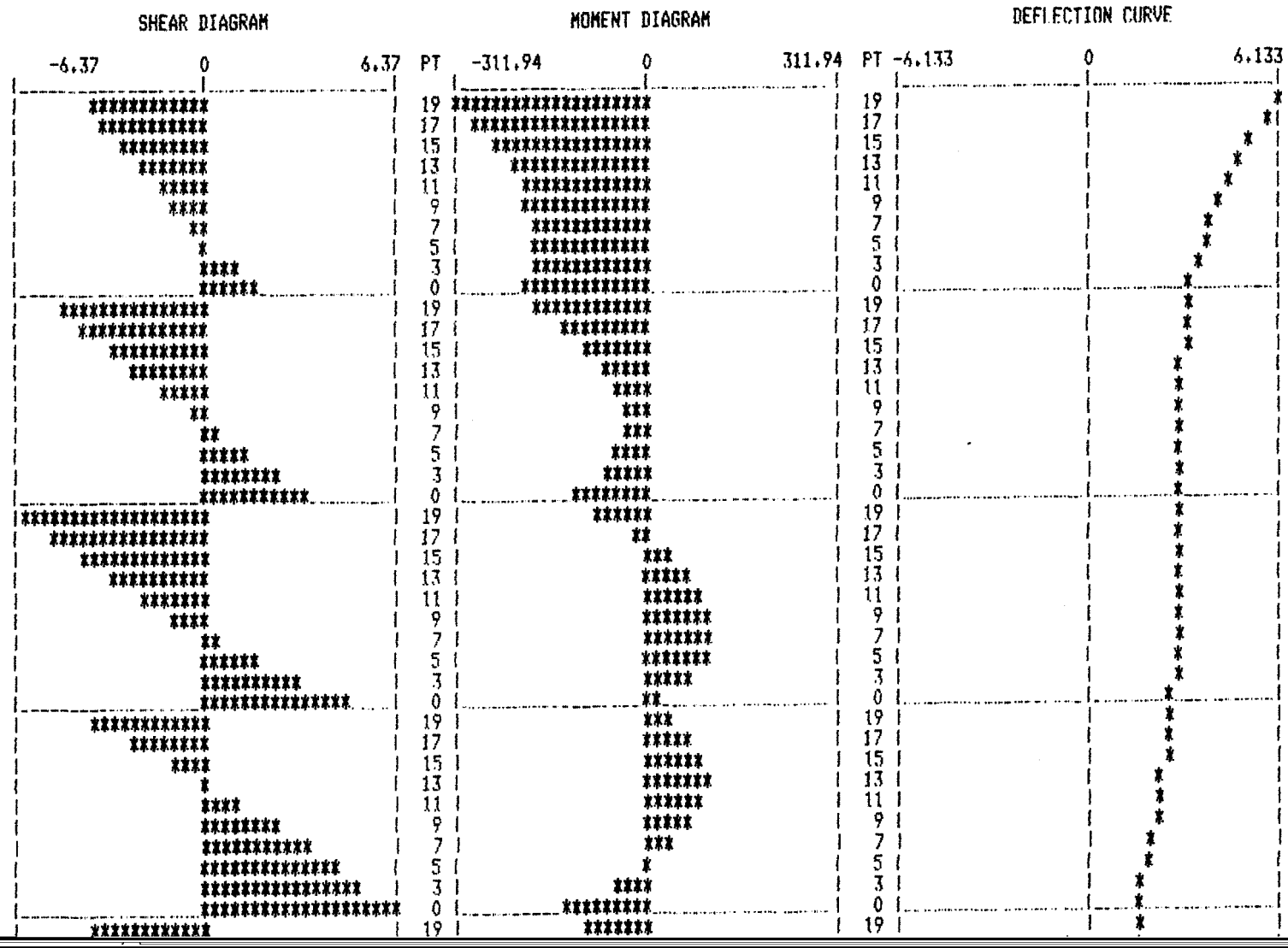
VLISSIDES 666' Guyed Tower - REVISED ANALYSIS - 75 Mph Basic Vel., EIA 222E WIND C 2-20-92 BALTIMOR2.PLT

