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DISHFORCE 1.2 (USA)-Dish Antenna loads (c)1997,2004 Guymast Inc.

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[DEMOU] - Antenna forces example - October 2004

MICROWAVE ANTENNAS
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Table with 7 columns: TYPE, ELEV, ANTENNA (AZIMUTH, SIZE), POSITION (RADIUS, AZIMUTH), SHIELDING PERMITTED. Rows include std+r, hp, and std antenna types with their respective elevation, azimuth, size, radius, and shielding values.

WIND LOADING
=====

Table with 13 columns: WIND SPEED, WIND LOADING, WIND AZIMUTHS (START, STOP, INT.), TYPE OF EXPOSURE, ICE RADIUS, TOWER HEIGHT, LOAD FACTORS (WIND BARE, WIND ICED, DEAD LOAD, ICE LOAD). Row shows 100.00 mph wind speed and various exposure and load parameters.

- * Type of Exposure : 1 - Wind profile (Kz) based on EIA 222 F (June 1996)
2 - Wind profile Kz = 1 ; Gh = 1
3 - Wind profile (Kz) based on EIA 222 C (Mar.1976)
4 - Wind factors supplied by user (Gh=1,step function)
5 - Wind profile UBC (May.1988) Exposure C
6 - Wind profile UBC (May.1988) Exposure B
7 - Wind factors supplied by user (formula)

Type of Report : B-Bare only; I-Iced only; A - All-bare and iced

EXPOSURE FACTORS, Kz x Gh (exposure type = 4)
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Table with 4 columns: ELEVATION OF BOTTOM, ELEVATION OF TOP, WIND FACTORS @ BOTTOM, WIND FACTORS @ TOP. Rows show wind factors for elevations from 0.00 to 250.00 ft.

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LOADING CONDITION A =====
100.0 mph wind @ azimuth 0.0 deg with no ice#####

MICROWAVE ANTENNA FORCES
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....ANTENNA GEOMETRY....				FORCES wrt ANTENNA.			..FORCES wrt WIND..			DOWN
ELEV	AZI	SIZE	TYPE	FRONT	SIDE	TORSN	ALONG	ACROSS	TORSN	kip
ft	deg	ft		kip	kip	ft-kip	kip	kip	ft-kip	
287.0	296.0	10.0	STD+R	1.52	1.96	0.8	2.43	-0.51	-0.4	0.44
272.0	105.0	10.0	HP	-1.76	-2.26	-4.5	2.64	-1.12	-8.7	0.54
272.0	296.0	8.0	HP	2.14	1.05	0.1	1.88	-1.46	-3.5	0.45
TOTAL							4.52	-2.57	-12.2	0.99
236.0	105.0	10.0	HP	-1.69	-2.17	-4.3	2.54	-1.07	-8.4	0.54
151.0	241.0	10.0	STD	-1.54	1.53	4.8	2.09	0.61	8.5	0.34

=====
LOADING CONDITION B =====
100.0 mph wind @ azimuth 90.0 deg with no ice#####

MICROWAVE ANTENNA FORCES
=====

....ANTENNA GEOMETRY....				FORCES wrt ANTENNA.			..FORCES wrt WIND..			DOWN
ELEV	AZI	SIZE	TYPE	FRONT	SIDE	TORSN	ALONG	ACROSS	TORSN	kip
ft	deg	ft		kip	kip	ft-kip	kip	kip	ft-kip	
287.0	296.0	10.0	STD+R	-2.24	1.03	1.7	2.47	0.05	7.7	0.44
272.0	105.0	10.0	HP	5.01	-0.55	1.5	4.98	0.77	-3.0	0.54
272.0	296.0	8.0	HP	-1.23	0.21	0.6	1.20	0.35	3.5	0.45
TOTAL							6.18	1.12	0.5	0.99
236.0	105.0	10.0	HP	4.81	-0.52	1.4	4.79	0.74	-2.9	0.54
151.0	241.0	10.0	STD	-2.64	-1.29	-3.6	2.94	-0.16	-6.8	0.34

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LOADING CONDITION C =====
100.0 mph wind @ azimuth 180.0 deg with no ice#####

