



Recognizing Excellence in Smart Grid Development: The Perfect Power Seal of Approval Program

The Purpose

The Galvin Electricity Initiative is developing a smart grid performance rating system called the Perfect Power Seal of Approval program. The Initiative's catalytic focus is on community-based smart distribution microgrid projects. These projects feature local generation plus the range of intelligent technologies necessary to maximize consumer benefits. The intent is to establish a standard of excellence that recognizes the best in class. The Initiative will use a set of performance metrics to evaluate and rate certain candidate projects that we believe are on the path to be awarded the Perfect Power Seal of Approval. In addition, the rating system will be available for application by others to consistently and objectively evaluate the performance of electricity systems on any scale.

The Need

As the nation moves toward developing a smarter electricity grid, consumers, cities and advocacy organizations are asking how it will affect them. Tools such as the Smart Grid Maturity Model have been developed to provide utilities with a common pathway for smart grid projects, and the National Institute of Standards and Technology is working to identify and define a core set of interconnectivity and security standards to ensure that the diverse set of smart grid projects that is emerging can interact seamlessly. While these advances will help ensure that smart grid development is streamlined and efficient, what has yet to emerge are performance measures that will verify that projects yield specific consumer benefits and outcomes. How will consumers know that such essential value is being produced? The Galvin Electricity Initiative believes that the industry should follow the example set by the LEED program in raising the bar for green buildings. The Initiative is developing a rating system based on: 1) setting common consumer-focused goals for smart grid development, 2) encouraging competition to meet them, 3) emphasizing that the most important beneficiaries of the smart grid are consumer and business end-users of electricity, and 4) giving those end-users a system for evaluating their electricity supplier performance. Given the pace of the federal smart grid stimulus funding program, as well as the need to ensure that taxpayer dollars are well spent, the time for establishing this rating system is now.

The Genesis

The nonprofit Galvin Electricity Initiative was started by former Motorola CEO Bob Galvin in order to catalyze smart grid development based on quality management processes and smart system design. Quality processes have, for 50 years, been helping industries such as health care, telecommunications and manufacturing maximize the value of their improvements and investments. Quality processes catalyze innovation, eliminate waste and improve product performance. Thus far, however, these methods have not

June 3, 2010





been widely used in the electricity industry. Using them could ensure that smart grid investments deliver multiple benefits as well as ongoing savings — a goal that many smart grid developers are struggling to reach. When applied to grid modernization, quality processes ensure that smart grid development is based on the needs of the consumers and businesses it serves. They suggest a series of performance criteria such as reliability, environmental performance and costs for both suppliers and consumers. These performance standards — our Perfect Power criteria — have guided the development of the Initiative's prototype smart microgrid systems that are serving as models for smart grid transformation nationwide. The criteria are discussed more at www.galvinpower.org/perfect-power/what-is-perfect-power. These criteria are forming the basis of the Perfect Power Seal of Approval program.

The Process

Similar to the LEED program, the Perfect Power Seal of Approval program features a set of performance criteria that are based on consumer and business needs and that will be used to rate smart grid projects. These criteria are grounded in basic principles that are designed to ensure that electricity consumers have the same rights as they do in other industries:

- Electricity should be provided in ways that are cost-competitive and that have greater transparency regarding usage data, pricing and impacts of usage;
- The supply of electricity should never be interrupted, and the quality of electricity should be sufficient to meet today's digital needs, economically; and
- Reliance on fossil fuels should be diminished, and the use of lower carbon energy should be dramatically increased, thus reducing our electricity carbon footprint.

The proposed four performance categories in which projects will be measured are as follows:

1. safety, security and reliability
2. consumer empowerment
3. green grid/environmental performance
4. cost transparency and efficient use of capital

Ratings will also assess the project's commitment to quality methods and continuous improvement.

In keeping with quality principles, the Seal of Approval program development process will be transparent, including expert and stakeholder reviews. The program will be developed throughout the remainder of 2010 and the Initiative will begin testing the Seal in early 2011. Key target dates for finalizing the criteria and rating system are as follows:

- Finalize advisory committee by the end of June 2010
- Develop a position paper for each performance category by the end of September 2010
- Finalize, vet and offer for public comment the performance criteria and rating system by the end of December 2010



**Recognizing Excellence in Smart Grid Development:
The Perfect Power Seal of Approval Program**

- Identify projects to be evaluated in the Perfect Power Seal of Approval program's pilot phase by the end of February 2011
- Issue the Seal of Approval guidelines to allow other projects to use the Initiative's criteria in self-evaluating the merits of their smart grid by fall 2011

As noted above, starting in February 2011, the Initiative will identify potential candidates projects to be evaluated for the Perfect Power Seal of Approval. These candidates will be reviewed and will receive a score from the Initiative. The Initiative will release the Seal of Approval guidelines so that other projects can use the criteria to self-evaluate the merits of their smart grids.

For more information, visit www.galvinpower.org/perfect-power-seal.

The Galvin Electricity Initiative, launched by former Motorola CEO Robert W. Galvin, has brought together many of the nation's leading electricity experts to reinvent our electric power system into one that is fundamentally more affordable, reliable, clean and energy-efficient. The Initiative has created innovative business and technology blueprints for the ultimate smart grid — the Perfect Power System. The system is a smart microgrid that meets the needs of 21st century consumers and provides reliable, secure electricity regardless of nature's wrath or security threats. To pave the way for Perfect Power and system transformation as a whole, the Initiative is advocating for new policies that reflect a set of guiding Principles — the electricity consumer's bill of rights — in Illinois and other key states. For more information on the Electricity Consumer Principles, the policy framework or the Perfect Power System, visit www.galvinpower.org.