Sac and Fox Tribe of the Mississippi in Iowa

Meskwaki Nation

Department of Energy
Tribal Energy Program Review 2010
Denver, Colorado

Wind Energy Resource Assessment on Tribal Land
Presented by: Donald Wanatee
October 26, 2010

Project Participants:
Technical POC: Thomas M. Gearing
Business POC: Lucas Smith (Grants/Contracts Officer)
Tribal Council Liaison: Donald Wanatee

- RECAP -

Official Site of the Meskwaki Nation (Sac - Windows Internet Explorer

http://www.meskwaki.org/

secretary chu announces funding tribes alas

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tribal energy program review... | Official Site of the Meskw...

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AVG | http://www.energy.gov/7803.htm | Search | Total Protection | AVG Info | Get More

Tribal Operati

Meskwaki Menu

Meskwaki Nation Special Notices

Click the green outlined boxes for more information.

Meskwaki Annual Powwow

Meskwaki Nation Times Current Issue

Tribal Center Events - Weeks: 1 2 3 4 5

Wind Energy Project and RFP info

Sac & Fox Tribe

Hello Friend, we are pleased to welcome you to the official website of the Sac and Fox Tribe of the Mississippi in Iowa/Meskwaki. Our Tribe is governed by a seven member Tribal Council entrusted with the welfare of over 1,300 members. Our Settlement Lands include 7,000+ acres in two counties. Through self-determination we have made positive impacts for the people with accomplishments that include the Tribal Court, established in 2005 and Tribal Law Enforcement, established in 2006. Currently, we are undergoing revisions to our Tribe's Constitution, which was originally created in 1934 as a part of the Indian Reorganization Act. Thanks to our Tribe's gaming facility, we are able to continually improve and increase on our people's quality of life.

The Only All-Indian Four-Day Cultural Festival In The State Of Iowa!

2009 95th Annual Meskwaki Indian Powwow August 6-7-8-9

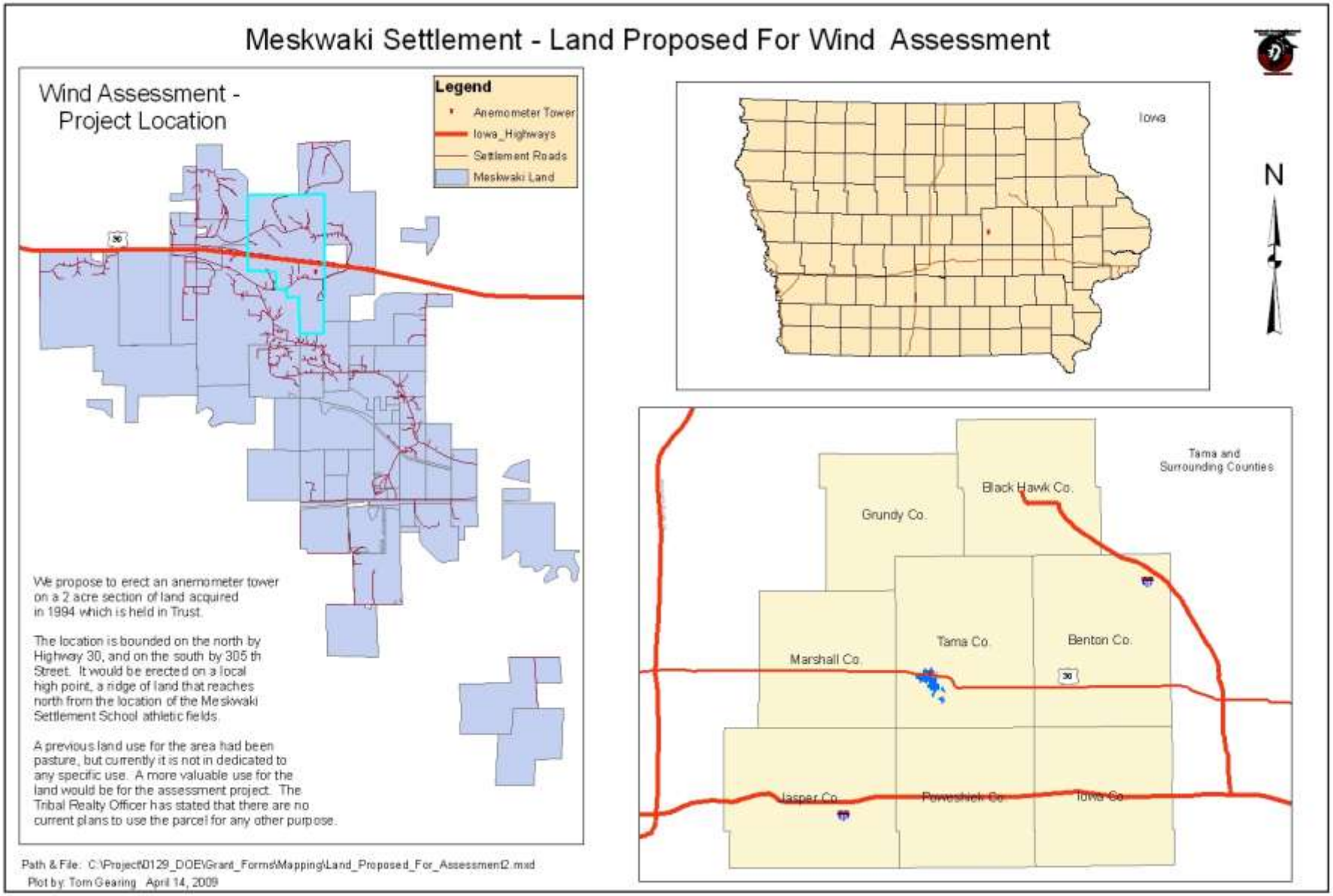
Held on the Meskwaki Indian Settlement Near Tama, Iowa

- Unique Ceremonial Dances
- Authentic Arts & Crafts
- Historical Preservation Exhibits
- Colorful Native Regalia
- Artisan Demonstrations
- Meskwaki Village Replica
- Food Vendors
- Field Day Events & Contests

Public Welcome!

