

## **CELIA QUARTERLY METEOROLOGICAL REPORT FOR THE FIRST QUARTER OF 2013**

This report summarizes the meteorological data collection at Celia site for the period of January-March 2013. The data recovery for the period was very good with all parameters averaging greater than 99%. The joint frequency distributions showed some minor differences when compared to the previous 2-year period which can be attributed to normal year-to-year variations in climatic conditions. There continues to be more unstable hours than would normally be expected at the 60-10m level with "A" stability occurring more than 25% of the time. This is reflected in the delta temperature plot where the average value of the 60-10m delta temperature is lower than the average value from 97-10m, which would not normally be expected. The peak wind direction sector for the 3-month period was from the northwest at all 3-levels on the tower with secondary peaks from the north-northwest and the south-southeast.

**Occurrence of Stability Classes (DT60-10m) in Celia Meteorological Data**

<b>Stability Class</b>	<b>2011</b>	<b>2012</b>	<b>2013</b>	<b>2-Year Average Percent Occurrence (2011-2012)</b>
A	.05	25.09	25.36	12.59
B	1.43	5.98	6.56	3.71
C	5.99	6.90	8.47	6.45
D	45.67	17.50	22.38	31.56
E	26.63	17.26	15.73	21.94
F	14.24	12.71	10.94	13.47
G	5.99	14.55	10.56	10.28
Total Hours	8749	8781	2149	17530

**Occurrence of Stability Classes (DT97-10m) in Celia Meteorological Data**

<b>Stability Class</b>	<b>2011</b>	<b>2012</b>	<b>2013</b>	<b>2-Year Average Percent Occurrence (2011-2012)</b>
A	0.00	1.06	3.40	0.53
B	0.00	1.63	5.07	0.82
C	0.00	1.74	5.44	0.87
D	44.67	33.83	40.39	39.24
E	36.58	32.15	23.17	34.36
F	16.37	18.79	13.22	17.58
G	2.39	10.80	9.31	6.60
Total Hours	8749	8781	2149	17530

**Celia Meteorological Tower 1<sup>st</sup> Quarter 2013 Data Recovery (Percent)**

<b>Parameter</b>	<b>Percent Data Recovery</b>
Wind Speed 10m	99.5
Wind Speed 60m	99.5
Wind Speed 97m	99.5
Wind Direction 10m	99.5
Wind Direction 60m	99.5
Wind Direction 97m	99.5
Delta Temperature 60-10m	99.5
Delta Temperature 97-10m	99.5
Temperature 10m	99.5
Temperature 60m	99.5
Temperature 97m	99.5
Dew Point Temperature 10m	99.5
Dew Point Temperature 60m	99.5
Dew Point Temperature 97m	99.5
Precipitation	99.8
<u>Composite</u>	
10m Wind Speed and Direction, Delta Temperature 60-10m	99.5
60m Wind Speed and Direction, Delta Temperature 60-10m	99.5
97m Wind Speed and Direction, Delta Temperature 97-10m	99.5

# WIND ROSES FOR CELIA – 1<sup>ST</sup> QUARTER 2013

CELIA, IL Per Wind Rose (MKG) 10/18/13



CELIA, IL Per Wind Rose (MKG) 10/18/13



CELIA, IL Per Wind Rose (MKG) 10/18/13