OUTPUT: DATA PLOTS



CONTROL PARAMETERS

7 GUY LEVELS
NGED BASE
AD 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	87.90	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	99.20	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	8.90	0.00	393.60	0.00	0.00		

PUT 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	6	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	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	16	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	4.496
2	95.167	4.000	N	5.084	5.083	5.000	17	24.21	104.23	7.22	6.511
3	95.167	4.000	N	5.084	5.083	5.000	17	24.21	104.23	6.97	7.558
4	95.167	4.000	N	5.084	5.083	5.000	17	24.21	104.23	6.87	8.312
5	94.500	4.000	N	4.750	4.750	5.000	17	24.21	104.23	6.60	8.531
6	95.167	4.000	N	5.084	5.083	5.000	17	19.55	104.23	5.87	8.526
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

%	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 PIN HT ABV GND (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	

OUTPUT: WIND LOADS

SPAN	TOWER WIND LOAD (KIPS)	LEVEL	INSULATOR CLUSTERS WIND LOAD (KIPS)
1	4.50	1	0.00
2	6.51	2	0.00
3	7.56	3	0.00
4	8.31	4	0.00
5	8.53	5	0.00
6	8.53	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	8.43	3.85	6.77	3.23	3.04	7.97	0.06	-0.140

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	0.324	0.000	0.000	5.78	0.00	7.30	5.93	0.00	0.00	257.04	1.56060
2	0.712	0.000	0.000	7.11	0.00	12.48	14.20	0.00	0.00	242.35	1.54137
3	1.614	0.000	0.000	9.77	0.00	24.42	29.28	0.00	0.00	222.29	1.47761
4	2.738	0.000	0.000	7.93	0.00	18.01	21.34	0.00	0.00	190.76	1.38660
5	2.924	0.000	0.000	8.73	0.00	27.16	30.29	0.00	0.00	165.60	1.31530
6	3.628	0.000	0.000	6.98	0.00	30.31	30.98	0.00	0.00	131.80	1.31511
7	7.289	0.000	0.000	17.78	0.00	74.88	83.71	0.00	0.00	95.07	1.23008

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	0.88	0.00	260.61	7.289	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	-50.11	0.00	0.00	0.00	-2.96	2.23	0.00	0.00
2	-94.09	-56.04	0.00	0.00	-3.39	2.78	0.00	0.00
3	-95.54	-108.30	0.00	0.00	-3.09	3.34	0.00	0.00
4	49.08	-124.81	0.00	0.00	-3.53	6.29	0.00	0.00
5	-88.11	27.74	0.00	0.00	-5.96	4.22	0.00	0.00
6	-216.87	-118.40	0.00	0.00	-4.43	2.77	0.00	0.00
7	-309.89	-247.85	0.00	0.00	-3.03	1.65	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	60.00	260.00	20.66	26.66	33.73	37.77
2	180.00	260.00	1.01	2.31	2.52	23.62
3	300.00	260.00	20.66	26.66	33.73	37.77
4	60.00	400.00	69.91	51.88	87.06	53.42
5	180.00	400.00	4.25	1.87	4.64	66.25
6	300.00	400.00	69.91	51.87	87.05	53.43

CONTROL PARAMETERS

7 GUY LEVELS
NGED BASE
ND 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	87.90	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	99.20	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	8.90	0.00	393.60	0.00	0.00		