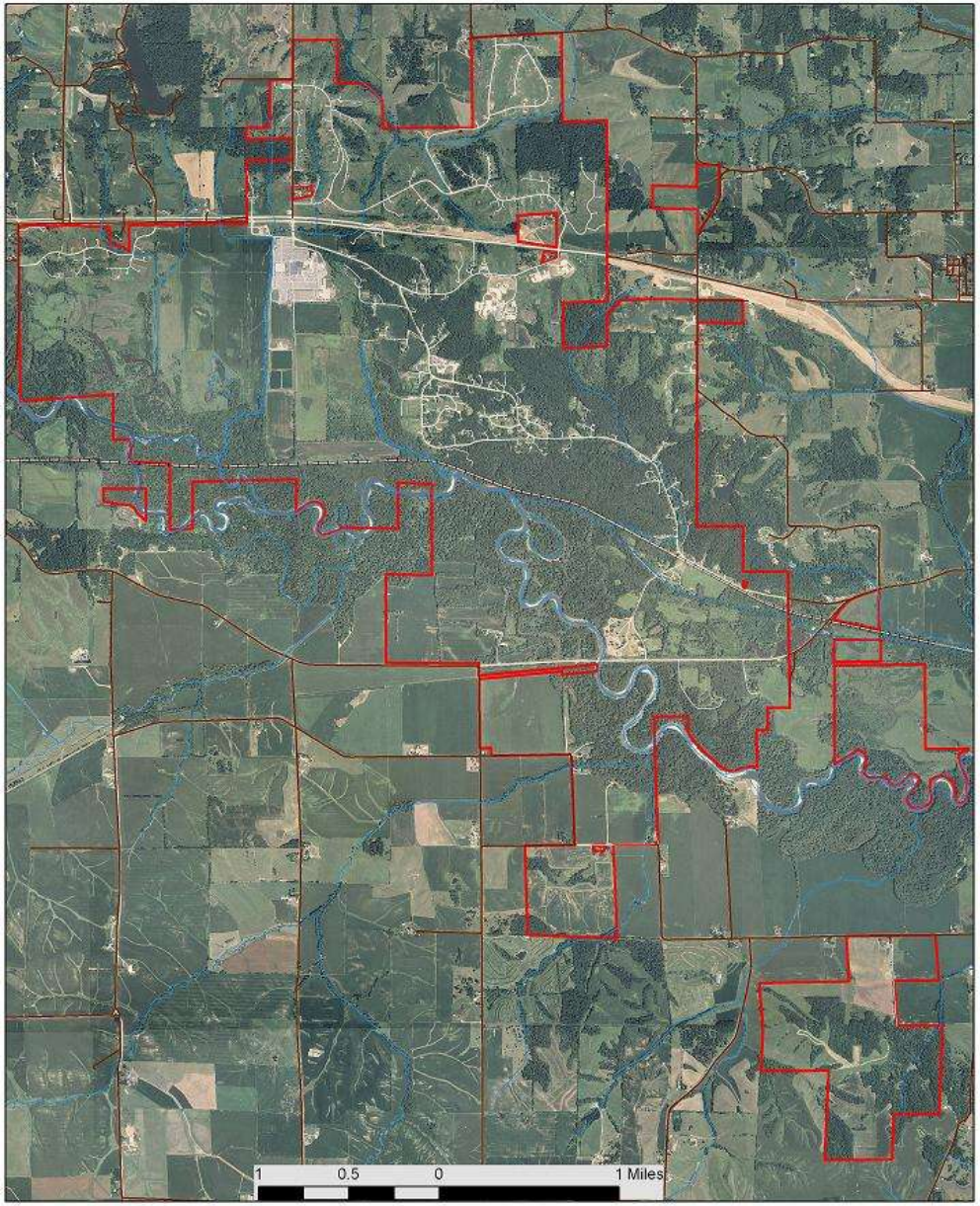
For Information Contact:
Meskwaki Annual Powwow Association Ph. 641-484-4678 or visit www.meskwaki.org

Project location



Meskwaki Settlement

Aerial Photography - NAIP 2009



Path & File:
C:\Projects\0144_Realty\Settlement_Aerial_1117.mxd

Scale = 1:36,000
1 inch = 3,000 feet

Plot by: Tom Gearing October 7, 2010

SAC & FOX TRIBE OF THE MISSISSIPPI IN IOWA

MESKWAKI RENEWAL ENERGY ASSESSMENT NARRATIVE

MESKWAKI SETTLEMENT, TAMA, IA 52339

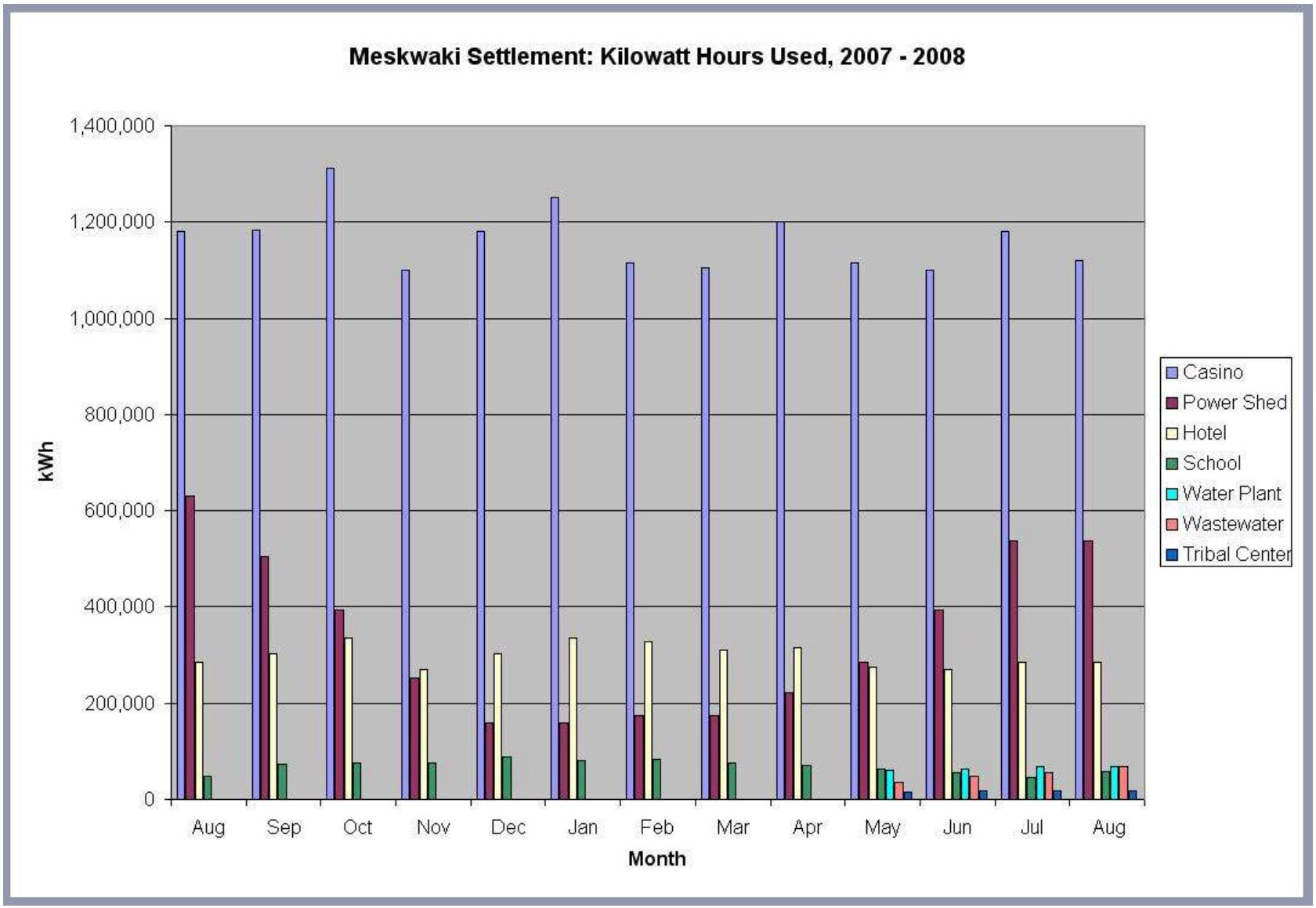
Assessing the Feasibility of Renewable Energy Development and Energy Efficiency Deployment on Tribal Lands
Funding Opportunity Number: DE-PS36-09GO99024

Topic Area: Renewable Energy Feasibility Studies

Contact Information:

Technical POC
Thomas Gearing (Technical Principal Investigator)
349 Meskwaki Road
Tama, IA 52339

Assess Energy Needs



Meskwaki Nation – Sac & Fox Tribe of the Mississippi in Iowa

Request for Qualifications & Request for Proposals

Wind Resource Assessment

1. Introduction

1.1 Document Purpose

This document is an outline defining the needs of the Meskwaki Nation's initiative in assessing the wind energy resource on Tribal Land with no reference to any specific vendor. The Meskwaki Nation is submitting this Request for Qualifications (RFQ) and Request for Proposal (RFP) to vendors/consultants. The responses to these requests will be used to select one or more candidate vendors for further evaluation.

