



Smart Grid Demonstration Initiative Deliverables by Topic and Type

About the Demonstration Initiative

The Smart Grid Demonstration Initiative was a seven-year (2007–2014) collaborative research effort to design, deploy, and evaluate how to integrate distributed energy resources (DER) into utility grid and market operations. Evaluation and documentation of results for some demonstrations extended into 2015–2016. The Initiative leveraged multi-million dollar investments in the smart grid by the electric utility industry, with the goal of sharing information and research results on a wide range of smart grid technologies and applications. Twenty-four utilities from Australia, Canada, France, Ireland, Japan and the United States collaborated in the Initiative.

Using this List

This deliverables list includes case studies, reports, training session videos, proceedings and other materials produced by utility collaborators and EPRI technical staff. Materials are sorted by topic area and by type. Direct links are provided for each deliverable, and they can also be accessed by searching for the product number on www.epri.com/. Use Cases are identified by topic; they are downloadable at the [Use Case Repository](#).

Freely Available Reports

Reports are typically available only to Initiative members, but many are also available at no cost to the public. These documents are labeled as “public” at the end of the entries, and a [list of all documents that are publicly available at no cost](#) is provided. Training videos are organized by topic and there is also a separate training videos list. Key Deliverables are noted at the beginning of the list.

Viewing the Deliverables List Online

As a way to help members easily locate content of interest and enhance convenience, a list of the 200+ Smart Grid Demonstration deliverables, organized by topic and type, is available in an electronic format:

Smart Grid Demonstration Deliverables: Go to www.smartgrid.epri.com→EPRI Research tab→Smart Grid Demonstration

EPRI also prepared an electronic catalog of DVDs of smart grid training sessions. The online catalog features short clips of each training video.

Table of Contents

About the Demonstration Initiative	1
Using this List.....	1
Freely Available Reports	1
Viewing the Deliverables List Online	1
KEY DELIVERABLES	3
DELIVERABLES.....	3
Animations	3
Communications.....	4
Cost Benefit Analysis.....	5
Customer Applications.....	5
Demand Response	6
Distributed Energy Resources	8
Energy Storage.....	10
Events.....	11
Grid Equipment & Technologies.....	12
Grid Management.....	12
Host Site Project Descriptions and Overviews	14
Program Documents and Compilations	15
Progress Reports.....	16
Public Documents	18
Training Sessions	20
Standards & Requirements	21
Use Cases.....	21

KEY DELIVERABLES

2016 (December)

- *Smart Grid Demonstration Initiative Case Studies Volume 3: Product ID [3002005012](#)*

2015

- *Smart Grid Demonstration Initiative Case Studies Volume 2: Product ID [3002005011](#)*

2014

- *EPRI Smart Grid Demonstration Final Update: Product ID [3002004652](#) (public)*
- *A Smart Grid Reference Guide to Integration of Distributed Energy Resources: 2014 Final Version – Product ID [3002004409](#)*

2013

- *EPRI Smart Grid Demonstration Five Year Update: Product ID [3002000778](#) (public)*
- *EPRI Smart Grid Demonstration Initiative Four Year Update: Product ID [1025781](#) (public)*
- *Smart Grid Demonstration Initiative Case Studies, Volume 1: Product ID [1026435](#)*

DELIVERABLES



Animations

Links to YouTube are provided below. These animations are also available for viewing /downloading at <http://smartgrid.epri.com/DemoProjects.aspx> (Go to smartgrid.epri.com→EPRI Research→Smart Grid Demonstration→Demo Projects. Animations are listed under company name.)

EPRI Smart Grid Demonstration Key Findings

<http://www.youtube.com/watch?v=uyRPILJTlkI>

EDF Smart Grid Demonstration

<https://www.youtube.com/watch?v=QzmmvkwyTcc&list=PLphKr necF69X0MxPf4aHDu1UJH Nn8wGuq>

Ergon Energy/EPRI Smart Grid Demonstration

<https://www.youtube.com/watch?v=RtFF9zF2s8w>

KCP&L/EPRI Smart Grid Demonstration

https://www.youtube.com/watch?v=kXc6c_I1wOU&index=13&list=PLD313D1EABCE1B1E4

PNM/EPRI Smart Grid Demonstration

<https://www.youtube.com/watch?v=mtkyetyCfSg>

Smart Grid Application -- Southern Company's Approach

<https://www.youtube.com/watch?v=S2pWqBXkmNg&index=4&list=PLphKrncF69X0MxPf4aHDu1UJHNn8wGuq>

