

Meeting Minutes September 25, 2009

Chairman Ron Ambrosio led the meeting that was held from 8:30 a.m. – 12:30 p.m. on Friday, September 25, 2009 in Washington DC.

Members

Ron Ambrosio, IBM T.J. Watson Research Center
Robert Burke, ISO New England
Rik Drummond, Drummond Group
Erich Gunther, EnerNex Corporation
David Hardin, Invensys Process Systems
Tracy Markie, Engenuity
Robert Saint, NRECA
Ken Wacks, supported by GridPlex
Richard Schomberg, EDF

Jeff Katz, IBM
Sharla Artz, Schweitzer Engineering
Laboratories, Inc.
Terry Oliver, BPA
William Cox, Cox Software Architects
Rahul Tongia, CSTEP/CMU
Mike Oldak, EEI
Eric Mewhinney, British Columbia Hydro and
Power Authority
Austin Montgomery, SEI
Joe Kennedy, PEW Charitable Trusts
Mike Burns, Itron, Inc.
Randy Lowe, AEP
Don Von Dollen, EPRI
Brian Gaucher, IBM

Support - PNNL

Ron Melton, GWAC Administrator
Steve Widergren, PNNL
Heather Kuykendall, GWAC Support (by phone)

Members (not present)

Alex Levinson, Lockheed Martin
Lynne Kiesling, Northwestern University
Nora Mead Brownell, ESPY Energy Solutions
Stephanie Hamilton, EPRI

Speakers and Guests

Dan Ton, DOE
Terry Jones, CSIRO (Australia)
David Holmberg, NIST

Proprietary Information Notice

The members and guests were reminded of the proprietary information disclosure policy according to the Bylaws.

Agenda Review

No items added to the agenda.

Administrative Business

Approval of minutes from the previous meeting (August 5-6, 2009)

- Motion to approve made by Rik Drummond and seconded by Robert Burke
- Minutes approved by unanimous vote of Council members present.

Upcoming events review and GWAC meeting schedule.

- Web meeting scheduled for October 30, 2009, 8:00 am – 10:00 am Pacific (11:00 am – 1:00 pm Eastern)
- Grid-Interop forum is on November 17 –19 in Denver, CO.
- Web meeting scheduled for December 11, 2009, 8:00 am – 10:00 am Pacific (11:00 am – 1:00 pm Eastern)
- A face-to-face meeting is planned for January 28-29, 2010 in Orlando following the AHR Expo.

Department of Energy Update

Dan Ton, DOE provided an update on DOE OE-10 activities.

Smart Grid Investment Grants: A technical review of investment grants is complete. The challenge is to fund as many as possible. The target is end of the year for contract allocation. Announcements will be around the end of October. There is \$32M overall budget for R&D with about \$15M available in FY10 for new projects.

Research and Development: In October DOE is planning a meeting in Denver with national lab representatives to coordinate smart grid research and development. Short, medium, and long-term objectives will be discussed. The results will be presented at an Industry meeting in December. This will lead to a multi-year program meeting for completion in February and a solicitation in March with FY10 awards in September. Mr. Ton suggested that GWAC could provide a valuable input on this.

Ken Wacks mentioned that a number of discussions about the trade-off between DR and storage took place at GridWeek and may be an area for GWAC to explore.

Erich Gunther offered that NIST SG Arch Board might be a good fit for GWAC.

Discussion of future GWAC activities

Rik Drummond brought up the subject of what GWAC should do next. Responses included:

- Put together a list of 2 or 3 things that GWAC can help with and take that list to Eric Lightner
- Work on the question of how we make sure gaps with renewable are covered (from Dan Ton)
- Look at what we do once we have interoperable systems
- Work on the business and policy issues, i.e., the upper levels of the GWAC stack
- Erich Gunther said that GWAC may have a role on the NIST SGIP Architecture Board
- Work on the interface between renewable programs and smart grid. For example, how can demand response be used for integration? (from Dan Ton)
- Mike Oldak reminded the council that utilities need cost-benefit analyses in order to develop rate cases. DOE and other work from independent sources are very important to them

The Smart Grids Australia Research Working Group

Presented by Terry Jones, CSIRO

The Smart Grids Australia Research Working Group is an Australian energy R&D collaboration with ~40 researchers and a budget of about \$10M. Terry is involved in the CSIRO element of this work and is gathering information on activities in the US and Europe for the group to use in defining a research agenda. Areas of activity include: energy for buildings, energy efficiency and intelligent grid (their term for smart grid). As they develop their projects they would like to share information with the US research community, for example, by putting information into the US database or results. They would also like to joint US research working groups, etc.