MICROWAVE ANTENNA FORCES
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....ANTENNA GEOMETRY....				FORCES wrt ANTENNA.			..FORCES wrt WIND..			DOWN
ELEV	AZI	SIZE	TYPE	FRONT	SIDE	TORSN	ALONG	ACROSS	TORSN	kip
ft	deg	ft		kip	kip	ft-kip	kip	kip	ft-kip	
287.0	296.0	10.0	STD+R	-0.51	-1.45	-6.5	1.52	0.18	-7.0	0.44
272.0	105.0	10.0	HP	1.89	2.11	1.8	2.53	-1.28	5.6	0.54
272.0	296.0	8.0	HP	-1.64	-1.21	-2.2	1.81	-0.94	0.1	0.45
TOTAL							4.34	-2.22	5.7	0.99
236.0	105.0	10.0	HP	1.81	2.03	1.8	2.43	-1.23	5.4	0.54
151.0	241.0	10.0	STD	5.47	-0.89	2.7	3.43	4.35	0.7	0.34

=====
LOADING CONDITION D =====
100.0 mph wind @ azimuth 270.0 deg with no ice#####

MICROWAVE ANTENNA FORCES
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....ANTENNA GEOMETRY....				FORCES wrt ANTENNA.			..FORCES wrt WIND..			DOWN
ELEV	AZI	SIZE	TYPE	FRONT	SIDE	TORSN	ALONG	ACROSS	TORSN	kip
ft	deg	ft		kip	kip	ft-kip	kip	kip	ft-kip	
287.0	296.0	10.0	STD+R	3.18	-1.48	4.4	3.51	0.07	-4.2	0.44
272.0	105.0	10.0	HP	-2.74	0.34	0.9	2.73	0.38	3.5	0.54
272.0	296.0	8.0	HP	3.13	-0.54	1.0	3.05	0.89	-6.5	0.45
TOTAL							5.79	1.27	-3.0	0.99
236.0	105.0	10.0	HP	-3.77	0.47	1.3	3.77	0.52	4.8	0.54
151.0	241.0	10.0	STD	5.25	-0.11	-1.2	4.54	-2.64	-1.2	0.34

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LOADING CONDITION E =====
86.6 mph wind @ azimuth 0.0 deg with 1.00 inches ice#####

MICROWAVE ANTENNA FORCES
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....ANTENNA GEOMETRY.... FORCES wrt ANTENNA. ..FORCES wrt WIND.. DOWN

ELEV ft	AZI deg	SIZE ft	TYPE	FRONT kip	SIDE kip	TORSN ft-kip	ALONG kip	ACROSS kip	TORSN ft-kip	kip
287.0	296.0	10.0	STD+R	1.18	1.52	0.6	1.89	-0.39	-0.3	1.47
272.0	105.0	10.0	HP	-1.36	-1.75	-3.5	2.04	-0.86	-6.8	1.93
272.0	296.0	8.0	HP	1.67	0.82	0.1	1.47	-1.14	-2.7	1.45
TOTAL							3.51	-2.01	-9.5	3.38
236.0	105.0	10.0	HP	-1.31	-1.68	-3.4	1.97	-0.83	-6.5	1.93
151.0	241.0	10.0	STD	-1.20	1.19	3.7	1.62	0.47	6.6	1.28

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LOADING CONDITION F =====
86.6 mph wind @ azimuth 90.0 deg with 1.00 inches ice#####

MICROWAVE ANTENNA FORCES
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....ANTENNA GEOMETRY....				FORCES wrt ANTENNA.			..FORCES wrt WIND..			DOWN
ELEV ft	AZI deg	SIZE ft	TYPE	FRONT kip	SIDE kip	TORSN ft-kip	ALONG kip	ACROSS kip	TORSN ft-kip	kip
287.0	296.0	10.0	STD+R	-1.74	0.80	1.3	1.91	0.04	6.0	1.47
272.0	105.0	10.0	HP	3.89	-0.42	1.1	3.86	0.60	-2.3	1.93
272.0	296.0	8.0	HP	-0.96	0.16	0.4	0.94	0.27	2.7	1.45
TOTAL							4.80	0.87	0.4	3.38
236.0	105.0	10.0	HP	3.73	-0.41	1.1	3.71	0.57	-2.2	1.93
151.0	241.0	10.0	STD	-2.05	-1.00	-2.8	2.28	-0.12	-5.3	1.28

