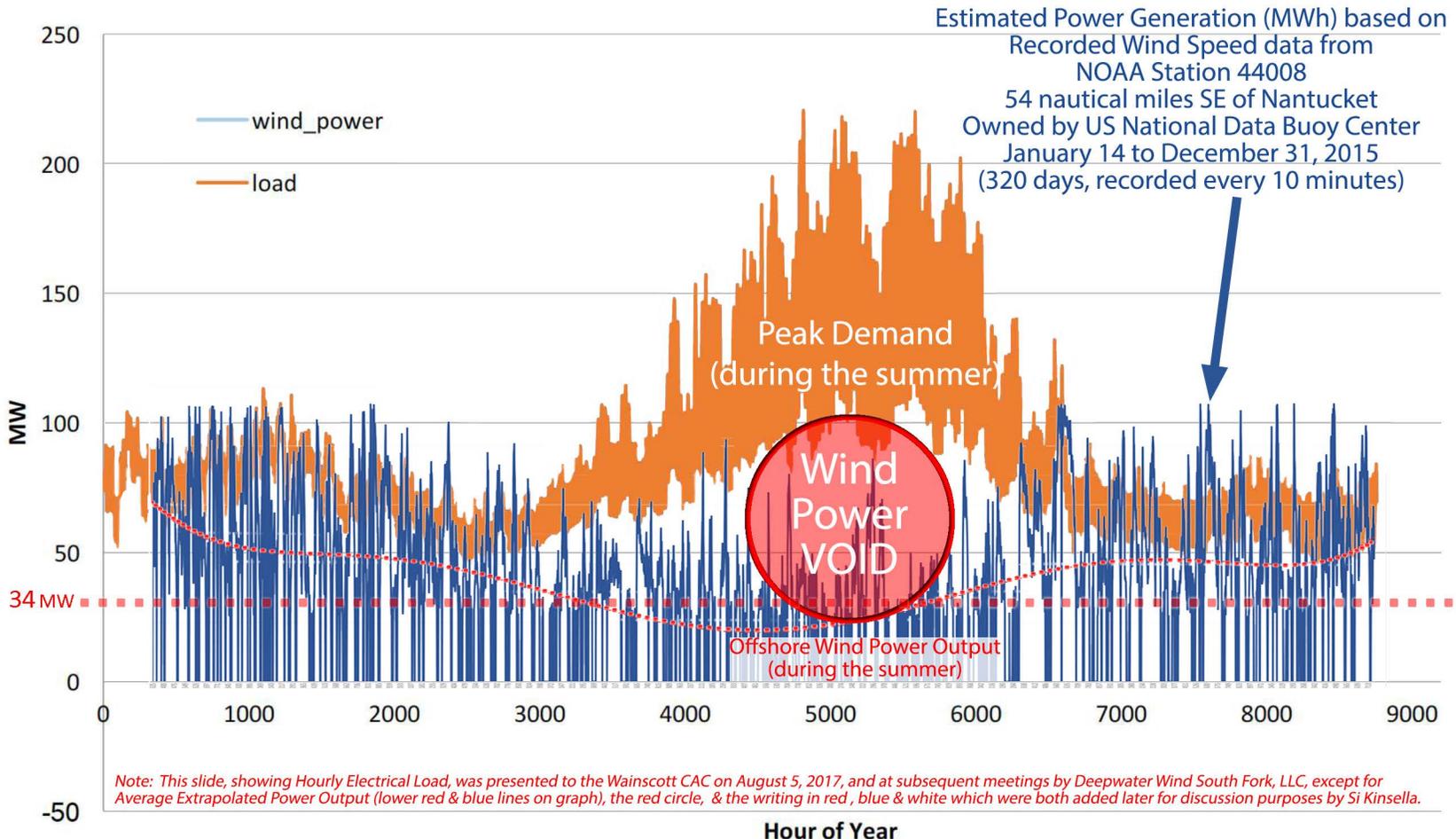


The Wind Farm will be a major source of local energy for the South Fork

SK - Exhibit 12 (page 1 of 38)

Hourly Electrical Load and 90 MW Wind Farm

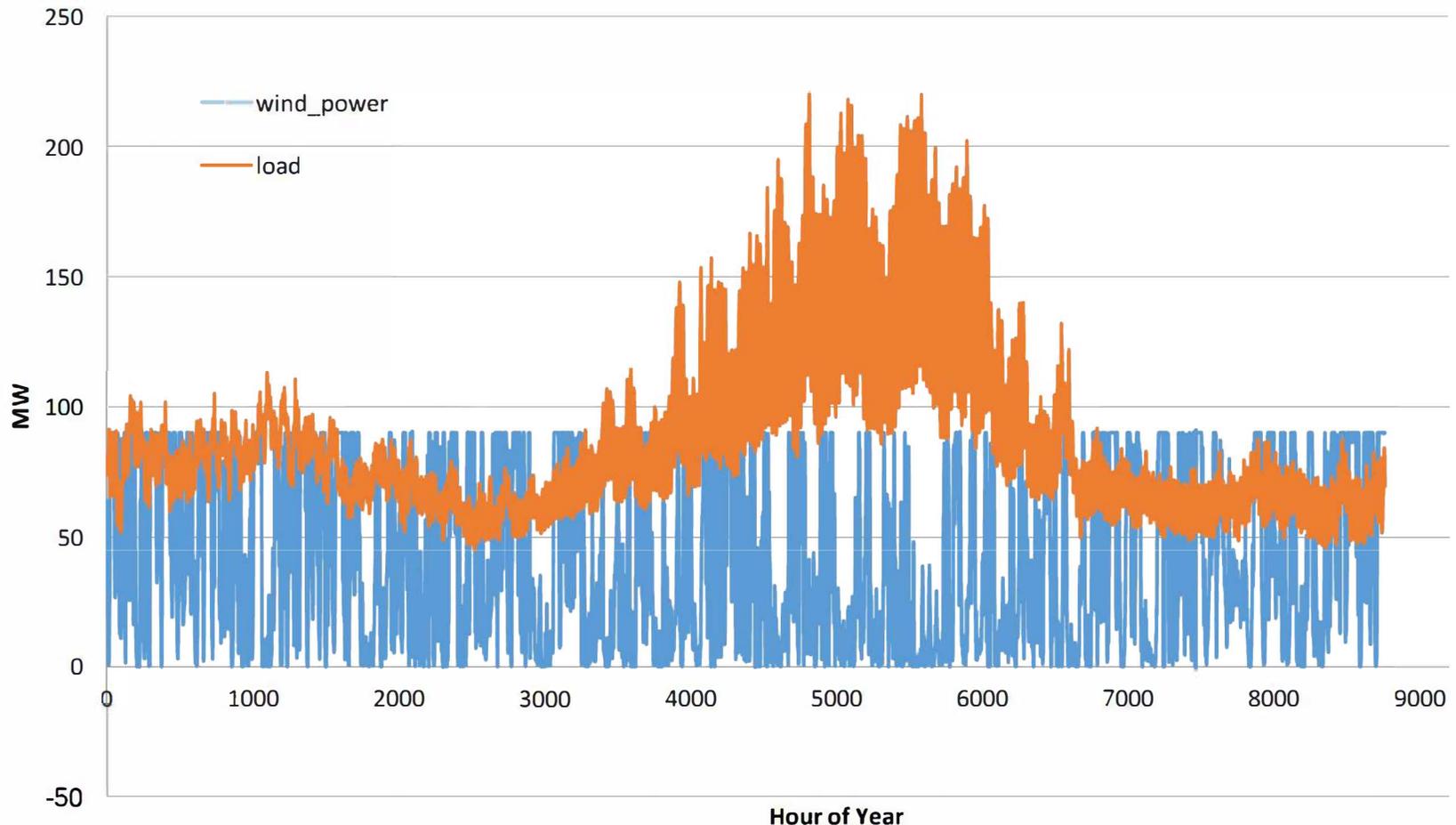




The Wind Farm will be a major source of local energy for the South Fork

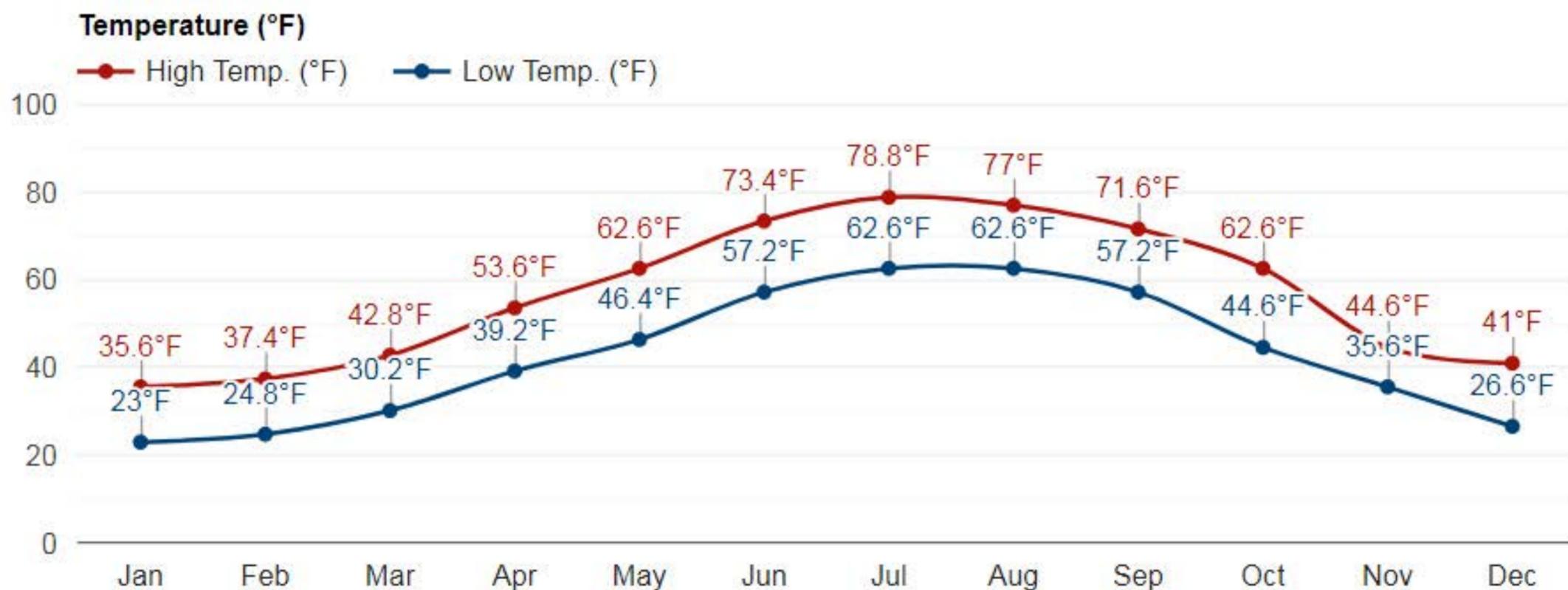
SK - Exhibit 12 (page 2 of 38)

Hourly Electrical Load and 90 MW Wind Farm



Source: Independent study by Dr. James Manwell of the University of Massachusetts conducted on behalf of Newsday

Average temperature East Hampton, NY



The average high temperature in January: **35.6°F**
 The average high temperature in February: **37.4°F**
 The average high temperature in March: **42.8°F**
 The average high temperature in April: **53.6°F**
 The average high temperature in May: **62.6°F**
 The average high temperature in June: **73.4°F**

The average high temperature in July: **78.8°F**
 The average high temperature in August: **77°F**
 The average high temperature in September: **71.6°F**
 The average high temperature in October: **62.6°F**
 The average high temperature in November: **44.6°F**
 The average high temperature in December: **41°F**

The warmest month (with the highest average high temperature) is **July** (78.8°F). The month with the lowest average high temperature is **January** (35.6°F).

