

NIST Smart Grid Update

February 2013

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Welcome from Dr. George Arnold, NIST, National Coordinator for Smart Grid Interoperability

Dear Smart Grid Colleague,

The National Institute of Standards and Technology (NIST) has been serving—and will continue to serve—an important mission in the growth of the smart grid. The Energy Independence and Security Act of 2007 (EISA) assigned NIST the "primary responsibility to coordinate development of a framework that includes protocols and model standards for information management to achieve interoperability of smart grid devices and systems." Over the past four years, we've made very significant progress with this assignment, and NIST has developed a productive, multi-faceted, and dynamic smart grid program.

In order to help you stay up to date with all that we are doing, we're starting this e-newsletter. We hope this update will complement the news that many of you will receive from other sources, including SGIP 2.0's newsletter (see below for more about SGIP 2.0).

We'll strive to make this update informative and useful. And we'll strive to keep it concise, because we know that you are dealing with the same information overload that challenges each of us working in the smart grid ecosystem.

You are receiving this initial update because of your interest and involvement with interoperability and smart grid standards. We hope you'll want to continue to receive this sort of information and will also forward it to colleagues who may also find it useful. (If your professional responsibilities have taken you in a different direction, and the topics in this newsletter are no longer relevant for you, please see the end of this newsletter for details on how to unsubscribe.)

Thank you for your interest—and for the time, energy, and creativity you are contributing to bringing

our electric grid into the 21st century.

Best regards,

George Arnold
National Coordinator for Smart Grid Interoperability
Director, Smart Grid and Cyber Physical Systems Program Office
Engineering Laboratory

NIST and Smart Grid Interoperability Panel (SGIP) Partnership Evolves as 2013 Begins



Over the past three years, a major focus for NIST has been the establishment and operation of the Smart Grid Interoperability Panel (SGIP). Since its founding in December 2009, NIST has funded this public-private partnership, and the SGIP's many successes have been remarkable. By bringing a very diverse group of smart grid stakeholders together in a process built on consensus and transparency, the SGIP has created a standards coordination process that is broader, faster, and stronger.

Over the past year, NIST and SGIP leadership have been working together on a business sustainment plan to transition SGIP to an industry-financed legal entity that continues a working partnership with government. In recent weeks, this transition process has accelerated, and SGIP is now functioning as an independent organization, SGIP 2.0, Inc. (To learn more about SGIP 2.0, visit its website, sgip.org.)

NIST is a founding member of SGIP 2.0 and will continue to be a strong supporter and active participant. To strengthen the long-term NIST-SGIP partnership, NIST Director Pat Gallagher and SGIP Governing Board Chairman John McDonald recently signed a Memorandum of Understanding (MOU) between the two organizations.

NIST Announces Federal Funding Opportunity for "Smart Grid Interoperability Standards Cooperative Agreement Program"

At the same December meeting where the MOU was signed (see above), Dr. George Arnold announced that NIST had posted a [Federal Funding Opportunity for a "Smart Grid Interoperability Standards Cooperative Agreement Program."](#) NIST solicited proposals from eligible applicants for a program with substantial NIST participation that will support continuous innovation of the electrical grid through the coordination and acceleration of standards development and harmonization and advancement of the interoperability and security of smart grid devices and systems. NIST anticipates funding one multi-year project with a budget and performance period through the end of fiscal year 2015 for up to \$2,750,000, subject to the availability of funds. With a January 15 deadline for submitting proposals, the received proposals are now under review. The final selection is anticipated to be announced in March.

NIST Helps Organize Upcoming IEEE Conference on Innovative Smart Grid Technologies (ISGT 2013)

The fourth annual Conference on Innovative Smart Grid Technologies, sponsored by the IEEE Power and Energy Society (PES), will be held February 24 - 27, 2013 at the Washington Marriott Wardman Park in Washington, DC. The conference provides a forum to discuss state-of-the-art innovations in smart grid technologies and applications. International experts will present keynote talks, tutorials, panel sessions, and technical papers.

NIST will be well represented at the meeting, with Dr. George Arnold serving as the technical program chair of this year's conference. In addition, three panels will be chaired by NIST staff, including George Arnold, Marianne Swanson, and Jeffrey Voas.

For more details and registration, visit the [conference website](#).

“Electromagnetic Compatibility and Smart Grid Interoperability Issues” White Paper Released

After dozens of virtual and face-to-face meetings over a two-year period, the SGIP Electromagnetic Interoperability Issues Working Group has reached a milestone with the publication of its 118-page white paper. The working group, chaired by NIST's Galen Koepke, was established to investigate enhancing the immunity of smart grid devices and systems to the detrimental effects of natural and man-made electromagnetic interference, both radiated and conducted.

As described in the white paper, electromagnetic compatibility (EMC) is an integral process needed for the design of devices that are used in the operation of the smart grid. The paper looks at EMC issues and standards in a variety of different environments—both within the electric utility system and within power customer settings. The paper also discusses high power electromagnetic events, such as geomagnetic storms, intentional EM interference (IEMI) from portable transmitters, and EM pulses associated with high altitude nuclear detonation (HEMP). The paper is intended as a guide to apply documented EMC principles to better ensure the operation and interoperability of the smart grid in its intended electromagnetic (EM) environments. [The white paper is available online](#) and is free to all interested parties.

Smart Grid Federal Advisory Committee Reviews Cybersecurity Issues During December Meeting

At its day-long December 18 meeting, held in Gaithersburg, the Smart Grid Federal Advisory Committee spent the morning session hearing from a series of speakers with expertise in grid-related cybersecurity. The afternoon session included a review of last summer's workshop on smart grid research priorities, as well as a review of activities related to the transition of SGIP to an industry-financed legal entity (see above). On the morning of December 19, committee members were invited to tour several NIST laboratories that are working on smart grid-related projects.

Details about the committee's membership, meeting agendas, and meeting presentations [are available online](#).

New Guide Will Allow Electric Utilities to Develop Green Button Web Tools

A new guide for Web developers recently released by NIST will make it easier for electric utilities and vendors to give customers convenient, electronic access to their energy usage data with tools and applications developed as part of the new "Green Button" initiative.

Included in the new guide is information on:

- The composition of Green Button data and how it fits together
- How to make Green Button data accessible to users via XML style sheets, which render the data comprehensible to the consumer; and
- Sample source code showing what data to begin with, as well as examples of finished data sets

The User Guide, which provides a good overview for those utilities not yet using Green Button, is freely available online. For specific information on the User Guide, please visit http://www.nist.gov/public_affairs/tech-beat/tb20130206.cfm#button. For general information on the Green Button program, please visit <http://www.greenbuttondata.org/>.

White House Seeks Applicants for Presidential Innovation Fellows for NIST Smart Grid Program

On February 5, the White House launched Round 2 of the Presidential Innovation Fellows program. This high-profile program pairs top innovators from the private sector, non-profits, and academia with top innovators in government to collaborate on projects that aim to save lives, save taxpayer money, and fuel job creation. NIST expects to host three fellows; they will work in two of the nine new Presidential Innovation Fellow Projects, with each fellow's "tour of duty" lasting 6-12 months.

Two of the NIST fellows will work on Cyber-Physical Systems, and the third fellow will work on the Green Button Initiative. These positions will be full time with a 6-12 month paid appointment. Applications to be a Round 2 Fellow will be accepted through March 17, 2013. For more information on the program, or to apply, visit http://www.nist.gov/public_affairs/tech-beat/tb20130206.cfm#pif.

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