Opening Statement
Hearing on the State of Technological Innovation Related to the Electric Grid
Chairman Lisa Murkowski
March 17, 2015

Good morning, everyone. The Committee will come to order. We're here for a "Grid 2.0" oversight hearing – and this should excite us all. This is a good subject. It's an opportunity for us this morning to hear testimony from a panel of experts to evaluate what is actually happening with technological innovation for the electric grid.

No other electricity network on Earth provides as much power to as many people as reliably and affordably as our American grid. It really is a modern marvel and I think we should be proud of what we've accomplished. Keeping the lights on – as all segments of the industry have for the past 100 years – is not just about flicking a switch or changing a bulb. It's a highly complex and technical undertaking that requires scores of talented individuals.

We have also reached a very good point in time to be looking at this subject this morning. The grid was built incrementally, but the rate at which it changes, or is compelled to change, appears to be accelerating. A combination of market forces, technological innovation, and policy directives at both the federal and the state level could well result in an unprecedented transformation of the electricity sector.

Today's developments have tremendous potential, but also present a number of challenges – like smoothing out the intermittency of variable, weather-dependent generation. With the rise of distributed generation and smart grid technologies, Americans are gaining more control over how they use and consume electricity, but the grid must be even more closely integrated as a result.

Innovation and new technologies, such as commercially viable storage, are clearly necessary to assist in this transformation. We're talking a lot in my state about microgrids. Many people don't think of us as being pioneers in this area, but what we are doing with microgrids – what used to be called "isolated islanded grids" – is really making a difference in a state where sometimes it's tough to keep warm and keep the lights on.

It is always best when public policy responds to proven technology advancements. Today, however, we must hope technology can deliver solutions to meet political mandates while satisfying our expectations for reliability and affordability. Two major questions I have are: over what time period can solutions be developed, and at what cost? Credible estimates hold that new

grid technologies alone will require a cumulative investment of between $300 and $500 billion over the next 20 years.

This Administration has rightly classified the electric grid as "super critical" infrastructure because so many things – communications, roadways, and hospitals – depend upon a functioning grid. The reliability of our nation's grid is therefore paramount, and the impact of policy directives must be seriously considered – not dismissed as somehow anti-environment or anti-future.

I have focused our Committee on drafting broad energy legislation and expect that electric issues will be a key part of it. We have an impressive group of panelists before us whose testimony will assist in this effort.

We have Dr. Michael Howard, President and CEO of the Electric Power Institute, who will start us off with an overview of the changing integrated grid. He had hoped to use a computer for his presentation, but we're still using 19th century technology in the Senate… so we're stuck with posters, but thank you for that.

We have also Dr. Peter Littlewood, Director of the Argonne National Laboratory, who is joining us because research is really the foundation of the federal role – and his lab is a key part of our efforts on grid modernization and energy storage.

We also have Dr. Jeff Taft, Chief Architect for Electric Grid Transformations at the Pacific Northwest Laboratory, who is here to tell us more about PNNL's work with smart grid technologies and grid modernization.

We have Lisa Barton, Executive Vice President, Transmission for the American Electric Power Company, who is here to share the perspective of a major utility that operates the nation's largest electricity transmission system, with 40,000 miles of transmission lines to deliver electricity in 11 states.

And to round out the panel this morning we have The Honorable Lisa Edgar, a Commissioner at the Florida Public Service Commission and Presidentof the National Association of Regulatory Utility Commissioners, who will present the states' perspective, which is invaluable because so much of this transition is happening at the retail level.

So I welcome all of our panelists and I look forward to your presentations. I'll now turn to Ranking Member Cantwell.

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