The average low temperature in January: **23°F**
 The average low temperature in February: **24.8°F**
 The average low temperature in March: **30.2°F**
 The average low temperature in April: **39.2°F**
 The average low temperature in May: **46.4°F**
 The average low temperature in June: **57.2°F**

The average low temperature in July: **62.6°F**
 The average low temperature in August: **62.6°F**
 The average low temperature in September: **57.2°F**
 The average low temperature in October: **44.6°F**
 The average low temperature in November: **35.6°F**
 The average low temperature in December: **26.6°F**

Months with the highest average low temperature are **July** and **August** (62.6°F). The coldest month (with the lowest average low temperature) is **January** (23°F).

[Resources]

Wind Speed Data - January 14 to December 31, 2015
(320 days, recorded every 10 minutes)

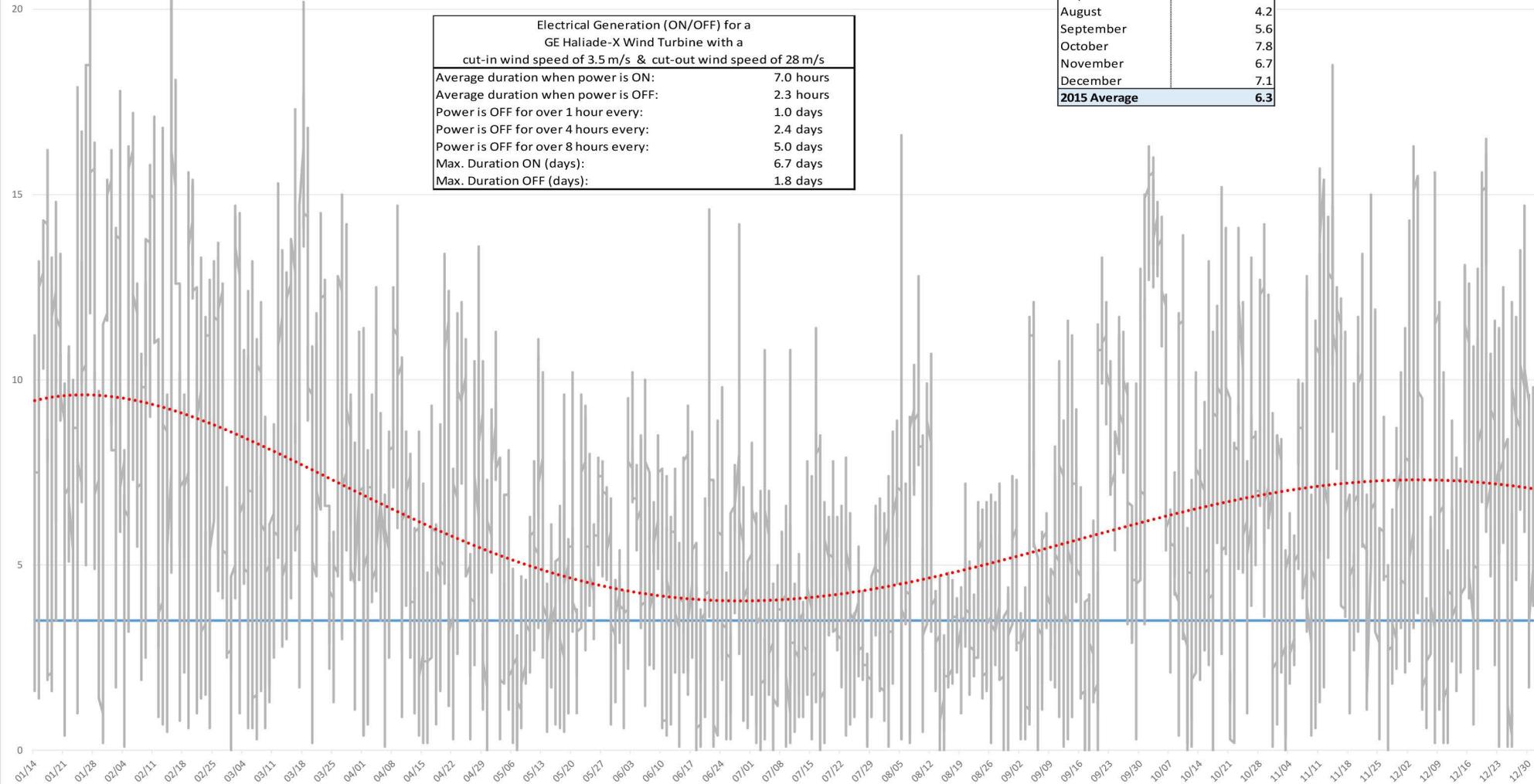
NOAA Station 44008 54 nautical miles SE of Nantucket
Owned and maintained by National Data Buoy Center
40.504 N 69.248 W (40°30'15" N 69°14'52" W)

https://www.ndbc.noaa.gov/station_page.php?station=44008

Wind Speed for 2015	
Per Month	Average (m/s)
January	9.6
February	9.2
March	7.8
April	6.1
May	4.7
June	4.6
July	3.8
August	4.2
September	5.6
October	7.8
November	6.7
December	7.1
2015 Average	6.3

SK - Exhibit 12 (page 4 of 38)

Electrical Generation (ON/OFF) for a GE Haliade-X Wind Turbine with a cut-in wind speed of 3.5 m/s & cut-out wind speed of 28 m/s	
Average duration when power is ON:	7.0 hours
Average duration when power is OFF:	2.3 hours
Power is OFF for over 1 hour every:	1.0 days
Power is OFF for over 4 hours every:	2.4 days
Power is OFF for over 8 hours every:	5.0 days
Max. Duration ON (days):	6.7 days
Max. Duration OFF (days):	1.8 days



For discussion purposes only
Analysis by Si Kinsella (August 2019)

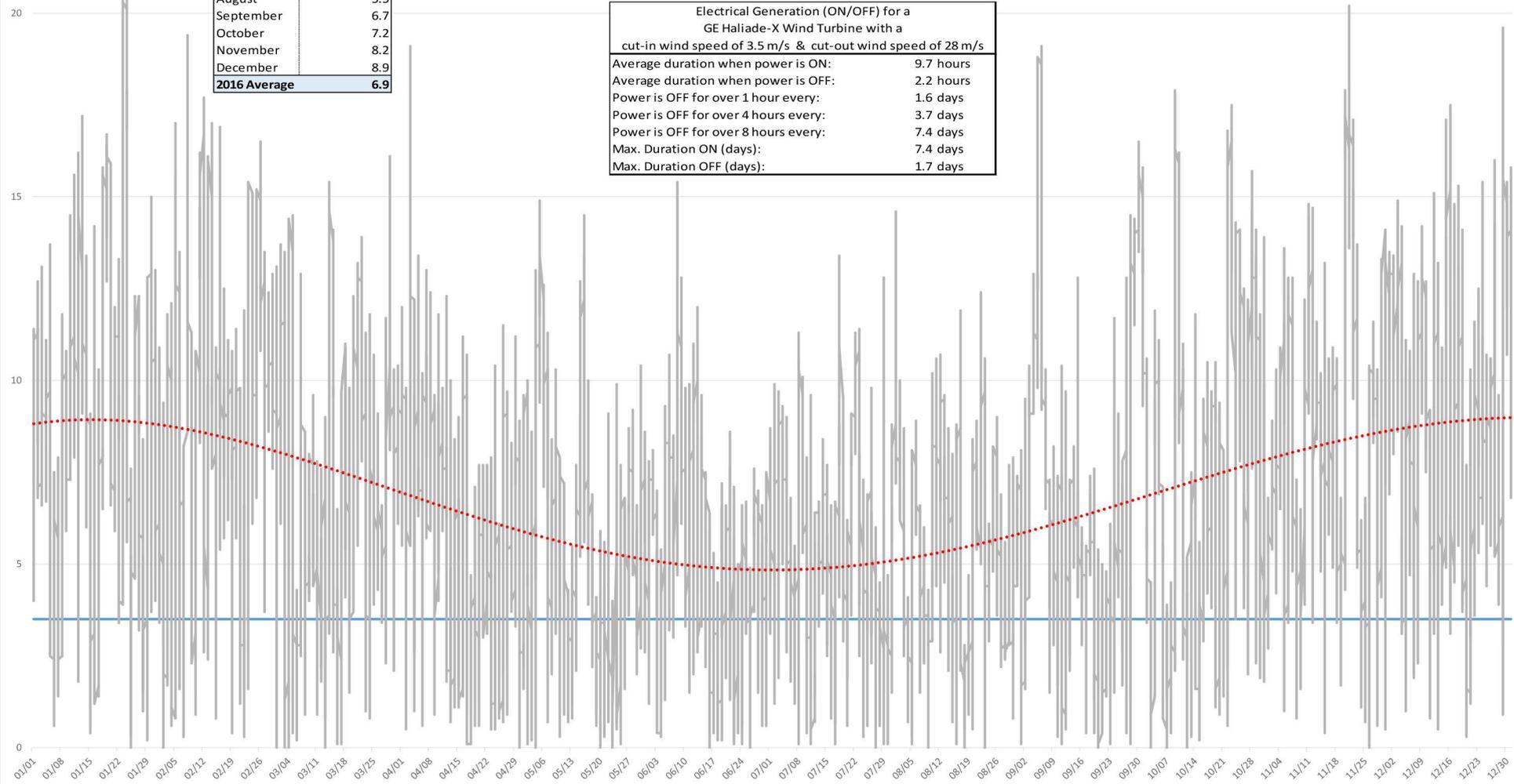
— Wind Turbine Cut-In Speed — Weed Speed (m/s) ••• Poly. (Weed Speed (m/s))

Wind Speed for 2016	
Per Month	Average (m/s)
January	9.0
February	8.8
March	7.1
April	6.3
May	5.5
June	5.0
July	4.8
August	5.5
September	6.7
October	7.2
November	8.2
December	8.9
2016 Average	6.9

Wind Speed Data - January 01 to December 31, 2016
 (365 days, recorded every 10 minutes)
 NOAA Station 44017 - 23 nautical miles SSW of Montauk Point
 Owned and maintained by National Data Buoy Center
 40.693 N 72.049 W (40°41'34" N 72°2'56" W)
https://www.ndbc.noaa.gov/station_page.php?station=44017

SK - Exhibit 12 (page 5 of 38)

Electrical Generation (ON/OFF) for a GE Haliade-X Wind Turbine with a cut-in wind speed of 3.5 m/s & cut-out wind speed of 28 m/s	
Average duration when power is ON:	9.7 hours
Average duration when power is OFF:	2.2 hours
Power is OFF for over 1 hour every:	1.6 days
Power is OFF for over 4 hours every:	3.7 days
Power is OFF for over 8 hours every:	7.4 days
Max. Duration ON (days):	7.4 days
Max. Duration OFF (days):	1.7 days



For discussion purposes only
 Analysis by Si Kinsella (August 2019)

