

Site Information:

Project: Wind Hybrid Project
 Location: Morris, MN
 Elevation: 350 m

Sensor Information:

1 NRG #40 Anem. m/s
 2 NRG #40 Anem. m/s
 3 NRG #40 Anem. m/s
 4 NRG #40 Anem. m/s
 5 NRG #40 Anem. m/s
 6 NRG #40 Anem. m/s
 7 #200P Wind Vane
 8 #200P Wind Vane
 9 NRG #110S Temp C
 10 BP-20 Barom. mb
 11 No SCM Installed
 12 No SCM Installed

August 2003**Summary Report**

SITE 1080

WCROC

Channel	1	2	3	4	5	6	7	8	9	10		
Height	50 m	50 m	40 m	40 m	30 m	30 m	50 m	40 m	2 m	2 m	-----	-----
Units	m/s	m/s	m/s	m/s	m/s	m/s	deg	deg	C	mb	-----	-----
Intervals with Valid Data	4464	4464	4110	4464	4464	4464	4464	4464	4464	4464		
Average Filtered Data	5.28	5.55	4.81	5.18	4.63	4.73	186.91	186.89	23.49	981.21		
Average for All Data	5.28	5.55	4.53	5.18	4.63	4.73	186.91	186.89	23.49	981.21		
Min Interval Average	0.4	0.4	0.4	0.4	0.4	0.4			8.6	969.3		
Date of Min Interval	8/5/2003	8/5/2003	8/5/2003	8/5/2003	8/5/2003	8/5/2003			8/30/2003	8/20/2003		
Time of Min Interval	7:40:00 PM	7:40:00 PM	7:40:00 PM	7:40:00 PM	7:40:00 PM	7:40:00 PM			5:20:00 AM	7:20:00 PM		
Max Interval Average	13.2	14	12.5	13.7	11.8	13.1			37.9	993.1		
Date of Max Interval	8/19/2003	8/23/2003	8/18/2003	8/23/2003	8/18/2003	8/23/2003			8/18/2003	8/30/2003		
Time of Max Interval	12:30:00 AM	2:00:00 PM	11:10:00 PM	1:20:00 PM	11:10:00 PM	1:20:00 PM			4:30:00 PM	10:10:00 AM		
Average Interval SD	0.69	0.63	0.68	0.64	0.66	0.65	6.82	7.26	0.06	0		
Min Sample	0.4	0.4	0.4	0.4	0.4	0.4			8.5	968.7		
Date of Min Sample	8/3/2003	8/3/2003	8/18/2003	8/3/2003	8/3/2003	8/3/2003			8/30/2003	8/20/2003		
Time of Min Sample	8:10:00 AM	8:10:00 AM	7:50:00 AM	8:10:00 AM	8:10:00 AM	8:10:00 AM			5:10:00 AM	6:20:00 PM		
Max Sample	18.3	17.9	17.9	17.9	17.9	17.9			38.4	993.8		
Date of Max Sample	8/19/2003	8/19/2003	8/18/2003	8/23/2003	8/23/2003	8/23/2003			8/18/2003	8/30/2003		
Time of Max Sample	12:40:00 AM	12:40:00 AM	11:20:00 PM	2:00:00 PM	1:00:00 PM	8:40:00 AM			4:30:00 PM	9:40:00 AM		
Average Interval TI	0.15	0.13	0.16	0.14	0.15	0.16						
Wind Speed Direction							SE	SE				

Site Information:

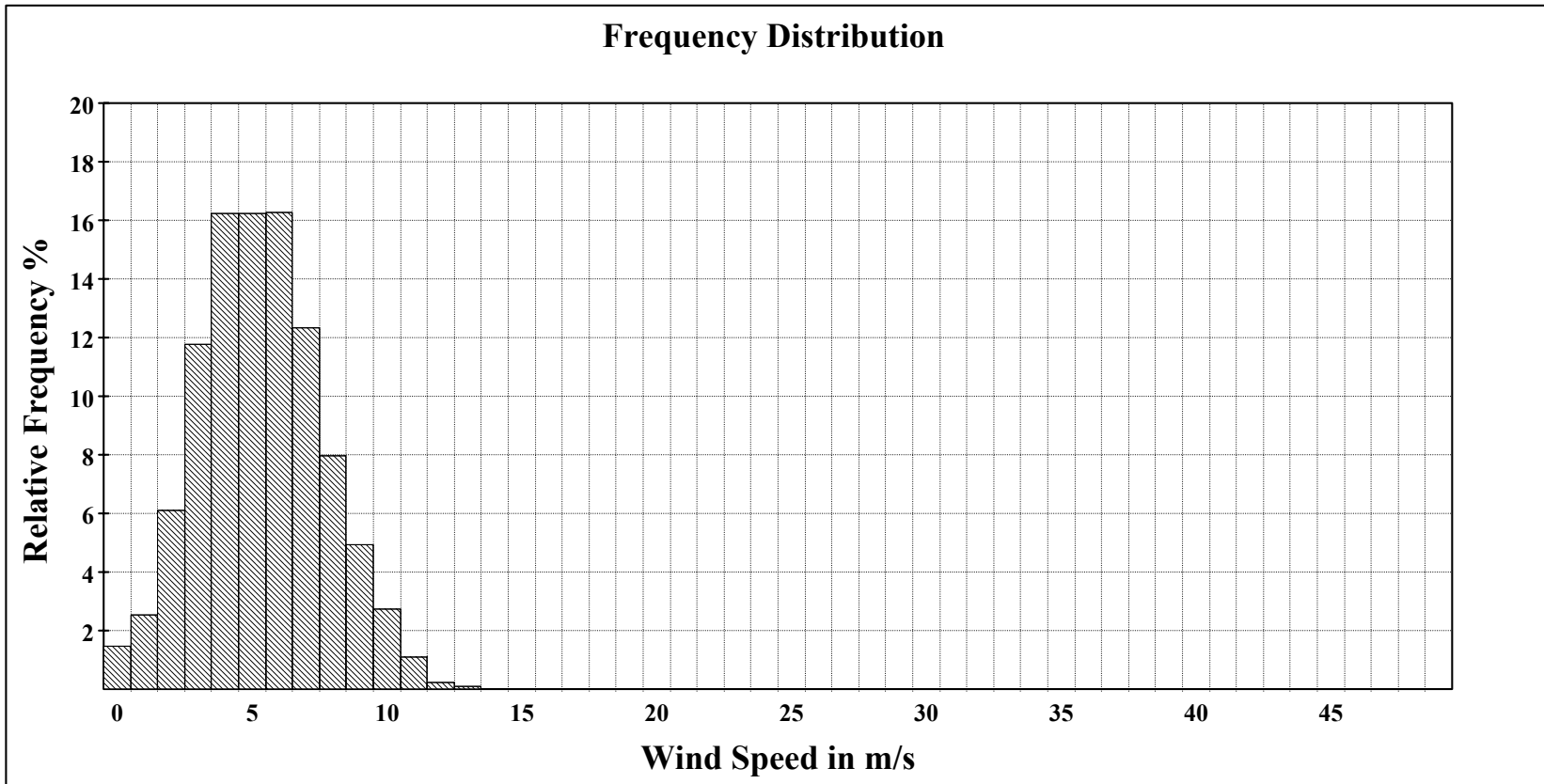
Project: Wind Hybrid Project
 Location: Morris, MN
 Elevation: 350 m