Smart Grid Application - A Virtual Power Plant (Con Edison, Queens, NY)

<https://www.youtube.com/watch?v=uBdO7N88o98&list=PLD313D1EABCE1B1E4&index=5>

Time-Based Electricity Pricing for Consumers

https://www.youtube.com/watch?v=T7_g76WUvc0&list=PLD313D1EABCE1B1E4

Additional animations are provided at smartgrid.epri.com:

[Salt River Project Smart Grid Demonstration \(Field Area Network\)](#)

[SMUD Renewable Energy Projects Animation](#)

[SMUD Smart Grid Demonstration Animation](#)



Communications

2016 (October)

- *A Field Area Network Pilot at Salt River Project – Product ID [3002004646](#)*

2013

- *Utility Grade Communications - Smart Grid Training Session 8: Product ID [3002001096](#)*

2012

- *IEC 61850 for the Smart Grid - Smart Grid Training Session #6: Product ID [1025677](#)*
- *Case Study on Capacitor Bank Health Monitor: Southern Company – Product ID [1026447](#)*

2011

- *Smart Grid Communications – Smart Grid Training Session #2 - October 2011: Product ID [1023428](#)*



Cost Benefit Analysis

2016 (August)

- *Permanent Peak Load Shifting Benefits Using Ice Storage at FirstEnergy* – Product ID [3002007324](#)

2015

- *Guidebook for Cost/Benefit Analysis of Smart Grid Demonstration Projects: Revision 3* – Product ID [3002006694](#) (public)
- *Field Assessment of Large Scale Smart Grid Applications in Distribution Systems* – Product ID [3002006940](#)

2014

- *Cost Benefit Analysis in the Smart Grid: Training Session #10* – Product ID [3002002274](#)

2012

- *Cost Benefit Analysis for the Smart Grid - Smart Grid Training Session #5*: Product ID [1025676](#)

2011

- *Estimating the Costs and Benefits of the Smart Grid*: Product ID [1022519](#) (public)

2010

- *Methodological Approach for Estimating the Benefits and Costs of Smart Grid Demonstration Projects*: Product ID [1020342](#) (public)



Customer Applications

2015

- *KCP&L Residential Time-of-Use Impact Study* – Product ID [3002004632](#)

2014

- *A Case Study on the SMUD Residential Summer Solutions Pilot Project: Sacramento Municipal Utility District Smart Grid Demonstration* – Product ID [3002002247](#) (public)
- *A Case Study on Revenue Protection Software: Sacramento Municipal Utility District Smart Grid Demonstration* – Product ID [3002004623](#)

2013

-
- *Quantifying the Impacts of Time-Based Rates, Enabling Technology, and Other Treatments in Consumer Behavior Studies: Protocols and Guidelines – Product ID [3002000282](#) (public)*

2012

- *Case Study on Customer Acceptance and Technology Adoption: Kansas City Power & Light – Product ID [1026444](#)*
- *Synthesizing Utility Experiences in Educating and Engaging Customers in Smart Meter/Smart Grid Deployments – Product ID [1026432](#)*

2011

- *Consumer Engagement: Facts, Myths, and Motivations – Product ID [1024566](#) (public)*
- *Commonwealth Edison Company Customer Applications Program – Objectives, Research Design, and Implementation Details: Product ID [1022266](#) (public)*
- *Commonwealth Edison: The Effect on Electricity Consumption of the Commonwealth Edison Customer Application Program Pilot: Phase 1, Appendices – Product ID [1022761](#) (public)*
- *The Effect on Electricity Consumption of the Commonwealth Edison Customer Applications Program: Phase 2 Final Analysis – Product ID [1023644](#) (public)*
- *Grid Strategy 2011: Consumer Engagement – Product ID [1024565](#)*



Cyber Security

2012

- *Grid Strategy 2012: Cyber and Physical Strategy for Substation and Field Equipment (Greenfield and Legacy) – Product ID [1025843](#)*

2011

- *Grid Strategy 2011: Security in Demonstrations – Product ID [1024573](#)*
- *Smart Grid Cyber Security – Smart Grid Training Session #3 - December 2011: Product ID [1023489](#)*



