



TESTIMONY OF

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Before the  
**SUBCOMMITTEE ON ENERGY AND POWER**  
**COMMITTEE ON ENERGY AND COMMERCE**  
**UNITED STATES HOUSE OF REPRESENTATIVES**

On  
"DISCUSSION DRAFT ADDRESSING ENERGY RELIABILITY AND SECURITY"  
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Thank you for the opportunity to appear before the Subcommittee today. A reliable and secure energy supply is a critical foundation for our economy and our quality of life, but it seldom receives the attention it deserves at the Congressional level. This Committee's "Architecture of Abundance" legislative initiative, which spawned the draft we are discussing today, is timely and holds great promise to improve the reliability, resiliency, and affordability of our nation's electrical and fuel supply and distribution system. I am honored to be a part of this discussion.

My name is Mike Bergey, and I am President of the Distributed Wind Energy Association (DWEA). I am also President & CEO of Bergey Windpower Co., an Oklahoma based manufacturer of small wind turbines. We are a 38-year old family-owned small business and we are the world's leading supplier of small wind turbines, with installations in all 50 States and over 100 countries.

DWEA is the trade association representing the industry that supplies wind turbines of all sizes for “behind the meter” on-site generation, both on-grid and off-grid. We have approximately 100 members, almost all of which are small businesses. Our industry is part of the renaissance of American manufacturing. In fact 94% of the small wind turbines installed in America last year were built in America.

Now to my comments on the discussion draft before us today. I believe the draft legislation has many good and valuable aspects, but I also believe it misses significant opportunities to address emerging reliability and security issues and the plethora of new approaches and solutions made possible by technology innovations in the electric power sector. In particular I believe the important role that distributed generation and storage will play in increasing the reliability and resiliency of the power grid deserves more attention.

Section 1201, dealing with environmental and grid reliability conflicts during times of emergency, seems to provide useful clarification that will streamline decision-making during critical periods.

Section 1202, Reliability Analysis for Proposed Major Rules, seems to provide an impact analysis that would be valuable to policymakers. But, I question whether a reliability and resource adequacy analysis that extends to the local level can realistically be completed in 90 or 120 days, so I recommend limiting the scope to the regional level. I would also like to see the mandated analyses recommend ways in which any problems identified might be remedied.

Section 1203, Emergency Preparedness for Disruptions, was surprising to me in that it focuses on oil and gas supply disruptions where I would have expected it to focus on enhancing federal, state, and local capabilities to respond to grid outages. When I think of

energy supply disruptions the events that come to my mind are Hurricane Sandy, the floods in Vermont and Colorado, ice storms in the Northeast, and, because it's in my backyard, wildfires, ice storms, and tornados in Oklahoma; all of which have left homes and businesses without electricity for weeks to months. I don't recall disruptions in oil and natural gas supply beyond those caused by market forces. Section 1205, on spare transformers, addresses grid recovery, and that's a good start, but I think much more could be added to Section 1203 to encourage new approaches to emergency preparedness that would be more impactful to more people. For example, new emergency power delivery possibilities are emerging as grids are modernized, more distributed generation is installed, the design of micro-grids advances, customer-owned storage enters the stage, and back-up fossil-fueled generators and CHP become cleaner and more efficient. I would ask "how can the Energy and Power Subcommittee encourage a convergence that will both improve resiliency and emergency response to lessen the impact of grid outages". I would recommend reviewing the work underway in this area under the New York Public Service Commission's "Reforming the Energy Vision (REV)" initiative.

Section 1204, Critical Electric Infrastructure Security, seems to provide useful clarifications and powers that would enhance our nation's ability to respond to a major grid security emergency.

Section 1205, Strategic Transformer Reserve, seems to be a prudent investment if replacing damaged large power transformers has delayed recovery efforts in the past and vulnerable utilities cannot afford prudent spares holdings. But, I did find it surprising that the costs of new transformer reserve are to be authorized to come out of the Energy Efficiency and Renewable Energy program budget at the Department of Energy. Surely the DOE Office of Electricity Delivery and Energy Reliability would be a better fit technically and budget-wise.