PUT 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	6	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	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	16	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	4.496
2	95.167	4.000	N	5.084	5.083	5.000	17	24.21	104.23	7.22	6.511
3	95.167	4.000	N	5.084	5.083	5.000	17	24.21	104.23	6.97	7.558
4	95.167	4.000	N	5.084	5.083	5.000	17	24.21	104.23	6.87	8.312
5	94.500	4.000	N	4.750	4.750	5.000	17	24.21	104.23	6.60	8.531
6	95.167	4.000	N	5.084	5.083	5.000	17	19.55	104.23	5.87	8.526
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

	GUY #	DISTANCE (FT) HORIZ	VERT	TENS (KIPS)	UNIT WT (LB/FT)	DIAM (IN)	AE (KIPS)	LEV ARM (FT)	WIND ANGLES (DEG) WIND TO GUY	WIND TO LEV ARM	INSULATORS ON GUY WEIGHT (LBS)	AREA (SQFT)	LENGTH (FT)	ANCHOR PIN HT ABV GND (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	
	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	400.00	678.00	12.00	2.0730	1.0000	11940.	2.500	0.00	0.00	0.00	0.00	0.000	
7	2	400.00	678.00	12.00	2.0730	1.0000	11940.	2.500	120.00	120.00	0.00	0.00	0.000	
7	3	400.00	678.00	12.00	2.0730	1.0000	11940.	2.500	240.00	240.00	0.00	0.00	0.000	

OUTPUT: WIND LOADS

SPAN	TOWER WIND LOAD (KIPS)	LEVEL	INSULATOR CLUSTERS WIND LOAD (KIPS)
1	4.50	1	0.00
2	6.51	2	0.00
3	7.56	3	0.00
4	8.31	4	0.00
5	8.53	5	0.00
6	8.53	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	11.11	10.29	0.00	4.19	4.00	10.30	0.00	0.000
1	2	0.6250	0.227	279.56	4.09	-1.98	3.21	1.59	1.40	3.75	0.11	-0.272
1	3	0.6250	0.227	279.56	4.09	-1.98	-3.21	1.59	1.40	3.75	-0.11	0.272
2	1	0.6250	0.266	326.78	12.83	10.16	0.00	7.84	7.69	10.25	0.00	0.000
2	2	0.6250	0.266	326.78	3.68	-1.58	2.42	2.27	2.09	2.82	0.16	-0.386
[illegible]	3	0.6250	0.266	326.78	3.68	-1.58	-2.42	2.27	2.09	2.82	-0.16	0.386
3	1	0.7500	0.453	392.15	19.54	12.85	0.00	14.72	14.51	13.12	0.00	0.000
3	2	0.7500	0.453	392.15	4.38	-1.65	2.36	3.30	3.00	2.70	0.26	-0.633
3	3	0.7500	0.453	392.15	4.38	-1.65	-2.35	3.30	3.00	2.70	-0.26	0.633
4	1	0.6250	0.456	560.75	16.20	11.47	0.00	11.44	11.28	11.75	0.00	0.000
4	2	0.6250	0.456	560.75	3.90	-1.65	2.22	2.75	2.48	2.56	0.34	-0.810
4	3	0.6250	0.456	560.75	3.90	-1.65	-2.22	2.75	2.48	2.56	-0.34	0.810
5	1	0.7500	0.728	630.54	22.55	14.12	0.00	17.58	17.30	14.67	0.00	0.000
5	2	0.7500	0.728	630.54	5.90	-2.26	2.98	4.56	4.11	3.38	0.49	-1.175
5	3	0.7500	0.728	630.54	5.90	-2.26	-2.98	4.56	4.11	3.38	-0.49	1.175
6	1	0.7500	0.816	706.52	20.91	11.55	0.00	17.42	17.15	12.34	0.00	0.000
6	2	0.7500	0.816	706.52	6.98	-2.47	3.15	5.71	5.21	3.51	0.58	-1.400
6	3	0.7500	0.816	706.52	6.98	-2.47	-3.15	5.71	5.21	3.51	-0.58	1.400
7	1	1.0000	1.630	786.50	47.71	23.76	0.00	41.38	40.56	25.15	0.00	0.000
7	2	1.0000	1.630	786.50	10.82	-3.49	4.33	9.28	8.11	4.72	0.91	-2.149
7	3	1.0000	1.630	786.50	10.81	-3.49	-4.32	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	0.339	0.000	0.000	6.34	0.00	7.36	6.50	0.00	0.00	235.96	1.49452
2	0.638	0.000	0.000	7.00	0.00	12.38	13.93	0.00	0.00	221.22	1.47433
3	1.165	0.000	0.000	9.55	0.00	21.33	28.56	0.00	0.00	201.26	1.41576
4	2.111	0.000	0.000	8.16	0.00	16.93	21.74	0.00	0.00	172.82	1.33927
5	2.513	-0.001	0.000	9.59	0.00	26.71	32.54	0.00	0.00	148.74	1.27531
6	2.827	-0.001	0.000	6.62	0.00	28.85	29.28	0.00	0.00	115.39	1.26655
7	4.636	0.001	0.000	16.78	0.00	59.93	80.24	0.00	0.00	80.12	1.18782

