

WBN2Public Resource

From: Milano, Patrick
Sent: Wednesday, July 20, 2011 11:20 AM
To: Brown, Leta
Cc: WBN2HearingFile Resource
Subject: FW: JFD for NRC
Attachments: WBN_JFD_1991-2010[for NRC].pdf

Here is the joint frequency distribution data.

From: Bryan, Robert H Jr [\[mailto:rhbryan@tva.gov\]](mailto:rhbryan@tva.gov)
Sent: Wednesday, July 20, 2011 11:18 AM
To: Milano, Patrick
Cc: Crouch, William D
Subject: FW: JFD for NRC

From: Wastrack, Kenneth G
Sent: Wednesday, July 20, 2011 10:41 AM
To: Bryan, Robert H Jr
Subject: JFD for NRC

Bob,

As was discussed in the conference call this morning, here is the JFD that was used for the X/Q calculations.

Thank you,

Kenneth G. (Ken) Wastrack

Meteorologist

(kqwastrack@tva.gov)

CTR 1P-M

256-386-3835

Hearing Identifier: Watts_Bar_2_Operating_LA_Public
Email Number: 458

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Subject: FW: JFD for NRC
Sent Date: 7/20/2011 11:20:24 AM
Received Date: 7/20/2011 11:20:26 AM
From: Milano, Patrick

Created By: Patrick.Milano@nrc.gov

Recipients:

"WBN2HearingFile Resource" <WBN2HearingFile.Resource@nrc.gov>

Tracking Status: None

"Brown, Leta" <Leta.Brown@nrc.gov>

Tracking Status: None

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JOINT PERCENTAGE FREQUENCIES OF WIND SPEED BY WIND DIRECTION FOR

STABILITY CLASS A (DELTA T<=-1.9 C/100 M)

WATTS BAR NUCLEAR PLANT

JAN 1, 1991 - DEC 31, 2010

WIND DIRECTION	WIND SPEED (MPH)										TOTAL
	CALM	0.6-1.4	1.5-3.4	3.5-5.4	5.5-7.4	7.5-12.4	12.5-18.4	18.5-24.4	>=24.5		
N	0.000	0.001	0.014	0.065	0.118	0.136	0.006	0.000	0.000	0.340	
NNE	0.000	0.000	0.016	0.097	0.152	0.219	0.007	0.000	0.000	0.490	
NE	0.000	0.000	0.026	0.084	0.077	0.072	0.000	0.000	0.000	0.258	
ENE	0.000	0.000	0.026	0.059	0.042	0.016	0.000	0.000	0.000	0.144	
E	0.000	0.000	0.025	0.033	0.008	0.004	0.000	0.000	0.000	0.069	
ESE	0.000	0.000	0.008	0.021	0.002	0.001	0.000	0.000	0.000	0.032	
SE	0.000	0.001	0.016	0.016	0.006	0.004	0.000	0.000	0.000	0.042	
SSE	0.000	0.000	0.029	0.041	0.012	0.010	0.001	0.000	0.000	0.093	
S	0.000	0.001	0.041	0.117	0.129	0.099	0.015	0.000	0.000	0.402	
SSW	0.000	0.001	0.037	0.300	0.537	0.562	0.022	0.000	0.000	1.459	
SW	0.000	0.001	0.024	0.126	0.145	0.055	0.001	0.000	0.000	0.351	
WSW	0.000	0.000	0.006	0.020	0.019	0.039	0.007	0.000	0.000	0.092	
W	0.000	0.000	0.006	0.006	0.029	0.070	0.006	0.000	0.000	0.117	
WNW	0.000	0.000	0.006	0.009	0.024	0.095	0.005	0.000	0.000	0.139	
NW	0.000	0.000	0.004	0.009	0.028	0.087	0.011	0.000	0.000	0.138	
NNW	0.000	0.000	0.009	0.027	0.059	0.124	0.011	0.000	0.000	0.230	
SUBTOTAL	0.000	0.004	0.293	1.030	1.386	1.592	0.091	0.000	0.000	4.398	