Section 1206, Cyber Sense, seems like a prudent compliment to the existing US-DOE “Cybersecurity of Energy Delivery Systems” program, also at the Office of Electricity Delivery and Energy Reliability, and other similar federal programs.

Section 1207, mandating certain considerations affecting grid resiliency at state regulatory agencies and utilities, is the section of this discussion draft that I think has the greatest potential to enhance energy reliability and security. PURPA Section 210 in 1978 was a critical element in the rise of distributed generation in America and it sparked the creation of thousands of companies, millions of jobs, and hundreds of billions of dollars in new investments in energy generation technologies. I see merit in requiring that states consider requiring plans to increase the utilization of emerging technologies that improve grid resiliency. It will be duplicative in some states, such as California and New York, but it will serve to get other states off the dime, or as a minimum, force them to consider the possibilities.

That said I would like to point out some problems I see in the current draft of Section 1207:

- It would not seem to cover unregulated utilities, such as many rural electric cooperatives
- It does not specifically mention renewable distributed generation, the fastest growing segment of the emerging technologies with application to grid resiliency
- It provides a surprising emphasis on “Advanced Energy Analytics Technology”, which I have not seen as one of the emerging technologies with the potential to enhance grid reliability and security, and
- It provides a counter-intuitive emphasis on baseload generation.

On this last point I say counter-intuitive because a system with a fewer number of larger assets is more vulnerable and less resilient than a system with a higher number of smaller

assets, particularly if they have greater spatial and fuel diversity. When you factor in the dependency of a functional T&D network for baseload plants to serve critical loads I see the proposed Subsection 22 as undermining the intent of Section 1207 and potentially nullifying the gains to be made under Subsection 20 (B). It is now well established that intermittency is manageable through combinations of complementary technologies, such as wind power and natural gas fired combustion turbines, so there's no compelling technical reason to elevate baseload plants to an elevated and protected status. States or utilities that want to shut down baseload power plants should be free to do so.

The potential for distributed generation to contribute to the modern grid should not be underestimated. DWEA has just finished a whitepaper on the potential for "behind the meter" wind energy systems and found that the technical potential by 2030 was 1,100 GW, which is on par with the potential for seabed-based offshore wind or the total generating capacity from all sources installed in the U.S. today<sup>1</sup>. These are wind systems that can be configured with storage and back-up generation to provide energy during grid emergencies. When combined with solar, which has even greater potential, the future grid could be much more resilient and far less dependent on a relatively few high value bulk power assets and their required T&D network. Mini-grids powering critical loads offers the opportunity for faster and more comprehensive response to grid emergencies, with less sensitivity to fuel logistics.

My primary request to this Committee is to bolster Section 1207 to take better advantage of the opportunities that emerging distributed renewable energy, storage, controls, and other grid-enhancing technologies offer today and tomorrow. If there are legislative opportunities to promote distributed generation beyond this discussion draft I would encourage the

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<sup>1</sup> "DWEA Distributed Wind Vision – 2015-2030; Strategies to reach 30 GW of "behind the meter" wind generation by 2030", <http://distributedwind.org/wp-content/uploads/2012/08/DWEA-Distributed-Wind-Vision.pdf>

Committee to seize those opportunities. Doing so will help build the American economy while delivering the improvements in energy reliability and security that we'd all like to see.

Section 1208, requirements for RTO's, seems to elevate baseload power to a special status that would serve to hinder the development of distributed and intermittent resources. Again, I believe that this would reduce resiliency not enhance it.

In summary, I believe the discussion draft contains both good and not so good aspects. I appreciate that it is a draft and look forward to further work and discussions.

Thank you again for the opportunity to appear before you today.