Interview

An Experienced Perspective

Jane Weissman, IREC

Workforce Development and Quality Training Evaluation

Jane Weissman has been the executive director of the Interstate Renewable Energy Council (IREC) since 1994. From 1985 until 1991, she was the executive director of the Massachusetts Photovoltaic Center. She was elected an American Solar Energy Society Fellow in 2004. Jane has published papers and spoken widely on topics in the field of renewable energy, photovoltaics, certification, quality assessment and public policy. She has been invited by the US Congress to provide expert testimony before the Subcommittee on Energy and Environment to discuss workforce development and training issues. Jane is based in Boston, Massachusetts. —SolarPro *Managing Editor Kathryn Houser talked with Jane in early November.*

Courtesy irecusa.org

Jane Weissman, executive director of the Interstate Renewable Energy Council, works hard for quality renewable energy workforce training.

KH: What is IREC and what is its role in the industry?
JW: IREC is the Interstate Renewable Energy Council. It has been around since 1982. We have a long track record and have been thrilled to see how things have changed within the renewable energy market from the early '80s through 2010.

We tend to take on some of the tough problems. We try to tackle the barriers in order to accelerate the growth of the renewable energy industry. IREC focuses on basically two areas.

One focus is uniform standards and policies, and we do a lot of work in the regulatory arena. We work with state regulators in terms of interconnection, rule making and net metering.

Our second big focus is on quality assessment, where we have a long history. When IREC started in the early '80s, we were at the table establishing the Solar Rating and Certification Corporation. That's the group that handles the independent certification of solar thermal collectors and systems. Around 2000 we were at the starting gate when the discussions began regarding the North American Board of Certified Energy Practitioners [NABCEP], and we continue to be very active with NABCEP and the practitioner assessment that it offers.

More recently we facilitated the start up of the Small Wind Certification Council, the organization that will be certifying small wind turbines. Finally, we are currently the North American licensee for the Institute of Sustainable Power [ISP] international credentialing program. So we really have a long lineage of working with third-party verification and quality assessment.

We basically feel that the question on the table is: How do we avoid the pitfalls the solar industry experienced in the late '70s and early '80s, with lucrative tax credits alongside a less-than-stellar solar community? One of our goals is to determine how we make sure the green economy doesn't get a black eye this time around. And that's why we were very vocal about the importance of setting some standards for the industry. We have to be a lot more responsible—if we blow it this time, it's our fault.

KH: How are competency standards for a well-trained professional established?
JW: Actually we're lucky because we use the standards established by NABCEP. NABCEP has industry-approved task analyses that list the actual tasks and subtasks involved in performing a particular job. That means all the required skill sets are defined for a course that we may be evaluating.

KH: And who defined those skill sets?
JW: NABCEP followed a formal process to develop a task analysis. A group of subject matter experts was called together, with a good balance on the committee so that no one group or company predominated. It was done in a transparent way.

NABCEP has an industry-approved task analysis for CONTINUED ON PAGE 88

the photovoltaic installer, for the solar thermal installer and for the small wind installer. Where NABCEP and IREC link is around that task analysis. We use it to evaluate the curriculum, and NABCEP uses it to design its assessment, which for NABCEP is an exam. The task analysis becomes the blueprint on both sides of the equation.

KH: What is the Institute for Sustainable Power?
JW: This is the group that Mark Fitzgerald started back in 1996. Mark was very concerned over what he saw as lack of quality training going on. He worked with the international community to establish a standard that basically measures content as well as management and quality of training programs. Its standard is called the Institute for Sustainable Power Quality [ISPQ] Standard. We use the ISPQ Standard as a guide as we audit training programs.

KH: What does having the ISPQ rating actually convey about the course to a potential student?
JW: I guess that's the punch line, isn't it? We have different designations. When we accredit training programs, we want to make sure that the program teaches to all critical tasks in the NABCEP task analysis. Students can know that they are being taught all of the different parts of that task analysis.

Continuing education providers are a little different. They may just do a fundamental course, or they may take one part of the task analysis and just teach to that. Whatever task they're teaching to, we want to make sure it's covered correctly.

Then we have the trainer designations. A master trainer is someone who has an enormous amount of not only teaching experience, but also practical experience. The instructor designation is basically the same but requires less teaching time and practical experience.

