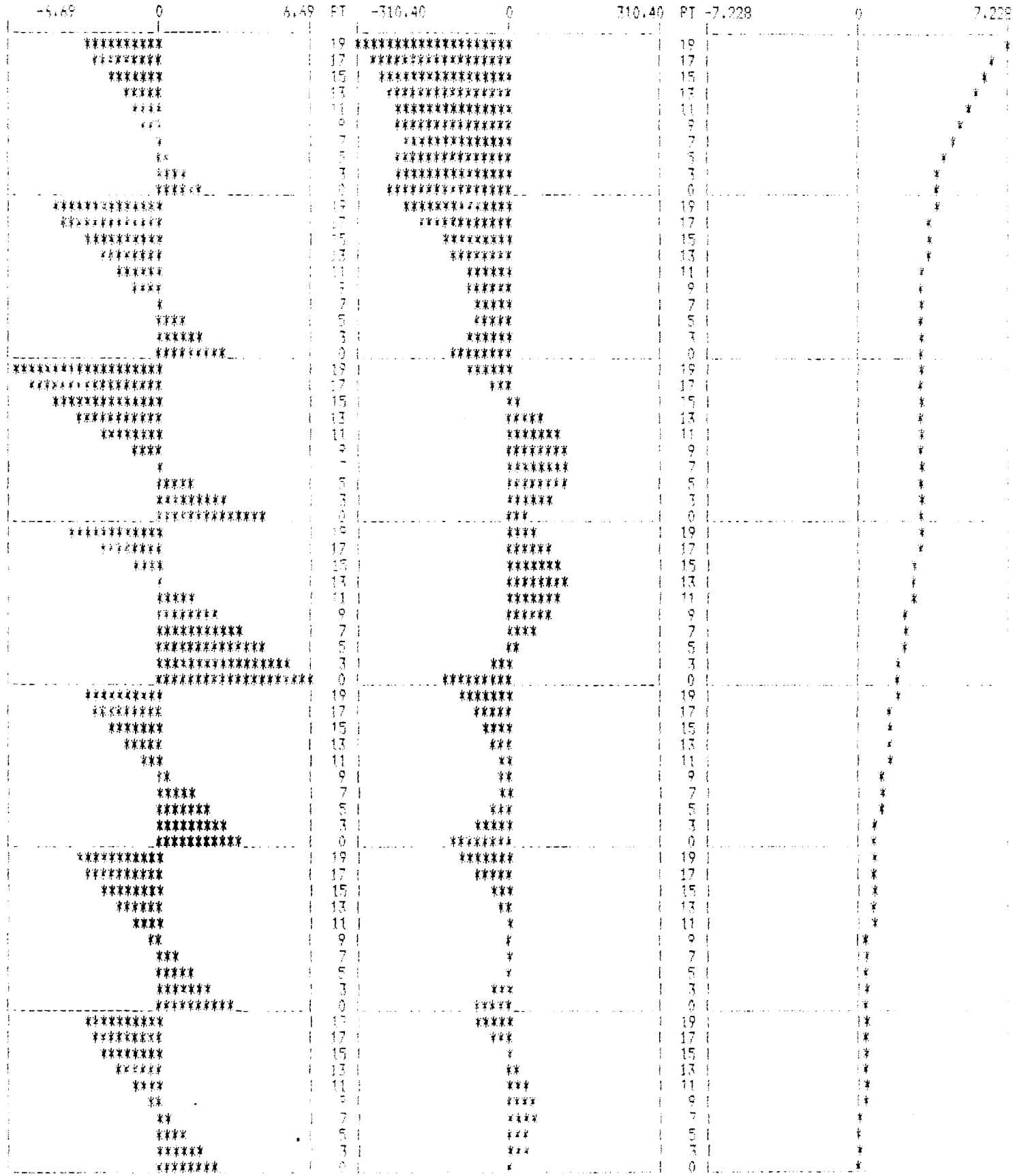
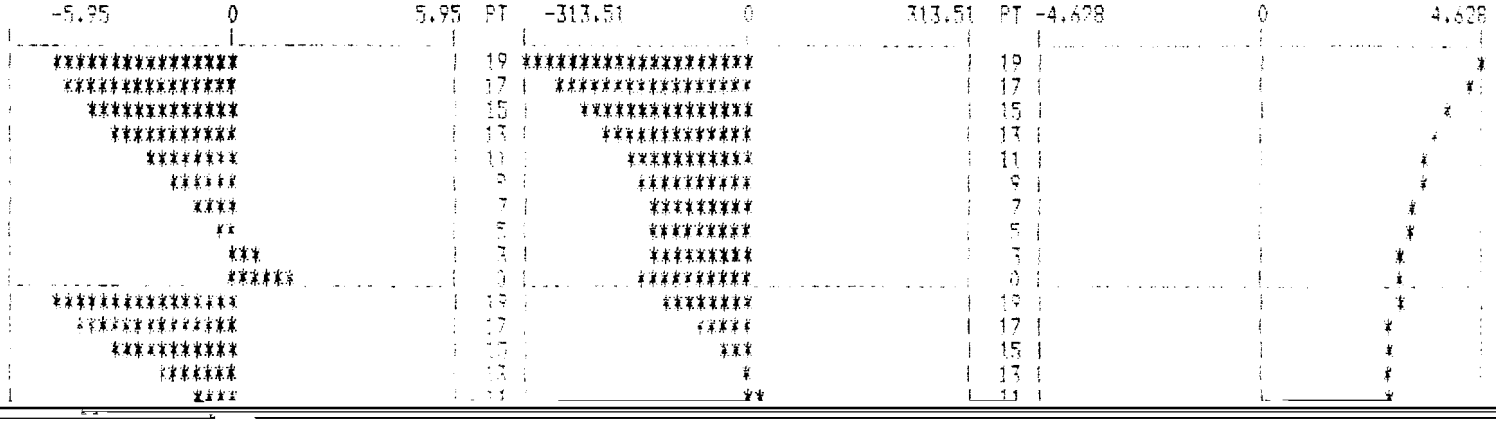
OUTPUT: DATA PLOTS



VLISSIDES 666' Guyed Tower REVISED ANALYSIS - 75 Mph Basic Vel., EIA E WIND R 2-20-92 BALTIMOR2.PLT

OUTPUT: DATA PLOTS