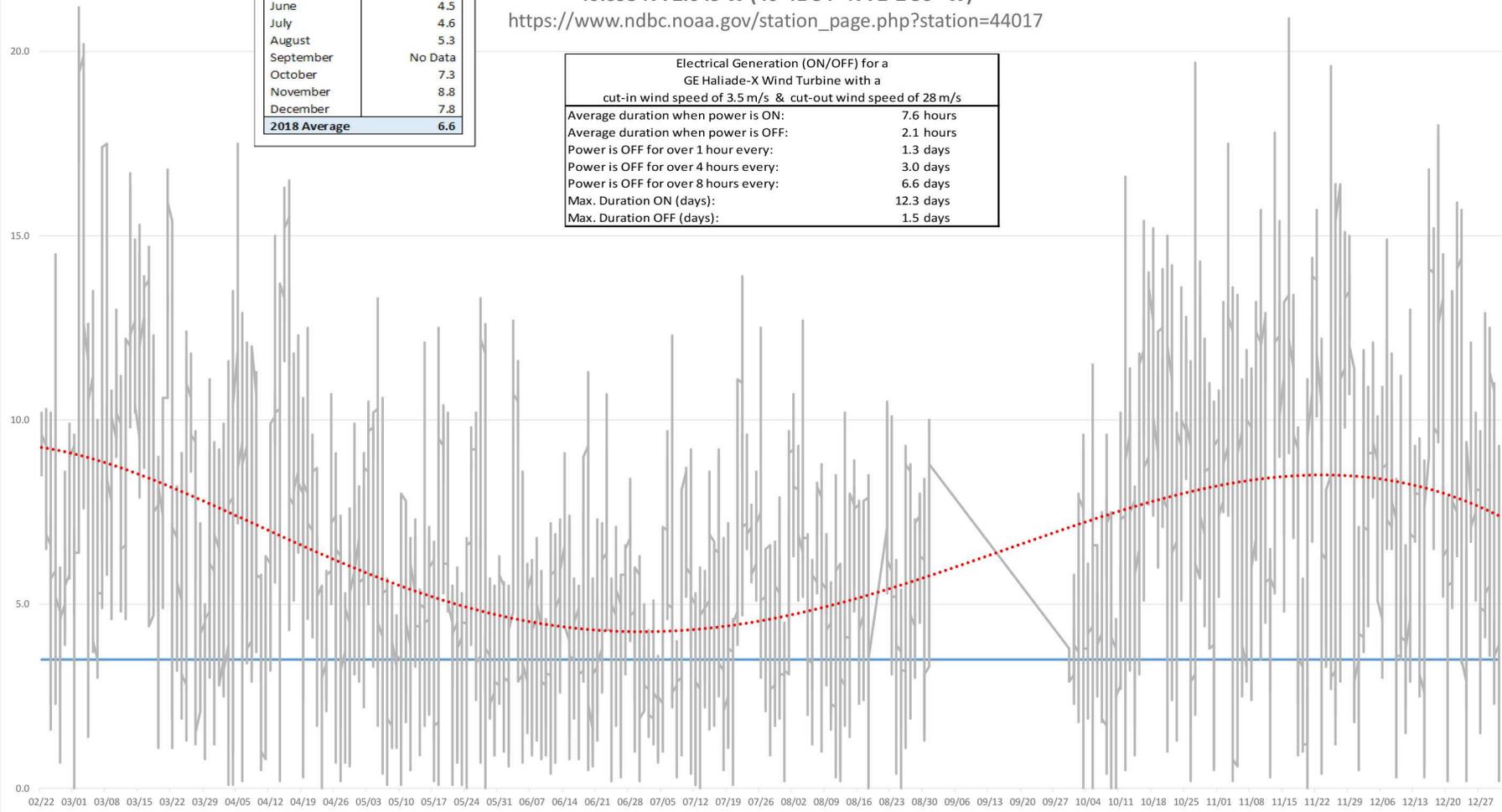
— Wind Turbine Cut-In Speed — Weed Speed (m/s) Poly. (Weed Speed (m/s))

Wind Speed Data - February 22 to December 31, 2018
 (312 days, recorded every 10 minutes)
 NOAA Station 44017 - 23 nautical miles SSW of Montauk Point
 Owned and maintained by National Data Buoy Center
 40.693 N 72.049 W (40°41'34" N 72°2'56" W)
https://www.ndbc.noaa.gov/station_page.php?station=44017

SK-Exhibit 12 (page 6 of 38)

Wind Speed for 2018	
Per Month	Average (m/s)
February	6.5
March	9.1
April	6.8
May	4.9
June	4.5
July	4.6
August	5.3
September	No Data
October	7.3
November	8.8
December	7.8
2018 Average	6.6

Electrical Generation (ON/OFF) for a GE Haliade-X Wind Turbine with a cut-in wind speed of 3.5 m/s & cut-out wind speed of 28 m/s	
Average duration when power is ON:	7.6 hours
Average duration when power is OFF:	2.1 hours
Power is OFF for over 1 hour every:	1.3 days
Power is OFF for over 4 hours every:	3.0 days
Power is OFF for over 8 hours every:	6.6 days
Max. Duration ON (days):	12.3 days
Max. Duration OFF (days):	1.5 days



For discussion purposes only
 Analysis by Si Kinsella (August 2019)

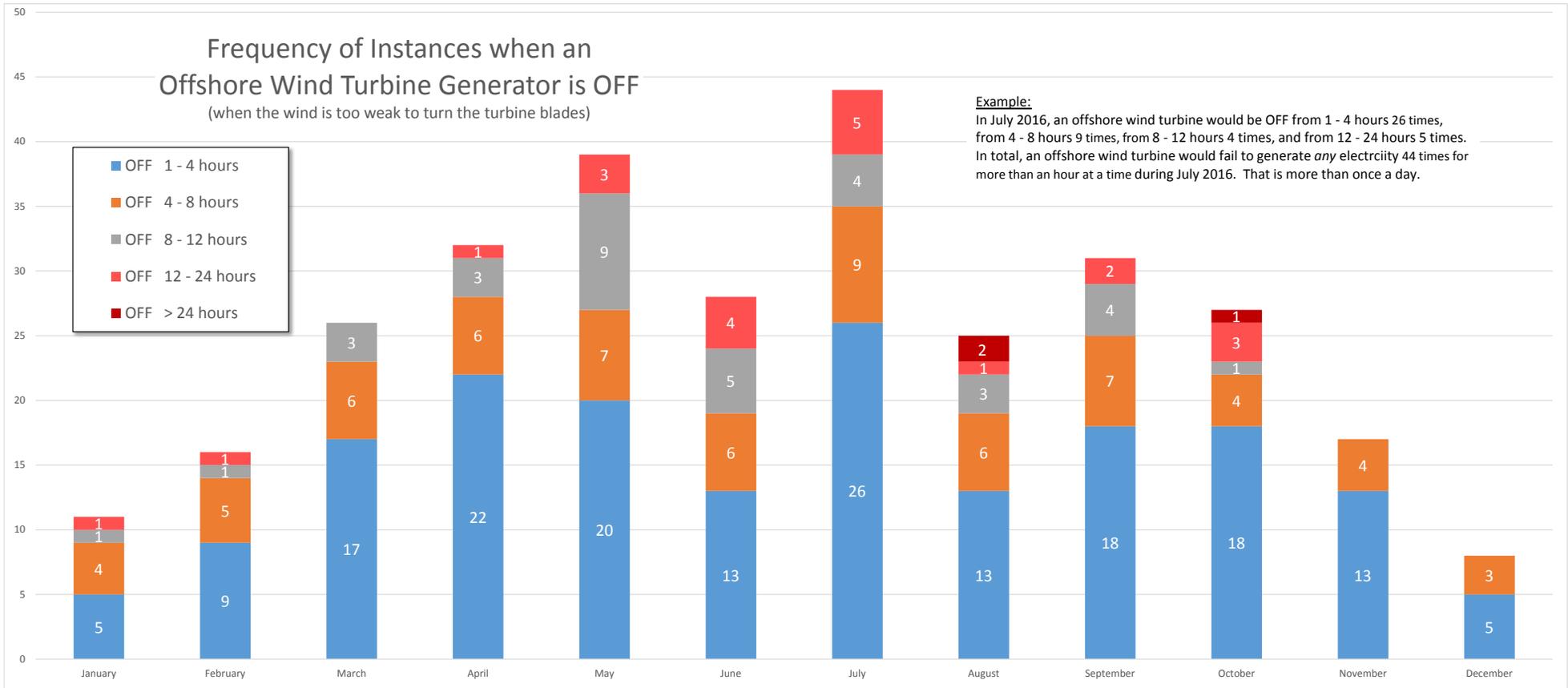
— Wind Turbine Cut-In Speed — Weed Speed (m/s) Poly. (Weed Speed (m/s))

Frequency of Instances when an Offshore Wind Turbine Generator is OFF (when the wind is too weak to turn the turbine blades)



Example:

In July 2016, an offshore wind turbine would be OFF from 1 - 4 hours 26 times, from 4 - 8 hours 9 times, from 8 - 12 hours 4 times, and from 12 - 24 hours 5 times. In total, an offshore wind turbine would fail to generate *any* electricity 44 times for more than an hour at a time during July 2016. That is more than once a day.



	ON (10 mins intervals)	OFF (10 mins intervals)	OFF (mins)	> 1 hrs (mins)	> 4 hrs (mins)	> 8 hrs (mins)	> 12 hrs (mins)
Number of instances	541	540	540	192	71	31	12
Averages	50.01	11.39	113.9	277.6	532.7	751.6	973.3
Maximum	1,133	203	2,030	2,030	2,030	2,030	2,030

Siemens Gamesa 8MW WTG (SG 8.0-167 DD)								
cut-in wind speed of 3.0 m/s cut-out wind speed of 25 m/s								
		ON	OFF		Turbine OFF			
Maximum Continuous Duration	Date	Sep 25, 2017	Aug 04, 2016	OFF ALL (mins)	> 1 hrs	> 4 hrs	> 8 hrs	> 12 hrs
	Mins	11,330	2,030		(mins)	(mins)	(mins)	(mins)
	Hours	189	34		(mins)	(mins)	(mins)	(mins)
	Days	7.9	1.4		(mins)	(mins)	(mins)	(mins)
Average Continuous Duration	Number	541	540	540	192	71	31	12
	Mins	500	114	114	278	533	752	973
	Hours	8.3	1.9	1.9	4.6	8.9	12.5	16.2
	Days	0.3	0.1	0.1	0.2	0.4	0.5	0.7

Data Start Date:	Apr 12, 2017	Dec 31, 2016
Data End Date:	Nov 30, 2017	Dec 31, 2017
Number of days:	232 days	365 days
Total number of possible readings:	33,408	52,560
Total number of actual readings:	33,209	33,209
Wind data coverage (%):	99.4%	63.2%

Average duration when power is ON:	8.3 hours
Average duration when power is OFF:	1.9 hours
Power is OFF for over 1 hour every:	1.2 days
Power is OFF for over 4 hours every:	3.3 days
Power is OFF for over 8 hours every:	7.5 days
Power is OFF for over 12 hours every:	19.3 days

Max. Duration ON:	189 hours	7.9 days
Max. Duration OFF:	34 hours	1.4 days

2017

NOAA Station 44008
 Southeast of Nantucket
 (40°30'15" N 69°14'52" W)
Anemometer height
 5 m above site elevation

https://www.ndbc.noaa.gov/station_page.php?station=44008

	ON (10 mins intervals)	OFF (10 mins intervals)	OFF (mins)	> 1 hrs (mins)	> 4 hrs (mins)	> 8 hrs (mins)	> 12 hrs (mins)
Number of instances	624	623	623	216	69	25	15
Averages	52.68	10.23	102.3	249.4	506.2	820.4	969.3
Maximum	1,246	258	2,580	2,580	2,580	2,580	2,580