Pew Charitable Trusts

Presented by Joe Kennedy

The Pew Charitable Trusts began as a foundation in Philadelphia. Most of their projects are related to environment, health, and economic policies, however, they are interested in starting a project on the electric grid. They have in mind a multi-year effort with the first phase being a two-year research project. They are looking to create an advisory team for this research. They are open to directions, but they have common principles: non-partisan, excellent research, influencing policy. Joe affirmed that they would be interested in a consumer benefit impact study.

Grid-Interop 09 Update

Presented by Ron Melton

Day One - The Colorado Governor is being considered for the event opening or welcome. A foundational session will be led by the Council. The afternoon will consist of panels and breakout sessions.

Day Two – Panel sessions will be held in the morning, with the afternoon reserved for NIST activities. Breakouts can be PAPs, GWAC items, or new NIST standards items.

Day Three – The final day is a short day with reports from sessions and closing speaker.

A Smart Grid Interoperability panel session at Grid-Interop was explored with the Council with the purpose to present a vision for future architecture. The direction of the council as discussed in the previous meeting should influence the direction of this topic.

Grid-Interop 09 Keynote

Presented by Ron Ambrosio

GWAC group is viewed as a “brain trust” for smart grid interoperability. The foundational session at Grid-Interop is primarily the responsibility of the council. The council discussed various ways to develop a broad presentation on smart grid and interoperability beyond standards. The purpose is to provide context and frame the discussions of standards at the meeting. Mr. Ambrosio proposed that a moderated panel session will be created where the future of the Council would be a direction of the discussion. This was one of several ideas that were discussed.

GWAC Future Brainstorming Refinement

Chairman Ron Ambrosio would like to step back and see what is the vision and the barriers and where can the GWAC help or address.

A few comments in response to this question:

- GWAC is an institution and not a project
- Diversity is the key
- Resources and capability to deliver products are limited
- New role could be as a reviewer for smart grid issues
- The GridWise Alliance already works on business and policy issues
- Some want to look beyond interoperability while others cautioned not to overextend their area of expertise

Ray Palmer stated that ISO/RTOs are demonstrations for interoperability techniques and can use input and review.

GridWeek Take-Aways

The council members were invited by Ron Melton to share their key observations and take-aways from GridWeek. Once council members had a chance to comment the opportunity was opened up to meeting attendees. The results are included as stated in the remainder of this section for future reference.

- Technologies have mismatched lifecycles
- Pumped storage for wind
- Tools that consumers need and incentives
- Using automobiles as distributed storage
- Customer focus increasing - but more segmentation may be needed
- Storage for grid versus demand response (relative and possibly competing value)
- Concern about the volume of data and how consumers can be involved given that volume of data and the relative value of any given set of data
- Other tools for storage for wind - rather than pumped storage
- Concept of providing customers with the real-time mix of generation - is there value?
- Mr. Kelly's key points - we are still missing some components to driving adoption of interoperable products
 - Uniform markets
 - Uniform regulations
 - Regulatory mandate of standards may not be sufficient
- Evolution of supporting business models that go behind smart grid
 - Especially the business models for small to mid-size businesses supporting the industry
- Importance of analytics to discover new concepts, needs, and other patterns and features in the vast amount of data
 - Operations impacts
 - Security impacts
 - Access
- We haven't wrestled with the true cost of the aging infrastructure problem - trillions needed
- Effort to shift responsibility for managing the grid from the utility to the consumer - not clear the consumer is ready or able
- International - leapfrogging technologies in the developing countries - green field implementations of smart grid

- Consumer choice - give the consumer as much choice as possible
 - Change at notice
 - Cheapest power
- Educated workforce
- Impact on low-income customers
- Data privacy issues
- Societal benefits
- Relationship between smart and green - smart is not necessarily
- Customers don't want the utility in their house
- It's not just about energy (in the in-home display)
- Utility scale storage (temporal) decoupling generation from demand - implications on business models
- Along with analytics modeling of the grid current and future states is important (large and small scale)
- Best practices - need to go beyond the standards. Requirement to uncover best practices
- Impressive feedback from residential programs
- **Analytics and modeling - DOE has impressive compute resources for nuclear that could be migrated**
- **80 / 20 rule - how to help the utilities get the 80% impact (plan the deployment)**
- **Affecting change - solid state control for everything was addressed across the board**
- **Net zero home concept will cause radical changes to business and regulatory models**
- **We don't understand the capacity of some of the technology**
 - Example - meters can't do inflow and outflow in real time. Can only do net
 - May end up with multiple meters
- **3100 utilities - are we going to have 3100 smart grids and communications infrastructures**
- **Grid modernization is taking place on an operating machine**
- **GWAC liaisons may need to grow - lots of new initiatives**
 - NERC
 - FCC
- **Smart grid implementation will be a large catalyst of change in our society - goes beyond just replacing the aging infrastructure**
- **A new generation of consumers may be the ones that really engage - relates to not all customers being the same point.**