

**NORTH AMERICAN BOARD OF CERTIFIED ENERGY PRACTITIONERS
CURRENT AND PLANNED ACTIVITIES IN SMALL WIND
CREDENTIALING WEBINAR**

March 03, 2011

Coordinator: Welcome and thank you for standing by. At this time all participants are in a listen only mode. After the presentations we will conduct a question and answer session. To ask a question at that time you may press star 1 on your Touch-tone phone. This conference is being recorded. If you have any objections you may disconnect at this time.

I would now like to turn the conference over to Karen Sinclair. Ma'am, you may begin.

Karin Sinclair: Okay, hello everybody. Thanks for joining this regularly scheduled webinar for the ASES Small Wind Division. This is a bi-monthly program that we have been running for a little over a year now. And the purpose of these webinars are to provide topical presentations on issues that are of interest to our members.

Today we are fortunate to have Ezra Auerbach from NABCEP -- which is the North American Board of Certified Energy Practitioners -- with us. He's been actively involved in renewable energy since 1986 and co-founded a company called Energy Alternatives in - sometime ago -- which is a cross Canada renewable energy design, distribution, installation company -- sold that company in 1996. And he has been providing expertise in a number of positions for the renewable energy industry since then in the areas of sales, marketing, product management and engineering.

As an independent consultant his list of energy clients have included quite a few -- including AEE Solar, Beacon Power, Oregon Energy Office, Apollo

Solar, Xantrex Technology -- just to name a few. In the past two decades he has served on boards like NABCEP. He's also served on the Canadian Solar Industry's Association and the Solar Energy Society of Canada.

He was the chairperson of NABCEP before 2009 when he stepped down to become its Executive Director. He has connections with the renewable energy field - industry that extends beyond the professional, as he's lived and worked off the grid since 1969. So we are very fortunate to have him. Hopefully you - the members of the - that are listening in -- will have some excellent questions for him. And I'm going to turn it over to Ezra at this point.

Ezra Auerbach: Thank you very much, Karin. I'm always humbled when I hear an introduction of myself and very pleased to be here. Today I'm going to cover a number of topics with some breaks during the presentation for questions. We'll cover a brief introduction to NABCEP. And then move along to the status of the small wind installer certification. And then the programs that are under development with respect to small wind at NABCEP.

I will beg your patience as wind stakeholders as I talk in my introduction to NABCEP primarily about PV programs -- which have been our flagship programs up to date. NABCEP certifications are the most widely sought after and respected credentials in the renewable industry. And aside from that being a wonderful thing for me to be able to say, I think it's important to talk a little bit about why that is.

It's about credibility and commitment that drives NABCEP to the level of respect it's gone. Our board has over 300 years accumulative renewable energy experience. There's people at that table -- and have been at that table since day one -- that are absolutely passionate about renewable energy. And

equally passionate about seeing that our markets grow and that consumers can be offered the confidence that certified personnel bring.

Our volunteers who make NABCEP happen. We would not be an organization without the thousands -- literally thousands -- of volunteer hours that are brought to the table by subject matter experts from across North America. We have volunteers from over 100 companies in the renewable energy industry -- companies and non-profit organizations. And we wouldn't be who we are -- and we wouldn't have the level of respect or creditability -- without their tireless efforts.

And NABCEP certified installers are in high demand. The best way that I found to talk about NABCEP is to let other people do it. And here we have a series of slides with quotations from NABCEP certified installers, talking about what it means to them -- how it affects their career, how it affects their professionalism.

(Jessica Baldwin) has a certificate in solar plumping. She works in Manhattan -- a tough market. And she tells us -- like hundreds of other people tell us -- she gets more jobs because she has a NABCEP certification. We hear this over and over again from solar thermal installers, PV installers and now a growing number of small wind installers.

Being a certified installer has tangible, clear benefits. This quote's from the president of a California company. I hear virtually the same thing when I talk to company owners in New York, in Arizona, in the Midwest. Being a certified installer means money to your pocket.

Folks tell me they have - it's a mixed blessing when their staff becomes NABCEP certified, because they command more money in their organization.

However, they also have the confidence to let them lead crews with minimal supervision. And they make more money with their NABCEP crews because there's less call back.

Since its inception, NABCEP has certified over 1500 PV installers, over 200 solar thermal installers and a small but growing number of small wind installers. And the diversity of the people that have come to the table to get NABCEP certification is truly incredible. I always marvel at the range of individuals that have taken our certification and find it meaningful to their career.