TOTAL HOURS OF VALID STABILITY OBSERVATIONS

TOTAL HOURS OF STABILITY CLASS A

TOTAL HOURS OF VALID WIND DIRECTION-WIND SPEED-STABILITY CLASS A

TOTAL HOURS OF VALID WIND DIRECTION-WIND SPEED-STABILITY OBSERVATIONS

TOTAL HOURS CALM

171942
7524
7473
169934
0

METEOROLOGICAL FACILITY: WATTS BAR NUCLEAR PLANT
STABILITY BASED ON DELTA-T BETWEEN 9.51 AND 45.63 METERS
WIND SPEED AND DIRECTION MEASURED AT 9.72 METER LEVEL

MEAN WIND SPEED = 6.89

NOTE: TOTALS AND SUBTOTALS ARE OBTAINED FROM UNROUNDED NUMBERS

DATE PRINTED: 2011/04/21

JOINT PERCENTAGE FREQUENCIES OF WIND SPEED BY WIND DIRECTION FOR

STABILITY CLASS B (-1.9 < DELTA T <= -1.7 C / 100 M)

WATTS BAR NUCLEAR PLANT

JAN 1, 1991 - DEC 31, 2010

WIND DIRECTION	WIND SPEED (MPH)										TOTAL
	CALM	0.6-1.4	1.5-3.4	3.5-5.4	5.5-7.4	7.5-12.4	12.5-18.4	18.5-24.4	>=24.5		
N	0.000	0.000	0.023	0.105	0.098	0.108	0.003	0.000	0.000	0.337	
NNE	0.000	0.000	0.030	0.172	0.172	0.219	0.006	0.000	0.000	0.600	
NE	0.000	0.000	0.058	0.139	0.078	0.059	0.000	0.000	0.000	0.334	
ENE	0.000	0.000	0.041	0.083	0.035	0.008	0.000	0.000	0.000	0.167	
E	0.000	0.001	0.026	0.048	0.005	0.001	0.000	0.000	0.000	0.081	
ESE	0.000	0.001	0.019	0.026	0.001	0.000	0.000	0.000	0.000	0.047	
SE	0.000	0.000	0.026	0.028	0.004	0.002	0.000	0.000	0.000	0.061	
SSE	0.000	0.000	0.038	0.038	0.009	0.004	0.000	0.000	0.000	0.089	
S	0.000	0.000	0.055	0.142	0.081	0.045	0.010	0.001	0.000	0.334	
SSW	0.000	0.001	0.058	0.342	0.270	0.198	0.014	0.000	0.000	0.883	
SW	0.000	0.000	0.026	0.179	0.069	0.019	0.000	0.000	0.000	0.294	
WSW	0.000	0.000	0.008	0.040	0.015	0.019	0.001	0.000	0.000	0.084	
W	0.000	0.000	0.005	0.015	0.031	0.047	0.009	0.000	0.000	0.107	
WNW	0.000	0.001	0.004	0.013	0.037	0.082	0.006	0.000	0.000	0.143	
NW	0.000	0.000	0.005	0.021	0.034	0.078	0.009	0.000	0.000	0.147	
NNW	0.000	0.000	0.008	0.041	0.055	0.080	0.004	0.000	0.000	0.188	
SUBTOTAL	0.000	0.004	0.430	1.432	0.996	0.970	0.063	0.001	0.000	3.895	

TOTAL HOURS OF VALID STABILITY OBSERVATIONS

TOTAL HOURS OF STABILITY CLASS B

TOTAL HOURS OF VALID WIND DIRECTION-WIND SPEED-STABILITY CLASS B

TOTAL HOURS OF VALID WIND DIRECTION-WIND SPEED-STABILITY OBSERVATIONS

TOTAL HOURS CALM

171942
6670
6619
169934
0

METEOROLOGICAL FACILITY: WATTS BAR NUCLEAR PLANT
STABILITY BASED ON DELTA-T BETWEEN 9.51 AND 45.63 METERS
WIND SPEED AND DIRECTION MEASURED AT 9.72 METER LEVEL

MEAN WIND SPEED = 6.08

NOTE: TOTALS AND SUBTOTALS ARE OBTAINED FROM UNROUNDED NUMBERS

DATE PRINTED: 2011/04/21

JOINT PERCENTAGE FREQUENCIES OF WIND SPEED BY WIND DIRECTION FOR

STABILITY CLASS C (-1.7 < DELTA T <= -1.5 C/100 M)

