



ABOUT THE NEWSLETTER

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The EPRI Smart Grid Demonstration Initiative is a five-year collaborative research effort focused on design, implementation, and assessment of field demonstrations to address prevalent challenges with **integrating distributed energy resources** in grid and market operations to create a "Virtual Power Plant." The newsletter provides periodic updates on the project as well as updates on relevant industry news and events. If you have comments about the newsletter, please email or call [Matt Wakefield](mailto:Matt.Wakefield@epri.com) at 865-218-8087.

PROJECT UPDATE

ESB Networks Selected as 6th EPRI Smart Grid Demonstration Host Site
ESB Networks' (Ireland) Smart Grid project

At the November EPRI Board of Director's meeting, the ESB Networks Smart Grid Demonstration project was presented and is now officially the sixth EPRI Host-Site project. This project adds another aspect of diversity by integrating together four main focus areas: 1) Large Scale Wind Integration, 2) Customer Behavior Trials and Technology, 3) Electric Vehicles, and 4) Green Distribution Circuits.

7th & 8th EPRI Smart Grid Demonstration Host Sites Under Review
Kansas City Power & Light (KCP&L)

KCP&L's "Green Impact Zone" project has completed the EPRI technical review cycle. We will be scheduling a "Peer Review" webcast to review the project with the EPRI collaborators and key stakeholders prior to final review with the EPRI Board of Directors in April.

Exelon (ComEd / PECO)

Exelon has submitted a proposal based on joint projects by two of their subsidiaries, ComEd and PECO. The project is being reviewed by the EPRI technical team and if approved, will be followed by a "Peer Review" webcast. It is anticipated that this project will be presented to the EPRI Board of Directors in April.

Host Site Proposal Reminder

April 15th is the deadline to submit host-site proposals

April 15th is not only "tax day" but also the deadline to submit host site proposals. Over the last year and a half we have spent a significant amount of time with our utility funders identifying and selecting large scale smart grid projects that will help achieve our project goals. We currently have six host-site projects with two more under review and have had discussions with several additional members. Please contact Matt Wakefield if you are planning on submitting a proposal for our final host-site review cycle. The initiative will provide value to members whether they are host-sites or not.



EPRI “Resident Researcher” Employee Program - Smart Grid Engineer or Analyst

EPRI has an opening for a Smart Grid Engineer or Analyst in our Knoxville TN office.

The five-year Smart Grid Demonstration Project has created a unique opportunity to expose your new or seasoned engineers or analysts to hands-on smart grid projects focused on integration of Distributed Energy Resources. Location of the position is in Knoxville, TN and duration can be from 1 to 3 years. This opportunity will provide broad experiences in real-world smart grid industry activities and help strengthen and prepare your workforce for the future. Please email or call [Matt Wakefield](mailto:Matt.Wakefield@epri.com) (865-218-8087) for more information.

Demonstrate Technologies in Actual Applications (Host-Sites/SG Demonstrations)

EPRI Smart Grid Demonstration Host Site Projects

This section provides a brief highlight of recent activities. See the associated Host Site “Progress Report” for details on the host-site activities accomplished to date. Progress Reports are listed in the deliverables list below.

American Electric Power

EPRI OpenDSS team assisted AEP with a first peek at some example simulation outputs from a South Bend Indiana circuit. The simulations compared using a 25kWh, 50kWh, and 75kWh CES units (25kW) looking at various charging and discharging schemes. A future step is to apply this learning to develop method to determine the trigger points for utilization of the CES. Other simulations are being considered for DR, PV, Volt/Var research using the same detailed circuit data.

Con Edison

The Con Edison project is currently working on a set of technology evaluation documents relative to integrated communications, advanced components, control methods, and decision support methodology. Several use cases are being finalized relative to islanding concepts and dispatch of customer load controllers.

FirstEnergy

FirstEnergy met with engineering and markets groups for input on use case deliverables to ensure the accuracy of the planning represented by the use cases. FirstEnergy has started the next customer enrollment period targeting 4,000 residential customers.

PNM Resources

EPRI, in conjunction with Sandia National Laboratory, are performing battery testing and evaluation to support PNM’s project. In addition, the University of New Mexico is developing models in GridLAB-D to evaluate demand response in buildings. A review of DMS-type systems that have the capability to interface and control DER is underway that will not only support the technology evaluation phase of PNM’s project, but also be a resource for all the EPRI members.

Electricité de France (EDF)

The EDF project plan details are being finalized. One of the first areas of focus is related to the Cost Benefit Analysis of distributed resource integration in Europe.

ESB Networks

An initial project kickoff meeting was held in December. This month, a use case tutorial meeting is being held to train the ESB staff on the process of developing and documenting IntelliGrid use cases.

Technology Transfer Activities – Deliverables Update

Unless stated otherwise, EPRI members can download deliverables at www.epri.com.

