BUILDING TOWARD A SMALL WIND TURBINE SITE ASSESSOR CREDENTIAL

Small Wind Installers Conference 2013

Stevens Point, Wisconsin

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18 June 2013

NREL/PR-5000-60183

Background

To support the growth of the small wind industry in the United States, a three-pronged approach was identified, which includes:

1. Certification of small wind turbines (e.g., Small Wind Certification Council, Intertek, Microgeneration Certification Scheme)

A Bergey 10-kilowatt (kW) wind turbine. *Photo by Northwest Seed, NREL 13162*

Background (Continued)

2. Develop a small wind turbine **installer** certification program (currently suspended by the North American Board of Certified Energy Practitioners; future host TBD)

3. Develop a small wind **site assessor** certification program (deferred based on last year's input; future host TBD)

A Skystream wind turbine. *Photo by Southwest Windpower, NREL 15337*

Small Wind Site Assessor Best Practice Manual

The purpose of the best practice manual is to provide:

- A stop-gap to certification
- A resource for state incentive managers (i.e., Interstate Turbine Advisory Council, or others)
- A resource for consumers

What the manual is NOT:

- Training for site assessment (although it could be a resource for a training program)

An Entegrity Wind Systems EW50 turbine. *Photo by Lee Jay Fingersh*, NREL 16390

Proposed Content

- **Introduction**
  - Overview
  - Importance
  - Skills, training, and experience

An ARE 442 10-kW wind turbine. *Photo by Jeroen van Dam, NREL 17818*

Content (Continued)

- **Methods and Best Practices**
  - Wind prospecting and validation
  - Wind measurement
  - Obstacles and displacement height
  - Wind characteristics and analysis
  - Interconnection, grid-tie, and off-grid systems
  - Environmental
  - Turbine and tower selection
  - Operations and maintenance plan
  - Micrositing
  - Performance estimation
  - Economics and incentives
  - Other issues: zoning, permitting, soils, hazards, aviation, customer, policy, energy efficiency, and building integration

An 11-kW Gaia small wind turbine. *Photo by Lee Jay Fingersh, NREL 17523*

Content (Continued)

- Report

- Conclusions

- References

- Appendices

- Glossary

- Case Studies

- Checklist

A Bergey 10-kW turbine at the Tom Ridge Environmental Center in Pennsylvania that was damaged in a storm. *Photo by Lisa Adams, NREL 26432*

Case Studies/Lessons Learned

Poor site selection caused this residential Bergey 10-kW turbine to underperform significantly. *Photo by Abigail Krich, NREL 13495*

Purpose:

- To provide examples where site assessment played a role in a project not performing as expected

- To provide examples of lessons learned

Next Steps

During the SWC:

What: Engage Small Wind Conference attendees in a brainstorming session to develop the best practice manual content outline

When: Thursday, June 20, from 1:00–3:00 p.m.

Who: Contact Karin Sinclair or Tim Olsen

A Northern Power Northwind 100A wind turbine. *Photo by Lee Jay Fingersh, NREL 16392*

Next Steps (Continued)

Poorly sited AOC 65-kW turbines in Tutu, St. Thomas, U.S. Virgin Islands. *Photo by Owen Roberts, NREL 23839*

After SWC 2013:

- Identify and work with experts team
- Develop draft outline
- Develop draft manual
- Review draft manual (expert team)
- Revise draft manual
- Conduct final review of manual (including experts)
- Develop final best practice manual
- Project Timeline: Draft Final: September 30, 2013; Final: December 30, 2013
- Source: NREL small wind website; publicly available. Consider OpenEI.

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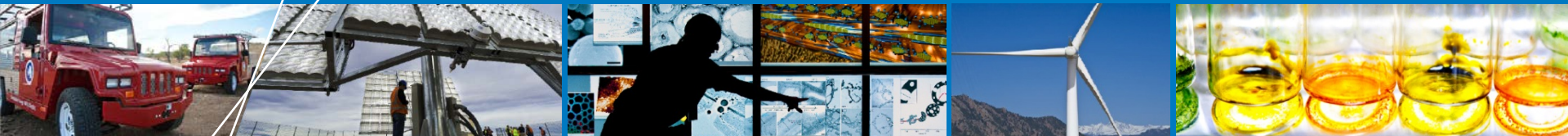
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Discussion Questions

During this session, the following questions were discussed with the SWC attendees:

1. What do small wind installers want in terms of a certifying organization (assuming there is interest for a installer certification)?

2. What do small wind site assessors want (assuming there is interest for a site assessor certification)?