WATTS BAR NUCLEAR PLANT

JAN 1, 1991 - DEC 31, 2010

WIND DIRECTION	WIND SPEED (MPH)										TOTAL
	CALM	0.6-1.4	1.5-3.4	3.5-5.4	5.5-7.4	7.5-12.4	12.5-18.4	18.5-24.4	>=24.5		
N	0.000	0.000	0.058	0.163	0.134	0.149	0.004	0.000	0.000	0.508	
NNE	0.000	0.001	0.108	0.255	0.214	0.233	0.013	0.000	0.000	0.824	
NE	0.000	0.002	0.117	0.206	0.089	0.052	0.001	0.000	0.000	0.467	
ENE	0.000	0.001	0.097	0.118	0.023	0.005	0.001	0.000	0.000	0.245	
E	0.000	0.002	0.069	0.055	0.005	0.001	0.000	0.000	0.000	0.132	
ESE	0.000	0.001	0.049	0.036	0.003	0.001	0.000	0.000	0.000	0.091	
SE	0.000	0.002	0.062	0.045	0.004	0.001	0.000	0.000	0.000	0.114	
SSE	0.000	0.002	0.074	0.071	0.009	0.003	0.001	0.000	0.000	0.159	
S	0.000	0.001	0.116	0.252	0.085	0.047	0.006	0.001	0.000	0.508	
SSW	0.000	0.001	0.152	0.464	0.255	0.171	0.012	0.000	0.000	1.056	
SW	0.000	0.002	0.083	0.269	0.076	0.009	0.001	0.000	0.000	0.440	
WSW	0.000	0.001	0.024	0.058	0.027	0.021	0.002	0.000	0.000	0.132	
W	0.000	0.001	0.016	0.034	0.039	0.046	0.004	0.000	0.000	0.139	
WNW	0.000	0.000	0.016	0.038	0.058	0.105	0.006	0.000	0.000	0.224	
NW	0.000	0.000	0.021	0.042	0.052	0.095	0.009	0.000	0.000	0.219	
NNW	0.000	0.000	0.034	0.070	0.072	0.101	0.006	0.000	0.000	0.282	
SUBTOTAL	0.000	0.016	1.097	2.176	1.143	1.041	0.066	0.001	0.000	5.541	

TOTAL HOURS OF VALID STABILITY OBSERVATIONS

TOTAL HOURS OF STABILITY CLASS C

TOTAL HOURS OF VALID WIND DIRECTION-WIND SPEED-STABILITY CLASS C

TOTAL HOURS OF VALID WIND DIRECTION-WIND SPEED-STABILITY OBSERVATIONS

TOTAL HOURS CALM

171942
9494
9416
169934
0

METEOROLOGICAL FACILITY: WATTS BAR NUCLEAR PLANT
STABILITY BASED ON DELTA-T BETWEEN 9.51 AND 45.63 METERS
WIND SPEED AND DIRECTION MEASURED AT 9.72 METER LEVEL

MEAN WIND SPEED = 5.49

NOTE: TOTALS AND SUBTOTALS ARE OBTAINED FROM UNROUNDED NUMBERS

DATE PRINTED: 2011/04/21

JOINT PERCENTAGE FREQUENCIES OF WIND SPEED BY WIND DIRECTION FOR

STABILITY CLASS D (-1.5 < DELTA T <= -0.5 C/100 M)