1.2 Document Audience

The audience includes Tribal Council, Meskwaki Settlement School, Executive Management, Information Technology, Finance, and all identified stakeholders of the Meskwaki Nation as well as selected vendors.

2. Scope and Objectives

2.1 Scope of Work

The scope of work to be performed under this proposal shall include the securing of one anemometer tower with complete instrumentation at 3 levels and data logging and transmission. Contractor will provide for delivery of all equipment to the Tribe's address in Tama, Iowa. Upon arrival of all necessary equipment, contractor will perform assembly and commissioning of the anemometer tower and data transmission equipment. During the one-year term of data collection, contractor shall provide for the receipt and storage of data at the contractor's location. At year's end, the contractor shall provide a meteorological analysis of the year's data, producing a set of standard meteorological reports suitable for input to technical analysis for specific wind turbine models (technical analysis not to be provided under this proposal.).

Please provide the methodology of your project implementation: How quickly can you deliver and install your product? What are the industry ratings of the components you have chosen? If you are aware of similar options for a particular subsystem, you may present both options with your assessment of the relative cost versus quality tradeoffs. Do you have resource maps and/or models that could suggest a more optimal placement of the tower? What type of software is used to track and process the collected information? Are intermediate results readily available if requested?

RFP Results

- 15 companies bid on our wind resource assessment project.
- 12 of the bids were fully qualified and within our budget expectations
- The 3 best of the companies have been selected for a chance to present their proposals in person

SEVENTH GENERATION ENERGY SYSTEMS

SITE ASSESSMENTS.

A renewable energy site assessment is the best and lowest risk option to find out if renewable energy is right for you. A certified wind or solar site assessor will meet with you at your home or business to discuss your objectives, evaluate your resource and identify several system options that would be best for your site. Within a few weeks, you'll receive a written report outlining:

- Current energy use and costs
- Wind or solar resource potential
- System design goals
- Wind and/or solar system options including performance and cost estimates
- Installation barriers
- Siting, zoning and permitting issues
- Utility interconnection issues
- Next steps

A Seventh Generation Energy site assessment will provide you with a comprehensive road map from which to evaluate the opportunities and challenges of a wind system at your site. Most importantly, we will quickly identify any fatal flaws that would stand in the way of your goals.

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Anemometry Specialists

Installed With Pride Worldwide™

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Wind Energy Site Assessment

Anemometry Specialists wind energy site assessment services can help save you money. The selection of a wind turbine site is crucial to the profitability of your wind project. The availability of wind, transmission lines, value of energy to be produced, cost of land acquisition, land use considerations, and environmental impact of construction and operations can have a major impact on your potential profits.

Securing the right site and fully exploiting its wind resource is critical to the long-term profitability of your project. If you secure an excellent site with sufficient grid capacity and fully exploit its wind resource, you will guarantee that your business will profit from the power you generate.

Typical site location services include:

- Site Visits
- Evaluation of Topography
- Proximity to Power Lines
- Transmission Grid Studies
- Land Use and Ownership
- Compilation of Existing Wind Data
- Environmental Studies and Restrictions
- Permitting Requirements

Our Services

Anemometry Specialists is a full service wind energy assessment company. Use the links below to find out more about our services and expertise.

Wind Assessment
Wind Energy Site Assessment
Met Tower Installation
Sodar Installation
Wind Data Collection
Wind Data Analysis
Project Management & Consulting
Tower Climb Installation
Maintenance & Repair

Wind Power 2009

We would like to thank everyone that visited our booth during the WindPower 2009 Conference in Chicago. More than 23,000 people attended the show which

WPCS International Incorporated

HOME INVESTOR RELATIO

Engineering for the Future

WHO WE ARE

WHAT WE DO

- Overview
- Wireless Communication
  - Network Solutions
  - Mobile Data
  - Asset Tracking
  - Radio Systems
  - Video Solutions
  - Wireless Infrastructure
- Specialty Construction
  - Building Services
  - Energy Infrastructure
  - Transportation Infrastructure
- Electrical Power
  - Commerical/Industrial
  - Integrated Building Systems

Energy Infrastructure

As global energy demand rises, resources must be expanded. WPCS supports the development and delivery of energy solutions.

World economies are growing, standards of living are improving and energy supplies are dwindling. It's a scenario that has accelerated the search for new energy sources and better ways of delivery existing supplies. WPCS is contributing in both of these critical areas. WPCS designs and deploys alternative energy solutions in wind and solar power. Through a unique combination of scientific, geologic, engineering and construction expertise, we offer solutions in site design, solar installation, meteorological towers and wind turbine installation. In addition, we support energy companies as they maximize the efficiency of their energy supply infrastructure, by providing a range of services from pipeline trenching to the deployment of wireless solutions.

contact solutions specialist

Since Last Year ----

- How to continue the mission?
- Form Energy Leadership Team
- Invite best 3 Bidders (Contractors) -
- 1) Site Visit/Tour
- 2) Contractors make Their Best Pitches
- Selection Committee Picks Winner: WPCS
- P. I. goes to Tribal Council for Approval
- Legal Department polishes & vets Contract – Chairman & Vendor both sign.

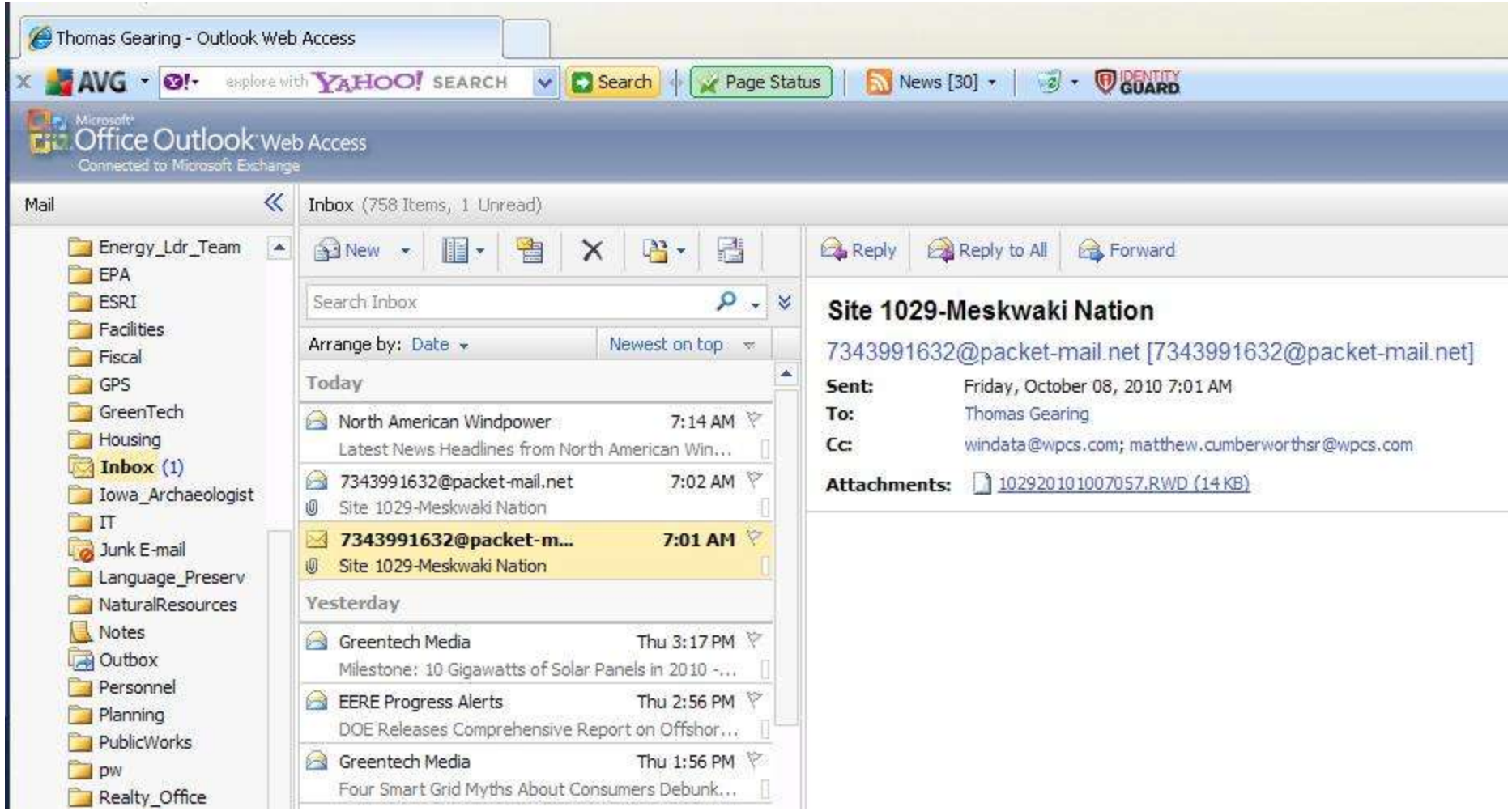
Anemometer Tower Goes Up!