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	0.93	0.00	239.54	4.636	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	-49.08	0.00	-0.01	0.00	-2.94	2.19	0.00	0.00
2	-63.62	-55.59	-0.03	-0.01	-3.52	3.35	0.00	0.00
3	-112.45	-77.55	0.05	-0.03	-3.68	3.16	0.00	0.00
4	7.64	-141.01	0.05	0.05	-3.22	5.63	0.00	0.00
5	-54.38	-14.10	-0.08	0.05	-5.19	4.75	0.00	0.00
6	-112.98	-86.92	-0.09	-0.08	-4.77	4.34	0.00	0.00
7	-313.35	-142.26	0.01	-0.08	-4.85	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	260.00	26.20	33.67	42.66	37.89
2	120.00	260.00	6.49	9.27	11.32	35.00
3	240.00	260.00	6.49	9.27	11.32	35.00
4	0.00	400.00	86.29	63.91	107.38	53.47
5	120.00	400.00	19.91	14.17	24.44	54.56
6	240.00	400.00	19.91	14.17	24.44	54.56

CONTROL PARAMETERS

7 GUY LEVELS
NGED BASE
ND 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 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 NORMAL	MOMENTS 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	87.90	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	99.20	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	8.90	0.00	393.60	0.00	0.00		

PUT ECHO: SPAN LOADS CONCENTRATED AT PANEL POINTS

SPAN	POINT	VERTICAL (KIPS)	HORIZONTAL (KIPS) WINDWARD	HORIZONTAL NORMAL	MOMENTS (KIP-FT) WINDWARD	MOMENTS NORMAL	MOMENTS TWIST
1	6	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	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	16	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	BOTTOM	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	4.496
2	95.167	4.000	N	5.084	5.083	5.000	17	24.21	104.23	7.22	6.511
3	95.167	4.000	N	5.084	5.083	5.000	17	24.21	104.23	6.97	7.558
4	95.167	4.000	N	5.084	5.083	5.000	17	24.21	104.23	6.87	8.312
5	94.500	4.000	N	4.750	4.750	5.000	17	24.21	104.23	6.60	8.531
6	95.167	4.000	N	5.084	5.083	5.000	17	19.55	104.23	5.87	8.526
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