WATTS BAR NUCLEAR PLANT

JAN 1, 1991 - DEC 31, 2010

WIND DIRECTION	WIND SPEED (MPH)										TOTAL
	CALM	0.6-1.4	1.5-3.4	3.5-5.4	5.5-7.4	7.5-12.4	12.5-18.4	18.5-24.4	>=24.5		
N	0.004	0.048	0.664	0.970	1.049	1.087	0.024	0.000	0.000	0.000	3.847
NNE	0.004	0.047	0.702	1.162	1.020	0.979	0.057	0.002	0.000	0.000	3.973
NE	0.005	0.050	0.798	0.976	0.415	0.170	0.004	0.000	0.000	0.000	2.418
ENE	0.005	0.089	0.834	0.447	0.101	0.036	0.002	0.000	0.000	0.000	1.515
E	0.003	0.102	0.517	0.144	0.023	0.005	0.000	0.000	0.000	0.000	0.794
ESE	0.002	0.081	0.317	0.062	0.008	0.004	0.000	0.000	0.000	0.000	0.474
SE	0.003	0.087	0.392	0.082	0.024	0.013	0.000	0.001	0.000	0.000	0.602
SSE	0.004	0.120	0.620	0.178	0.039	0.032	0.009	0.000	0.000	0.000	1.003
S	0.008	0.159	1.179	0.760	0.288	0.280	0.083	0.004	0.000	0.000	2.762
SSW	0.011	0.136	1.736	1.934	0.922	0.770	0.059	0.001	0.000	0.000	5.567
SW	0.007	0.163	1.138	0.853	0.204	0.094	0.004	0.000	0.000	0.000	2.462
WSW	0.004	0.114	0.593	0.310	0.124	0.099	0.001	0.000	0.000	0.000	1.244
W	0.003	0.119	0.421	0.313	0.231	0.252	0.008	0.000	0.000	0.000	1.347
WNW	0.003	0.084	0.373	0.438	0.521	0.478	0.018	0.000	0.000	0.000	1.915
NW	0.002	0.059	0.372	0.427	0.567	0.598	0.040	0.001	0.000	0.000	2.067
NNW	0.003	0.035	0.481	0.558	0.655	0.839	0.035	0.000	0.000	0.000	2.607
SUBTOTAL	0.071	1.495	11.138	9.614	6.191	5.735	0.345	0.008	0.000	0.000	34.598

TOTAL HOURS OF VALID STABILITY OBSERVATIONS

TOTAL HOURS OF STABILITY CLASS D

TOTAL HOURS OF VALID WIND DIRECTION-WIND SPEED-STABILITY CLASS D

TOTAL HOURS OF VALID WIND DIRECTION-WIND SPEED-STABILITY OBSERVATIONS

TOTAL HOURS CALM

171942

59374

58793

169934

121

METEOROLOGICAL FACILITY: WATTS BAR NUCLEAR PLANT

STABILITY BASED ON DELTA-T BETWEEN 9.51 AND 45.63 METERS

WIND SPEED AND DIRECTION MEASURED AT 9.72 METER LEVEL

MEAN WIND SPEED = 4.86

NOTE: TOTALS AND SUBTOTALS ARE OBTAINED FROM UNROUNDED NUMBERS

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JOINT PERCENTAGE FREQUENCIES OF WIND SPEED BY WIND DIRECTION FOR

STABILITY CLASS E (-0.5 < DELTA T <= 1.5 C/100 M)

WATTS BAR NUCLEAR PLANT

JAN 1, 1991 - DEC 31, 2010

WIND DIRECTION	WIND SPEED (MPH)										TOTAL
	CALM	0.6-1.4	1.5-3.4	3.5-5.4	5.5-7.4	7.5-12.4	12.5-18.4	18.5-24.4	>=24.5		
N	0.020	0.131	0.474	0.609	0.324	0.058	0.002	0.000	0.000	0.000	1.618
NNE	0.018	0.122	0.423	0.304	0.161	0.047	0.003	0.000	0.000	0.000	1.078
NE	0.025	0.149	0.598	0.350	0.061	0.011	0.004	0.000	0.000	0.000	1.197
ENE	0.033	0.208	0.790	0.188	0.012	0.002	0.001	0.000	0.000	0.000	1.235
E	0.018	0.237	0.322	0.043	0.012	0.002	0.000	0.000	0.000	0.000	0.636
ESE	0.009	0.157	0.130	0.022	0.007	0.004	0.000	0.000	0.000	0.000	0.330
SE	0.011	0.183	0.151	0.045	0.023	0.012	0.001	0.000	0.000	0.000	0.425
SSE	0.020	0.300	0.294	0.085	0.046	0.038	0.006	0.000	0.000	0.000	0.789
S	0.048	0.469	0.983	0.402	0.197	0.183	0.031	0.001	0.000	0.000	2.314
SSW	0.082	0.561	1.928	1.181	0.575	0.395	0.026	0.000	0.000	0.000	4.749
SW	0.068	0.701	1.348	0.308	0.109	0.052	0.002	0.000	0.000	0.000	2.588
WSW	0.050	0.713	0.800	0.141	0.077	0.031	0.000	0.000	0.000	0.000	1.810
W	0.046	0.703	0.687	0.201	0.078	0.029	0.000	0.000	0.000	0.000	1.745
WNW	0.040	0.617	0.600	0.295	0.100	0.041	0.001	0.000	0.000	0.000	1.693
NW	0.032	0.410	0.565	0.295	0.125	0.059	0.002	0.001	0.000	0.000	1.489
NNW	0.022	0.211	0.467	0.425	0.290	0.094	0.005	0.000	0.000	0.000	1.513
SUBTOTAL	0.543	5.873	10.559	4.895	2.197	1.057	0.084	0.002	0.000	0.000	25.209