New Member Deliverables Available for Download

- Product ID 1020313: Distributed Resource Integration Framework
- Product ID 1020314: Assessment of Wholesale Market Opportunities for Participation and Aggregation of Distributed Resources
- Product ID 1020384: Integration of Requirements and Use Cases into an Industry Model
- Product ID 1020385: Methods to Firm Distributed Energy Resources, EPRI Smart Grid Demonstration Project Task 1.3
- Product ID 1020435: Development of a Standard Language for Photovoltaic and Storage Integration
- Several new use cases available in the Use Case Repository: <http://www.smartgrid.epri.com/usecaserepository.html>
- Characterization of DOE RDSI Projects: http://www.smartgrid.epri.com/smartgrid_projects.html

Deliverables in pre-publication stage available within the next several weeks

- Product ID 1020340: Architecture Reference Design for Distributed Resource Integration
- Product ID 1020342: Methodological Approach for Estimating the Benefits and Costs of Smart Grid Demonstration Project
- Product ID 1020343: Utility Reference Guide to NIST Smart Grid Roadmap
- Product ID 1020352: FirstEnergy Smart Grid Host Site Progress Report
- Product ID 1020353: PNM Resources Smart Grid Host Site Progress Report
- Product ID 1020354: AEP Smart Grid Host Site Progress Report
- Product ID 1020355: Con Edison Smart Grid Host Site Progress Report
- Product ID 1020415: The State of Smart Grid Technology
- Product ID 1020432: Concepts to Enable Advancement of Distributed Energy Resources – White Paper
- Product ID 1020674: TVA/BTES Smart Water Heater Pilot – Summary of Data Analysis and Results
- Product ID 1020566: Strategic Intelligence Update - Smart Grid Conferences and Events

Existing Member Deliverables Available for Download (www.epri.com)

- Product ID 1018945: Smart Grid Distributed Energy Resources (DER) Project Assessment
- Product ID 1018926: EPRI Pre-Workshop Proceedings: Active Distribution System Management for Integration of Distributed
- Product ID 1019584: Summary of potential use cases for Distributed Solar (PV) Integration
- Product ID 1020187: PNM Smart Grid Demonstration Host-Site Project Description
- Product ID 1020188: American Electric Power (AEP) Smart Grid Demonstration Host-Site Project Description
- Product ID 1020189: FirstEnergy Smart Grid Demonstration Host-Site Project Description
- Product ID 1020190: Con Edison Smart Grid Demonstration Host-Site Project Description
- Product ID 1020191: Electricité de France (EDF) Smart Grid Demonstration Host-Site Project Description
- Product ID 1020213: BTES/TVA Smart Water Heater Technology & Lessons Learned
- Product ID 1020214: Strategic Intelligence Update – Smart Grid Conferences and Events
- The Following Project Overviews are publicly available [here](#):
 - Product ID 1020225: Smart Grid Demonstration Overview
 - Product ID 1020226: AEP Smart Grid Demonstration Host-Site Overview
 - Product ID 1020227: Con Edison Smart Grid Demonstration Host-Site Overview
 - Product ID 1020228: Electricité de France (EDF) Smart Grid Demonstration Host-Site Overview
 - Product ID 1020229: FirstEnergy Smart Grid Demonstration Host-Site Overview
 - Product ID 1020230: PNM Smart Grid Demonstration Host-Site Overview

Visit the [EPRI Smart Grid Resource Center](#) & Use Case Repository for Public Updates

The EPRI Smart Grid Resource Center is a public smart grid resource. The web-site includes a Smart Grid [Event Calendar](#) listing industry smart grid events. To add an Event, send event name, date, location and link to [Matt Wakefield](#)



KEY EPRI SMART GRID DATES

KCP&L Smart Grid Demonstration Host-Site Project – Peer Review Webcast

When/Where: February 3, 11am (EST)

The KCP&L Smart Grid Project proposal has been reviewed by the EPRI technical team and meets the six criteria for a host site. The final review before presenting at the EPRI Board of Directors is a “Peer Review” webcast for all the utility demonstration members and key stakeholders. This provides an opportunity to share the project details to a wide audience and an opportunity to provide feedback that may enhance the value of the research associated with this project.

EPRI Smart Grid Demonstration Project Update Webcast February 17th

Since the last newsletter, the EPRI Smart Grid Demo team has been working on completing a broad range of deliverables. To update the utility members on those deliverables, we are hosting two 2-hour webcasts to give an update on the many deliverables as a result of work performed in 2009.