#	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 PIN HT ABV GND (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	
	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	2.0730	1.0000	11940.	2.500	30.00	30.00	0.00	0.00	0.000	
7	2	400.00	678.00	12.00	2.0730	1.0000	11940.	2.500	150.00	150.00	0.00	0.00	0.000	
7	3	400.00	678.00	12.00	2.0730	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	4.50	1	0.00
2	6.51	2	0.00
3	7.56	3	0.00
4	8.31	4	0.00
5	8.53	5	0.00
6	8.53	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	10.29	8.26	4.75	3.89	3.72	9.62	-0.01	-0.141
1	2	0.6250	0.227	279.56	2.65	-2.13	1.18	1.05	0.88	2.41	0.04	-0.153
1	3	0.6250	0.227	279.56	6.08	-0.14	-5.61	2.35	2.12	5.61	-0.15	0.242
2	1	0.6250	0.266	326.78	12.08	8.27	4.77	7.41	7.26	9.72	0.00	-0.175
2	2	0.6250	0.266	326.78	1.43	-1.00	0.50	0.89	0.75	1.02	0.07	-0.203
[illegible]	3	0.6250	0.266	326.78	6.81	-0.19	-5.35	4.21	3.95	5.35	-0.20	0.359
3	1	0.7500	0.453	392.15	19.18	10.90	6.29	14.48	14.25	12.94	0.04	-0.283
3	2	0.7500	0.453	392.15	1.56	-0.97	0.41	1.15	0.93	0.78	0.13	-0.350
3	3	0.7500	0.453	392.15	10.48	-0.28	-6.83	7.94	7.49	6.83	-0.32	0.560
4	1	0.6250	0.456	560.75	15.51	9.47	5.47	11.00	10.82	11.36	0.04	-0.275
4	2	0.6250	0.456	560.75	1.55	-1.05	0.42	1.05	0.88	0.84	0.16	-0.431
4	3	0.6250	0.456	560.75	8.16	-0.38	-5.70	5.83	5.38	5.70	-0.42	0.802
5	1	0.7500	0.728	630.54	21.10	11.36	6.61	16.51	16.20	13.83	0.10	-0.471
5	2	0.7500	0.728	630.54	2.73	-1.68	0.69	2.04	1.73	1.28	0.25	-0.660
5	3	0.7500	0.728	630.54	11.17	-0.55	-6.90	8.77	8.04	6.90	-0.60	1.185
6	1	0.7500	0.816	706.52	20.16	9.55	5.63	16.85	16.52	11.97	0.16	-0.550
6	2	0.7500	0.816	706.52	3.62	-2.05	0.84	2.86	2.54	1.48	0.31	-0.809
6	3	0.7500	0.816	706.52	12.37	-0.65	-6.81	10.31	9.50	6.81	-0.70	1.432
7	1	1.0000	1.630	786.50	48.34	20.79	12.05	41.94	41.05	25.51	0.29	-0.694
7	2	1.0000	1.630	786.50	4.90	-2.60	0.95	4.05	3.16	1.47	0.49	-1.263
7	3	1.0000	1.630	786.50	26.83	-0.88	-13.30	23.28	21.65	13.32	-1.09	1.876

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	0.316	0.027	-0.443	5.99	0.32	7.29	6.15	-0.32	-0.05	250.33	1.53899
2	0.677	-0.027	-0.472	7.08	-0.09	12.51	14.11	0.16	-0.02	235.66	1.51954
3	1.439	-0.234	-0.510	9.65	-0.13	23.57	28.86	0.32	-0.07	215.57	1.45731
4	2.483	-0.323	-0.589	8.05	0.18	17.88	21.53	-0.49	0.10	184.88	1.37076
5	2.755	-0.218	-0.615	9.13	0.40	27.32	31.32	-1.25	0.05	159.85	1.30140
6	3.299	-0.428	-0.611	6.85	-0.34	30.02	30.28	1.15	0.07	125.89	1.29724
7	6.176	-1.347	-0.566	17.32	-0.30	69.27	82.03	0.73	-0.08	89.45	1.21389