Here (Rob) talks about how he got into the solar industry from the heavy construction end -- because he works for a PPA company. Typically you wouldn't expect a company of PPA scale -- similar to big wind -- to look for a certified installer. But it was meaningful for them to have someone who understood the nitty gritty basics of solar installation even at that scale -- he's their construction manager.

Going right over to a residential scale, we have someone that's been playing with -- fascinated by -- renewable energy since he was a kid. And what he's found -- is in his career in solar -- he finds the certification equally valuable. That's a pretty big range of diversity. Yet they share common thread -- as (Ed Murray) from (MassTech Solar) talks about -- and that thread is camaraderie and respect.

I hear over and over again -- when I do presentations, when I go to tradeshow -- that NABCEP certificants recognize each other as consummate professionals in their industry and are willing to share information, assets and resources that they wouldn't share otherwise with people. And that's gratifying to hear and see.

The other thing that we find very valuable and important about NABCEP is that our credentials have emerged into a viable career pathway. This is certainly the case in the PV industry where over 250 organizations offer renewable energy education -- validate that education through offering our entry level examination.

Moreover -- and of real interest to us as we see the value of entry level -- over 25% of the candidates that sit for the PV installer certification got their start with an entry level PV program. This is career building -- they started out with basic knowledge, got a job, gained experience, got more training and were able to move up -- literally and figuratively -- the career ladder to the lead installer's position with installer certification.

As we work our programs in small wind -- as I'll cover in awhile -- we hope to see that same kind of evolutionary value to the small wind industry. This is a pretty good time to pause and ask if there's any questions on the presentation thus far about the background of NABCEP, and the value of NABCEP before I get into the specifics of what we're doing in small wind. Do we have any questions out there?

Coordinator: If you would like to ask a question please press star 1. Be sure your phone is not muted and record your name clearly when prompted. To withdraw your request you may press star 2. Once again to ask a question press star 1 on your Touch-tone phone and clearly record your name.

Ezra Auerbach: I'm guessing I can take that as a no. So we have been active working with the small wind industry for a number of years -- I think it's probably five or six years. And the first thing that we succeeded in rolling out in the small wind

industry -- after what seems to be an unduly length of time -- is the small wind installer certification.

And our definition of small wind installer is exactly the same as the definition as the small wind group of ASES -- under 100 kilowatts. And the small wind installer certification is pretty clear -- I'm guessing everyone can read this slide -- and I'll cover it quickly. But it says that given the basic instructions, components, the systematics and drawings -- the small wind energy system installer will specify, configure, install, inspect and maintain a small wind energy system.

Of course it needs to meet the performance and reliability standards the customer might expect. Incorporate high quality craftsmanship and comply with all applicable safety codes. And then we get to the buy and the buy really determines what the job is.

The task analysis lays out all of the specific tasks that are required for a small wind energy installer. And they range from analysis to mechanical to safety to electrical skills to being able to work with boot tower - built up towers, and crane lift towers. And it defines the scope -- which I spoke about earlier -- as the system defined as being grid connected or up stand alone, with or without batteries, rated at 100 kilowatts or less.

So what that task analysis covers in detail is site assessment, safe work practices, selecting a design, adapting mechanical and electrical designs, the installation of components, commissioning and the maintenance and trouble shooting assistance. In other words, a pretty thorough representation of what the job of a small wind installer is.

We started offering this certification last fall. And a very small group of highly qualified candidates applied to that exam. We had an outstanding pass rate -- I believe it was over 80%. And we were, however, a little disappointed in the number of applicants we received. It was great that eight out of ten passed -- we were hoping to see more than ten applicants.

The small wind technical committee met and reviewed the application criteria -- looked at the feedback that we got during the application period -- and felt that they needed to revisit the criteria to sit for the exam to allow for greater degree of inclusion. And they brought a recommendation to the Board of Directors of NABCEP -- that was accepted -- that set out a wider range of eligibility criteria.

Everyone who is eligible through this new criteria will sit for the same exam. And everyone will require a minimum number of installations, and a minimum amount of specialized training. However, there will be three levels of eligibility. And the candidates who apply and qualify and are certified under these three levels will be identified as each -- a Level 1 experience, a Level 2 experience, and so on.

The levels are - sorry about that. Level 1 -- which requires no minimum height or minimum swept area -- and of the two installations one must be crane assisted and one must be tilt-up. This is to accommodate installers whose work primarily is on smaller systems. And where there are zoning restrictions or physical area realities that make defining a minimum height inappropriate.

Level 2 is -- requires no tilt-up work -- but does require crane assisted tower installations and does set a minimum tower height of 80 feet. This is to accommodate installers who work in areas that do allow higher towers and represents that level of experience.

