

Distributed Power Coalition of America

***Distributed Generation
Interconnection Issues Summit***

Transcript of Opening Remarks by

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November 13, 1998 - Washington, DC

Good Morning. It's a pleasure to be here today, and to offer my colleagues some insight about an important, yet historically tricky issue. It's my hope that by the end of this daylong summit, we will have all gained a better understanding of what an important issue interconnection standards really are for commercialization of distributed generation to become a reality. The problem comes down to a few key issues: In the past, electricity required big things to generate, transmit, and distribute electricity - which therefore resulted in big plans to do it. Now, as we stakeholders strive to help create the new paradigm where things get smaller, and get developed, sold and serviced in a competitive marketplace rather than in a monopoly, we have been living by those same rules created for vastly larger things. As a result, the cost and time barrier associated with interconnection can cripple new DG technology ramp up, notwithstanding other technology-specific cost barriers.

First, let me say that I have always respected the system protection engineers of the nations' electric utilities. They do a job that requires the utmost in safety and reliability - so that our lights stay on, and so that all the huge network of power station apparatus avoids damage. And if the protective relays do their job, you won't even know it, so that by definition no news is good news for a system protection engineer. Much of the legacy system protection equipment is located in the substation - a sort of local Grand Central Station, where lots of boxes and wire and panels converge with huge power transformers the size of your garage, circuit breakers and more. In a previous life, I sold all of this "big iron" power apparatus to large industry and utilities. It amazed me how long these panels of protective relays lasted. It was not too uncommon to find boxes from 30, 40, even 50 years ago. All of those boxes were designed into a thing we call the power distribution network.. The boxes were never really meant to work with on-site power generation, and until the PURPA machine was created, any utility standards were hand-crafted cathedrals. The distribution system planner's worst nightmare is for the distribution system to not fail gracefully. One of the ways you try to ensure this, if you're a system planning engineer, is to build a brick wall between you and any outside the fence generation because that is perceived to be an instability to the grid. As a result, most all DG site installations ranging from 75KW to a few MW required a slew of boxes that were designed, installed, and tested with utility approval – a process that can easily cost \$50,000 or more right now.

So, whether we represent the utility, the regulatory community, the energy services industry, or the equipment manufacturer, we all have a stake in seeing this issue resolved. It doesn't matter so much about whether the DG equipment is of the synchronous, induction, or inverter – type technology. It also doesn't matter so much about whether we generate 5KW, 50KW, 500KW, or 5MW. It doesn't matter even if we want to parallel with the utility, operate in an islanding mode, or create a virtual power plant by aggregating and dispatching multiple sites. All of these, and others, are important issues that help inform the policy objectives of grid interconnection standards.

Looking ahead, NARUC, NERC, FERC, IEEE, EPRI, EEI, and the DPCA should support(or continue to) participation to bring the issues into focus at the national level. An agenda should include awareness – oriented briefings, and consensus - building

workshops across all constituencies, in order to move forward technical, regulatory, and contractual policy for interconnection standards.

A “road show” campaign should be considered, in order to increase the scale and scope of the audience early on. Standards will not result from a process that doesn’t seek from the outset, to include everyone’s voice. To be sure, the process must include utilities, regulators, equipment manufacturers, energy service providers, and all other stakeholders.

The telecommunication industry’s deregulation process can serve as a benchmark for our own industry, in terms of how they dealt with interconnection standards. We can all benefit from the lessons learned in that industry’s effort to ensure things like dial tones, equipment hook up, and communication protocols remained identical throughout the country after Ma Bell said goodbye.

Based on a recent workshop I participated in that was organized by IEEE and the US Fuel Cell Council to address interconnection standards, safety, reliability, and power quality were the most important general goals. As we shift the paradigm to a competitive marketplace, these 3 key attributes must be maintained, or even improved. Under the umbrella exist many technology, application, or size specific issues that stem from wide-scale DG adoption. Topics that I’m sure will be addressed today will include inverter technology, net metering, islanding, ISO interface, power transfer techniques, real-time dispatch, contractual language of interconnection agreements, and many others.

I believe that in order to move forward the pace of change and gain the widest audience at the same time, we should see this as a journey. First, the process unfolds as a data gathering, analysis, and debate which should result in some consensus. This can give us “Recommended Practices”, which would result in some lowering of both the cost and installation time barriers. Next, the adoption of “Guidelines” which comes from experience living with the recommended practices, and also a broader constituency that agrees on interconnection matters. Then, after we have all lived with these guidelines while the forces of a competitive marketplace continue to push this issue forward, the momentum could propel the industry to adopt a set of “Standards”.

And so, in recognition of the complexity and importance of interconnection standards, the Distributed Power Coalition of America has organized this summit. I am very excited to hear from our distinguished speakers who will offer us their expertise on this topic. Thank you for the opportunity to provide some opening remarks this morning, and I look forward to a productive day for all of us.