Siemens Gamesa 8MW WTG (SG 8.0-167 DD)								
cut-in wind speed of 3.0 m/s cut-out wind speed of 25 m/s								
		ON	OFF		Turbine OFF			
Maximum Continuous Duration	Date	Mar 01, 2016	Aug 10, 2016	OFF ALL (mins)	> 1 hrs	> 4 hrs	> 8 hrs	> 12 hrs
	Mins	12,460	2,580		(mins)	(mins)	(mins)	(mins)
	Hours	208	43		(mins)	(mins)	(mins)	(mins)
	Days	8.7	1.8		(mins)	(mins)	(mins)	(mins)
Average Continuous Duration	Number	624	623	623	216	69	25	15
	Mins	527	102	102	249	506	820	969
	Hours	8.8	1.7	1.7	4.2	8.4	13.7	16.2
	Days	0.4	0.1	0.1	0.2	0.4	0.6	0.7

Data Start Date:	Dec 31, 2015	Dec 31, 2015
Data End Date:	<u>Sep 30, 2016</u>	<u>Dec 31, 2016</u>
Number of days:	274 days	366 days
Total number of possible readings:	39,456	52,704
Total number of actual readings:	39,241	39,241
Wind data coverage (%):	99.5%	74.5%

Average duration when power is ON:	8.8 hours
Average duration when power is OFF:	1.7 hours
Power is OFF for over 1 hour every:	1.3 days
Power is OFF for over 4 hours every:	4.0 days
Power is OFF for over 8 hours every:	11.0 days
Power is OFF for over 12 hours every:	18.3 days

2016

NOAA Station 44008
Southeast of Nantucket
(40°30'15" N 69°14'52" W)
Anemometer height
5 m above site elevation

https://www.ndbc.noaa.gov/station_page.php?station=44008

Max. Duration ON:	208 hours	8.7 days
Max. Duration OFF:	43 hours	1.8 days

	ON (10 mins intervals)	OFF (10 mins intervals)	OFF (mins)	> 1 hrs (mins)	> 4 hrs (mins)	> 8 hrs (mins)	> 12 hrs (mins)
Number of instances	852	852	852	309	93	46	22
Averages	48.27	10.95	109.5	262.2	569.5	818.7	1,075.0
Maximum	1,090	170	1,700	1,700	1,700	1,700	1,700

Siemens Gamesa 8MW WTG (SG 8.0-167 DD)								
cut-in wind speed of 3.0 m/s cut-out wind speed of 25 m/s								
		ON	OFF		Turbine OFF			
Maximum Continuous Duration	Date	Sep 28, 2015	Jul 29, 2015	OFF ALL (mins)	> 1 hrs (mins)	> 4 hrs (mins)	> 8 hrs (mins)	> 12 hrs (mins)
	Mins	10,900	1,700		> 1 hrs (mins)	> 4 hrs (mins)	> 8 hrs (mins)	> 12 hrs (mins)
	Hours	182	28		> 1 hrs (mins)	> 4 hrs (mins)	> 8 hrs (mins)	> 12 hrs (mins)
	Days	7.6	1.2		> 1 hrs (mins)	> 4 hrs (mins)	> 8 hrs (mins)	> 12 hrs (mins)
Average Continuous Duration	Number	852	852	852	309	93	46	22
	Mins	483	109	109	262	569	819	1,075
	Hours	8.0	1.8	1.8	4.4	9.5	13.6	17.9
	Days	0.3	0.1	0.1	0.2	0.4	0.6	0.7

Data Start Date:	Jan 14, 2015	Dec 31, 2014
Data End Date:	<u>Dec 31, 2015</u>	<u>Dec 31, 2015</u>
Number of days:	351 days	365 days
Total number of possible readings:	50,544	52,560
Total number of actual readings:	50,448	50,448
Wind data coverage (%):	99.8%	96.0%

2015

Average duration when power is ON:	8.0 hours
Average duration when power is OFF:	1.8 hours
Power is OFF for over 1 hour every:	1.1 days
Power is OFF for over 4 hours every:	3.8 days
Power is OFF for over 8 hours every:	7.6 days
Power is OFF for over 12 hours every:	16.0 days

NOAA Station 44008

Southeast of Nantucket
 (40°30'15" N 69°14'52" W)
Anemometer height
 5 m above site elevation

https://www.ndbc.noaa.gov/station_page.php?station=44008

Max. Duration ON:	182 hours	7.6 days
Max. Duration OFF:	28 hours	1.2 days

SK - Exhibit 12 (page 11 of 38)

	ON (10 mins intervals)	OFF (10 mins intervals)	OFF (mins)	> 0.5 hrs (mins)	> 1 hrs (mins)	> 4 hrs (mins)	> 8 hrs (mins)	> 12 hrs (mins)
Number of instances	218	217	217	99	72	26	10	2
Averages	73.41	10.06	100.6	201.0	258.2	485.0	709.0	1,365.0
Maximum	997	184	1,840	1,840	1,840	1,840	1,840	1,840

Siemens Gamesa 8MW WTG (SG 8.0-167 DD)									
cut-in wind speed of 3.0 m/s cut-out wind speed of 25 m/s									
		ON	OFF		Turbine OFF				
Maximum Continuous Duration	Date	Jan 16, 2019	Feb 05, 2019	OFF ALL (mins)	> 0.5 hrs	> 1 hrs	> 4 hrs	> 8 hrs	> 12 hrs
	Mins	9,970	1,840		(mins)	(mins)	(mins)	(mins)	(mins)
	Hours	166	31		(mins)	(mins)	(mins)	(mins)	(mins)
	Days	6.9	1.3		(mins)	(mins)	(mins)	(mins)	(mins)
Number		218	217	217	99	72	26	10	2
Average	Mins	734	101	101	201	258	485	709	1,365
Continuous	Hours	12.2	1.7	1.7	3.4	4.3	8.1	11.8	22.8
Duration	Days	0.5	0.1	0.1	0.1	0.2	0.3	0.5	0.9
Data Start Date:		Dec 31, 2018	Dec 31, 2018						
Data End Date:		<u>May 08, 2019</u>	<u>Dec 31, 2019</u>						
Number of days:		128 days	365 days						
Total number of possible readings:		18,432	52,560						
Total number of actual readings:		18,187	18,187						
Wind data coverage (%):		98.7%	34.6%						
2019									
Average duration when power is ON:		12.2 hours							
Average duration when power is OFF:		1.7 hours							
Power is OFF for over 0.5 hour every:		1.3 days							
Power is OFF for over 1 hour every:		1.8 days							
Power is OFF for over 4 hours every:		4.9 days							
Power is OFF for over 8 hours every:		12.8 days							
Power is OFF for over 12 hours every:		64.0 days							
Max. Duration ON:		166 hours	6.9 days						
Max. Duration OFF:		31 hours	1.3 days						
					NOAA Station 44017 23 NM SSW of Montauk Point (40°41'34" N 72°2'56" W) <u>Anemometer height</u> 4.1 m above site elevation https://www.ndbc.noaa.gov/station_page.php?station=44017				

SK - Exhibit 12 (page 12 of 38)

	ON (10 mins intervals)	OFF (10 mins intervals)	OFF (mins)	> 0.5 hrs (mins)	> 1 hrs (mins)	> 4 hrs (mins)	> 8 hrs (mins)	> 12 hrs (mins)
Number of instances	659	658	658	325	233	83	30	12
Averages	54.29	10.88	108.8	203.0	264.3	492.9	707.7	947.5
Maximum	2,051	147	1,470	1,470	1,470	1,470	1,470	1,470

Siemens Gamesa 8MW WTG (SG 8.0-167 DD)									
cut-in wind speed of 3.0 m/s cut-out wind speed of 25 m/s									
		ON	OFF						
Maximum Continuous Duration	Date	Mar 19, 2018	Sep 18, 2018	OFF ALL (mins)	Turbine OFF				
	Mins	20,510	1,470		> 0.5 hrs (mins)	> 1 hrs (mins)	> 4 hrs (mins)	> 8 hrs (mins)	> 12 hrs (mins)
	Hours	342	25						
	Days	14.2	1.0						
Number		659	658	658	325	233	83	30	12
Average	Mins	543	109	109	203	264	493	708	948
Continuous	Hours	9.0	1.8	1.8	3.4	4.4	8.2	11.8	15.8
Duration	Days	0.4	0.1	0.1	0.1	0.2	0.3	0.5	0.7
Data Start Date:		Feb 22, 2018	Dec 31, 2017						
Data End Date:		<u>Dec 31, 2018</u>	<u>Dec 31, 2018</u>						
Number of days:		312 days	365 days						
Total number of possible readings:		44,928	52,560						
Total number of actual readings:		42,936	42,936						
Wind data coverage (%):		95.6%	81.7%						
2018									
Average duration when power is ON:		9.0 hours							
Average duration when power is OFF:		1.8 hours							
Power is OFF for over 0.5 hour every:		1.0 days							
Power is OFF for over 1 hour every:		1.3 days							
Power is OFF for over 4 hours every:		3.8 days							
Power is OFF for over 8 hours every:		10.4 days							
Power is OFF for over 12 hours every:		26.0 days							
Max. Duration ON:		342 hours	14.2 days						
Max. Duration OFF:		25 hours	1 days						
					NOAA Station 44017 23 NM SSW of Montauk Point (40°41'34" N 72°2'56" W) <u>Anemometer height</u> 4.1 m above site elevation https://www.ndbc.noaa.gov/station_page.php?station=44017				

SK - Exhibit 12 (page 13 of 38)

	ON (10 mins intervals)	OFF (10 mins intervals)	OFF (mins)	> 0.5 hrs (mins)	> 1 hrs (mins)	> 4 hrs (mins)	> 8 hrs (mins)	> 12 hrs (mins)
Number of instances	87	86	86	42	28	8	2	0
Averages	88.76	8.45	84.5	156.7	211.1	376.3	545.0	0.0
Maximum	987	56	560	560	560	560	560	0

Siemens Gamesa 8MW WTG (SG 8.0-167 DD)									
cut-in wind speed of 3.0 m/s cut-out wind speed of 25 m/s									
		ON	OFF		Turbine OFF				
Maximum Continuous Duration	Date	Jan 29, 2017	Feb 28, 2017	OFF ALL (mins)	> 0.5 hrs	> 1 hrs	> 4 hrs	> 8 hrs	> 12 hrs
	Mins	9,870	560		(mins)	(mins)	(mins)	(mins)	(mins)
	Hours	165	9						
	Days	6.9	0.4						
Number		87	86	86	42	28	8	2	0
Average	Mins	888	85	85	157	211	376	545	0
Continuous	Hours	14.8	1.4	1.4	2.6	3.5	6.3	9.1	0.0
Duration	Days	0.6	0.1	0.1	0.1	0.1	0.3	0.4	0.0
Data Start Date:		Dec 31, 2016	Dec 31, 2017						
Data End Date:		<u>Feb 28, 2017</u>	<u>Dec 31, 2018</u>						
Number of days:		59 days	365 days						
Total number of possible readings:		8,496	52,560						
Total number of actual readings:		8,449	8,449						
Wind data coverage (%):		99.4%	16.1%						
Average duration when power is ON:		14.8 hours							
Average duration when power is OFF:		1.4 hours							
Power is OFF for over 0.5 hour every:		1.4 days							
Power is OFF for over 1 hour every:		2.1 days							
Power is OFF for over 4 hours every:		7.4 days							
Power is OFF for over 8 hours every:		29.5 days							
Power is OFF for over 12 hours every:		#DIV/0!	days						
Max. Duration ON:		165 hours	6.9 days						
Max. Duration OFF:		9 hours	0.4 days						