Level 3 sets forward the highest level of experience. And identifies that there must be a minimum 80 foot tilt-up crane tower - crane assisted tower installation and at least one of the turbines must have a swept area greater than 100 feet. This is the most experienced level of installer and more the level of the criteria we set out for the first round of exams.

We're hopeful -- as this criteria has now been released for the exam for September 2011 -- to see a greater number of candidates come to small wind installer certification. This again is a good time for me to break for questions - - if anyone has any questions about the various levels of installation experience criteria that we've revised to sit for the small wind exam.

Coordinator: As a reminder to ask a question you may press star 1.

Ezra Auerbach: Okay, I'm guessing that also means we have no questions. Coming down the road -- and an act of development by NABCEP -- is a small wind site assessor program. The small wind site assessor program was asked for by a variety of small wind stakeholders including strong representation by public benefit funds people.

And they basically said they were concerned that site assessment was a risk to the industry -- that poor site assessment resulted, no matter how good the installation was -- in less than hoped for performance. It left consumers inconfident (sic) -- not confidant with small wind. And they felt that there needed to be a site assessor credential.

In a way this parallels NABCEP's decision to release a technical sales credential for (photable) tech salesman. They site assessment, the sales process, is every bit as critical as a safe and competent installation. And we

found funding to begin this project to the job task analysis exam blueprint stage.

With the help of our tireless wind volunteers, we worked together to create eligibility criteria and a job task analysis for wind site assessors. And that job task analysis and eligibility criteria is very close to being published and being released to small wind stakeholders and appearing on the NABCEP Web site.

The small wind site assessor will qualify the customer long before they even begin to look at the site and find out if this is a legitimate wind customer. Prequalify the site -- generally from an office -- evaluate the site in person. Identify - estimate the wind resource. Identify additional project considerations to the potential customer -- are there zoning issues, are there other issues they should be thinking about? Determine system options with respect to what kind of system, and what kind of equipment. And of course, generate a site assessment report.

The program has reached the basic limit of its funding. There's still funds available to develop a resource guide -- that's a companion to the job task analysis. But there's not funding to complete the development of an exam and larger certification program. We knew that going in, however, we were willing to go into this process with for the following reasons.

We number one, do have funds in commitment to develop an entry level small wind program. And we felt that having the job task analysis -- for both small wind installer and small wind assessor -- would enable the people that will be charged with developing the learning objectives for the entry level program a clear guide to seeing what common knowledge is required for both of those specific jobs. And ensure that common knowledge is captured in the learning objectives for the small wind entry level program.

The other reason we went into the project without complete funding is we have some hope -- and some confidence -- that by developing a tangible deliverable -- the job task analysis, the exam blueprint and the resources guide -- we will be able to generate stakeholder interest to finish the project.

And we're seeking approximately \$40,000 to finish the project which is for developing an exam and to complete this certification. We have some (NYSERTA) funding to help match that \$40,000 that will enable us to finish it if we find the industry stakeholder support that was so vocally evidenced at the start of this program.

The entry level program I spoke about is part of a growing suite of entry level programs that NABCEP offers. The next one out of the gate for us is solar thermal entry level which we will be launching in 2011. And then in 2000 -- late this year and early next year -- we'll be working on the learning objectives and exam for the small wind entry level program.

And we're pretty excited about that because by the time we have three entry level programs out there with exam validations, there's the opportunity for educational providers to offer a pretty comprehensive entry level renewable energy program that we hope will be meaningful in the workplace.

To learn more about NABCEP -- to learn more about our specific programs, who are volunteers are, who our funders are, how to apply or how to find certified installers -- visit our Web site. It's an outstanding resource and almost everything you'd want to know about NABCEP is up there on the Web site. I can be contacted at eauerbach@nabcep.org. Or at 1-800-654-0021 if you have any questions you'd like to address to me offline.

At this point I conclude my presentation and once again ask for any questions that the audience may have.

Coordinator: Again if you would like to ask a question press star 1 on your Touch-tone phone.

Ezra Auerbach: Okay, well then thank you all very much for attending. I hope this has been a useful presentation and you share our excitement for NABCEP activities in the small wind arena. Thank you very much.

Karin Sinclair: And I just wanted to follow up by saying this presentation will be posted on the Wind Powering America Web site. Thank you, Ezra.

Ezra Auerbach: Thank you very much for the opportunity. And thank those of you who attended.

Coordinator: This does conclude today's conference call. You may disconnect your phones at this time.

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