TOTAL HOURS OF VALID STABILITY OBSERVATIONS

TOTAL HOURS OF STABILITY CLASS E

TOTAL HOURS OF VALID WIND DIRECTION-WIND SPEED-STABILITY CLASS E

TOTAL HOURS OF VALID WIND DIRECTION-WIND SPEED-STABILITY OBSERVATIONS

TOTAL HOURS CALM

171942
43451
42839
169934
923

METEOROLOGICAL FACILITY: WATTS BAR NUCLEAR PLANT
STABILITY BASED ON DELTA-T BETWEEN 9.51 AND 45.63 METERS
WIND SPEED AND DIRECTION MEASURED AT 9.72 METER LEVEL

MEAN WIND SPEED = 3.03

NOTE: TOTALS AND SUBTOTALS ARE OBTAINED FROM UNROUNDED NUMBERS

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JOINT PERCENTAGE FREQUENCIES OF WIND SPEED BY WIND DIRECTION FOR

STABILITY CLASS F (1.5 < DELTA T <= 4.0 C / 100 M)

WATTS BAR NUCLEAR PLANT

JAN 1, 1991 - DEC 31, 2010

WIND DIRECTION	WIND SPEED (MPH)										TOTAL
	CALM	0.6-1.4	1.5-3.4	3.5-5.4	5.5-7.4	7.5-12.4	12.5-18.4	18.5-24.4	>=24.5		
N	0.026	0.227	0.173	0.017	0.000	0.001	0.000	0.000	0.000	0.000	0.444
NNE	0.022	0.181	0.165	0.010	0.002	0.001	0.000	0.000	0.000	0.000	0.381
NE	0.027	0.176	0.237	0.028	0.002	0.001	0.000	0.000	0.000	0.000	0.470
ENE	0.034	0.220	0.304	0.022	0.000	0.001	0.000	0.000	0.000	0.000	0.580
E	0.019	0.167	0.125	0.004	0.000	0.000	0.000	0.000	0.000	0.000	0.315
ESE	0.009	0.115	0.028	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.152
SE	0.009	0.107	0.035	0.004	0.001	0.002	0.000	0.000	0.000	0.000	0.157
SSE	0.014	0.152	0.058	0.009	0.002	0.001	0.001	0.000	0.000	0.000	0.236
S	0.033	0.272	0.238	0.033	0.003	0.001	0.000	0.000	0.000	0.000	0.580
SSW	0.066	0.424	0.594	0.150	0.009	0.004	0.000	0.000	0.000	0.000	1.247
SW	0.088	0.687	0.677	0.029	0.005	0.000	0.000	0.000	0.000	0.000	1.486
WSW	0.113	1.020	0.728	0.019	0.002	0.002	0.000	0.000	0.000	0.000	1.884
W	0.132	1.389	0.659	0.022	0.004	0.000	0.000	0.000	0.000	0.000	2.207
WNW	0.129	1.411	0.577	0.028	0.002	0.001	0.000	0.000	0.000	0.000	2.148
NW	0.110	1.159	0.546	0.034	0.004	0.000	0.000	0.000	0.000	0.000	1.852
NNW	0.046	0.436	0.272	0.038	0.004	0.001	0.000	0.000	0.000	0.000	0.796
SUBTOTAL	0.876	8.143	5.415	0.447	0.037	0.014	0.001	0.000	0.000	0.000	14.933

TOTAL HOURS OF VALID STABILITY OBSERVATIONS

TOTAL HOURS OF STABILITY CLASS F

TOTAL HOURS OF VALID WIND DIRECTION-WIND SPEED-STABILITY CLASS F

TOTAL HOURS OF VALID WIND DIRECTION-WIND SPEED-STABILITY OBSERVATIONS

TOTAL HOURS CALM

171942

25798

25377

169934

1489

METEOROLOGICAL FACILITY: WATTS BAR NUCLEAR PLANT
 STABILITY BASED ON DELTA-T BETWEEN 9.51 AND 45.63 METERS
 WIND SPEED AND DIRECTION MEASURED AT 9.72 METER LEVEL