2017

NOAA Station 44017
 23 NM SSW of Montauk Point
 (40°41'34" N 72°2'56" W)
Anemometer height
 4.1 m above site elevation

https://www.ndbc.noaa.gov/station_page.php?station=44017

SK - Exhibit 12 (page 14 of 38)

	ON (10 mins intervals)	OFF (10 mins intervals)	OFF (mins)	> 0.5 hrs (mins)	> 1 hrs (mins)	> 4 hrs (mins)	> 8 hrs (mins)	> 12 hrs (mins)
Number of instances	666	665	665	341	248	89	35	10
Averages	66.92	11.28	112.8	205.0	263.5	490.3	726.3	946.0
Maximum	1,225	160	1,600	1,600	1,600	1,600	1,600	1,600

Siemens Gamesa 8MW WTG (SG 8.0-167 DD)									
cut-in wind speed of 3.0 m/s cut-out wind speed of 25 m/s									
		ON	OFF		Turbine OFF				
Maximum Continuous Duration	Date	Jan 25, 2016	Aug 19, 2016	OFF ALL (mins)	> 0.5 hrs	> 1 hrs	> 4 hrs	> 8 hrs	> 12 hrs
	Mins	12,250	1,600		(mins)	(mins)	(mins)	(mins)	(mins)
	Hours	204	27		(mins)	(mins)	(mins)	(mins)	(mins)
	Days	8.5	1.1		(mins)	(mins)	(mins)	(mins)	(mins)
Number		666	665	665	341	248	89	35	10
Average	Mins	669	113	113	205	263	490	726	946
Continuous	Hours	11.2	1.9	1.9	3.4	4.4	8.2	12.1	15.8
Duration	Days	0.5	0.1	0.1	0.1	0.2	0.3	0.5	0.7
Data Start Date:		Dec 31, 2015	Dec 31, 2015						
Data End Date:		<u>Dec 31, 2016</u>	<u>Dec 31, 2016</u>						
Number of days:		366 days	366 days						
Total number of possible readings:		52,704	52,704						
Total number of actual readings:		52,064	52,064						
Wind data coverage (%):		98.8%	98.8%						
Average duration when power is ON:		11.2 hours							
Average duration when power is OFF:		1.9 hours							
Power is OFF for over 0.5 hour every:		1.1 days							
Power is OFF for over 1 hour every:		1.5 days							
Power is OFF for over 4 hours every:		4.1 days							
Power is OFF for over 8 hours every:		10.5 days							
Power is OFF for over 12 hours every:		36.6 days							
Max. Duration ON:		204 hours	8.5 days						
Max. Duration OFF:		27 hours	1.1 days						

2016

NOAA Station 44017
 23 NM SSW of Montauk Point
 (40°41'34" N 72°2'56" W)
Anemometer height
 4.1 m above site elevation

https://www.ndbc.noaa.gov/station_page.php?station=44017

SK - Exhibit 12 (page 15 of 38)

	ON (10 mins intervals)	OFF (10 mins intervals)	OFF (mins)	> 0.5 hrs (mins)	> 1 hrs (mins)	> 4 hrs (mins)	> 8 hrs (mins)	> 12 hrs (mins)
Number of instances	537	536	536	265	178	70	25	8
Averages	55.89	10.68	106.8	199.2	273.2	485.0	733.6	1,091.3
Maximum	1,178	195	1,950	1,950	1,950	1,950	1,950	1,950

Siemens Gamesa 8MW WTG (SG 8.0-167 DD)									
cut-in wind speed of 3.0 m/s cut-out wind speed of 25 m/s									
		ON	OFF		Turbine OFF				
Maximum Continuous Duration	Date	Oct 21, 2015	Sep 17, 2015	OFF ALL (mins)	> 0.5 hrs	> 1 hrs	> 4 hrs	> 8 hrs	> 12 hrs
	Mins	11,780	1,950		(mins)	(mins)	(mins)	(mins)	(mins)
	Hours	196	33		(mins)	(mins)	(mins)	(mins)	(mins)
	Days	8.2	1.4		(mins)	(mins)	(mins)	(mins)	(mins)
Number		537	536	536	265	178	70	25	8
Average	Mins	559	107	107	199	273	485	734	1,091
Continuous	Hours	9.3	1.8	1.8	3.3	4.6	8.1	12.2	18.2
Duration	Days	0.4	0.1	0.1	0.1	0.2	0.3	0.5	0.8

Data Start Date:	Apr 26, 2015	Dec 31, 2014
Data End Date:	Dec 31, 2015	Dec 31, 2015
Number of days:	249 days	365 days
Total number of possible readings:	35,856	52,560
Total number of actual readings:	35,734	35,734
Wind data coverage (%):	99.7%	68.0%

2015

Average duration when power is ON:	9.3 hours
Average duration when power is OFF:	1.8 hours
Power is OFF for over 0.5 hour every:	0.9 days
Power is OFF for over 1 hour every:	1.4 days
Power is OFF for over 4 hours every:	3.6 days
Power is OFF for over 8 hours every:	10.0 days
Power is OFF for over 12 hours every:	31.1 days

NOAA Station 44017
 23 NM SSW of Montauk Point
 (40°41'34" N 72°2'56" W)
Anemometer height
 4.1 m above site elevation

https://www.ndbc.noaa.gov/station_page.php?station=44017

Max. Duration ON:	196 hours	8.2 days
Max. Duration OFF:	33 hours	1.4 days

SK - Exhibit 12 (page 16 of 38)

	ON (10 mins intervals)	OFF (10 mins intervals)	OFF (mins)	> 0.5 hrs (mins)	> 1 hrs (mins)	> 4 hrs (mins)	> 8 hrs (mins)	> 12 hrs (mins)
Number of instances	484	483	483	241	164	42	8	1
Averages	100.25	8.32	83.2	150.8	198.5	397.6	607.5	870.0
Maximum	1,129	87	870	870	870	870	870	870

Siemens Gamesa 8MW WTG (SG 8.0-167 DD) cut-in wind speed of 3.0 m/s cut-out wind speed of 25 m/s									
		ON	OFF		Turbine OFF				
Maximum Continuous Duration	Date	Oct 06, 2015	Sep 12, 2015	OFF ALL (mins)	> 0.5 hrs (mins)	> 1 hrs (mins)	> 4 hrs (mins)	> 8 hrs (mins)	> 12 hrs (mins)
	Mins	11,290	870		> 0.5 hrs (mins)	> 1 hrs (mins)	> 4 hrs (mins)	> 8 hrs (mins)	> 12 hrs (mins)
	Hours	188	15		> 0.5 hrs (mins)	> 1 hrs (mins)	> 4 hrs (mins)	> 8 hrs (mins)	> 12 hrs (mins)
	Days	7.8	0.6		> 0.5 hrs (mins)	> 1 hrs (mins)	> 4 hrs (mins)	> 8 hrs (mins)	> 12 hrs (mins)
Number		484	483	483	241	164	42	8	1
Average	Mins	1,003	83	83	151	198	398	608	870
Continuous	Hours	16.7	1.4	1.4	2.5	3.3	6.6	10.1	14.5
Duration	Days	0.7	0.1	0.1	0.1	0.1	0.3	0.4	0.6

Data Start Date:	Dec 31, 2014	Dec 31, 2014
Data End Date:	<u>Dec 31, 2015</u>	<u>Dec 31, 2015</u>
Number of days:	365 days	365 days
Total number of possible readings:	52,560	52,560
Total number of actual readings:	52,539	52,539
Wind data coverage (%):	100.0%	100.0%

2015

Average duration when power is ON:	16.7 hours
Average duration when power is OFF:	1.4 hours
Power is OFF for over 0.5 hour every:	1.5 days
Power is OFF for over 1 hour every:	2.2 days
Power is OFF for over 4 hours every:	8.7 days
Power is OFF for over 8 hours every:	45.6 days
Power is OFF for over 12 hours every:	365.0 days

NOAA Station BUZM3
 Buzzards Bay, MA
 (41°23'48" N 71°2'0" W)
Anemometer height
 24.8 m above site elevation

https://www.ndbc.noaa.gov/station_page.php?station=buzm3

Max. Duration ON:	188 hours	7.8 days
Max. Duration OFF:	15 hours	0.6 days

SK - Exhibit 12 (page 17 of 38)

	ON (10 mins intervals)	OFF (10 mins intervals)	OFF (mins)	> 0.5 hrs (mins)	> 1 hrs (mins)	> 4 hrs (mins)	> 8 hrs (mins)	> 12 hrs (mins)
Number of instances	587	586	586	293	197	56	10	1
Averages	81.00	8.60	86.0	155.1	207.7	395.2	602.0	780.0
Maximum	1,148	78	780	780	780	780	780	780

Siemens Gamesa 8MW WTG (SG 8.0-167 DD) cut-in wind speed of 3.0 m/s cut-out wind speed of 25 m/s									
		ON	OFF		Turbine OFF				
Maximum Continuous Duration	Date	Mar 1, 2016	Aug 4, 2016	OFF ALL (mins)	> 0.5 hrs (mins)	> 1 hrs (mins)	> 4 hrs (mins)	> 8 hrs (mins)	> 12 hrs (mins)
	Mins	11,480	780		> 0.5 hrs (mins)	> 1 hrs (mins)	> 4 hrs (mins)	> 8 hrs (mins)	> 12 hrs (mins)
	Hours	191	13		> 0.5 hrs (mins)	> 1 hrs (mins)	> 4 hrs (mins)	> 8 hrs (mins)	> 12 hrs (mins)
	Days	8.0	0.5		> 0.5 hrs (mins)	> 1 hrs (mins)	> 4 hrs (mins)	> 8 hrs (mins)	> 12 hrs (mins)
Number		587	586	586	293	197	56	10	1
Average	Mins	810	86	86	155	208	395	602	780
Continuous	Hours	13.5	1.4	1.4	2.6	3.5	6.6	10.0	13.0
Duration	Days	0.6	0.1	0.1	0.1	0.1	0.3	0.4	0.5

Data Start Date:	Dec 31, 2015	Dec 31, 2015
Data End Date:	<u>Dec 31, 2016</u>	<u>Dec 31, 2016</u>
Number of days:	366 days	366 days
Total number of possible readings:	52,704	52,704
Total number of actual readings:	52,582	52,582
Wind data coverage (%):	99.8%	99.8%

2016

Average duration when power is ON:	13.5 hours
Average duration when power is OFF:	1.4 hours
Power is OFF for over 0.5 hour every:	1.2 days
Power is OFF for over 1 hour every:	1.9 days
Power is OFF for over 4 hours every:	6.5 days
Power is OFF for over 8 hours every:	36.6 days
Power is OFF for over 12 hours every:	366.0 days

NOAA Station BUZM3
 Buzzards Bay, MA
 (41°23'48" N 71°2'0" W)
Anemometer height
 24.8 m above site elevation

https://www.ndbc.noaa.gov/station_page.php?station=buzm3

Max. Duration ON:	191 hours	8 days
Max. Duration OFF:	13 hours	0.5 days

SK - Exhibit 12 (page 18 of 38)