Jin-Pole Technique, No Crane Needed

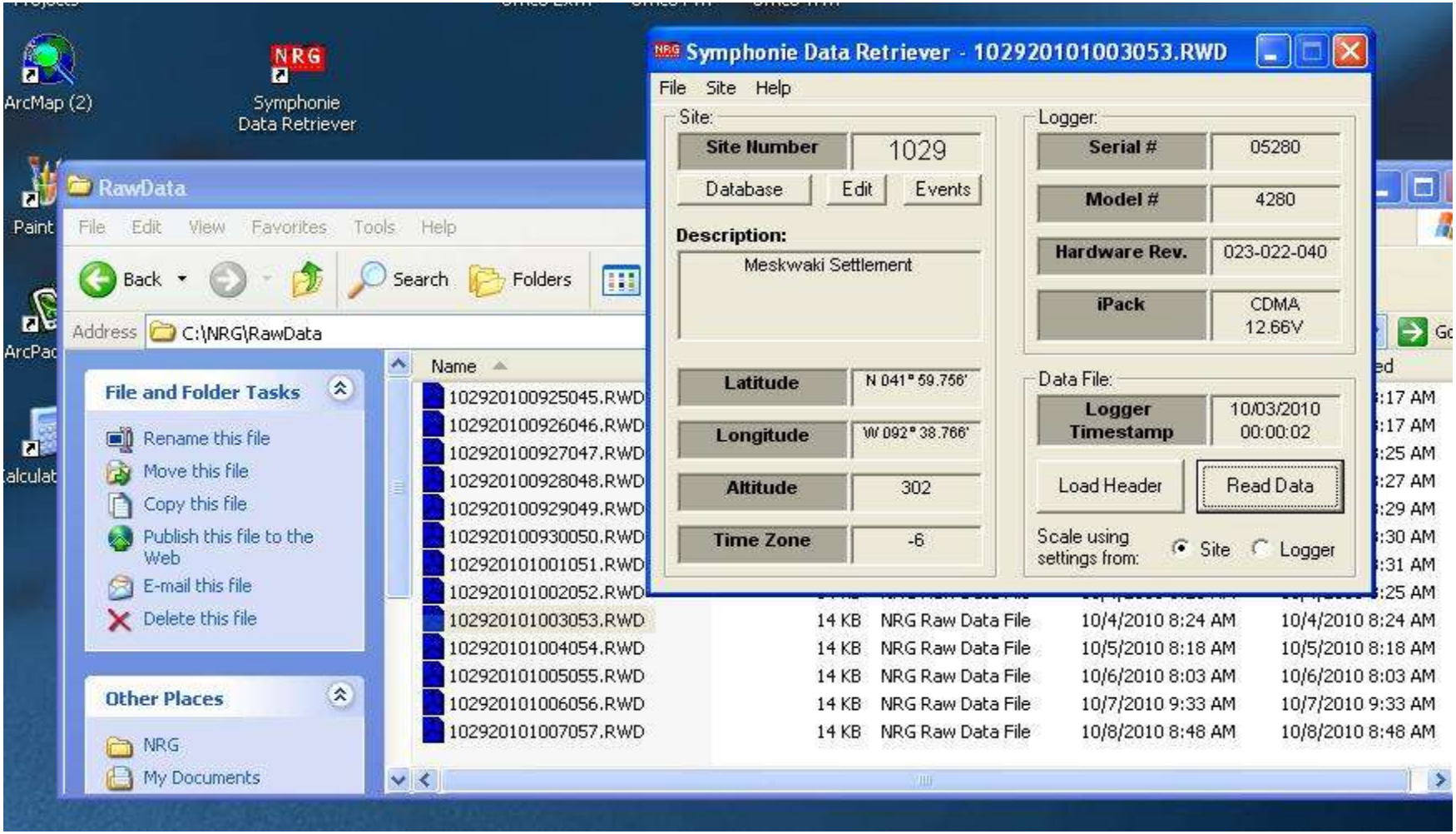
Current Status:

- Downloading from email every morning
- 1) 14k bytes file of 24 hours data – midnight to midnight
- 2) 5k bytes file of last 6 hours data – from midnight to 6:00 AM
- Run NRG Symphonie software daily.
- Read Data and view wind speed graphs
- Load the 24 hour file to site database.

