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Smart Grid

April 21, 2016 - Item A-3: Presentations on Grid Modernization to the Commission Presentations: Dept. of Energy [PDF](#) | National Renewable Energy [PDF](#) | Pacific Northwest [PDF](#) | Idaho [PDF](#) | Sandia [PDF](#) | Lawrence Berkeley [PDF](#)

ELECTRICITY GRID MODERNIZATION: Progress Being Made on Cybersecurity Guidelines, but Key Challenges Remain to be Addressed

- [GAO Report](#) [PDF](#)
- [Chairman Wellinghoff's letter to Senator Inouye and Senator Cochran](#) [PDF](#) (02/14/2012)
- [Chairman Wellinghoff's letter to Congressman Rogers and Congressman Dicks](#) [PDF](#) (02/14/2012)
- [Chairman Wellinghoff's letter to Senator Lieberman and Senator Collins](#) [PDF](#) (03/10/2011)
- [Chairman Wellinghoff's letter to Congressman Issa and Congressman Cummings](#) [PDF](#) (03/10/2011)

To help support the modernization of the Nation's electric system consistent with Title XIII of the Energy Independence and Security Act of 2007, the Commission is focusing on issues associated with a smarter grid.

Smart Grid advancements will apply digital technologies to the grid, and enable real-time coordination of information from generation supply resources, demand resources, and distributed energy resources (DER). The Commission's interest and responsibilities in this area derive from its authority over the rates, terms and conditions of transmission and wholesale sales in interstate commerce, its responsibility for approving and enforcing mandatory reliability standards for the bulk power system in the United States, and a recently enacted law requiring the Commission to adopt interoperability standards and protocols necessary to ensure smart-grid functionality and interoperability in the interstate transmission of electric power and in regional and wholesale electricity markets.

Characteristics of a Smart Grid as described by Title XIII of the Energy Independence and Security Act of 2007:

1. increased use of digital information and controls technology to improve reliability, security, and efficiency of the electric grid;
2. dynamic optimization of grid operations and resources, with full cyber-security;
3. deployment and integration of distributed resources and generation, including renewable resources;
4. development and incorporation of demand response, demand-side resources, and energy efficiency resources;
5. deployment of "smart" technologies (real-time, automated, interactive technologies that optimize the physical operation of appliances and consumer devices) for metering, communications concerning grid operations and status, and distribution automation;
6. integration of "smart" appliances and consumer devices;

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QUICK LINKS

[Cyber & Grid Security](#)
[National Institute of Standards and Technology \(NIST\)](#)
[SmartGrid.gov](#)

January 31, 2011 – Technical Conference on Smart Grid Interoperability Standards Event Details

[FERC's Smart Grid Policy](#) [PDF](#)

A Policy Framework for The 21st Century Grid: **Enabling Our Secure Energy Future** [PDF](#)

[Department of Energy - Smart Grid](#)
[Energy Independence and Security Act of 2007, Title XIII](#) [PDF](#)

[American Recovery and Reinvestment Act of 2009](#) [PDF](#)

[GridWise Interoperability Path Forward](#)
[Whitepaper](#) [PDF](#)

[Smart Grid Collaborative](#)

[Gridwise Architecture Council](#)

[NEMA Smart Grid](#)

[Department of Energy - Energy Efficiency and Renewable Energy](#)

[North American Electric Reliability Corporation \(NERC\)](#)

March 26, 2009 – State, Federal Regulators offer criteria for DOE Smart Grid stimulus funding News Release | [Letter to DOE](#) [PDF](#) | [Grants Criteria](#) [PDF](#)

7. deployment and integration of advanced electricity storage and peak-shaving technologies, including plug-in electric and hybrid electric vehicles, and thermal storage air conditioning;
8. provision to consumers of timely information and control options;
9. development of standards for communication and interoperability of appliances and equipment connected to the electric grid, including the infrastructure serving the grid; and
10. identification and lowering of unreasonable or unnecessary barriers to adoption of smart grid technologies, practices, and services.

Congressional Hearings

July 1, 2010 - Mason Emmett testifies before the Subcommittee on Technology and Innovation, House Committee on Science and Technology on Smart Grid Architecture and Standards: Assessing Coordination and Progress. [Testimony](#) PDF

July 23, 2009 - Commissioner Kelly will testify before the Committee on Science and Technology about Effectively Transforming Our Electric Delivery System to a Smart Grid. [Event Details](#)

March 3, 2009 - Senate Committee on Energy & Natural Resources held a full committee oversight hearing to receive testimony on the process of smart grid initiatives and technologies. [Read More](#) PDF | [Former Commissioner Suedeem G. Kelly's Testimony](#) PDF | [View Webcast](#) PDF

Updated: October 18, 2016