	ON (10 mins intervals)	OFF (10 mins intervals)	OFF (mins)	> 0.5 hrs (mins)	> 1 hrs (mins)	> 4 hrs (mins)	> 8 hrs (mins)	> 12 hrs (mins)
Number of instances	593	592	592	285	193	39	4	2
Averages	80.92	7.34	73.4	135.0	177.1	384.6	872.5	1,240.0
Maximum	1,415	127	1,270	1,270	1,270	1,270	1,270	1,270

Siemens Gamesa 8MW WTG (SG 8.0-167 DD) cut-in wind speed of 3.0 m/s cut-out wind speed of 25 m/s									
		ON	OFF		Turbine OFF				
Maximum Continuous Duration	Date	Feb 21, 2017	Aug 11, 2017	OFF ALL (mins)	> 0.5 hrs (mins)	> 1 hrs (mins)	> 4 hrs (mins)	> 8 hrs (mins)	> 12 hrs (mins)
	Mins	14,150	1,270		> 0.5 hrs (mins)	> 1 hrs (mins)	> 4 hrs (mins)	> 8 hrs (mins)	> 12 hrs (mins)
	Hours	236	21		> 0.5 hrs (mins)	> 1 hrs (mins)	> 4 hrs (mins)	> 8 hrs (mins)	> 12 hrs (mins)
	Days	9.8	0.9		> 0.5 hrs (mins)	> 1 hrs (mins)	> 4 hrs (mins)	> 8 hrs (mins)	> 12 hrs (mins)
Number		593	592	592	285	193	39	4	2
Average	Mins	809	73	73	135	177	385	873	1,240
Continuous	Hours	13.5	1.2	1.2	2.3	3.0	6.4	14.5	20.7
Duration	Days	0.6	0.1	0.1	0.1	0.1	0.3	0.6	0.9

Data Start Date:	Dec 31, 2016	Dec 31, 2016
Data End Date:	Dec 31, 2017	Dec 31, 2017
Number of days:	365 days	365 days
Total number of possible readings:	52,560	52,560
Total number of actual readings:	52,329	52,329
Wind data coverage (%):	99.6%	99.6%

2017

Average duration when power is ON:	13.5 hours
Average duration when power is OFF:	1.2 hours
Power is OFF for over 0.5 hour every:	1.3 days
Power is OFF for over 1 hour every:	1.9 days
Power is OFF for over 4 hours every:	9.4 days
Power is OFF for over 8 hours every:	91.3 days
Power is OFF for over 12 hours every:	182.5 days

NOAA Station BUZM3
 Buzzards Bay, MA
 (41°23'48" N 71°2'0" W)
Anemometer height
 24.8 m above site elevation

https://www.ndbc.noaa.gov/station_page.php?station=buzm3

Max. Duration ON:	236 hours	9.8 days
Max. Duration OFF:	21 hours	0.9 days

SK - Exhibit 12 (page 19 of 38)

	ON (10 mins intervals)	OFF (10 mins intervals)	OFF (mins)	> 0.5 hrs (mins)	> 1 hrs (mins)	> 4 hrs (mins)	> 8 hrs (mins)	> 12 hrs (mins)
Number of instances	554	553	553	262	180	50	12	2
Averages	85.78	8.37	83.7	157.1	206.7	389.6	602.5	805.0
Maximum	1,282	83	830	830	830	830	830	830

Siemens Gamesa 8MW WTG (SG 8.0-167 DD) cut-in wind speed of 3.0 m/s cut-out wind speed of 25 m/s									
		ON	OFF		Turbine OFF				
Maximum Continuous Duration	Date	Mar 20, 2018	May 30, 2018	OFF ALL (mins)	> 0.5 hrs	> 1 hrs	> 4 hrs	> 8 hrs	> 12 hrs
	Mins	12,820	830		(mins)	(mins)	(mins)	(mins)	(mins)
	Hours	214	14		(mins)	(mins)	(mins)	(mins)	(mins)
	Days	8.9	0.6		(mins)	(mins)	(mins)	(mins)	(mins)
Number		554	553	553	262	180	50	12	2
Average	Mins	858	84	84	157	207	390	603	805
Continuous	Hours	14.3	1.4	1.4	2.6	3.4	6.5	10.0	13.4
Duration	Days	0.6	0.1	0.1	0.1	0.1	0.3	0.4	0.6

Data Start Date:	Dec 31, 2017	Dec 31, 2017
Data End Date:	<u>Dec 31, 2018</u>	<u>Dec 31, 2018</u>
Number of days:	365 days	365 days
Total number of possible readings:	52,560	52,560
Total number of actual readings:	52,152	52,152
Wind data coverage (%):	99.2%	99.2%

2018

Average duration when power is ON:	14.3 hours
Average duration when power is OFF:	1.4 hours
Power is OFF for over 0.5 hour every:	1.4 days
Power is OFF for over 1 hour every:	2.0 days
Power is OFF for over 4 hours every:	7.3 days
Power is OFF for over 8 hours every:	30.4 days
Power is OFF for over 12 hours every:	182.5 days

NOAA Station BUZM3
 Buzzards Bay, MA
 (41°23'48" N 71°2'0" W)
Anemometer height
 24.8 m above site elevation

https://www.ndbc.noaa.gov/station_page.php?station=buzm3

Max. Duration ON:	214 hours	8.9 days
Max. Duration OFF:	14 hours	0.6 days

SK - Exhibit 12 (page 20 of 38)

	ON (10 mins intervals)	OFF (10 mins intervals)	OFF (mins)	> 0.5 hrs (mins)	> 1 hrs (mins)	> 4 hrs (mins)	> 8 hrs (mins)	> 12 hrs (mins)
Number of instances	262	261	261	133	91	24	2	0
Averages	117.41	8.32	83.2	147.6	193.8	347.1	555.0	0.0
Maximum	1,043	58	580	580	580	580	580	0

Siemens Gamesa 8MW WTG (SG 8.0-167 DD) cut-in wind speed of 3.0 m/s cut-out wind speed of 25 m/s									
		ON	OFF		Turbine OFF				
Maximum Continuous Duration	Date	Oct 13, 2019	Mar 1, 2019	OFF ALL (mins)	> 0.5 hrs (mins)	> 1 hrs (mins)	> 4 hrs (mins)	> 8 hrs (mins)	> 12 hrs (mins)
	Mins	10,430	580						
	Hours	174	10						
	Days	7.2	0.4						
Number		262	261	261	133	91	24	2	0
Average Continuous Duration	Mins	1,174	83	83	148	194	347	555	0
	Hours	19.6	1.4	1.4	2.5	3.2	5.8	9.3	0.0
	Days	0.8	0.1	0.1	0.1	0.1	0.2	0.4	0.0

Data Start Date:	Dec 31, 2018	Dec 31, 2018
Data End Date:	<u>Dec 31, 2019</u>	<u>Dec 31, 2019</u>
Number of days:	365 days	365 days
Total number of possible readings:	52,560	52,560
Total number of actual readings:	32,934	32,934
Wind data coverage (%):	62.7%	62.7%

2019

Average duration when power is ON:	19.6 hours
Average duration when power is OFF:	1.4 hours
Power is OFF for over 0.5 hour every:	2.7 days
Power is OFF for over 1 hour every:	4.0 days
Power is OFF for over 4 hours every:	15.2 days
Power is OFF for over 8 hours every:	182.5 days
Power is OFF for over 12 hours every:	0.0 days

NOAA Station BUZM3
 Buzzards Bay, MA
 (41°23'48" N 71°2'0" W)
Anemometer height
 24.8 m above site elevation

https://www.ndbc.noaa.gov/station_page.php?station=buzm3

Max. Duration ON:	174 hours	7.2 days
Max. Duration OFF:	10 hours	0.4 days

Block Island Wind Farm

EIA.gov - Net Generation/Capacity Factor (monthly)

2017 Months	Net Generation (MWh)	Hours per Month	Net Generation (MW)	Nameplate Capacity (MW)	Capacity Factor	MMBtu	MMBtu/M Wh
Jan-17	8,898	744	11.9597	30	39.9%	81,977	9.2130
Feb-17	7,801	672	11.6086	30	38.7%	71,871	9.2130
Mar-17	10,514	744	14.1317	30	47.1%	96,865	9.2130
Apr-17	6,904	720	9.5889	30	32.0%	63,607	9.2131
May-17	9,162	744	12.3145	30	41.0%	84,410	9.2131
Jun-17	9,932	720	13.7944	30	46.0%	91,504	9.2130
Jul-17	6,724	744	9.0376	30	30.1%	61,948	9.2130
Aug-17	5,712	744	7.6774	30	25.6%	52,625	9.2131
Sep-17	5,698	720	7.9139	30	26.4%	52,496	9.2131
Oct-17	10,195	744	13.7030	30	45.7%	93,927	9.2130
Nov-17	10,985	720	15.2569	30	50.9%	101,205	9.2130
Dec-17	11,826	744	15.8952	30	53.0%	108,953	9.2130
	104,351	8,760	11.9122	30	39.7%	961,388	9.2130

2018 Months	Net Generation (MWh)	Hours per Month	Net Generation (MW)	Nameplate Capacity (MW)	Capacity Factor	MMBtu	MMBtu/M Wh
Jan-18	12,595	744	16.9288	30	56.4%	114,665	9.1040
Feb-18	11,358	672	16.9018	30	56.3%	103,403	9.1040
Mar-18	12,184	744	16.3763	30	54.6%	110,923	9.1040
Apr-18	10,763	720	14.9486	30	49.8%	97,986	9.1040
May-18	7,931	744	10.6599	30	35.5%	72,204	9.1040
Jun-18	7,329	720	10.1792	30	33.9%	66,723	9.1040
Jul-18	7,295	744	9.8051	30	32.7%	66,414	9.1040
Aug-18	6,547	744	8.7997	30	29.3%	59,604	9.1040
Sep-18	7,509	720	10.4292	30	34.8%	68,362	9.1040
Oct-18	11,341	744	15.2433	30	50.8%	103,248	9.1040
Nov-18	10,999	720	15.2764	30	50.9%	100,135	9.1040
Dec-18	11,511	744	15.4718	30	51.6%	104,796	9.1040
	117,362	8,760	13.3975	30	44.7%	1,068,463	9.1040

2019 Months	Net Generation (MWh)	Hours per Month	Net Generation (MW)	Nameplate Capacity (MW)	Capacity Factor	MMBtu	MMBtu/M Wh
Jan-19	12,919	744	17.3642	30	57.9%	117,795	9.1180
Feb-19	9,955	672	14.8140	30	49.4%	90,770	9.1180
Mar-19	11,834	744	15.9059	30	53.0%	107,902	9.1180
Apr-19	11,102	720	15.4194	30	51.4%	101,228	9.1180
May-19	10,594	744	14.2392	30	47.5%	96,596	9.1180
Jun-19	7,974	720	11.0750	30	36.9%	72,707	9.1180
Jul-19	5,623	744	7.5578	30	25.2%	51,271	9.1181
Aug-19	6,171	744	8.2944	30	27.6%	56,267	9.1180
Sep-19	7,633	720	10.6014	30	35.3%	69,598	9.1180
Oct-19	11,026	744	14.8199	30	49.4%	100,535	9.1180
Nov-19	11,773	720	16.3514	30	54.5%	107,346	9.1180
Dec-19	11,188	744	15.0376	30	50.1%	102,012	9.1180
	117,792	8,760	13.4466	30	44.8%	1,074,027	9.1180