MEAN WIND SPEED = 1.47

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NOTE: TOTALS AND SUBTOTALS ARE OBTAINED FROM UNROUNDED NUMBERS

JOINT PERCENTAGE FREQUENCIES OF WIND SPEED BY WIND DIRECTION FOR

STABILITY CLASS G (DELTA T > 4.0 C/100 M)

WATTS BAR NUCLEAR PLANT

JAN 1, 1991 - DEC 31, 2010

WIND DIRECTION	WIND SPEED (MPH)										TOTAL
	CALM	0.6-1.4	1.5-3.4	3.5-5.4	5.5-7.4	7.5-12.4	12.5-18.4	18.5-24.4	>=24.5		
N	0.021	0.215	0.071	0.002	0.000	0.000	0.000	0.000	0.000	0.000	0.309
NNE	0.018	0.177	0.068	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.263
NE	0.024	0.231	0.099	0.002	0.000	0.000	0.000	0.000	0.000	0.000	0.357
ENE	0.028	0.235	0.151	0.001	0.001	0.000	0.000	0.000	0.000	0.000	0.415
E	0.017	0.172	0.057	0.001	0.000	0.000	0.000	0.000	0.000	0.000	0.246
ESE	0.010	0.117	0.022	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.148
SE	0.012	0.141	0.022	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.175
SSE	0.013	0.151	0.028	0.001	0.000	0.000	0.000	0.000	0.000	0.000	0.193
S	0.023	0.267	0.056	0.002	0.001	0.000	0.000	0.000	0.000	0.000	0.349
SSW	0.039	0.405	0.137	0.006	0.001	0.000	0.000	0.000	0.000	0.000	0.589
SW	0.069	0.664	0.282	0.003	0.000	0.000	0.000	0.000	0.000	0.000	1.018
WSW	0.118	1.112	0.525	0.005	0.000	0.000	0.000	0.000	0.000	0.000	1.760
W	0.134	1.359	0.489	0.002	0.000	0.000	0.000	0.000	0.000	0.000	1.984
WNW	0.108	1.123	0.364	0.005	0.000	0.000	0.000	0.000	0.000	0.000	1.600
NW	0.097	0.930	0.405	0.003	0.000	0.000	0.000	0.000	0.000	0.000	1.435
NNW	0.039	0.383	0.159	0.004	0.000	0.000	0.000	0.000	0.000	0.000	0.585
SUBTOTAL	0.769	7.682	2.936	0.038	0.002	0.000	0.000	0.000	0.000	0.000	11.426

TOTAL HOURS OF VALID STABILITY OBSERVATIONS

TOTAL HOURS OF STABILITY CLASS G

TOTAL HOURS OF VALID WIND DIRECTION-WIND SPEED-STABILITY CLASS G

TOTAL HOURS OF VALID WIND DIRECTION-WIND SPEED-STABILITY OBSERVATIONS

TOTAL HOURS CALM

171942

19631

19417

169934

1306

METEOROLOGICAL FACILITY: WATTS BAR NUCLEAR PLANT
 STABILITY BASED ON DELTA-T BETWEEN 9.51 AND 45.63 METERS
 WIND SPEED AND DIRECTION MEASURED AT 9.72 METER LEVEL