2 Email Files Every Day



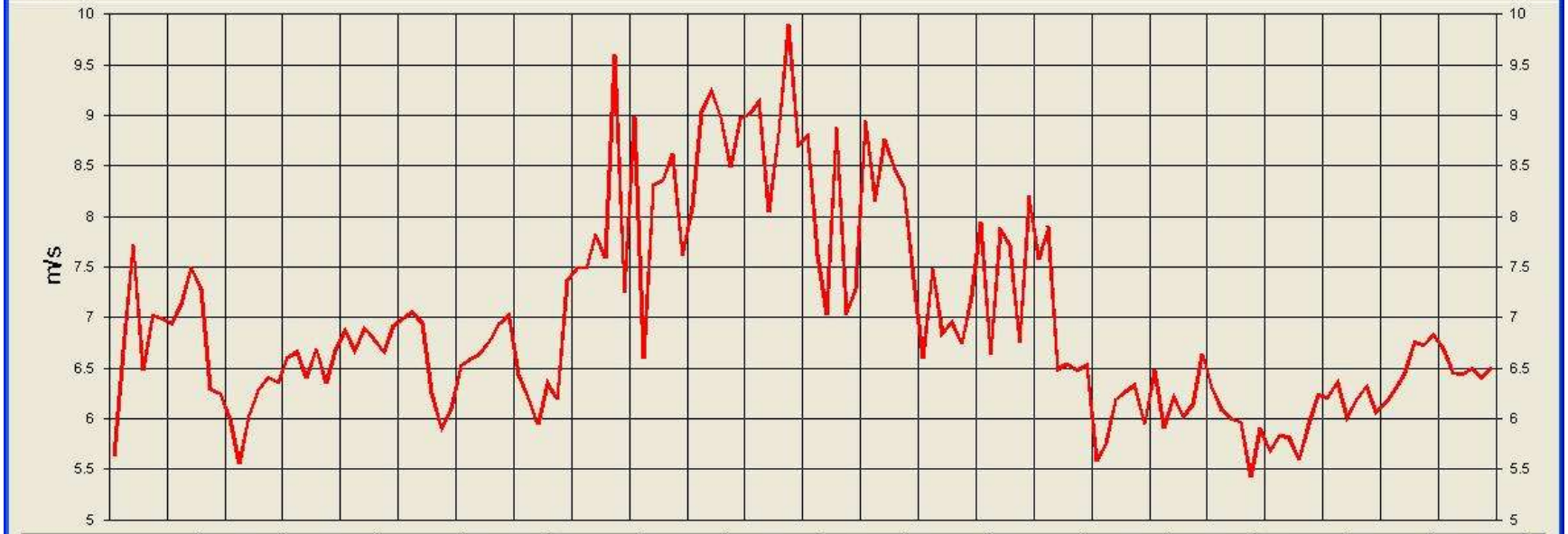
NRG – Symphonie Data Retriever



Previous day – 24 Hours Wind Speeds

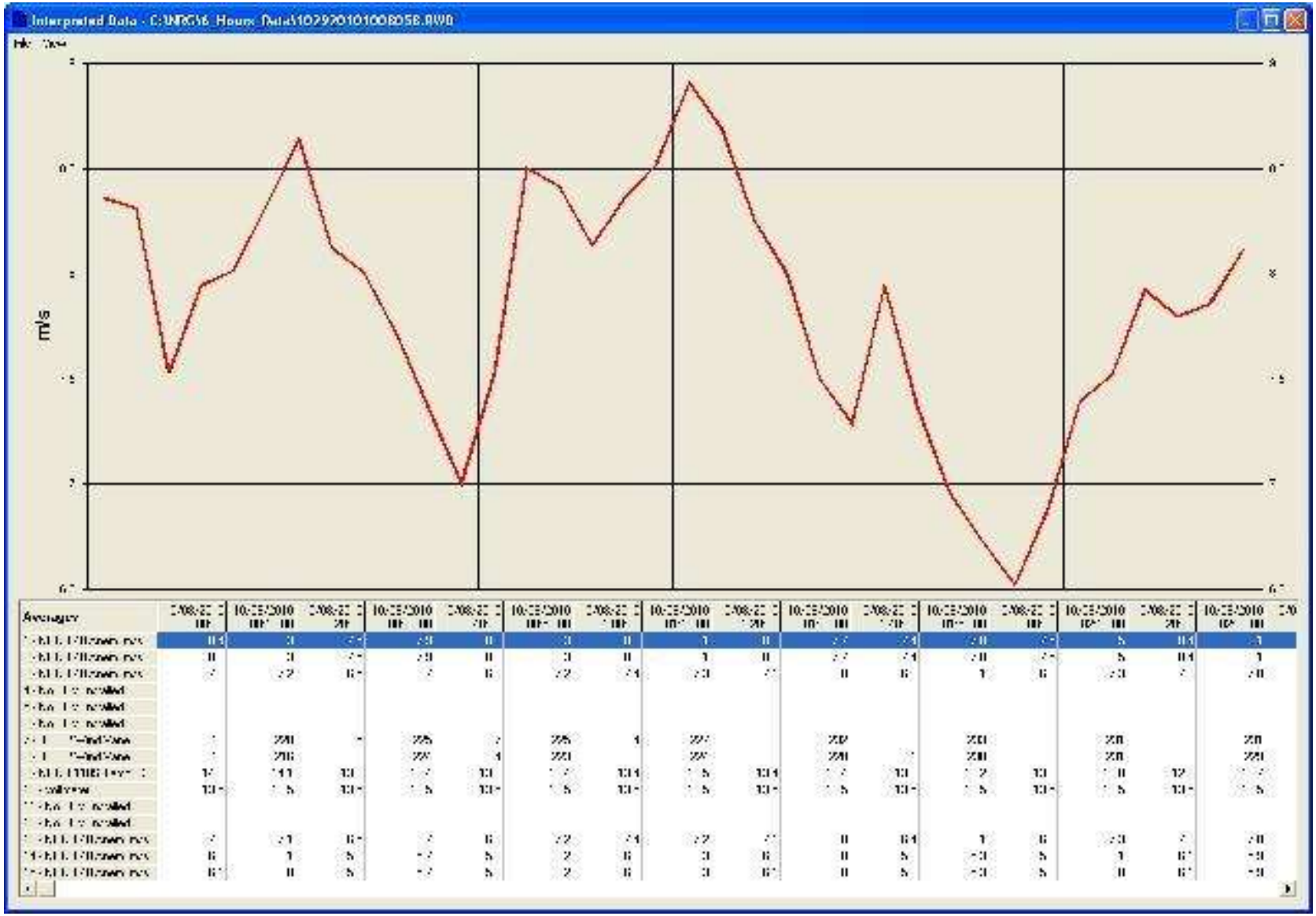
Interpreted Data - C:\NRG\RawData\102920101002052.RWD