2020 Months	Net Generation (MWh)	Hours per Month	Net Generation (MW)	Nameplate Capacity (MW)	Capacity Factor	MMBtu	MMBtu/MWh
Jan-20	11,762	744	15.8091	30	52.7%	107,081	9.1040
Feb-20	10,109	696	14.5244	30	48.4%	92,032	9.1040
Mar-20	13,219	744	17.7675	30	59.2%	120,346	9.1040
Apr-20	12,882	720	17.8917	30	59.6%	117,278	9.1040
May-20	11,712	744	15.7419	30	52.5%	106,626	9.1040
Jun-20	6,527	720	9.0653	30	30.2%	59,422	9.1040
Jul-20	7,166	744	9.6317	30	32.1%	65,239	9.1040
Aug-20							
Sep-20							
Oct-20							
Nov-20							
Dec-20							
Jan-21	73,377	5,112	14.3539	30	47.8%	668,024	9.1040

Block Island Wind Farm Totals (2017 to 2020 May)

2017-19 Years	Net Generation (MWh)	Total Hours	Net Generation (MW)	Nameplate Capacity (MW)	Capacity Factor	MMBtu	MMBtu/MWh
2017	104,351	8,760	11.9122	30	39.7%	961,388	9.2130
2018	117,362	8,760	13.3975	30	44.7%	1,068,463	9.1040
2019	117,792	8,760	13.4466	30	44.8%	1,074,027	9.1180
2020	73,377	5,112	14.3539	30	47.8%	668,024	9.1040
Total:	412,882	31,392	13.1525	30	43.1%	3,771,902	9.1355
Average:	113,168	8,760	12.9188	30	43.1%	1,034,626	9.1424
MAX:	13,219	744	17.8917	30	59.6%	120,346	9.1040
MIN:	5,623	672	7.5578	30	25.2%	51,271	9.1181
VAR (abs):	7,596	72	10.3339	30	34.4%	69,075	-0.0141
VAR (%):	135%	11%	137%	30		1.3473	-0.15%
	412,882	31,392				3,771,902	9.1355

Quartile with Lowest Average Generation (July, August & September)

2017-19 Years	Net Generation (MWh)	Hours per Month	Net Generation (MW)	Nameplate Capacity (MW)	Capacity Factor	MMBtu	MMBtu/MWh
July	6,547	744	8.8002	30	29.3%	59,878	9.1453518
August	6,143	744	8.2572	30	27.5%	56,165	9.1424851
September	6,947	720	9.6481	30	32.2%	63,485	9.1389635
Averages:	6,546	736	8.9018	30	29.7%	59,843	9.1421951

Quartile with Highest Average Generation (November, December & January)

2017-19 Years	Net Generation (MWh)	Hours per Month	Net Generation (MW)	Nameplate Capacity (MW)	Capacity Factor	MMBtu	MMBtu/MWh
November	11,252	720	15.6282	30	52.1%	102,895	9.1443552
December	11,508	744	15.4682	30	51.6%	105,254	9.1458653
January	12,425	744	12.5255	30	41.8%	113,180	9.1088368
Averages:	11,729	736	15.5351	30	51.8%	104,597	8.9180214

Compiled by Si Kinsella (September 26, 2020)

Last accessed: Sat Sep 26 2020 18:55:01 GMT-0400 (Eastern Daylight Time)

<https://www.eia.gov/electricity/data/browser/#/plant/58035?freq=M&start=201501&end=201908&ctype=linechart&itype=pin&pin=&mappoint=0&linechart=ELEC.PLANT.GEN.58035-ALL-ALL.M&columnchart=ELEC.PLANT.GEN.58035-ALL-ALL.M>

NOAA Station 44017 - 23 Nautical Miles SSW off Montauk Point, NY
Offshore Wind Data for 2003 to 2007, 2016 and 2016
(years for which complete data had been recorded)

Total number of records where wind speed <= 3.5 m/s or >= 28 m/s

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual
Total Records	4,479	4,211	5,188	5,010	5,180	5,007	5,103	4,584	4,682	5,186	5,015	4,647	58,292
Matching Records	328	404	736	991	1,505	1,343	1,488	1,270	1,037	863	563	306	10,834
Percentage	7%	10%	14%	20%	29%	27%	29%	28%	22%	17%	11%	7%	19%

Average number of records per year where wind speed <= 3.5 m/s or >= 28 m/s

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual
Average Records	640	602	741	716	740	715	729	655	669	741	716	664	8,327
Matching Records	47	58	105	142	215	192	213	181	148	123	80	44	1,548
Percentage	7%	10%	14%	20%	29%	27%	29%	28%	22%	17%	11%	7%	19%

Seasonal Summary	Total Number of Records			Average Number of Records		
	Total Records	Matching Records	Percent	Average Records	Matching Records	Percent
Coldest Months (Dec-Feb)	13,337	1,038	7.8%	1,905	148	7.8%
Hottest Months (Jun-Aug)	14,694	4,101	27.9%	2,099	586	27.9%

2016	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual
Total Records	742	696	744	719	736	702	727	734	706	731	706	742	8,685
Matching Records	73	85	114	151	231	192	240	195	170	172	62	35	1,720
Percentage	10%	12%	15%	21%	31%	27%	33%	27%	24%	24%	9%	5%	20%
Check sum:	OK												

2013	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual
Total Records	523	668	735	713	736	713	736	738	715	742	716	741	8,476
Matching Records	59	64	79	163	158	181	163	225	97	108	79	67	1,443
Percentage	11%	10%	11%	23%	21%	25%	22%	30%	14%	15%	11%	9%	17%
Check sum:	OK												

2007	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual
Total Records	743	668	739	714	741	717	743	737	719	744	719	735	8,719
Matching Records	54	47	87	123	222	135	261	226	194	89	60	60	1,558
Percentage	7%	7%	12%	17%	30%	19%	35%	31%	27%	12%	8%	8%	18%
Check sum:	OK												

2006	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual
Total Records	257	150	742	718	744	719	736	717	386	741	720	743	7,373
Matching Records	15	18	93	139	207	149	202	195	87	89	109	34	1,337
Percentage	6%	12%	13%	19%	28%	21%	27%	27%	23%	12%	15%	5%	18%
Check sum:	OK												

2005	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual
Total Records	732	671	740	718	742	720	744	739	718	743	719	214	8,200
Matching Records	68	77	137	135	238	165	255	243	178	132	45	22	1,695
Percentage	9%	11%	19%	19%	32%	23%	34%	33%	25%	18%	6%	10%	21%
Check sum:	OK												

2004	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual
Total Records	738	686	744	708	737	716	673	175	718	742	715	728	8,080
Matching Records	17	72	86	161	209	218	146	51	185	180	103	49	1,477
Percentage	2%	10%	12%	23%	28%	30%	22%	29%	26%	24%	14%	7%	18%
Check sum:	OK												

2003	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual
Total Records	744	672	744	720	744	720	744	744	720	743	720	744	8,759
Matching Records	42	41	140	119	240	303	221	135	126	93	105	39	1,604
Percentage	6%	6%	19%	17%	32%	42%	30%	18%	18%	13%	15%	5%	18%
Check sum:	OK												



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Select Year: [View all meteorological observations for station 44017 in 2016](#)

Search Criteria

Select Observations	First Range Limit	Second Range Limit
Search1: <input type="text" value="Wind Speed (m/s)"/> ▼	<input type="text" value="<="/> ▼ <input type="text" value="3.5"/>	AND <input type="text" value=""/> ▼ <input type="text" value=""/>
<input type="text" value="Or"/> ▼		
Search2: <input type="text" value="Wind Speed (m/s)"/> ▼	<input type="text" value=">="/> ▼ <input type="text" value="28"/>	AND <input type="text" value=""/> ▼ <input type="text" value=""/>
<input type="text" value=""/> ▼		
Search3: <input type="text" value=""/> ▼	<input type="text" value=""/> ▼ <input type="text" value=""/>	AND <input type="text" value=""/> ▼ <input type="text" value=""/>

<https://www.ndbc.noaa.gov/histsearch.php?station=44017>
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An event is defined as more than three hours of consecutive data records that match the criteria.

Total Events: 140 [Summary](#)

Duration (hrs) Min: 4 Max: 45 Avg: 9

Observations:

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual
Total Records	742	696	744	719	736	702	727	734	706	731	706	742	8685
Records Matching Search Criteria	73	85	114	151	231	192	240	195	170	172	62	35	1720
Percent of Records Matching Search Criteria	10%	12%	15%	21%	31%	27%	33%	27%	24%	24%	9%	5%	20%



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Select Year: [View all meteorological observations for station 44017 in 2013](#)

Search Criteria

Select Observations	First Range Limit	Second Range Limit
Search1: <input type="text" value="Wind Speed (m/s)"/>	<input type="text" value="<="/> <input type="text" value="3.5"/>	AND <input type="text" value=""/>
<input type="text" value="Or"/>		
Search2: <input type="text" value="Wind Speed (m/s)"/>	<input type="text" value=">="/> <input type="text" value="28"/>	AND <input type="text" value=""/>
<input type="text" value=""/>		
Search3: <input type="text" value=""/>	<input type="text" value=""/>	AND <input type="text" value=""/>

<https://www.ndbc.noaa.gov/histsearch.php?station=44017>
Data download August 15, 2019

An event is defined as more than three hours of consecutive data records that match the criteria.

Total Events: 123 [Summary](#)

Duration (hrs) Min: 4 Max: 36 Avg: 9

Observations:

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual
Total Records	523	668	735	713	736	713	736	738	715	742	716	741	8476
Records Matching Search Criteria	59	64	79	163	158	181	163	225	97	108	79	67	1443
Percent of Records Matching Search Criteria	11%	10%	11%	23%	21%	25%	22%	30%	14%	15%	11%	9%	17%



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Select Year: [View all meteorological observations for station 44017 in 2007](#)

Search Criteria

Select Observations

First Range Limit

Second Range Limit

Search1: AND

Or

Search2: AND

Search3: AND

<https://www.ndbc.noaa.gov/histsearch.php?station=44017>
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An event is defined as more than three hours of consecutive data records that match the criteria.

Total Events: 130 [Summary](#)

Duration (hrs) Min: 4 Max: 41 Avg: 9

Observations:

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual
Total Records	743	668	739	714	741	717	743	737	719	744	719	735	8719
Records Matching Search Criteria	54	47	87	123	222	135	261	226	194	89	60	60	1558
Percent of Records Matching Search Criteria	7%	7%	12%	17%	30%	19%	35%	31%	27%	12%	8%	8%	18%



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Select Year: 2006 ▾ [View all meteorological observations for station 44017 in 2006](#)

Search Criteria

Select Observations	First Range Limit	Second Range Limit
Search1: Wind Speed (m/s) ▾	<= ▾ 3.5	AND ▾
Or ▾		
Search2: Wind Speed (m/s) ▾	>= ▾ 28	AND ▾
▾		
Search3: ▾	▾	AND ▾

Submit

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An event is defined as more than three hours of consecutive data records that match the criteria.