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	0.91	-0.04	253.90	6.176	-1.347	-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	-51.84	0.00	2.80	0.00	-2.95	2.18	-0.01	0.05
2	-82.12	-57.99	16.15	2.48	-3.41	3.00	-0.10	0.31
3	-100.10	-96.23	-10.31	16.31	-3.32	3.31	-0.27	-0.15
4	31.27	-128.96	-20.93	-9.99	-3.44	5.99	0.15	-0.34
5	-75.20	9.74	18.19	-21.42	-5.64	4.43	0.37	0.32
6	-172.44	-106.52	51.58	16.94	-4.58	3.47	-0.14	0.74
7	-311.57	-202.72	-0.73	52.73	-3.81	1.56	-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) M	TOTAL FORCES (KIPS) RESULT	ELEV ANGLE (DEG)
1	30.00	260.00	25.23	32.28	40.97	38.01
2	150.00	260.00	2.56	4.21	4.93	31.30
3	270.00	260.00	13.56	17.79	22.37	37.32
4	30.00	400.00	84.59	62.67	105.28	53.47
5	150.00	400.00	8.31	5.07	9.73	58.61
6	270.00	400.00	44.57	32.73	55.30	53.71

OUTPUT: APPLIED AND ALLOWABLE LEG LOADS

SECT	TYPE	DIMENSIONS (IN)	MODE	LOAD (KIPS) MIN APPL		MAX APPL		ALLOW	% OVER
1	PIPE	3.500x 0.300	CMPR1	75.91	B	90.57	C	96.13	
2	PIPE	3.500x 0.300	CMPR1	72.86	B	94.40	C	96.13	
3	PIPE	3.500x 0.300	CMPR1	72.71	B	94.32	C	96.13	
4	PIPE	3.500x 0.300	CMPR1	74.29	B	90.10	C	96.13	
5	PIPE	3.500x 0.300	CMPR1	58.97	B	98.97	A	96.13	3.0
6	PIPE	3.500x 0.300	CMPR1	63.57	B	94.23	A	96.13	
7	PIPE	3.500x 0.300	CMPR1	70.46	B	83.12	A	96.13	
8	PIPE	3.500x 0.300	CMPR1	70.02	B	83.22	C	96.13	
9	PIPE	3.500x 0.300	CMPR1	67.90	B	93.81	A	96.13	
10	PIPE	3.500x 0.300	CMPR1	45.90	B	106.65	A	96.13	10.9
11	PIPE	3.500x 0.300	CMPR1	53.97	B	97.31	A	96.13	1.2
12	PIPE	3.500x 0.300	CMPR1	64.08	B	84.00	A	96.13	
13	PIPE	3.500x 0.300	CMPR1	58.66	B	82.00	A	96.13	
14	PIPE	3.500x 0.300	CMPR1	43.64	B	92.52	A	96.13	
15	PIPE	3.500x 0.300	CMPR1	18.08	B	100.80	A	96.13	4.9
16	PIPE	3.500x 0.300	CMPR1	39.84	B	75.45	A	96.13	

OUTPUT: GUY TENSIONS AND SAFETY FACTORS

LVL	STRAND TYPE	DIAM (IN)	TOT WT (KIPS)	BREAK STR (KIPS)	MAX TENS (KIPS)		SAFETY FACTOR
1	EHS7	0.6250	0.68	42.40	11.11	B	3.82
2	EHS7	0.6250	0.80	42.40	12.83	B	3.30
3	EHS19	0.7500	1.36	58.30	19.54	B	2.98
4	EHS7	0.6250	1.37	42.40	16.20	B	2.62
5	EHS19	0.7500	2.18	58.30	22.55	B	2.59
6	EHS19	0.7500	2.45	58.30	20.91	B	2.79
7	EHS19	1.0000	4.89	104.50	48.34	C	2.16