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LOADING CONDITION G =====
86.6 mph wind @ azimuth 180.0 deg with 1.00 inches ice#####

MICROWAVE ANTENNA FORCES
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....ANTENNA GEOMETRY....				FORCES wrt ANTENNA.			..FORCES wrt WIND..			DOWN
ELEV ft	AZI deg	SIZE ft	TYPE	FRONT kip	SIDE kip	TORSN ft-kip	ALONG kip	ACROSS kip	TORSN ft-kip	kip
287.0	296.0	10.0	STD+R	-0.39	-1.12	-5.0	1.18	0.14	-5.4	1.47

272.0	105.0	10.0	HP	1.46	1.64	1.4	1.96	-0.99	4.4	1.93
272.0	296.0	8.0	HP	-1.28	-0.95	-1.7	1.41	-0.74	0.1	1.45
TOTAL							3.37	-1.72	4.5	3.38
236.0	105.0	10.0	HP	1.40	1.57	1.4	1.88	-0.95	4.2	1.93
151.0	241.0	10.0	STD	4.24	-0.69	2.1	2.66	3.38	0.6	1.28

LOADING CONDITION H

86.6 mph wind @ azimuth 270.0 deg with 1.00 inches ice#####

MICROWAVE ANTENNA FORCES

....ANTENNA GEOMETRY....				FORCES wrt ANTENNA.			..FORCES wrt WIND..			DOWN
ELEV	AZI	SIZE	TYPE	FRONT	SIDE	TORSN	ALONG	ACROSS	TORSN	
ft	deg	ft		kip	kip	ft-kip	kip	kip	ft-kip	kip
287.0	296.0	10.0	STD+R	2.47	-1.15	3.4	2.72	0.05	-3.2	1.47
272.0	105.0	10.0	HP	-2.12	0.27	0.7	2.12	0.29	2.7	1.93
272.0	296.0	8.0	HP	2.45	-0.42	0.8	2.39	0.70	-5.1	1.45
TOTAL							4.51	0.99	-2.4	3.38
236.0	105.0	10.0	HP	-2.93	0.37	1.0	2.92	0.40	3.7	1.93
151.0	241.0	10.0	STD	4.07	-0.09	-0.9	3.52	-2.05	-0.9	1.28

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MAXIMUM FORCES AT ANTENNA ELEVATIONS

ELEVHORIZONTAL TOWER FORCES wrt WIND.....			TORSN	WIND	DOWN
	ALONG	WIND	ACROSS	WIND	TOTAL	WIND
	kip	AZI	kip	AZI	kip	AZI
287.0	3.51	270.0	-0.51	0.0	3.51	270.0
272.0	6.18	90.0	-2.57	0.0	6.28	90.0
236.0	4.79	90.0	-1.23	180.0	4.84	90.0

151.0 4.54 270.0 4.35 180.0 5.54 180.0 8.48 0.0 1.28i

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ORIGINAL DATA FILE :

c:\Documents and Settings\sean\My Documents\Projects\Website\samples\working\de

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line contents
no

1 [DEMOU] - Antenna forces example - October 2004
2 microwave antennas
3 std,151,241,10,2.45,240,50
4 hp,236,105,,,120
5 ,272,296,8,,0
6 ,,105,10,,120
7 std+r,287,296,,,0
8 wind loading
9 100,0,0,360,90,4,A,1.,300,1,.75,1.,1
10 exposure factors
11 0,33,1.088,1.088
12 33, 100, 1.088, 1.493
13 100, 150, 1.493, 1.677
14 150, 200, 1.677, 1.821
15 200, 250, 1.821, 1.940
16 250, 300, 1.940, 2.044

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END OF FILE

ELAPSED CPU TIME 0.20 SECONDS.

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