Total Events: 115 [Summary](#)

Duration (hrs) Min: 4 Max: 49 Avg: 9

Observations:

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual
Total Records	257	150	742	718	744	719	736	717	386	741	720	743	7373
Records Matching Search Criteria	15	18	93	139	207	149	202	195	87	89	109	34	1337
Percent of Records Matching Search Criteria	6%	12%	13%	19%	28%	21%	27%	27%	23%	12%	15%	5%	18%



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Select Year: [View all meteorological observations for station 44017 in 2005](#)

Search Criteria

Select Observations	First Range Limit	Second Range Limit
Search1: <input type="text" value="Wind Speed (m/s)"/> ▼	<input type="text" value="≤"/> ▼ <input type="text" value="3.5"/>	AND <input type="text" value=""/> ▼ <input type="text" value=""/>
<input type="text" value="Or"/> ▼		
Search2: <input type="text" value="Wind Speed (m/s)"/> ▼	<input type="text" value="≥"/> ▼ <input type="text" value="28"/>	AND <input type="text" value=""/> ▼ <input type="text" value=""/>
<input type="text" value=""/> ▼		
Search3: <input type="text" value=""/> ▼	<input type="text" value=""/> ▼ <input type="text" value=""/>	AND <input type="text" value=""/> ▼ <input type="text" value=""/>

<https://www.ndbc.noaa.gov/histsearch.php?station=44017>
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An event is defined as more than three hours of consecutive data records that match the criteria.
Total Events: 141 [Summary](#)
Duration (hrs) Min: 4 **Max:** 67 **Avg:** 9

Observations:

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual
Total Records	732	671	740	718	742	720	744	739	718	743	719	214	8200
Records Matching Search Criteria	68	77	137	135	238	165	255	243	178	132	45	22	1695
Percent of Records Matching Search Criteria	9%	11%	19%	19%	32%	23%	34%	33%	25%	18%	6%	10%	21%



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Select Year: [View all meteorological observations for station 44017 in 2004](#)

Search Criteria

Select Observations	First Range Limit	Second Range Limit
Search1: <input type="text" value="Wind Speed (m/s)"/> ▼	<input type="text" value="<="/> ▼ <input type="text" value="3.5"/>	AND <input type="text" value=""/> ▼ <input type="text" value=""/>
<input type="text" value="Or"/> ▼		
Search2: <input type="text" value="Wind Speed (m/s)"/> ▼	<input type="text" value=">="/> ▼ <input type="text" value="28"/>	AND <input type="text" value=""/> ▼ <input type="text" value=""/>
<input type="text" value=""/> ▼		
Search3: <input type="text" value=""/> ▼	<input type="text" value=""/> ▼ <input type="text" value=""/>	AND <input type="text" value=""/> ▼ <input type="text" value=""/>

<https://www.ndbc.noaa.gov/histsearch.php?station=44017>
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An event is defined as more than three hours of consecutive data records that match the criteria.

Total Events: 131 [Summary](#)

Duration (hrs) Min: 4 Max: 46 Avg: 8

Observations:

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual
Total Records	738	686	744	708	737	716	673	175	718	742	715	728	8080
Records Matching Search Criteria	17	72	86	161	209	218	146	51	185	180	103	49	1477
Percent of Records Matching Search Criteria	2%	10%	12%	23%	28%	30%	22%	29%	26%	24%	14%	7%	18%



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Select Year: [View all meteorological observations for station 44017 in 2003](#)

Search Criteria

Select Observations	First Range Limit	Second Range Limit
Search1: <input type="text" value="Wind Speed (m/s)"/> ▼	<input type="text" value="<="/> ▼ <input type="text" value="3.5"/>	AND <input type="text" value=""/> ▼ <input type="text" value=""/>
<input type="text" value="Or"/> ▼		
Search2: <input type="text" value="Wind Speed (m/s)"/> ▼	<input type="text" value=">="/> ▼ <input type="text" value="28"/>	AND <input type="text" value=""/> ▼ <input type="text" value=""/>
<input type="text" value=""/> ▼		
Search3: <input type="text" value=""/> ▼	<input type="text" value=""/> ▼ <input type="text" value=""/>	AND <input type="text" value=""/> ▼ <input type="text" value=""/>

<https://www.ndbc.noaa.gov/histsearch.php?station=44017>
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An event is defined as more than three hours of consecutive data records that match the criteria.

Total Events: 139 [Summary](#)

Duration (hrs) Min: 4 Max: 40 Avg: 9

Observations:

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual
Total Records	744	672	744	720	744	720	744	744	720	743	720	744	8759
Records Matching Search Criteria	42	41	140	119	240	303	221	135	126	93	105	39	1604
Percent of Records Matching Search Criteria	6%	6%	19%	17%	32%	42%	30%	18%	18%	13%	15%	5%	18%



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Select Year: 2018 ▾ [View all meteorological observations for station 44017 in 2018](#)

Search Criteria

Select Observations	First Range Limit	Second Range Limit
Search1: Wind Speed (m/s) ▾	<= ▾ 3.5	AND ▾
Or ▾		
Search2: Wind Speed (m/s) ▾	>= ▾ 28	AND ▾
▾		
Search3: ▾	▾	AND ▾

<https://www.ndbc.noaa.gov/histsearch.php?station=44017>
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An event is defined as more than three hours of consecutive data records that match the criteria.

Total Events: 142 [Summary](#)

Duration (hrs) Min: 4 Max: 42 Avg: 10

Observations:

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual
Total Records	0	144	741	719	739	720	743	742	715	741	717	724	7445
Records Matching Search Criteria	0	16	58	156	267	291	303	153	148	124	73	82	1671
Percent of Records Matching Search Criteria		11%	8%	22%	36%	40%	41%	21%	21%	17%	10%	11%	22%



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Select Year: [View all meteorological observations for station 44017 in 2017](#)

Search Criteria

Select Observations

First Range Limit

Second Range Limit

Search1: AND

Or

Search2: AND

Search3: AND

<https://www.ndbc.noaa.gov/histsearch.php?station=44017>
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An event is defined as more than three hours of consecutive data records that match the criteria.

Total Events: 16 [Summary](#)

Duration (hrs) Min: 4 **Max:** 20 **Avg:** 7

Observations:

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual
Total Records	740	669	730	669	707	709	736	743	696	26	0	1	6426
Records Matching Search Criteria	76	92	2	0	0	0	0	0	0	0	0	0	170
Percent of Records Matching Search Criteria	10%	14%	0%	0%	0%	0%	0%	0%	0%	0%		0%	3%



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Select Year: 2011 ▼ [View all meteorological observations for station 44017 in 2011](#)

Search Criteria

Select Observations

First Range Limit

Second Range Limit

Search1: Wind Speed (m/s) ▼ ≤ ▼ 3.5 AND ▼

Or ▼

Search2: Wind Speed (m/s) ▼ ≥ ▼ 28 AND ▼

▼

Search3: ▼ ▼ AND ▼

Submit

<https://www.ndbc.noaa.gov/histsearch.php?station=44017>

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Select Year: [View all meteorological observations for station 44017 in 2010](#)

Search Criteria

Select Observations	First Range Limit	Second Range Limit
Search1: <input type="text" value="Wind Speed (m/s)"/>	<input type="text" value="<="/> <input type="text" value="3.5"/>	AND <input type="text" value=""/>
<input type="text" value="Or"/>		
Search2: <input type="text" value="Wind Speed (m/s)"/>	<input type="text" value=">="/> <input type="text" value="28"/>	AND <input type="text" value=""/>
<input type="text" value=""/>		
Search3: <input type="text" value=""/>	<input type="text" value=""/>	AND <input type="text" value=""/>

<https://www.ndbc.noaa.gov/histsearch.php?station=44017>
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An event is defined as more than three hours of consecutive data records that match the criteria.

Total Events: 112 [Summary](#)

Duration (hrs) Min: 4 Max: 48 Avg: 9

Observations:

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual
Total Records	0	671	743	718	742	719	744	744	720	742	719	740	8002
Records Matching Search Criteria	0	48	143	213	193	197	240	159	98	27	0	0	1318
Percent of Records Matching Search Criteria		7%	19%	30%	26%	27%	32%	21%	14%	4%	0%	0%	16%



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Select Year: [View all meteorological observations for station 44017 in 2009](#)

Search Criteria

Select Observations	First Range Limit	Second Range Limit
Search1: <input type="text" value="Wind Speed (m/s)"/>	<input type="text" value="<="/> <input type="text" value="3.5"/>	AND <input type="text" value=""/>
<input type="text" value="Or"/>		
Search2: <input type="text" value="Wind Speed (m/s)"/>	<input type="text" value=">="/> <input type="text" value="28"/>	AND <input type="text" value=""/>
<input type="text" value=""/>		
Search3: <input type="text" value=""/>	<input type="text" value=""/>	AND <input type="text" value=""/>

<https://www.ndbc.noaa.gov/histsearch.php?station=44017>
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An event is defined as more than three hours of consecutive data records that match the criteria.

Total Events: 141 [Summary](#)
Duration (hrs) Min: 4 **Max:** 38 **Avg:** 9

Observations:

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual
Total Records	744	671	744	720	744	720	744	744	720	744	448	1	7744
Records Matching Search Criteria	74	68	135	96	223	239	189	236	209	95	78	0	1642
Percent of Records Matching Search Criteria	10%	10%	18%	13%	30%	33%	25%	32%	29%	13%	17%	0%	21%



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Select Year: [View all meteorological observations for station 44017 in 2008](#)

Search Criteria

Select Observations

First Range Limit

Second Range Limit

Search1: AND

Or

Search2: AND

Search3: AND

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An event is defined as more than three hours of consecutive data records that match the criteria.

Total Events: 133 [Summary](#)

Duration (hrs) Min: 4 Max: 53 Avg: 9

Observations:

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual
Total Records	745	696	744	715	743	720	744	744	720	744	720	743	8778
Records Matching Search Criteria	65	57	0	1	176	230	297	270	175	110	95	42	1518
Percent of Records Matching Search Criteria	9%	8%	0%	0%	24%	32%	40%	36%	24%	15%	13%	6%	17%



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Select Year: [View all meteorological observations for station 44017 in 2002](#)

Search Criteria

Select Observations

First Range Limit

Second Range Limit

Search1: AND

Or

Search2: AND

Search3: AND

<https://www.ndbc.noaa.gov/histsearch.php?station=44017>
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An event is defined as more than three hours of consecutive data records that match the criteria.

Total Events: 37 [Summary](#)

Duration (hrs) Min: 4 Max: 50 Avg: 11

Observations:

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual
Total Records	0	0	0	0	0	0	0	0	720	744	720	744	2928
Records Matching Search Criteria	0	0	0	0	0	0	0	0	260	66	91	46	463
Percent of Records Matching Search Criteria									36%	9%	13%	6%	16%



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Select Year: [View all meteorological observations for station 44017 in 2002](#)

Search Criteria

Select Observations	First Range Limit	Second Range Limit
Search1: <input type="text" value="Wind Speed (m/s)"/>	<input type="text" value="<="/> <input type="text" value="3.5"/>	AND <input type="text" value=""/>
<input type="text" value="Or"/>		
Search2: <input type="text" value="Wind Speed (m/s)"/>	<input type="text" value=">="/> <input type="text" value="28"/>	AND <input type="text" value=""/>
<input type="text" value=""/>		
Search3: <input type="text" value=""/>	<input type="text" value=""/>	AND <input type="text" value=""/>

<https://www.ndbc.noaa.gov/histsearch.php?station=44017>
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An event is defined as more than three hours of consecutive data records that match the criteria.

Total Events: 37 [Summary](#)

Duration (hrs) Min: 4 Max: 50 Avg: 11

Observations:

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual
Total Records	0	0	0	0	0	0	0	0	720	744	720	744	2928
Records Matching Search Criteria	0	0	0	0	0	0	0	0	260	66	91	46	463
Percent of Records Matching Search Criteria									36%	9%	13%	6%	16%