



2008 International Wind-Diesel Workshop

The Small Wind Certification Council

James Glennie. Director - Business Development

Wind Energy Institute of Canada

james.glennie@weican.ca

Girdwood, Alaska

24 April 2008



North American Certification for Small Wind Turbines

Many thanks are due to Larry Sherwood, a colleague on the Small Wind Certification Corporation Steering Committee.

Larry has been involved for a long time with the SWCC and has been critical to its success to date. He provided me with invaluable assistance with preparing the following material.

Larry works at the of the Interstate Renewable Energy Council (US)



August 2006 Certification Study

- 90 respondents: reinforced need for small wind certification
- 89% of manufacturers affirmed that certification is important
- 33% viewed certification as 'critical', 'essential' or 'required' in order to reach the mainstream
- 27 manufacturers expected to submit applications to certify 30-70 turbines in the first few years



August 2006 Certification Study

- Of state and utility incentive program respondents
 - 11 plan to require certification from small wind turbines if they are to be eligible for funding
 - 4 others are considering such requirements
 - 7 indicated that certification could help expand their programs to include small wind turbines
- Out of 23 states and utilities with existing requirements for small wind turbines
 - 12 expect to use certification to supplement or replace these procedures



The problem

- No standard small turbine performance specifications
- Agencies (and utilities) providing financial assistance increasingly link financial incentives with performance assurance
- Consumers need greater certainty re safety, functionality and durability.



The 3-part solution

- Turbine hardware performance standard
- Turbine field tests
- Independent certification body

All three parts are necessary for certification allowing ready comparison of different small wind turbine models



AWEA Standard (draft)

- Small Wind Turbine Performance and Safety Standard
 - Describes required tests
 - Based on IEC standards
 - » Power curve
 - » Annual energy performance curve
 - » Sound pressure levels
 - » Strength and safety test (pass/fail)
 - » Duration test (pass/fail)



AWEA Standard Process

- AWEA Small Turbine Subcommittee has prepared draft standard and is considering proposed changes
- AWEA Standards Coordinating Committee will consider draft Standard
 - Following ANSI guidelines
 - Public comment period
- Approval expected mid 2008 (??)



Testing process

- WEICan in Canada and NREL in the US have both put out RFPs for small wind manufacturers, with turbines on offer in the North American market, to submit proposals for financial assistance with testing leading to certification.
- Tests to focus on;
 - Power curve
 - Annual energy performance curve
 - Sound pressure levels
 - Strength and safety tests
 - Duration tests
- Testing under both programs is due to start by mid 2008



Certification

- The final step. Certification of test results
- At present no body in North America undertakes certification for small wind
- Required to;
 - Certify that small wind turbines meet the requirements of the AWEA standard
 - Verify and certify test results



Certification.

Small Wind Certification Corporation (SWCC)

- Initial scope;
 - Newly manufactured turbines that fall under the IEC 61400-2 limit of 200 m² swept area (about 65kW)
 - Grid connected and off-grid turbines are eligible although Standard does not cover electric water pumping wind turbines
 - SWCC Board of Directors may consider expanding certification to larger turbines at a later date



Certification. SWCC Process

- Phase 1. Develop organization plan
- Phase 2: Incorporate
- Phase 3: Develop policies and procedures
- Phase 4: Begin operations
 - First set of certifications expected in early 2009
- Ongoing:
 - raising financing
 - closing out AWEA Standard



SWCC Financing to date

- Casper College (Wyoming)
- Energy Trust of Oregon
- Iowa Energy Centre
- Natural Resources Canada (through CanWEA)
- Nevada State Office of Energy
- NYSERDA (New York State Energy Research and Development Authority)
- Wisconsin Division of Energy



SWCC Working Group

– States

Casper College (Wyoming)
Energy Trust of Oregon
Nevada State Office of Energy
NYSERDA
Wisconsin Division of Energy

– Manufacturers

Abundant Renewable Energy
Bergey Windpower
Entegrity Wind Systems
Soutwest Windpower
Wisconsin Division of Energy

– Other active parties

AWEA
CanWEA
IREC
NREL
WEICan
+ Alternates and observers;
26 additional stakeholders

– Facilitators

Larry Sherwood (IREC)
Heather Rhoads-Weaver
Meg Gluckman (eFormative options)



SWCC Board

Government/Laboratory sector

James Glennie - Wind Energy Institute of Canada

Trudy Forsyth - National Renewable Energy Laboratory

Ken Jurman - Virginia Department of Mines

Public/Organization Sector

Mick Sagrillo - Sagrillo Power and Light

Alan Cowan - Energy Trust of Oregon

Megan Amsler - Cape & Islands Self-Reliance (Cape Cod)

Industry Sector

Charles Newcomb - Entegri Wind

Mike Bergey - Bergey Windpower

David Blittersdorf - Earth Turbines

Installer Sector

Roy Butler - Four Winds Renewable Energy

Ed Kennel Casper College (Wyoming)



2008 International Wind-Diesel Workshop

The Small Wind Certification Council
James Glennie. Director - Business Development
Wind Energy Institute of Canada
james.glennie@weican.ca

Girdwood, Alaska
24 April 2008