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	1.86	C	12.28	
2	ROD	0.625	TENSN	0.93	C	12.28	
3	ROD	0.625	TENSN	1.45	C	12.28	
4	ROD	0.625	TENSN	2.55	C	12.28	
5	ROD	0.625	TENSN	3.14	C	12.28	
6	ROD	0.625	TENSN	2.50	C	12.28	
7	ROD	0.625	TENSN	1.16	B	12.28	
8	ROD	0.625	TENSN	1.60	C	12.28	
9	ROD	0.625	TENSN	3.06	C	12.28	
10	ROD	0.625	TENSN	3.70	C	12.28	
11	ROD	0.625	TENSN	2.57	C	12.28	
12	ROD	0.625	TENSN	1.13	A	12.28	
13	ROD	0.625	TENSN	2.03	B	12.28	
14	ROD	0.625	TENSN	3.29	C	12.28	
15	ROD	0.625	TENSN	6.08	C	12.28	
16	ROD	0.625	TENSN	4.72	C	12.28	
17	ROD	0.625	TENSN	2.77	C	12.28	
18	ROD	0.625	TENSN	1.21	C	12.28	
19	ROD	0.625	TENSN	3.78	C	12.28	
20	ROD	0.625	TENSN	4.09	C	12.28	
21	ROD	0.625	TENSN	2.01	B	12.28	
22	ROD	0.625	TENSN	2.63	C	12.28	
23	ROD	0.625	TENSN	4.74	C	12.28	
24	ROD	0.625	TENSN	5.86	C	12.28	
25	ROD	0.625	TENSN	3.29	B	12.28	
26	ROD	0.625	TENSN	1.41	B	12.28	
27	ROD	0.625	TENSN	2.36	C	12.28	
28	ROD	0.625	TENSN	4.27	C	12.28	
29	ROD	0.625	TENSN	4.94	C	12.28	
30	ROD	0.625	TENSN	1.01	A	12.28	
31	ROD	0.625	TENSN	1.86	B	12.28	
32	ROD	0.625	TENSN	3.03	B	12.28	
33	ROD	0.625	TENSN	4.34	B	12.28	

HORIZONTALS

SECT	TYPE	DIMENSIONS (IN)	MODE	LOAD (KIPS) MAX APPL		ALLOW	% OVER
1	ROD	1.000	CMPR1	1.33	C	4.82	
2	ROD	1.000	CMPR1	0.58	C	4.82	
3	ROD	1.000	CMPR1	0.91	C	4.82	
4	ROD	1.000	CMPR1	1.59	C	4.82	
5	ROD	1.000	CMPR1	1.86	C	4.82	
6	ROD	1.000	CMPR1	1.56	C	4.82	
7	ROD	1.000	CMPR1	0.72	B	4.82	
8	ROD	1.000	CMPR1	1.00	C	4.82	
9	ROD	1.000	CMPR1	1.91	C	4.82	
10	ROD	1.000	CMPR1	2.14	C	4.82	
11	ROD	1.000	CMPR1	1.61	C	4.82	
12	ROD	1.000	CMPR1	0.71	A	4.82	
13	ROD	1.000	CMPR1	1.27	B	4.82	
14	ROD	1.000	CMPR1	2.06	C	4.82	
15	ROD	1.000	CMPR1	3.76	C	4.82	
16	ROD	1.000	CMPR1	2.95	C	4.82	
17	ROD	1.000	CMPR1	1.73	C	4.82	
18	ROD	1.000	CMPR1	0.76	C	4.82	
19	ROD	1.000	CMPR1	1.90	C	4.82	
20	ROD	1.000	CMPR1	2.63	C	4.82	
21	ROD	1.000	CMPR1	1.25	B	4.82	
22	ROD	1.000	CMPR1	1.65	C	4.82	
23	ROD	1.000	CMPR1	2.96	C	4.82	
24	ROD	1.000	CMPR1	3.53	C	4.82	
25	ROD	1.000	CMPR1	2.06	B	4.82	
26	ROD	1.000	CMPR1	0.88	B	4.82	
27	ROD	1.000	CMPR1	1.48	C	4.82	
28	ROD	1.000	CMPR1	2.67	C	4.82	
29	ROD	1.000	CMPR1	2.86	C	4.82	
30	ROD	1.000	CMPR1	0.63	A	4.82	
31	ROD	1.000	CMPR1	1.16	B	4.82	
32	ROD	1.000	CMPR1	1.89	B	4.82	
33	ROD	1.000	CMPR1	2.71	B	4.82	