Sensor on channel 1:

NRG #40 Anem. m/s
 Height: 50 m
 Serial #: SN:

August 2003

Frequency Distribution, 50 m, Ch 1
 SITE 1080
 WCROC



Site Information:

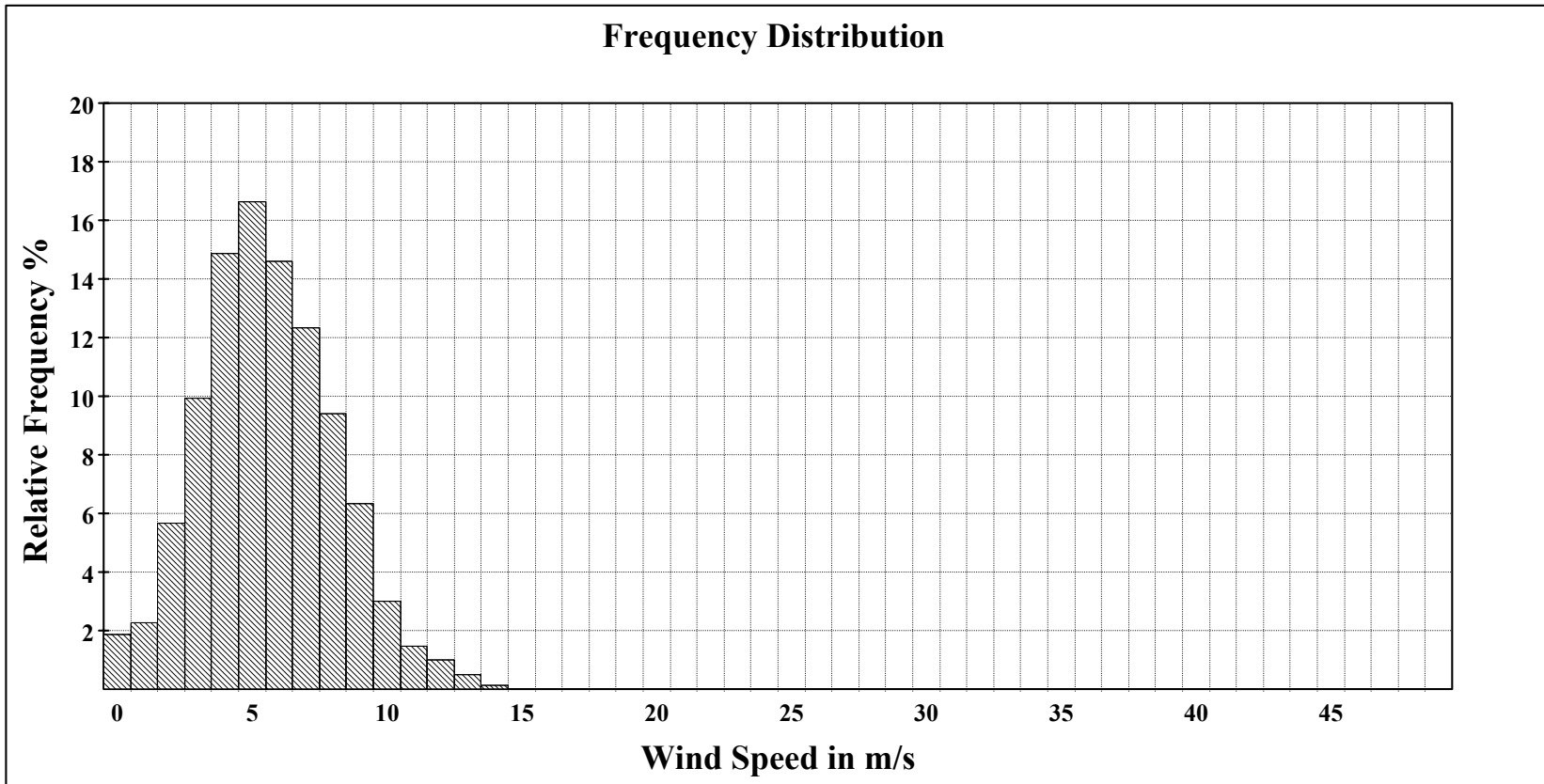
Project: Wind Hybrid Project
 Location: Morris, MN
 Elevation: 350 m

Sensor on channel 2:

NRG #40 Anem. m/s
 Height: 50 m
 Serial #: SN:

August 2003

Frequency Distribution, 50m, Ch 2
 SITE 1080
 WCROC



Site Information:

Project: Wind Hybrid Project
 Location: Morris, MN
 Elevation: 350 m

Sensor on channel 3:

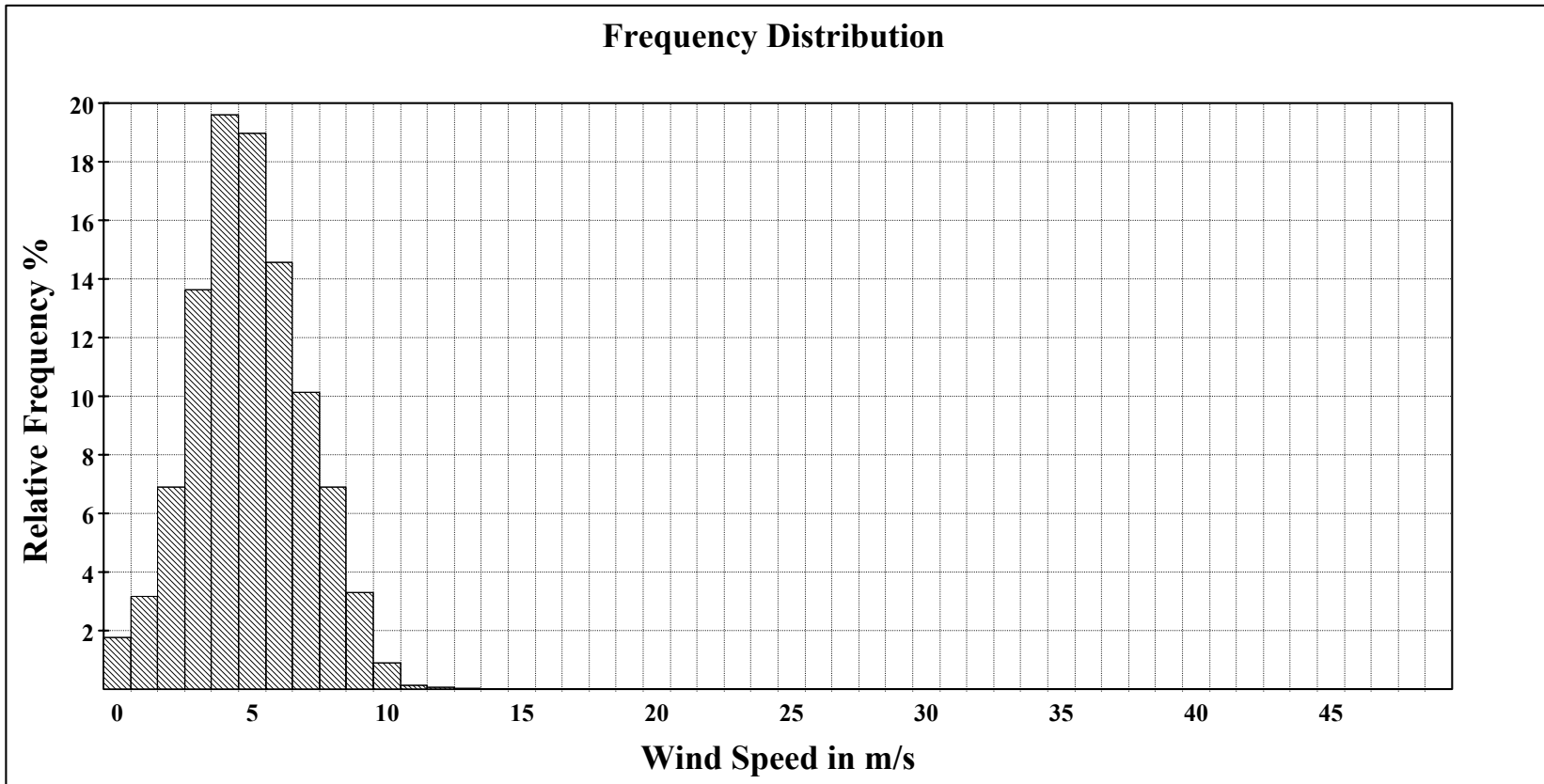
NRG #40 Anem. m/s
 Height: 40 m
 Serial #: SN:

August 2003

Frequency Distribution, 40m, Ch 3

SITE 1080

WCROC



Site Information:

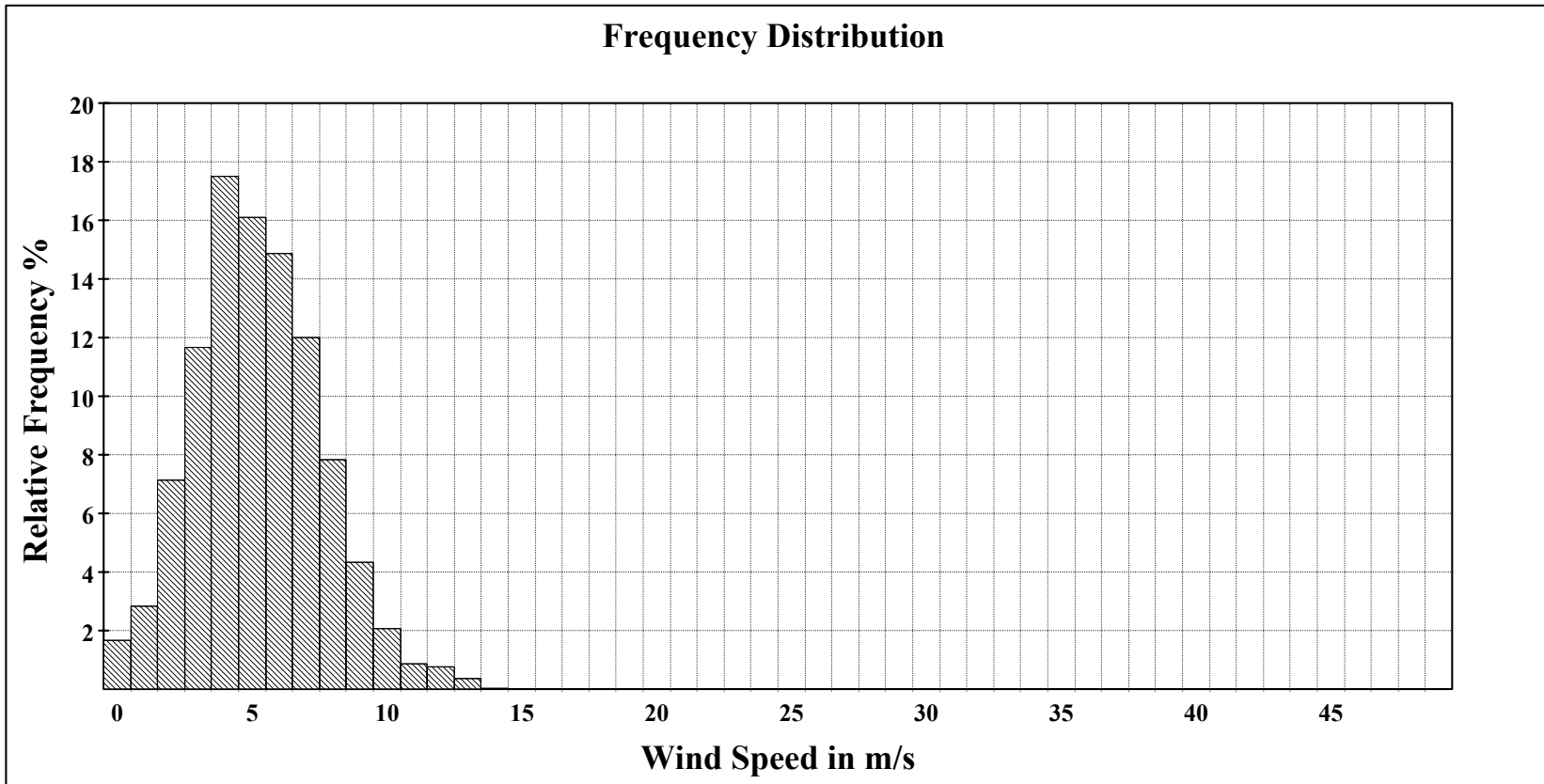
Project: Wind Hybrid Project
 Location: Morris, MN
 Elevation: 350 m

Sensor on channel 4:

NRG #40 Anem. m/s
 Height: 40 m
 Serial #: SN:

August 2003

Frequency Distribution, 40m, Ch 4
 SITE 1080
 WCROC



Site Information:

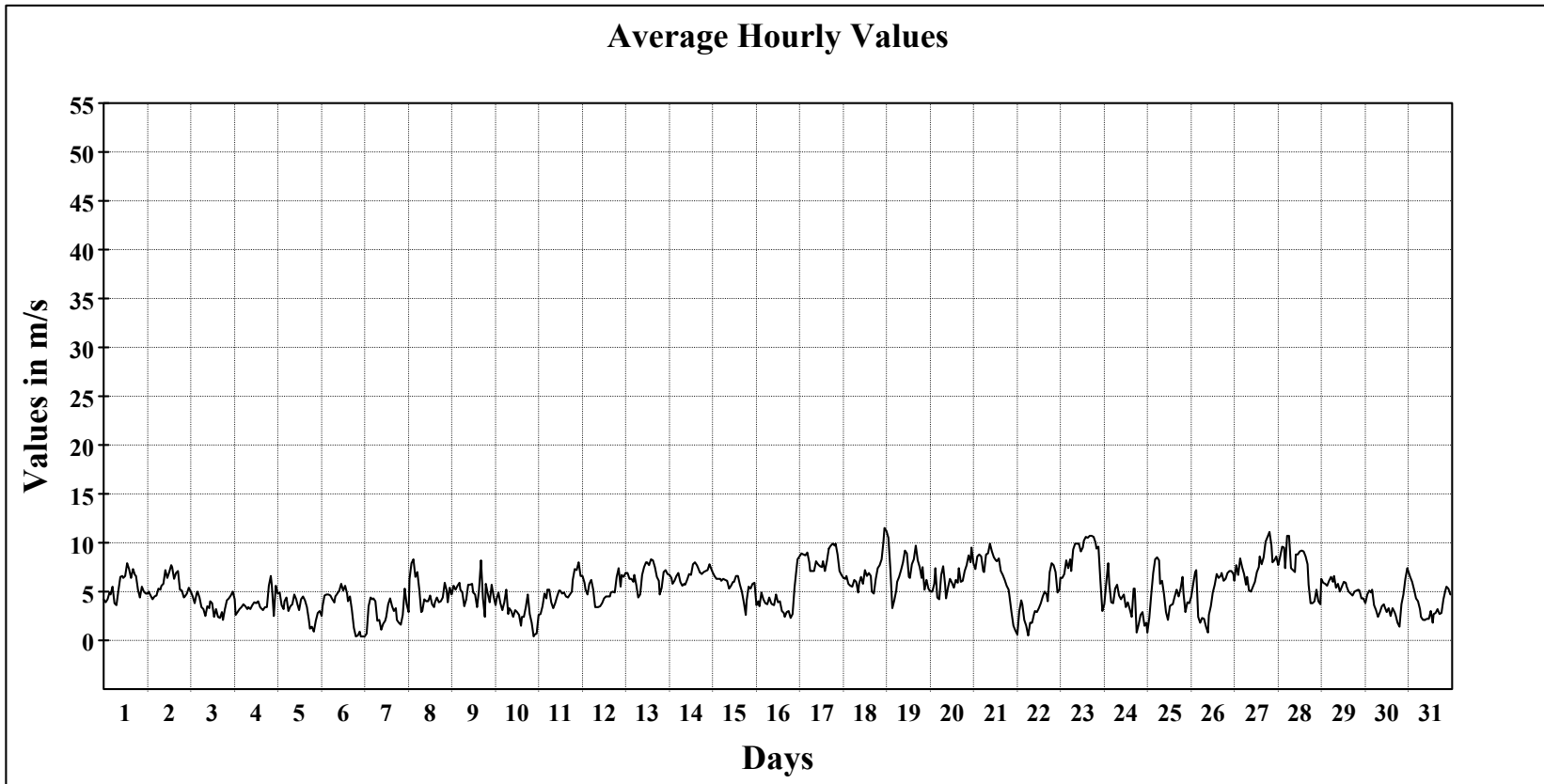
Project: Wind Hybrid Project
 Location: Morris, MN
 Elevation: 350 m

Sensor on channel 1:

NRG #40 Anem. m/s
 Height: 50 m
 Serial #: SN:

August 2003

Hourly Averages Graph, 50m, Ch 1
 SITE 1080
 WCROC



Average Value: 5.3

Site Information:

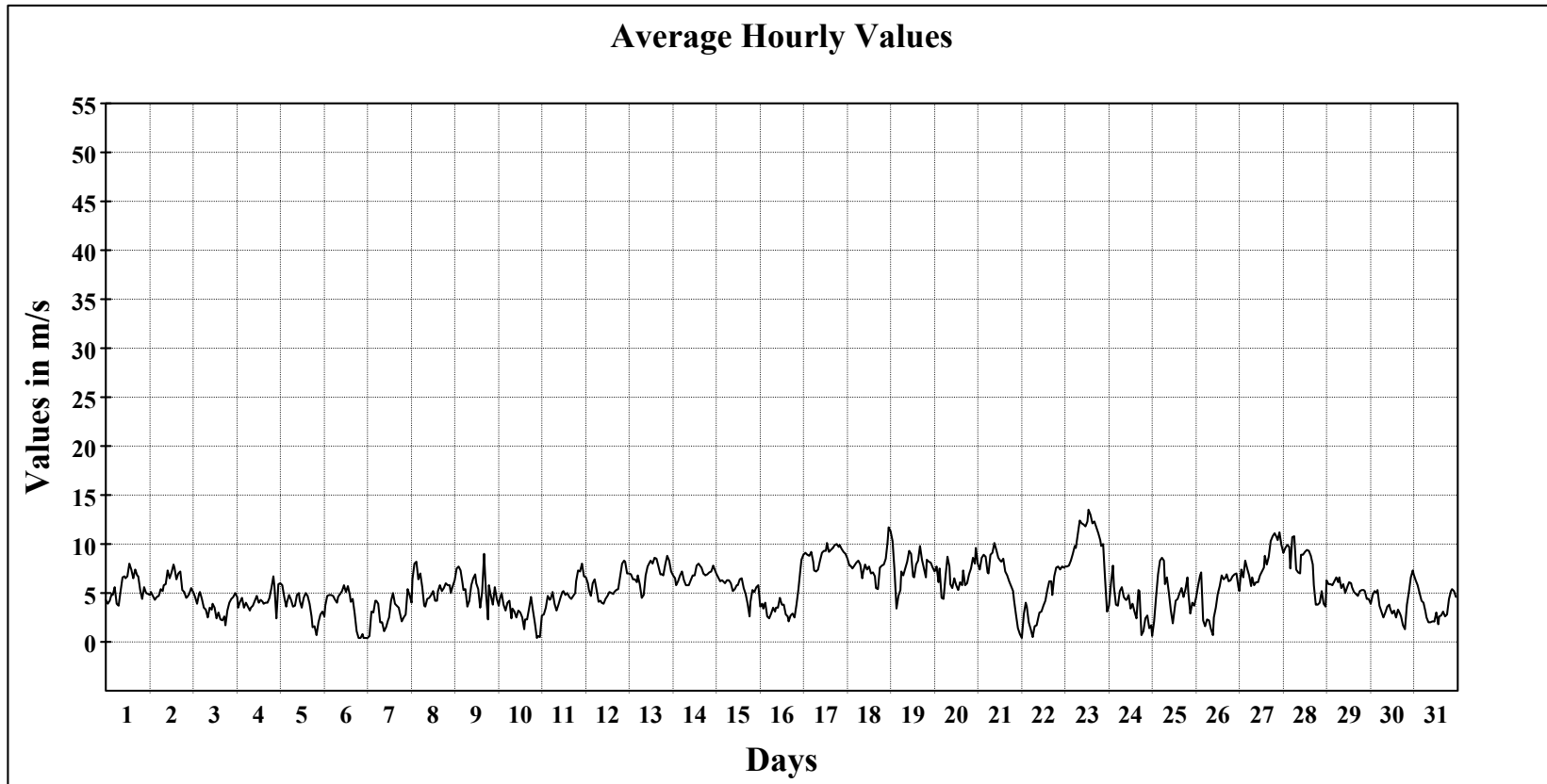
Project: Wind Hybrid Project
Location: Morris, MN
Elevation: 350 m