The purpose of the webcast is to:

- 1) Make members aware of the deliverables and resources (reports, web-site, team members)
- 2) Provide a samples of content and suggestions on how to apply the deliverables
- 3) Discuss additional ways EPRI can add value to your smart grid efforts and extend collaboration opportunities

Feb 17, 2010 Webcast Schedule

Time (EST)	Topic
10:00	Smart Grid Demo Deliverable Overview
10:15	Electricité de France (EDF) Smart Grid Demo Update
10:30	ESB Networks Project Smart Grid Demo Update
10:45	PNM Resources Smart Grid Demo Update
11:00	FirstEnergy Smart Grid Demo Update
11:15	Con Edison Smart Grid Demo Update
11:30	American Electric Power (AEP) Smart Grid Demo Update
11:45	Question and Answers
12:00	Adjourn
One-Hour Break	
1:00	Task 1.2 & 2.4 Integration Analytics Update
1:30	Task 1.5 Cost Benefit Analysis Update
1:45	Use Case Efforts/Repository Update
2:00	Task 2.1 DER Architecture Reference Design Update
2:15	Utility Reference Guide to NIST Smart Grid Roadmap
2:30	Upcoming Advisory Meetings & Final Host Site Selections
2:45	Questions and Answers
3:00	Adjourn

EPRI Smart Grid Demonstration Meeting - March 2010

When/Where: March 2-4, 2010, Hosted by American Electric Power in Columbus, OH
This meeting is a joint EPRI IntelliGrid, Public Advisory Group (PAG), Smart Grid Demonstration Meeting. Invitations have been sent, please [register early](#). The smart grid demonstration portion of the meeting will focus on DMS-type requirements with six utility-vendor panel presentations outlining architecture, requirements and challenges associated with DER integration.

EPRI Communications Council Meeting – Smart Grid Communication Challenges

When/Where: March 24th & 25th in San Diego, CA
The next EPRI Communications Council meeting will discuss issues and opportunities regarding issues, challenges and strategies associated with communicating to consumers, external relations, media and corporate communications. This meeting is a great opportunity for both utility communication / media departments as well as technical staff to learn from others and share your own experiences. For more information, please email or call [Jeremy Dreier](#) (704-595-2542), Senior Manager - Corporate Communications.

EPRI Smart Grid Demonstration Meeting - June 2010

When/Where: June 10 & 11, 2010, Hosted by Electricité de France, Clamart, France. This meeting is scheduled the same week as the [CIRED 2010](#) conference in Lyon, France on June 7 & 8 and will be at the same venue with joint participation in Active Distribution networks with full integration of Demand and distributed energy RESourceS ([ADDRESS](#)) meeting June 9th & 10th.

EPRI Smart Grid Demonstration Meeting - Fall 2010

When/Where: Date & Location TBD. Location will be at one of the member utility locations.
This will be our first meeting where we have all host-sites identified. The focus of this meeting will be to clarify key research areas for cross collaboration among all host-sites as well as complimentary activities at non host-site utilities.

4th International Conference on Integration of Renewable and Distributed Energy Resources

When/Where: December 6th – 10th, Albuquerque, NM (<http://www.4thintegrationconference.com/>)
Day-one will be a pre-conference meeting focusing on EPRI Smart Grid Demonstration projects. Registrations are now open.

INDUSTRY NEWS

Smart Grid Industry News

CES: Picowatt does smart grid without smart meter

CNET CES 2010, January 7, 2010
http://ces.cnet.com/8301-31045_1-10429865-269.html

Google Seeks to Tap Power Markets

THE WALL STREET JOURNAL | TECH, January 7, 2010
http://online.wsj.com/article/SB10001424052748704854904574644721659940760.html?mod=rss_Today's_Most_Popular

Home automation shocker: Bulogic bridges Z-Wave to Zigbee smart power meters

Engadget, January 8, 2010
<http://www.engadget.com/2010/01/08/home-automation-shocker-bulogic-bridges-z-wave-to-zigbee-smart/>

New Draft Broadband over Power Line Standard Published

SMART-GRID.TMCNET.COM, January 11, 2010
<http://smart-grid.tmcnet.com/topics/smart-grid/articles/72313-new-draft-broadband-over-power-line-standard-published.htm>

Canada to Test Smart Grid over FM

Greentechmedia, January 11, 2010
<http://www.greentechmedia.com/articles/read/canada-to-test-smart-grid-over-fm/>

IEEE Lays Groundwork for Adoption of DNP3 Protocol as New IEEE Standard

EC&M, January 12, 2010
<http://ecmweb.com/ezone/dnp3-protocol-ieee-standard-20100112/>

NIST Seeks Nominations for New Smart Grid Advisory Committee

National Institute of Standards and Technology, January 12, 2010
<http://www.nist.gov/smartgrid/fedreq011210.html>

Wireless for Power Utilities Uses WiMax Guts

PCWorld, January 13, 2010
http://www.pcworld.com/businesscenter/article/186869/wireless_for_power_utilities_uses_wimax_guts.html

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