VLISSIDES 666' Guyed Tower - ONE BUNDLE XMSN LINE - 75 Mph Basic Vel., EIA 222E WIND B 2-23-92 BALTIMOR3.PLT

OUTPUT: DATA PLOTS

```
          SHEAR DIAGRAM                          MOMENT DIAGRAM                          DEFLECTION CURVE
   -5.63          0          5.63  PT  -313.35          0          313.35  PT -4.636          0          4.636
|-----------------|-----------------|   |-----------------|-----------------|   |-----------------|-----------------|
|*****************                  |  19 ********************             |  19 |                 |                 *
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VLISSIDES 666' Guyed Tower - ONE BUNDLE XMSN LINE - 75 Mph Basic Vel., EIA 222E WIND C 2-23-92 BALTIMOR3.PLT

OUTPUT: DATA PLOTS

```
          SHEAR DIAGRAM                          MOMENT DIAGRAM                          DEFLECTION CURVE

   -5.99          0            5.99  PT  -311.57          0            311.57  PT -6.176          0            6.176
|-------------|-------------------|    |-------------|-------------|    |-------------|-------------|
|   **************                |  19 ********************        |  19 |           |           *
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Exhibit D

Four Tracks
Owns Tower

U.S. Department of Transportation
Federal Aviation Administration

SYSTEM MANAGEMENT BRANCH, AEA-530
AIR TRAFFIC DIVISION/EASTERN REGION
FEDERAL AVIATION ADMINISTRATION
FITZGERALD FEDERAL BUILDING
JFK INTERNATIONAL AIRPORT

IN REPLY REFER TO
AERONAUTICAL STUDY
NO. 92-AEA-0200-OE

Exhibit E

Baltimore County Government
Department of Permits and Licenses

111 West Chesapeake Avenue
Towson, MD 21204

887-3610

February 20, 1992

Four Jacks Broadcasting, Inc.
c/o Mr. Martin R. Leader, Esq.
1255 23rd Street, N.W.
Washington, D.C. 20037

Exhibit F

Sports, Page 21

MAGAZINE

Pittsburgh
Post-Gazette

Thursday
January 30, 1992
Page 15

WPTT WPGH under scrutin by FC(

By Barbara Vancheri
Post-Gazette Staff Writer

The enforcement arm FCC will be taking a c look at the operations WPGH-TV and WPTT since both were sold last year

A group of 10 current and f employees from both stations sent a letter to the Federal Co munications Commission and dozen politicians asking them amine whether overlapping, il interests exist between the tw tions.

They level the serious alleg that Pittsburgh's two indepen stations are, in effect, often ac as one. If true, that would be a lation of FCC rules, which pro any company from having an i est in more than one TV statio the same market.

The issues stem from the fa that the owners of WPGH fina the purchase of WPTT, and be cause WPGH is buying nine ho of air time daily on WPTT in a brokering arrangement.

At the very least, the unsign letter suggests that some Char 50 employees feel overworked, derpaid and wary of the station new owner, Sinclair Broadcast Group. Some of the conditions cite — pay cuts, higher health- costs, extra work, increased us free-lancers — may not fall un the province of the FCC.

But other charges have the p tential to warrant close scrutin from the FCC. The letter raise questions but provides no docu mentation about WPGH paying utility bills of WPTT and WPGH employees handling payrolls, bi and invoices at WPTT.

Richard Smith, chief of the FCC's field operations bureau r received a copy of the letter, sa last week. "We will start looking it fairly soon. It's impossible to p dict what might come of it. . . .

"In general, the main issue o time-brokerage has to do with th element of transfer or control o the station."

FCC will examine relationship between WPGH and WPTT

STATIONS FROM PAGE 15 financing personnel and program-