Sensor on channel 2:

NRG #40 Anem. m/s
Height: 50 m
Serial #: SN:

August 2003

Hourly Averages Graph, 50m, Ch 2
SITE 1080
WCROC



Average Value: 5.5

Site Information:

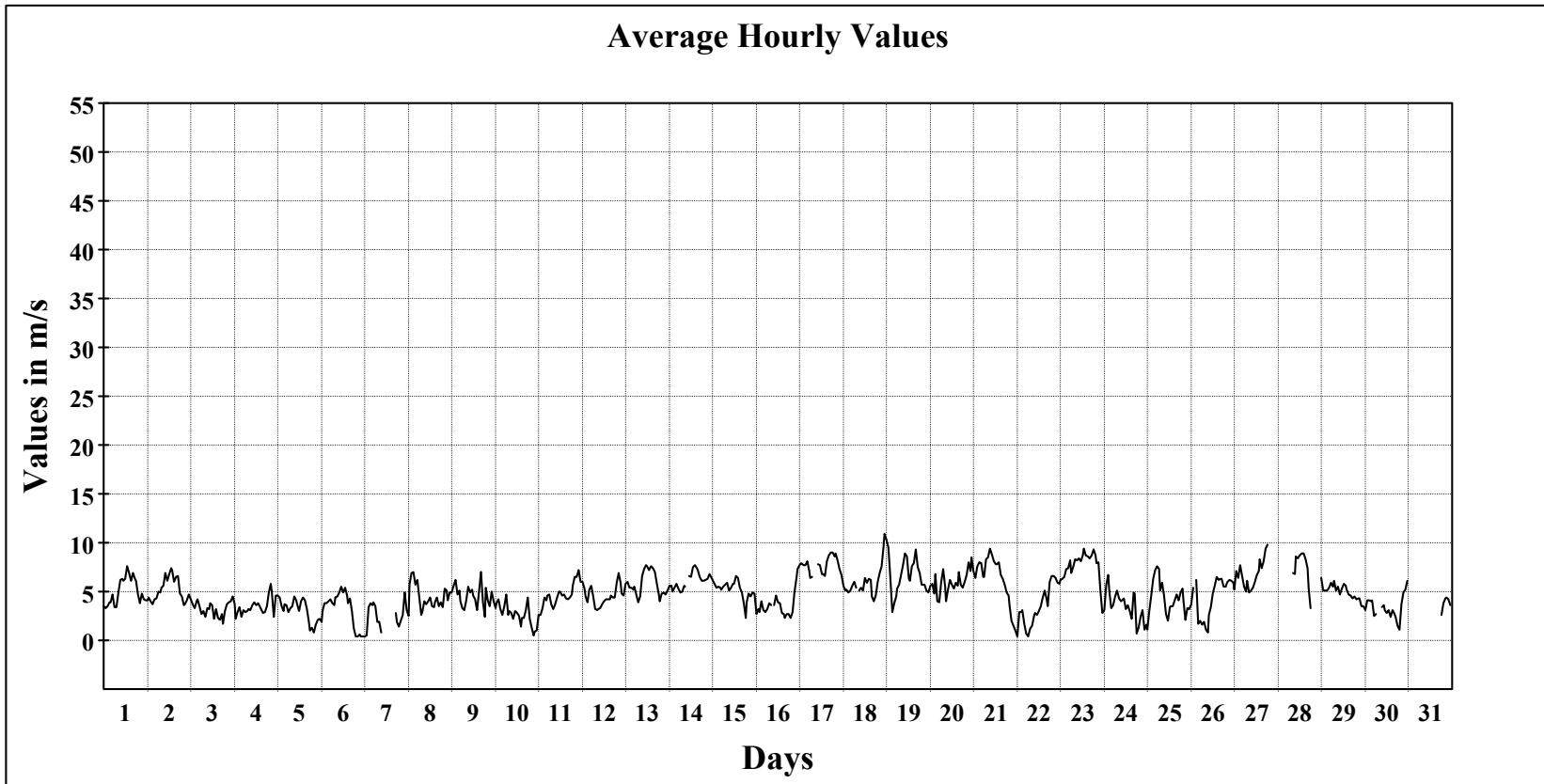
Project: Wind Hybrid Project
 Location: Morris, MN
 Elevation: 350 m

Sensor on channel 3:

NRG #40 Anem. m/s
 Height: 40 m
 Serial #: SN:

August 2003

Hourly Averages Graph, 40m, Ch 3
 SITE 1080
 WCROC



Average Value: 4.8

Site Information:

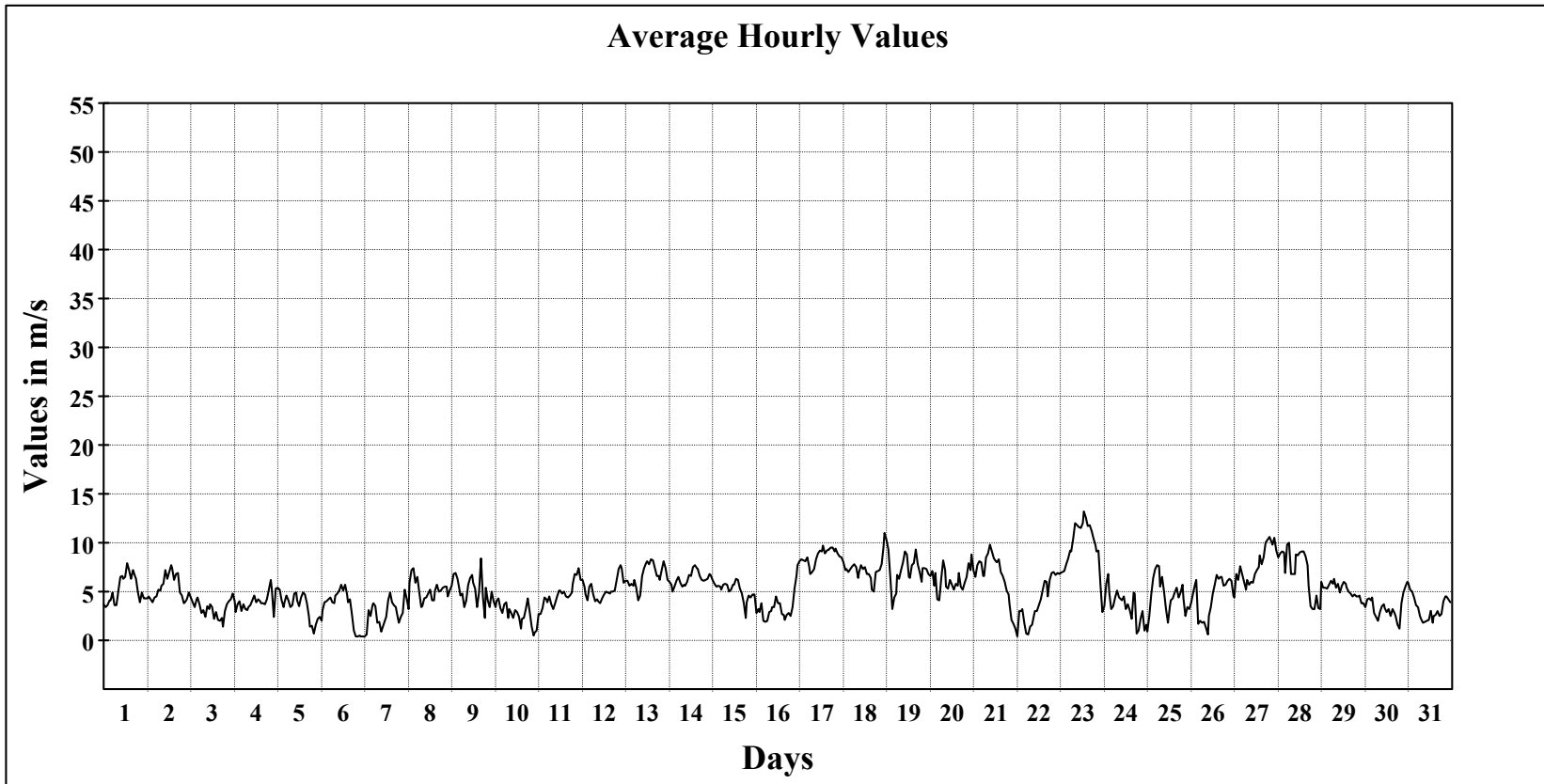
Project: Wind Hybrid Project
Location: Morris, MN
Elevation: 350 m

Sensor on channel 4:

NRG #40 Anem. m/s
Height: 40 m
Serial #: SN:

August 2003

Hourly Averages Graph, 40m, Ch 4
SITE 1080
WCROC



Average Value: 5.2

Site Information:

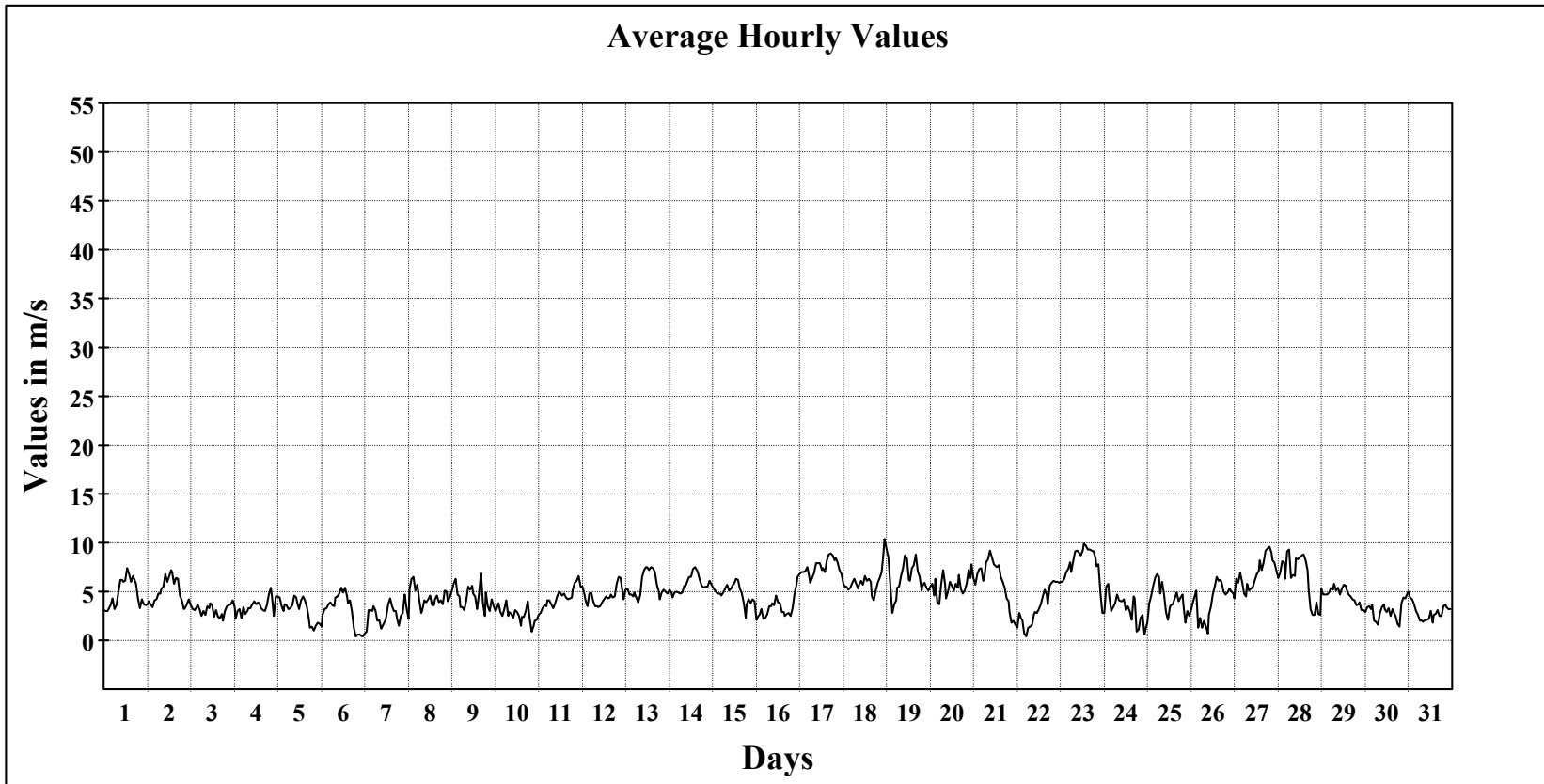
Project: Wind Hybrid Project
 Location: Morris, MN
 Elevation: 350 m

