



Small Wind Certification Council
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August 12, 2011

California Energy Commission
Dockets Office, MS-4
Re: Docket No. 02-REN-1038
1516 Ninth Street
Sacramento, CA 95814-5512
docket@energy.state.ca.us

DOCKET	
02-REN-1038	
DATE	AUG 12 2011
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RE: SWCC Comments on Possible Changes to the ERP Guidebook

Dear Commissioners,

This letter and attachments encompass comments from the Small Wind Certification Council (SWCC) concerning the *Staff Workshop on Possible Changes to the Emerging Renewables Program Guidebook* held August 3, 2011, including recommendations for incentive eligibility.

SWCC applauds the CEC in establishing a requirement for small wind turbines to be certified by an independent certification body in order to receive ERP funding and in affirming the Energy Commission's right to deny eligibility due to poor performance, concerns about equipment design or safety, concerns about the quality of data presented for purposes of equipment listing, or lack of manufacturer support for equipment maintenance and warranties. These important changes will promote confidence that small wind turbines installed under the ERP have been tested for safety, function, performance and durability, and will ensure consistency in ratings.

However, we recommend a few additional revisions and clarifications to ensure that consumers are protected when the program relaunches:

- 1) As an independent certification organization we need clarification on what is meant by "in queue" in order to provide the requested documentation and have provided our recommended language on the attached.
- 2) We reiterate our recommended timing for establishing at least a partial certification requirement on power performance to take effect immediately.
- 3) We recommend accelerating the requirement for full certification, and providing the opportunity for Energy Commission staff to approve eligible certification organizations.

As written, considerable loopholes remain in the Guidebook's eligibility requirements with substantial near-term risks for consumer protection from unethical marketing and false claims. In particular, the lack of definition for an "in queue" designation is problematic for certification organizations asked to provide confirmation letters as an initial "application pending" status can

be achieved prior to any testing. The least stringent interpretation provides little if any consumer protection and would not adequately safeguard rebate funds.

SWCC has been operational and able to accept certification applications for turbines less than 200 square meters swept area since February 2010. Wisconsin's Focus on Energy and the Energy Trust of Oregon have both established requirements for independent certification for small wind turbines to qualify for incentives beginning January 1, 2012.

SWCC has received 41 initial Notices of Intent to Apply for Certification and has signed agreements confirming plans for testing and analysis for 27 turbine models less than 200 m² swept area, three-fourths of which are sized for the residential market (under 20 kW). Testing is complete or nearly complete for several wind turbine models, and three have been awarded SWCC Conditional Temporary Certification. One other has submitted testing reports and is under review for SWCC certification. Five additional models are certified in the UK, and at least seven turbines from manufacturers representing a significant share of the North American residential small wind market are expected to achieve at least conditional or limited SWCC certified by December 31, 2011. Setting a requirement to be effective within such a timeframe will encourage manufacturers to accelerate their efforts to achieve certification.

Recognizing that small wind incentives are often based on power performance ratings and estimates and the time required to achieve full certification, SWCC's Board of Directors recently approved offering a new optional service to applicants of "Limited Power Performance Certification" for small wind turbine models that have completed power performance testing in accordance with SWCC and AWEA Standard requirements. While power performance field testing can be completed relatively quickly, additional time is required for duration testing.

Therefore we urge the Energy Commission to establish an immediate requirement, with no additional grace period allowed, for turbines eligible for ERP funding to provide evidence that a power performance test conforming to AWEA 9.1 – 2009, IEC 61400-12-1, or the BWEA SWT P&S Standard has been certified by the SWCC or other independent certification body.

SWCC's fee structure and staffing has been established to allow rapid ramp-up in the event that numerous applications are received within a short period of time. SWCC does not anticipate delays in review of complete certification applications; decisions are expected within 2-4 months after submission of test reports and a full application.

A grace period of 3 months is adequate for submitting test reports, and an additional 6 months is ample for converting "in queue" status to full certification status. Specific wording suggestions for the Guidebook Appendix 3A. Small Wind are attached.

SWCC is an independent non-profit organization operating with strict procedures to avoid conflicts of interest. A three-member Certification Commission makes all certification decisions. The Commissioners are qualified and independent industry experts who have filed disclosure statements to ensure that they do not have any conflicts of interest. SWCC Bylaws and operating procedures are designed so the Board has no involvement in individual certification decisions.