It can take 5 to 7 months to go through the audit process on an average. All designations require a desk audit. Some also require an on-site audit. The auditors are meticulous, making sure that requirements are met.

We're not trying to be punitive here. We just want to make sure that there's good training, so we're very careful. We try to schedule an on-site audit when there's training going on, and our auditor will typically sit in the class for a while. We struggle with the right balance of desk time and real-time evaluation. The auditor's time is valuable, and we don't want to make this so costly that the fees are too high.

KH: What about the hands-on element in training?
JW: Sometimes a continuing ed course does not have a hands-on component; but if we are evaluating a training program, we have a list of basic equipment that should be part of the training. We make sure that these kinds of equipment are really being used. We're curious what the ratio is between equipment and students, how many students are working off of one mockup, let's say, with one set of equipment.

Also, one of the requirements in the ISPQ Standard is that there are safety practices and precautions as part of the training. For example, in the environment where they're training, there's eyewash and different precautions in case a student is hurt during the training. Not only do we want to make sure that the student is taught the right safety procedures up on the roof, but also in the classroom. So the accreditation process actually covers the facilities and the equipment used as well as the curriculum and the instructors.

KH: I was talking to Jeff Spies, the director of training at AEE Solar. In his opinion, the most important criteria for instructors is having actual hands-on installation experience themselves. Is that any part of this accreditation process?
JW: Absolutely, both for instructors and master trainers; they must have practical experience. We want to see how many installations they've put in. If they're NABCEP certified, they get extra points. Are they part of any technical committees or on any code committees? What kind of involvement do they have with the different parts of the industry? You want your instructor to have not only experience in front of the classroom, but also experience with real customer site installations.

KH: There's also a proliferation of Web-based programs now. Do you have any way to evaluate them?
JW: We're getting them, and in 2007 we put out some guidelines for online courses. With the Web-based programs we want to make sure that there's a strong learning management system in place, plus sequential learning, monitoring between instructor and student and accessibility to ask questions, and that some system of assessment and feedback is built in.

Obviously the big drawback with online courses is the lack of a hands-on component. We're seeing some models that offer online instruction, and then they bring students in for a week.

KH: Approximately how many applications for ISPQ credentials are you auditing annually?
JW: In 2009 over double the number of applications came in compared to the past three years. To date we have offered credentials to 47 different candidates. And we have 10 application packages under audit. Some of those application packages may have two to five candidates within them.

KH: Are trainings being designed with specific audiences in mind?
JW: We are tripping over a couple of issues as we go forward. What are the prerequisites for students to go to a

course? If you have a two-day course that's open to anybody, and you have students with no electrical experience, they're not going to come out as installers. If you have a class of electricians, perhaps a good 40-hour course would be sufficient.

Community colleges are now offering courses on photovoltaics, and we're beginning to see some—not as many—on solar thermal. We're hoping to see more. For example, Hudson Valley Community College incorporates photovoltaic courses within its electrical department. So you're building on the trade courses, which I think is really the way to go.

Are there opportunities to train people for enhanced skills, so that they can add services to offer installation to their small plumbing or small electrical company? They're still working full-time, but they're expanding their services. That's one way of looking forward, if in fact the market doesn't have enough full-time jobs.

Now that the market is changing so much, we are seeing differentiation in job titles and job skill sets. Courses need to reflect this change, say with classes for salespeople. Actually NABCEP is developing a credential for the salesperson, which, once we have its task analysis, we can use to assess the curriculum for salespeople.

KH: Are professionals' continuing education needs being met?

JW: One significant requirement for NABCEP-certified installers to maintain their credentials is 18 hours of professional development over the three years of their award. Six of those hours need to include courses on the *National Electrical Code.* That's difficult to find, yet you want your current workforce to have updates on the new codes. We would love to see more of those kinds of courses. They are well suited for Webinars or online courses.

KH: Are there any particular training organizations that you consider to have exceptionally good credentialed trainers on staff?

JW: Oh, absolutely. A lot of the staff at Solar Energy International are either master trainers or certified instructors. Many places have a number of their instructors certified, such as the Midwest Renewable Energy Association and the Hudson Valley Community College. We're beginning to see not only more program accreditation, but also more organizations that want to have a whole suite of instructors certified as well. ⏚