Sensor on channel 5:

NRG #40 Anem. m/s
 Height: 30 m
 Serial #: SN:

August 2003

Hourly Averages Graph, 30m, Ch 5
 SITE 1080
 WCROC



Average Value: 4.6

Site Information:

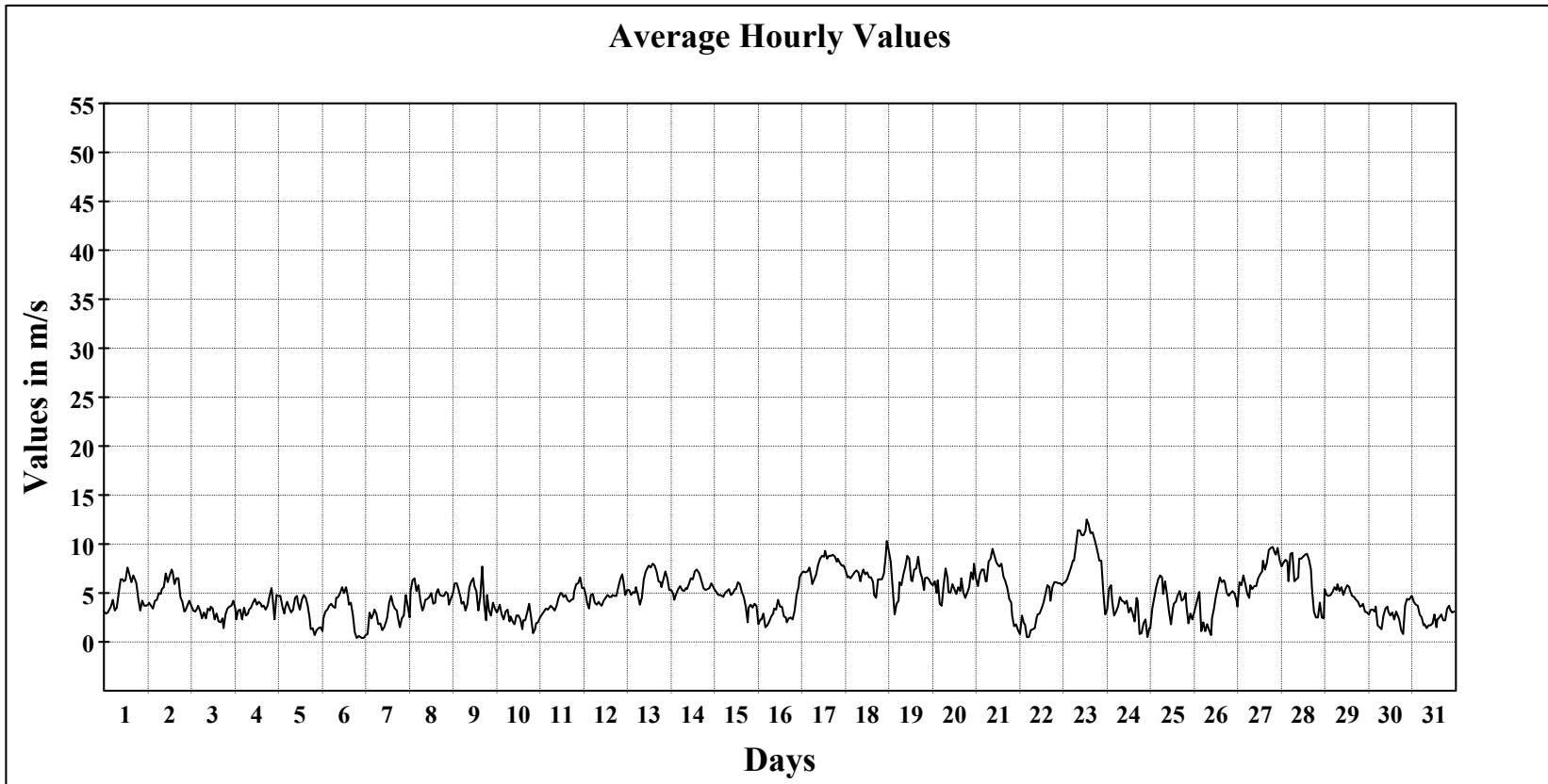
Project: Wind Hybrid Project
 Location: Morris, MN
 Elevation: 350 m

Sensor on channel 6:

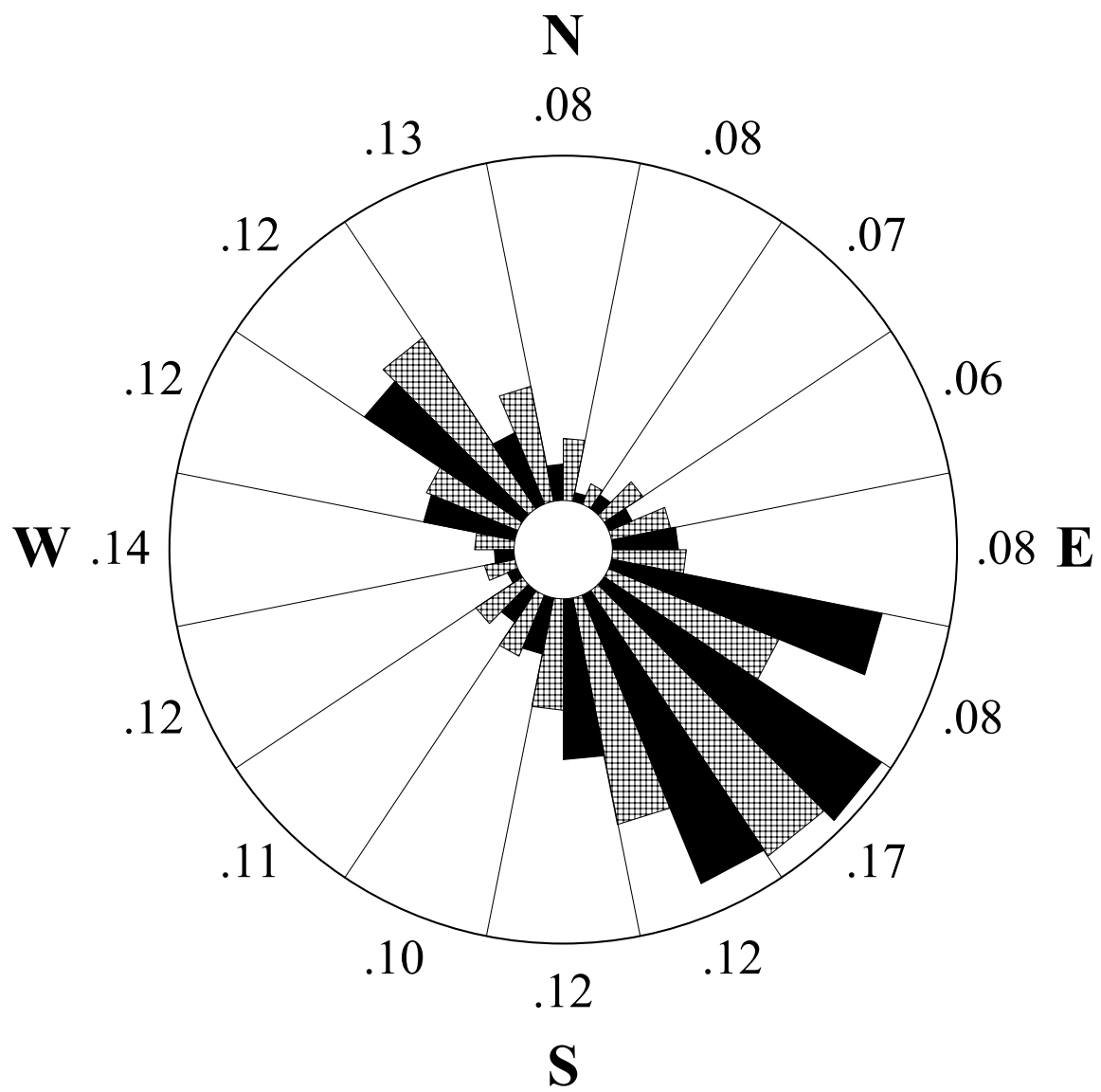
NRG #40 Anem. m/s
 Height: 30 m
 Serial #: SN:



August 2003

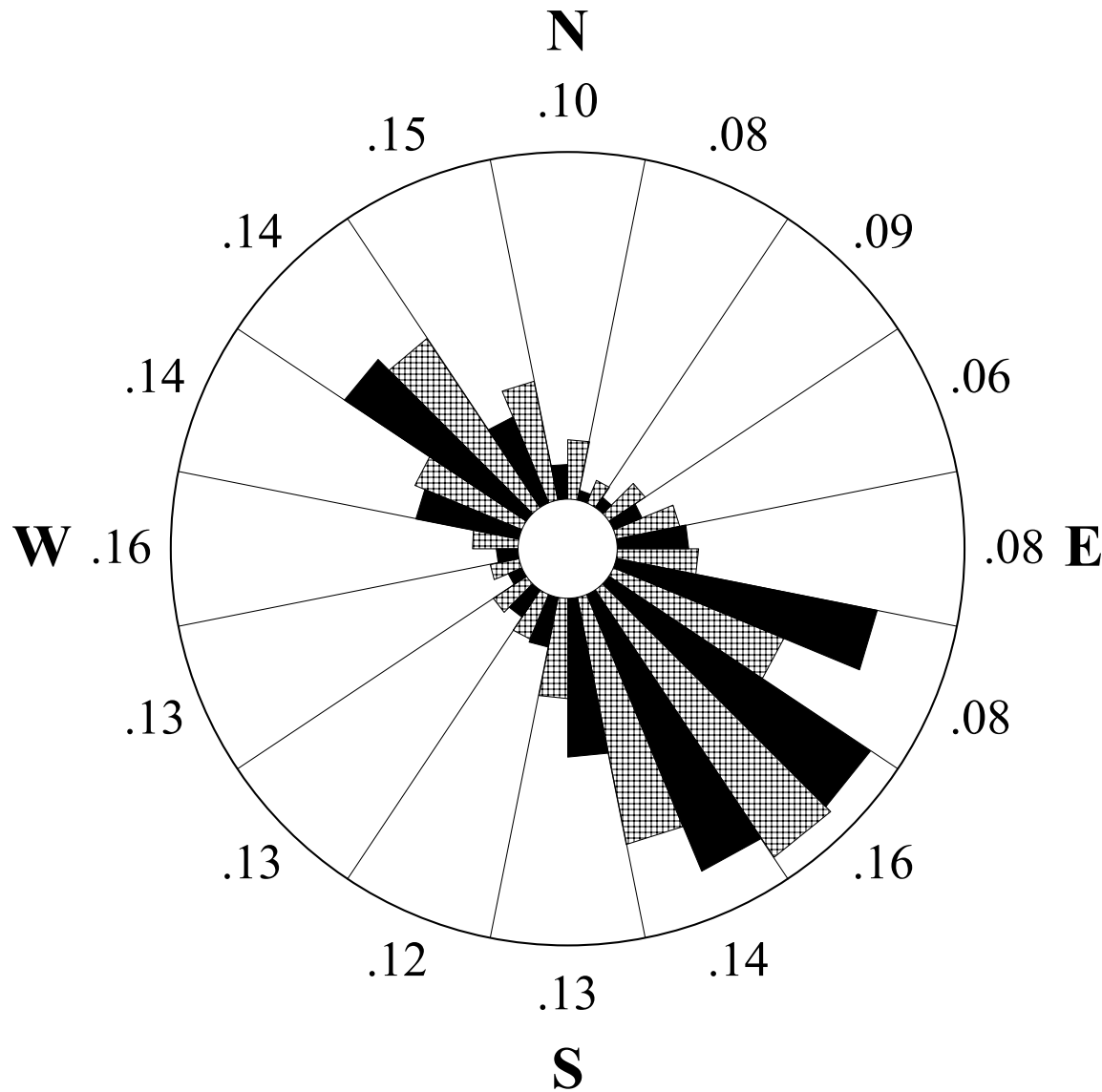
Hourly Averages Graph, 30m, Ch 6
 SITE 1080
 WCROC





Average Value: 4.7



August 2003	
Wind Rose, 50m, Ch 1, 7	
SITE 1080	
WCROC	
Site Information:	
Project:	Wind Hybrid Project
Location:	Morris, MN
Elevation:	350 m
Anemometer on channel 1:	
NRG #40 Anem. m/s	
Height:	50 m
Serial #:	SN:
Vane on channel 7:	
#200P Wind Vane	
Height:	50 m
Serial #:	SN:
Outer Numbers are Average TIs for speeds greater than 4.5 m/s	
Inner Circle = 0%	
Outer Circle = 20%	
	Percent of Total Wind Energy
	Percent of Total Time



August 2003	
Wind Rose, 40 m, Ch 3, 8 SITE 1080 WCROC	
Site Information:	
Project:	Wind Hybrid Project
Location:	Morris, MN
Elevation:	350 m
Anemometer on channel 3:	
NRG #40 Anem. m/s	
Height:	40 m
Serial #:	SN:
Vane on channel 8:	
#200P Wind Vane	
Height:	40 m
Serial #:	SN:
Outer Numbers are Average TIs for speeds greater than 4.5 m/s	
Inner Circle = 0%	
Outer Circle = 20%	
	Percent of Total Wind Energy
	Percent of Total Time