Demand Response

2015

-
- *KCP&L Case Study on Residential Demand Response Standards and Interoperability* – Product ID [3002004639](#)
- 2014**
- *A Case Study on the Demand-Side Uses of a Thermal Storage Energy Plant: Con Edison Smart Grid Demonstration* – Product ID [3002003870](#)
 - *A Case Study on the SMUD Residential Summer Solutions Pilot Project: Sacramento Municipal Utility District Smart Grid Demonstration* – Product ID [3002002247](#)
 - *Deferring Investment with Distributed Energy Resources: Ergon Energy Smart Grid Demonstration* – Product ID [3002004413](#)
 - *A Case Study on PJM Market Participation: FirstEnergy Smart Grid Demonstration* – Product ID [3002004495](#)
- 2012**
- *A Case Study on Remote Dispatch of Customer-Owned Resources: Consolidated Edison: Product ID [1026437](#)*
 - *Case Study on Impact of Advanced Metering Infrastructure (AMI) on Demand Response: Commonwealth Edison* – Product ID [1026442](#)
 - *Case Study on Smart-Meter Customer Behavior Trial: ESB Networks* – Product ID [1026441](#)
 - *The Effect on Electricity Consumption of the Commonwealth Edison Customer Application Program: Phase 2 Supplemental Information* – Product ID [1024865](#) (public)
 - *The Response Precision of the PREMIO Virtual Power Plant: Électricité de France* – Product ID [1026439](#)
- 2011**
- *Decision Support for Demand Response Triggers: Methodology Development and Proof of Concept Demonstration* – Product ID [1022318](#) (public)
- 2010**
- *Tennessee Valley Authority/Bristol Tennessee Essential Services Smart Water Heater Pilot: Summary of Data Analysis and Results* – Product ID [1020674](#)
- 2009**
- *Bristol Tennessee Essential Services (BTES) / Tennessee Valley Authority (TVA) Smart Water Heater Project – Technology Description and Installation Lessons Learned: Project ID [1020213](#)*



Distributed Energy Resources

2016

- *FirstEnergy Integrated Distributed Energy Resource Management Training, Use, and Acceptance* – Product ID [3002004624](#)
- *JUMPSmartMaui Demonstration Project Phase 1 Assessment* – Product ID [3002007129](#) (public)
- *Demand Response Standards and Interoperability: Kansas City Power & Light Smart Grid Demonstration* – Product ID [3002004639](#)

2015

- *A Case Study on Delmarva Power's Fuel Cell Demonstration* – Product ID [3002005036](#)
- *Grid Strategy: Operating the Grid with High Penetration of Distributed Resources* – Product ID [3002004966](#)
- *Integrated Control Platform Visualization: FirstEnergy Smart Grid Demonstration* – Product ID [3002004662](#)
- *Integrated Distributed Energy Resources Training, Use, and Acceptance* – Product ID [3002004624](#)
- *FirstEnergy Distribution Data Analytics Using Integrated Distributed Energy Resource Sensor Data* – Product ID [3002004625](#)
- *A Case Study on Utility-Scale, Single-Customer Microgrid: Duke Energy Smart Grid Demonstration* – Product ID [3002004618](#)
- *Demonstration of Storage for Simultaneous Voltage Smoothing and Peak Shifting 2015 Update: Public Service New Mexico* – Product ID [3002002257](#)
- *A Case Study on Delmarva Power's Fuel Cell Demonstration* – Product ID [3002005036](#)

2014

- *A Case Study on Evaluation of Solutions for Limiting Transformer In-rush Currents of a Distribution Connected Wind Park at Hydro-Québec* – Product ID [3002004502](#)
- *A Case Study on Evaluating the Protection Impacts Associated with the Integration of a Wind Park on the Distribution System at Hydro-Quebec* – Product ID [3002004503](#)
- *A Case Study on PJM Market Participation: FirstEnergy Smart Grid Demonstration* – Product ID [3002004495](#)
- *Cross-Utilization: Managing Multiple Technologies and Applications on a Distribution System* – Product ID [3002004390](#) (public)
- *A Case Study on the Demand-Side Uses of a Thermal Storage Energy Plant: Con Edison Smart Grid Demonstration* – Product ID [3002003870](#)

- *A Case Study on Interconnection Requirements Study for HECO Battery Energy Storage Systems on MECO 12.47 kV Distribution Circuit: Hawaiian Electric Company and Maui Electric Company Smart Grid Demonstration – Product ID [3002003602](#)*
- *A Case Study on the Drexel Smart Grid Campus Project: Product ID [3002002131](#) (public)*
- *Deferring Investment with Distributed Energy Resources: Ergon Energy Smart Grid Demonstration – Product ID [3002004413](#)*