File View

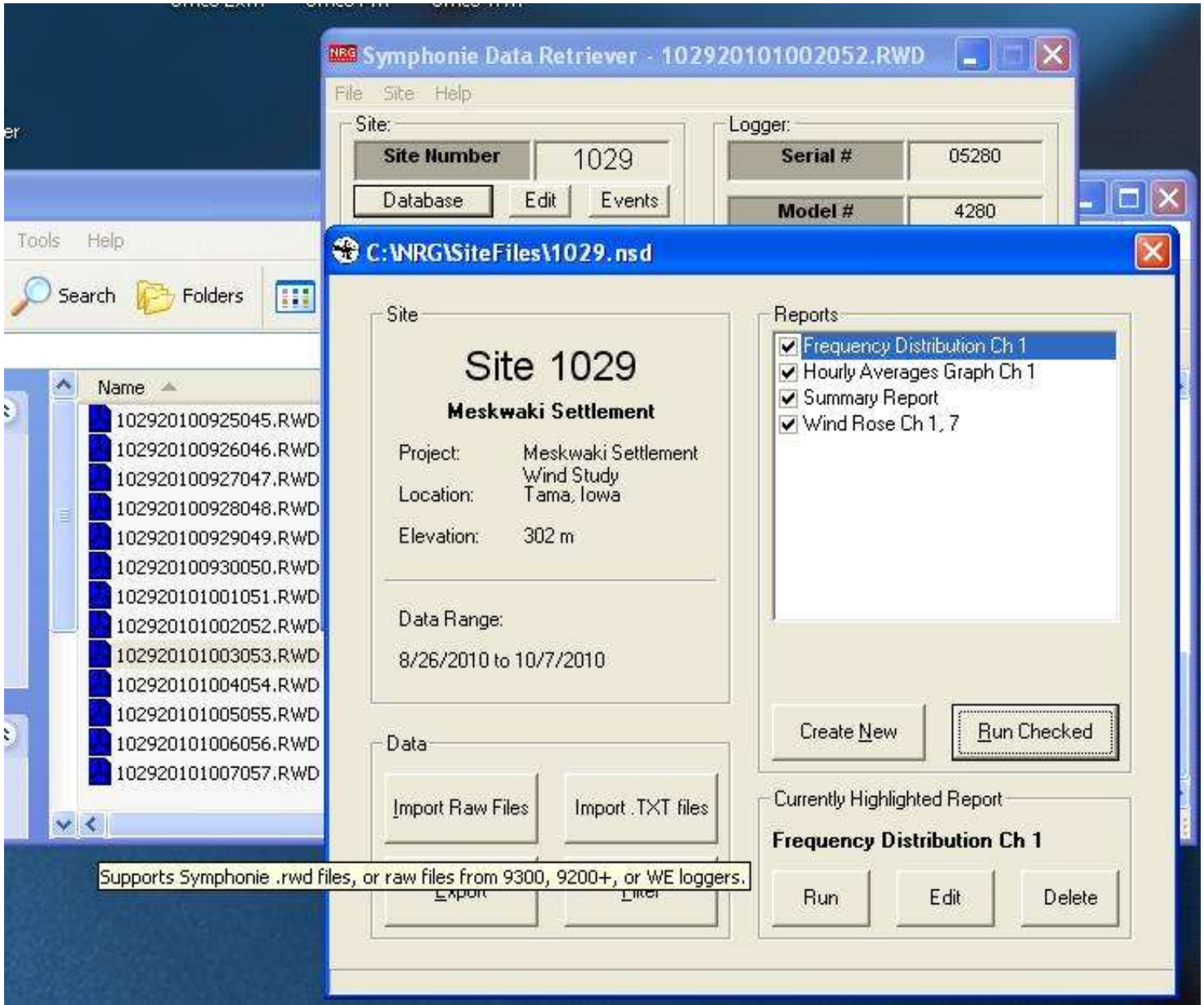


Averages	10/02/2010 00:00:00	10/02/2010 00:10:00	10/02/2010 00:20:00	10/02/2010 00:30:00	10/02/2010 00:40:00	10/02/2010 00:50:00	10/02/2010 01:00:00	10/02/2010 01:10:00	10/02/2010 01:20:00	10/02/2010 01:30:00	10/02/2010 01:40:00	10/02/2010 01:50:00	10/02/2010 02:00:00	10/02/2010 02:10:00	10/02/2010 02:20:00	10
1 - NRG #40 Anem. m/s	5.6	6.7	7.7	6.5	7.0	7.0	6.9	7.1	7.5	7.3	6.3	6.3	6.0	5.5	6.0	
2 - NRG #40 Anem. m/s	5.1	6.2	7.2	6.0	6.5	6.5	6.4	6.6	6.9	6.6	5.8	5.7	5.7	5.3	5.7	
3 - NRG #40 Anem. m/s	5.3	6.3	7.3	6.1	6.7	6.5	6.4	6.7	7.1	6.9	6.0	5.9	5.6	5.1	5.7	
4 - No SCM Installed																
5 - No SCM Installed																
6 - No SCM Installed																
7 - #200P Wind Vane	13	24	23	20	21	22	20	18	7	9	8	9	7	5	7	
8 - #200P Wind Vane	14	22	21	17	15	22	17	14	7	6	5	8	5	4	3	
9 - NRG #110S Temp C	11.6	11.8	11.8	11.8	11.6	11.3	11.1	10.9	10.6	10.2	9.9	9.7	9.5	9.1	8.9	
10 - voltmeter	13.5	13.5	13.5	13.5	13.5	13.5	13.5	13.5	13.5	13.5	13.5	13.5	13.5	13.5	13.5	
11 - No SCM Installed																
12 - No SCM Installed																
13 - NRG #40 Anem. m/s	4.9	5.9	6.9	5.7	6.2	6.2	6.0	6.4	6.8	6.5	5.6	5.5	5.4	4.9	5.4	
14 - NRG #40 Anem. m/s	4.7	6.0	7.1	6.0	6.2	6.0	5.8	6.3	6.8	6.6	5.8	5.6	5.3	4.8	5.4	
15 - NRG #40 Anem. m/s	4.3	5.6	6.5	5.5	5.6	5.6	5.4	5.8	6.2	5.9	5.2	5.1	4.9	4.5	4.9	