Please feel free to contact us with any questions or for further information. We are happy to work with CEC staff to ensure that certification requirements for the ERP are appropriate, independent and rigorous and to aid the timely reopening of the program. Thank you for your consideration.

Sincerely,

A handwritten signature in black ink, appearing to read "Larry Sherwood". The signature is fluid and cursive, with the first name "Larry" and last name "Sherwood" clearly distinguishable.

Larry Sherwood
Executive Director

Attachments: SWCC Recommended Edits to ERP Draft Guidebook Appendix 3A. Small Wind
Independence of SWCC and SWCC Commissioners

SWCC Recommended Edits on Appendix 3 Criteria for Listing Components as Eligible

SWCC's recommendations are shown as tracked changes below.

A. Small Wind

For a small wind turbine to achieve ERP eligibility the turbine must be certified to either the International Electrotechnical Commission 61400-2 (IEC 61400-2) standard or the American Wind Energy Association 9.1-2009 (AWEA 9.1-2009) standard by ~~an independent certification body such as~~ the Small Wind Certification Council (SWCC) or other independent qualified certification body reviewed and approved by the Energy Commission, or a Nationally Recognized Testing Laboratory (NRTL) such as Intertek.

For turbines previously listed on the Energy Commission's list of eligible equipment, proof of power performance certification conforming to AWEA 9.1 – 2009, IEC 61400-12-1, or BWEA SWT P&S is required from an eligible certifying body in order to maintain eligibility.

Small wind turbines that have not yet received full certification to either the IEC 61400-2 standard or the AWEA 9.1-2009 standard will have ~~12-6~~ months from the date this Guidebook is adopted to furnish proof of certification to one of the above-listed standards OR a letter from an eligible certifying body, as listed above, indicating that test reports have been submitted and the equipment is in queue to be reviewed for certification~~certified~~.

Any turbine that has not been certified or listed as in a queue to be certified at the end of ~~12-6~~ months will be removed from the Energy Commission's list of eligible equipment. Moreover, after ~~18-9~~ months from the date this Guidebook is adopted, any turbine that has not passed from a queue status to receiving a complete certification will be removed from the list of eligible equipment.

Equipment that is removed from the list of eligible equipment may reapply to be listed upon proof of completion of third-party certification from an eligible certifying body to one of the above-listed standards.

Small wind turbines that are listed on the list of eligible equipment, but are not eligible to participate in the Emerging Renewables Program, such as turbines with a rated generating capacity exceeding 50 kilowatts, will be removed from the list of eligible equipment ~~12-6~~ months from the date the Guidebook is adopted.

Independence of SWCC

Established in 2009 as an independent non-profit organization to serve the North American market with a quality certification program for small wind turbines, SWCC is operated by dedicated Staff, Board of Directors, and SWCC Commissioners and is supported by U.S. Department of Energy funding, contributions by state agencies, and Applicant fees.

SWCC operates with strict procedures to avoid conflicts of interest. All Directors submit conflict of interest statements and must recuse themselves from any action where they have a conflict. SWCC Bylaws and operating procedures are designed so the Board has no involvement in individual certification decisions. The Certification Commission, not the Board of Directors, makes certification decisions. The Commissioners are qualified and independent industry experts who have filed disclosure statements to ensure that they do not have any conflicts of interest. Further description of SWCC Commissioners and SWCC's Conflict of Interest policy are attached.

The SWCC Board of Directors is composed of eleven voting Directors from the following stakeholder sectors:

- 3 Directors from the Government/Laboratory Sector, who are current employees of government agencies or government-sponsored national laboratories related to renewable energy;
- 3 Directors from the Public/Organization Sector, who have a demonstrated interest in renewable energy, and who currently are not employees of, or derive any direct financial income from, the small wind turbine industry;
- 3 Directors from the Industry Sector, who are current employees, owners, or other representatives of current manufacturers of small wind turbines, or those who otherwise derive financial or other benefit from the small wind industry; and,
- 2 Directors from the Installer Sector, who are current, qualified installers of small wind turbines.

All Board Directors possess appropriate experience, education, and/or training related to the field of wind turbines or renewable energy, and are otherwise qualified according to the SWCC Bylaws and applicable corporate policies. The President cannot be an Industry Sector director. The Government/Laboratory and Public/Organization Sector Directors are elected by the Board of Directors. The Industry Sector Directors are elected by the SWCC Program Participants.