2013

- *A Case Study on Integrated Distributed Energy Resources (IDER) Management; Device Installation and Commissioning: FirstEnergy Smart Grid Demonstration – Product ID [3002002133](#)*
- *2013 Grid Strategy: Operating the Grid with High Penetration of Distributed Energy Resources – Product ID [3002000813](#)*
- *A Case Study on Multiple Technology Aggregate Response: American Electric Power Smart Grid Demonstration – Product ID [3002001965](#)*
- *Smart Inverter–Smart Grid Training Session #9: Product ID [3002001873](#)*
- *A Case Study on Anti-islanding Protection of Distributed Generation Using Autoground: Hydro-Québec Smart Grid Demonstration – Product ID [3002001375](#) (public)*
- *Case Study on Integrated Distributed Energy Resources (IDER) Management: First Energy – Product ID [1026443](#)*
- *Final Report on the PREMIO Experimental Results: Électricité de France Smart Grid Demonstration Project – Product ID [3002002024](#)*

2012

- *Case Study on Assessment of Achieving Increased Reliability with Distributed Energy Resources: Consolidated Edison – Product ID [1026438](#)*
- *A Case Study on Remote Dispatch of Customer-Owned Resources: Consolidated Edison – Product ID [1026437](#)*
- *A Case Study on the Demonstration of Storage for Simultaneous Voltage Smoothing and Peak Shifting – Product ID [1026445](#) (public)*
- *Case Study on Smart Green Circuits: ESB Networks Part 1 & 2 – Product ID [1026440](#)*
- *Distributed Energy Resources Integration in the Smart Grid Demonstration Project: Product ID [1025778](#)*
- *Hawaiian Electric Company (HECO) Smart Grid Demonstration Project: "Distributed hierarchical control systems to facilitate the interconnection of high PV and EV penetration levels" – Product ID [1024840](#) (public)*
- *System Protection Implications with DER - Smart Grid Training Session #7: Product ID [1025678](#)*

2010

- *Architecture Considerations for Integration of Distributed Energy Resources (DER): EPRI Smart Grid Demonstration Meeting Panel Session Proceedings, March 4th, 2010 – Product ID [1021265](#)*

- *Architecture Reference Design for Distributed Energy Resource Integration: Smart Grid Demonstration Task 2.1 – Product ID [1020340](#)*
- *Concepts to Enable Advancement of Distributed Energy Resources: Product ID [1020432](#) (public)*
- *Distributed Energy Resources and Management of Future Distribution: Product ID [1020832](#) (public)*
- *Regional Profiles for Distributed Resource Integration: Product ID [1020312](#)*

2009

- *Assessment of Wholesale Market Opportunities for Participation and Aggregation of Distributed Resources: Product ID [1020314](#)*
- *Development of a Standard Language for Photovoltaic and Storage Integration: Product ID [1020435](#)*
- *Distributed Resource Integration Framework: Product ID [1020313](#)*
- *EPRI Pre-Conference Workshop: Active Distribution System Management for Integration of Distributed Resources Research, Development and Demonstration Needs: Workshop Proceedings, Nice, France, December 9, 2008 – Product ID [1018926](#)*
- *Methods to Firm Distributed Energy Resources: EPRI Smart Grid Demonstration Project Task 1.3 – Product ID [1020385](#)*
- *Smart Grid Distributed Energy Resources (DER) Projects Assessment: Product ID [1018945](#)*
- *Summary of Potential Use Cases for Distributed Solar (PV) Integration: Product ID [1019584](#)*



Energy Storage

2015

- *Photovoltaic Smoothing Using Coordinated Control of a Battery and Gas Generator: Public Service New Mexico – Product ID [3002002257](#)*

2014

- *A Case Study on Interconnection Requirements Study for HECO Battery Energy Storage Systems on MECO 12.47 kV Distribution Circuit: Hawaiian Electric Company and Maui Electric Company Smart Grid Demonstration – Product ID [3002003602](#)*
- *A Case Study on the Demand-Side Uses of a Thermal Storage Energy Plant: Con Edison Smart Grid Demonstration – Product ID [3002003870](#)*

2012

-
- *A Case Study on Simulation of Community Energy Storage: American Electric Power – Product ID [1026436](#)*
 - *A Case Study on the Demonstration of Storage for Simultaneous Voltage Smoothing and Peak Shifting – Product ID [1026445](#) (public)*

2011

- *Grid Strategy 2011: Energy Storage Monetization – Product ID [1024483](#)*
- *Utility Compatibility Evaluations on GreenSmith Energy Storage Utility Interconnected System: Product ID [1022750](#)*