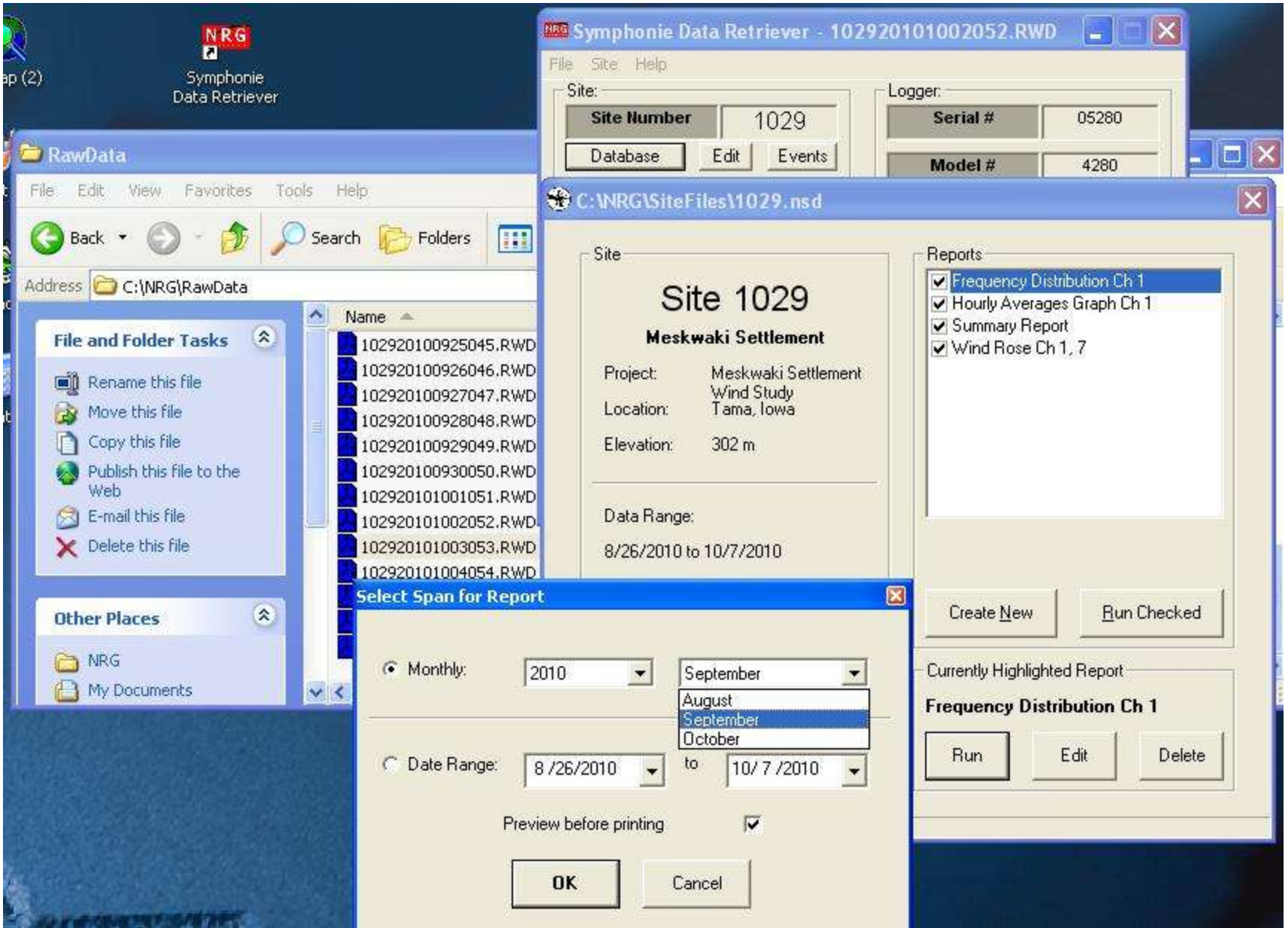
Today – Midnight to 6:00 AM



Database Menu: Import & Report



Select Frequency Distribution Report

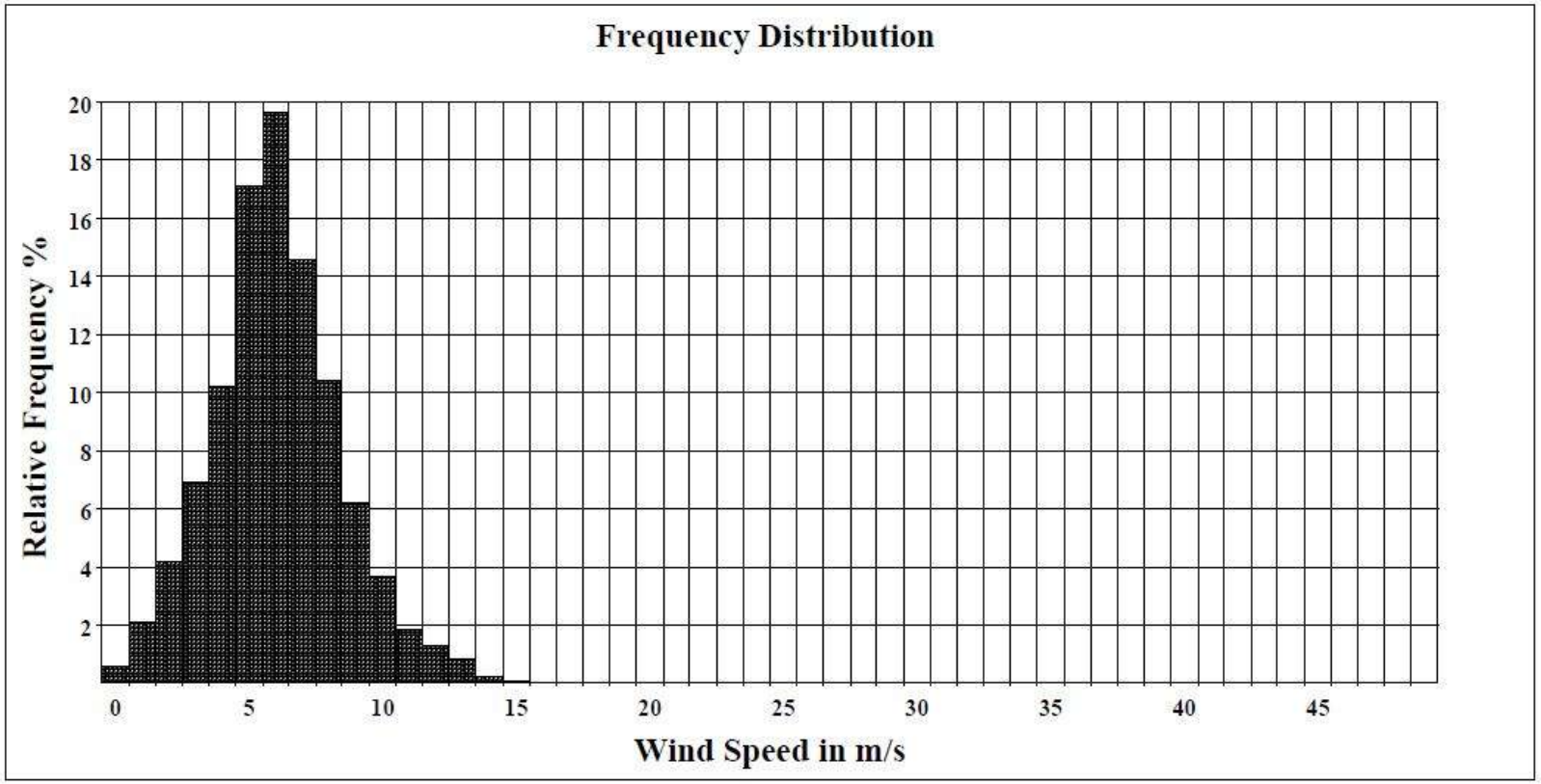


Reports – Frequency Distribution

Site Information:
Project: Meskwaki Settlement Wind Study
Location: Tama, Iowa
Elevation: 302 m

Sensor on channel 1:
NRG #40 Anem. m/s
Height: 58 5 m
Serial #: SN151228

September 2010
Frequency Distribution Ch 1
SITE 1029
Meskwaki Settlement



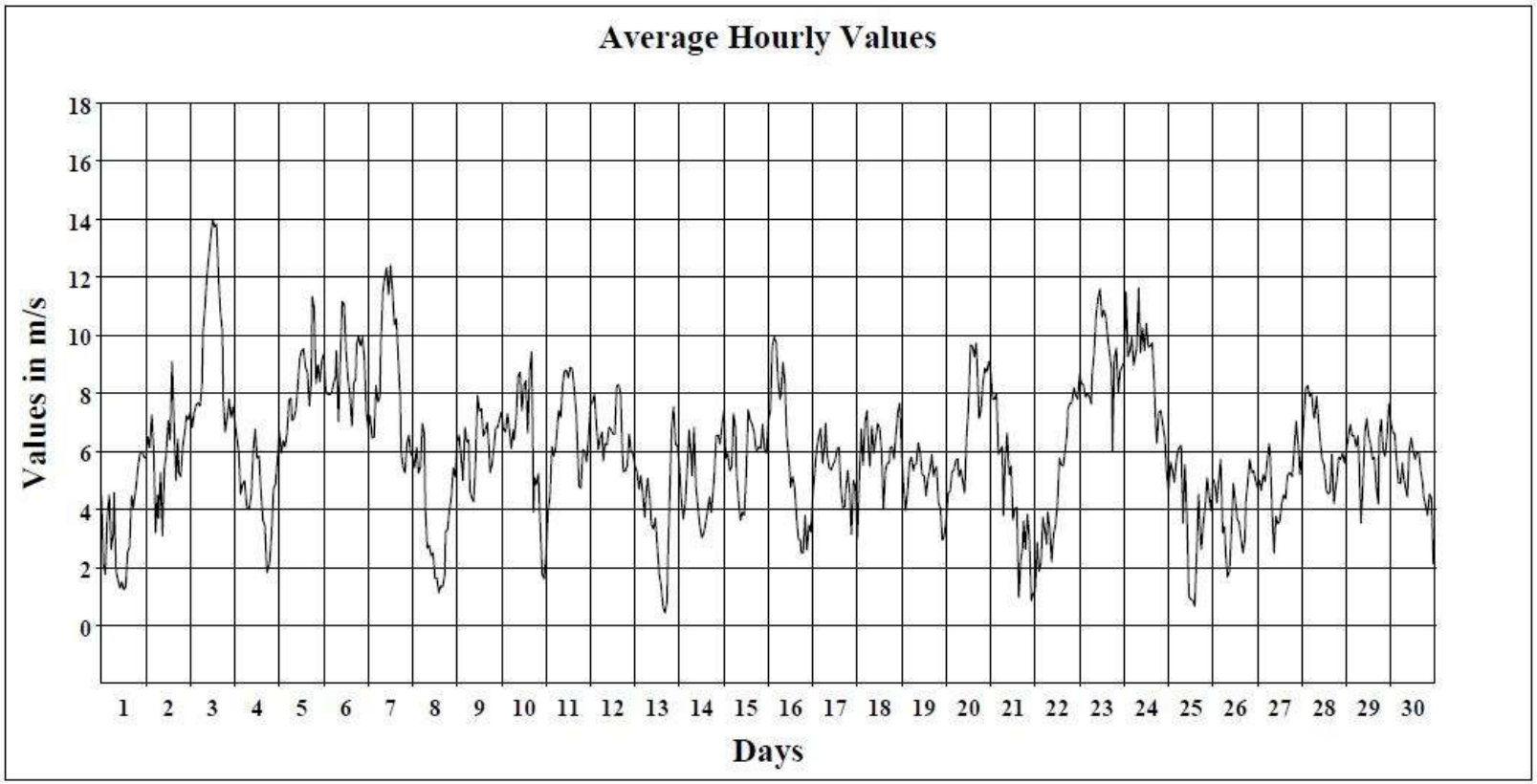
Generated Tuesday, October 05, 2010 Total 10-minute intervals: 4320 Intervals used in calculations: 4320 Percent data used: 100 NRG Systems SDR Version 6.05