The terms of the Directors are staggered to ensure that approximately one-third of the positions expire each year. Voting Directors are allowed to serve up to two consecutive terms, or six consecutive years, and are not eligible for election or other appointment to the Board until after a one-year gap.

SWCC Commissioners

The SWCC Board of Directors has established the SWCC Certification Commission to supervise the evaluation of turbines for SWCC Certification. The SWCC Commission is composed of three qualified and independent industry experts appointed by the Board of Directors and has been delegated the authority to review and approve small wind turbine certification applications in consultation with the Technical Director. Among other responsibilities, and consistent with the SWCC Small Wind Turbine Certification Policy, the Commission:

- Reviews, in consultation with the Technical Director, each certification application and relevant supporting information under the applicable SWCC Certification standards;
- Determines by majority vote whether each certification application is granted, conditionally granted, or rejected;
- Determines whether each certification renewal application is granted, conditionally granted, or rejected;
- Determines whether a Certification Holder must submit a new certification application when a product has been modified;
- Requires the submission of additional application renewal information when appropriate; and,
- Reviews and determines the appropriateness of design changes related to certified small wind turbines.

Current SWCC Commissioners

Dr. Nolan Clark, Agricultural Engineer P.E.

Dr. Clark conducted research on irrigation technologies and wind energy systems at the USDA Conservation and Production Research Laboratory in Bushland, Texas for 38 years. His research career began in 1971 and he served as the Laboratory Director from 1993 until retiring in 2009. His research experience included wind power for irrigation pumping, wind power for domestic and livestock water pumping, wind turbine performance, wind/hybrid generating systems, wind effects on sprinkler irrigation, groundwater management, microclimate, and animal waste management. Dr. Clark is a Registered Professional Engineer and received a B.S. in Agricultural Engineering from Texas Tech University in 1964; an M.S. in Agricultural Engineering from Mississippi State University in 1967; and a Ph.D in Agricultural Engineering from Texas A&M University in 1970. In 2003, Dr. Clark was named a Wind Energy Pioneer by the DOE Wind Powering America Program and in 2005 received an Award for Outstanding Contributions to the American Wind Energy Association. In 2009, he received an award from the Wind Powering America Program in recognition of leadership, dedication, and numerous contributions to small wind turbine applications.

Malcolm A. Lodge, P.Eng

Malcolm A. Lodge is founder and President of Island Technologies Incorporated, an electrical engineering and wind energy system consulting and design firm. Malcolm has thirty years experience in wind energy engineering and has designed, managed and constructed wind energy systems and projects worldwide. Mr. Lodge was founder, designer and manager from 1980 to 1990 of the Atlantic Wind Test Site (AWTS), Canada's national laboratory for wind energy systems evaluation and testing. During this period he worked closely with other international wind energy research laboratories in the USA, Denmark, Netherlands, Greece, and Germany to develop standards for wind turbines and for development of wind-diesel technology. Mr. Lodge was founding president of the Canadian Wind Energy Association and has held many director positions in other renewable energy organizations, standards agencies and advisory groups to government. He received a Bachelor of Engineering with Honours Distinction from Nova Scotia Technical College in 1962 and a Masters in Engineering specializing in Control Systems Design in 1964. He has been awarded the R.J. Templin Award for outstanding contribution to the development of Canadian Wind Energy Technology.

Michael Klemen

Mr. Klemen holds a joint undergraduate degree in Mechanical Engineering and Computer Science (ABME) from Bucknell University. His hobby farm has been off-grid powered by a hybrid wind/PV system since he purchased it 15 years ago. He also installed wind turbines at his brother's and sister's sites, but they didn't work as advertised. Given his background in engineering and computer science, it was a natural progression to install data acquisition systems at all three sites. After many hours crunching the data and analyzing how it was performing, he was able to reverse engineer the different failures they had. Over the years, he has flown about a dozen turbines, and several manufacturers have sent him turbines to fly and test for them. He wrote an article in 1997 for Home Power Magazine (#62) and serves as the moderator of the small-wind-home list on YahooGroups! He has presented results of his wind testing data at the Midwest Renewable Energy Association's annual energy fair and AWEA's Global Windpower conference, and in 2008 was invited to present at the Small Wind Turbine Testing Organization Workshop hosted by NREL at the National Wind Technology Center. He served on the Board of Directors for North Dakota Sustainable Energy for Economic Development and was a member of the working group that created the AWEA Small Turbine Testing Standards. He comes to the SWCC as an extremely educated consumer who understands how to interpret raw data.