MEAN WIND SPEED = 1.20

NOTE: TOTALS AND SUBTOTALS ARE OBTAINED FROM UNROUNDED NUMBERS

DATE PRINTED: 2011/04/21

JOINT PERCENTAGE FREQUENCIES OF WIND SPEED
 BY WIND DIRECTION DISREGARDING STABILITY CLASS

WATTS BAR NUCLEAR PLANT

JAN 1, 1991 - DEC 31, 2010

WIND DIRECTION	CALM	WIND SPEED (MPH)										TOTAL
		0.6-1.4	1.5-3.4	3.5-5.4	5.5-7.4	7.5-12.4	12.5-18.4	18.5-24.4	>=24.5			
N	0.086	0.622	1.484	1.934	1.726	1.540	0.047	0.000	0.000	0.000	0.000	7.440
NNE	0.083	0.528	1.520	2.000	1.722	1.705	0.087	0.000	0.000	0.000	0.000	7.648
NE	0.104	0.608	1.938	1.790	0.723	0.365	0.009	0.000	0.000	0.000	0.000	5.537
ENE	0.122	0.747	2.248	0.923	0.215	0.069	0.004	0.000	0.000	0.000	0.000	4.328
E	0.074	0.679	1.146	0.325	0.053	0.013	0.000	0.000	0.000	0.000	0.000	2.290
ESE	0.043	0.469	0.582	0.169	0.022	0.009	0.000	0.000	0.000	0.000	0.000	1.293
SE	0.050	0.522	0.711	0.218	0.061	0.033	0.001	0.000	0.000	0.000	0.000	1.597
SSE	0.076	0.723	1.139	0.422	0.116	0.087	0.017	0.000	0.000	0.000	0.000	2.581
S	0.156	1.168	2.665	1.718	0.780	0.656	0.144	0.006	0.000	0.000	0.000	7.292
SSW	0.251	1.525	4.643	4.391	2.565	2.094	0.133	0.001	0.000	0.000	0.000	15.603
SW	0.236	2.210	3.573	1.785	0.607	0.227	0.008	0.000	0.000	0.000	0.000	8.645
WSW	0.229	2.951	2.678	0.592	0.261	0.211	0.011	0.000	0.000	0.000	0.000	6.933
W	0.237	3.556	2.273	0.595	0.412	0.444	0.027	0.000	0.000	0.000	0.000	7.543
WNW	0.210	3.227	1.938	0.829	0.743	0.807	0.039	0.000	0.000	0.000	0.000	7.795
NW	0.182	2.547	1.910	0.829	0.812	0.923	0.074	0.002	0.000	0.000	0.000	7.279
NNW	0.102	1.065	1.427	1.169	1.133	1.239	0.062	0.000	0.000	0.000	0.000	6.197
SUBTOTAL	2.242	23.148	31.873	19.689	11.951	10.422	0.664	0.011	0.000	0.000	0.000	100.000

TOTAL HOURS OF VALID WIND OBSERVATIONS
 TOTAL HOURS OF OBSERVATIONS
 RECOVERABILITY PERCENTAGE
 TOTAL HOURS CALM

171920
 175320
 98.1
 3854

METEOROLOGICAL FACILITY: WATTS BAR NUCLEAR PLANT
 WIND SPEED AND DIRECTION MEASURED AT 9.72 METER LEVEL

MEAN WIND SPEED = 3.65

NOTE: TOTALS AND SUBTOTALS ARE OBTAINED FROM UNROUNDED NUMBERS

DATE PRINTED: 2011/04/21

JOINT PERCENTAGE FREQUENCIES OF WIND SPEED BY STABILITY CLASS

WATTS BAR NUCLEAR PLANT

JAN 1, 1991 - DEC 31, 2010

WIND SPEED (MPH)	STABILITY CLASS						
	A	B	C	D	E	F	G
CALM	0.000	0.000	0.000	0.071	0.543	0.876	0.769
0.6- 1.4	0.004	0.004	0.016	1.495	5.873	8.143	7.682
1.5- 3.4	0.293	0.430	1.097	11.138	10.559	5.415	2.936
3.5- 5.4	1.030	1.432	2.176	9.614	4.895	0.447	0.038
5.5- 7.4	1.386	0.996	1.143	6.191	2.197	0.037	0.002
7.5-12.4	1.592	0.970	1.041	5.735	1.057	0.014	0.000
12.5-18.4	0.091	0.063	0.066	0.345	0.084	0.001	0.000
18.5-24.4	0.000	0.001	0.001	0.008	0.002	0.000	0.000
>=24.5	0.000	0.000	0.000	0.000	0.000	0.000	0.000
TOTAL	4.398	3.895	5.541	34.598	25.209	14.933	11.426

TOTAL HOURS OF VALID STABILITY OBSERVATIONS 171942
 TOTAL HOURS OF VALID WIND DIRECTION-WIND SPEED-STABILITY OBSERVATIONS169934
 TOTAL HOURS OF OBSERVATIONS 175320
 JOINT RECOVERABILITY PERCENTAGE 96.9

METEOROLOGICAL FACILITY: WATTS BAR NUCLEAR PLANT
 STABILITY BASED ON DELTA-T BETWEEN 9.51 AND 45.63 METERS
 WIND SPEED AND DIRECTION MEASURED AT 9.72 METER LEVEL

DATE PRINTED: 2011/04/21