Reports – Wind Speeds

Site Information:
Project: Meskwaki Settlement Wind Study
Location: Tama, Iowa
Elevation: 302 m

Sensor on channel 1:
NRG #40 Anem. m/s
Height: 58 5 m
Serial #: SN151228

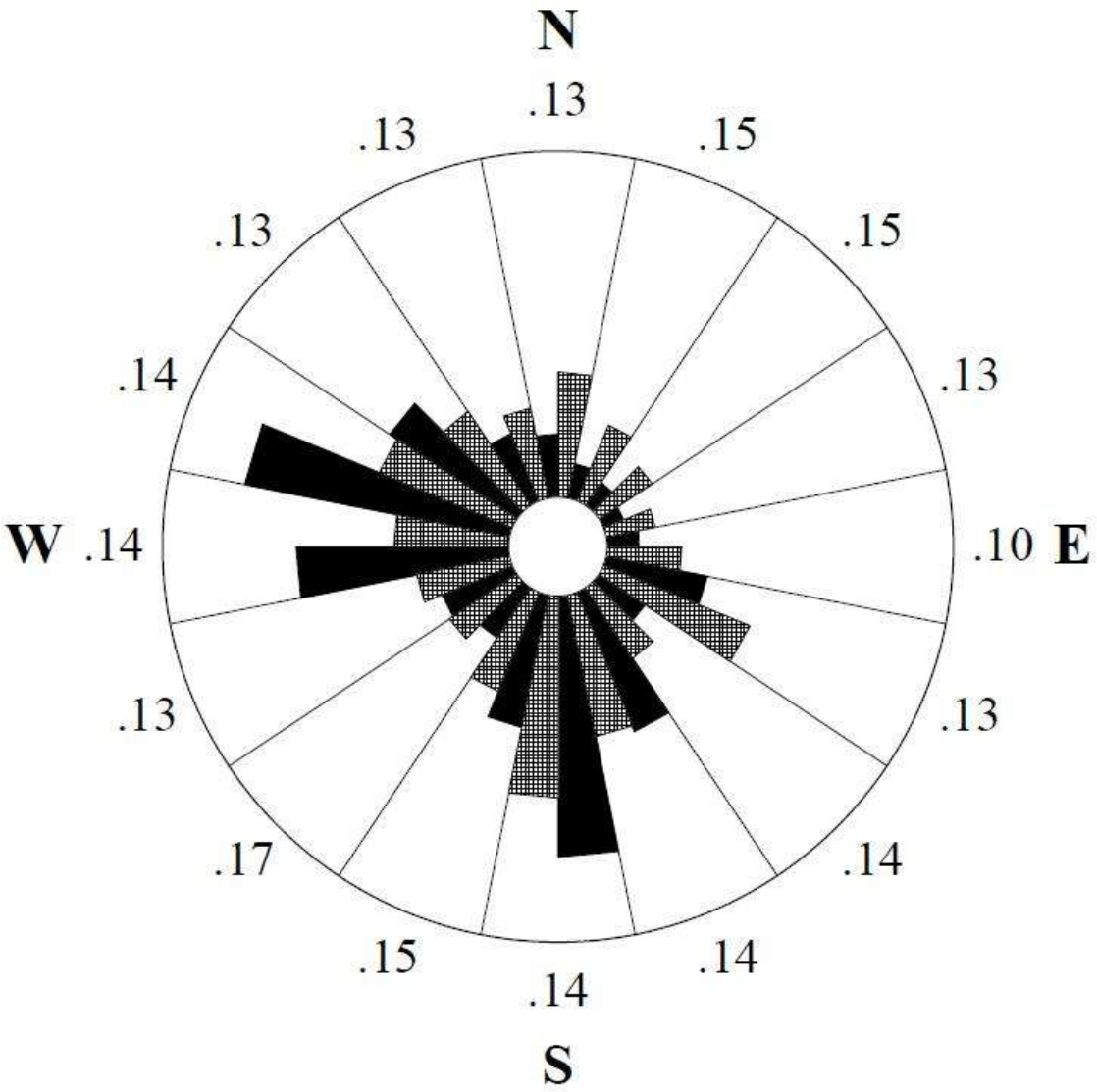
September 2010
Hourly Averages Graph Ch 1
SITE 1029
Meskwaki Settlement



Average Value: 6.0

Generated Tuesday, October 05, 2010 Total 10-minute intervals: 4320 Intervals used in calculations: 4320 Percent data used: 100 NRG Systems SDR Version 6.05

Reports – Wind Rose



September 2010

Wind Rose Ch 1, 7

SITE 1029

Meskwaki Settlement

Site Information:

Project: Meskwaki Settlement Wir

Location: Tama, Iowa

Elevation: 302 m

Anemometer on channel 1:

NRG #40 Anem. m/s

Height: 58 5 m

Serial #: SN151228

Vane on channel 7:

#200P Wind Vane

Height: 52 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

Generated Tuesday, October 05, 2010

Total 10-minute intervals: 4320 Intervals used in calculations: 4320 Percent data used: 100

NRG Systems SDR Version 6.05

Still to Do ---

- Quarterly Wind Data Analyses
- Environmental Assessment
- Archaeological Assessment
- Community Outreach
- Annual Wind Data Analyses
- Technical Analysis – Turbine Models
- Business Plan for first Wind Turbine

Project Timeline

Event	Scheduled Completion*	Actual Completion
Award signed by Tribal Energy Program Budget Office		**5/28/2010**
Identify internal team members and assign roles and responsibilities	5	6/30/2010
Inspect site for anemometer tower to be erected	6	10/1/2009
Develop outside consulting firms qualification	7	8/1/2009
Obtain necessary permits for tower	14	4/8/2009
Prepare Bid and Proposal Package	15	8/15/2009
Conduct public Bid and Proposals (B&P) solicitations along with focused B&P solicitation	30	9/1/2009
Receive Solicitation Results	35	9/9/2009
Conduct Bidders Evaluation	40	8/4/2010
Prepare Award Recommendations	42	8/4/2010
Obtain Award Approvals from Meskwaki Executive Management and Council	45	8/4/2010
Award Anemometer Tower & Consulting Contract	48	8/6/2010
Complete signing process for contract	48	8/23/2010
Prepare tribal construction crews to take training on anemometer tower assembly and erection	55	n/a
Oversee arrival of equipment components and secure all items	80	8/25/2010
Manage participation of tribal crew with the consultant's crew for the assembly and erection of the assessment tower and attached equipment	83	n/a
Verify proper measurement, recording and transmission of data	88	8/25/2010
Verify proper functioning of receipt of data, signoff on commissioning tower	89	9/1/2010
Establish regular schedule of equipment checks and perform equipment checks during project year	90	9/1/2010
Plan for actions necessary for repair/replacement of defective equipment	90	9/1/2010
Natural Resources solicits contractor for Environmental Assessment	92	
Perform more extensive Community Load Assessment	122	
Create short-list of available turbines & obtain power curve data	365	
Sign-off for 12 months correctly acquired data & initiate meteorological analysis of data	455	
Transmission discussion resulting in a formal Connection Plan	455	
Sign-off on meteorological analysis and initiate technical/engineering analysis with turbine short list	486	
Select optimum turbine choice	486	
Organize information, submit to contractor to create business plan	486	
Assemble business plan & all assessment reports	516	
Produce proposal for wind turbine project	547	
* Days are defined as routine and customary work days (after Grant Award date).		
n/a = tribal training postponed based on reccomendation from contractor.		

Thank You!

- Questions?