Events

2012

- *Strategic Intelligence Update: Smart Grid Conferences and Events (March 2012) – Product ID [1024592](#)*
- *Strategic Intelligence Update: Smart Grid Conferences and Events (August 2012) – Product ID [1025760](#)*
- *Strategic Intelligence Update: Smart Grid Conferences and Events (October 2012) – Product ID [1025761](#)*
- *Strategic Intelligence Update: Smart Grid Conferences and Events (December 2012) – Product ID [1025762](#)*

2011

- *Strategic Intelligence Update: Smart Grid Conferences and Events (June 2011) – Product ID [1021472](#)*
- *Strategic Intelligence Update: Smart Grid Conferences and Events (September 2011) – Product ID [1023427](#)*

2010

- *Strategic Intelligence Update: Smart Grid Conferences and Events January 2010 – Product ID [1020566](#)*
- *Strategic Intelligence Update: Smart Grid Conferences and Events July 2010 – Product ID [1021444](#)*

2009

- *Strategic Intelligence Update – Smart Grid Conferences and Events: Product ID [1020214](#)*



Grid Equipment & Technologies

2015

- *Evaluation of the T13X Smart Grid Panel – Product ID [3002004934](#)*

2014

- *A Case Study on the Approaches to Self-Healing Networks at Duke Energy: EPRI Smart Grid Demonstration – Product ID [3002004619](#)*

2013

- *A Case Study on Integrated Distributed Energy Resources (IDER) Management; Device Installation and Commissioning: FirstEnergy Smart Grid Demonstration – Product ID [3002002133](#)*
- *A Case Study on Testing and Certification of Equipment for a Volt-VAR Control Application at Hydro-Québec: Product ID [3002001379](#)*

2011

- *Heart Transverter HT2000: Test and Evaluation – Product ID [1023251](#)*

2010

- *Smart Grid Technologies Report: Product ID [1020415](#)*



Grid Management

2015

- *Analysis of Sacramento Municipal Utility District Conservation Voltage Reduction (CVR) Tests: June 2013-June 2014 – Product ID [3002004930](#) (public)*
- *Analysis of Sacramento Municipal Utility District Conservation Voltage Reduction (CVR) Tests: June 2013-June 2014 – Product ID [3002004965](#) (member version)*
- *Distribution Volt-Var control to Optimize Customer Voltage at Southern California – Product ID [3002004612](#)*
- *Substation Automation: Irvine Smart Grid Demonstration Product ID – [3002004613](#)*

2014

- *Peak-Time Voltage Reduction Analysis Case Study at Georgia Power – A Southern Company – Product ID [3002004616](#)*

- *A Case Study on the Approaches to Self-Healing Networks at Duke Energy – Product ID [3002004620](#)*
- *A Case Study on Self-Healing Networks at Southern Company – Product ID [3002004621](#)*
- *Analysis of Alabama Power Conservation Voltage Reduction (CVR) Tests: Southern Company Smart Grid Demonstration – Product ID [3002004617](#)*
- *A Case Study on Evaluation of Solutions for Limiting Transformer In-rush Currents of a Distribution Connected Wind Park at Hydro-Québec – Product ID [3002004502](#)*
- *A Case Study on Evaluating the Protection Impacts Associated with the Integration of a Wind Park on the Distribution System at Hydro-Quebec – Product ID [3002004503](#)*
- *Cross-Utilization: Managing Multiple Technologies and Applications on a Distribution System – Product ID [3002004390](#) (public)*
- *A Case Study on Summer 2013 Analysis of Sacramento Municipal Utility District Conservation Voltage Reduction – Product ID [3002004622](#)*
- *A Case Study on the Approaches to Self-Healing Networks at Duke Energy: EPRI Smart Grid Demonstration – Product ID [3002004619](#)*
- *A Case Study on Revenue Protection Software: Sacramento Municipal Utility District Smart Grid Demonstration – Product ID [3002004623](#)*

2013

- *A Case Study on Multiple Technology Aggregate Response: American Electric Power Smart Grid Demonstration – Product ID [3002001965](#)*
- *A Case Study on the Effects of Distribution Line Capacitors on Substation Bus Voltage Regulated with a Load Tap Changing (LTC) Power Transformer: Southern Company Smart Grid Demonstration – Product ID [3002002245](#)*
- *A Case Study on 2012-2013 Conservation Voltage Reduction: Ameren Illinois Smart Grid Demonstration – Product ID [3002002246](#)*
- *Smart Inverter–Smart Grid Training Session #9: Product ID [3002001873](#)*
- *A Case Study on Anti-islanding Protection of Distributed Generation Using Autoground: Hydro-Québec Smart Grid Demonstration – Product ID [3002001375](#) (public)*
- *Case Study on Smart Green Circuits: ESB Networks Part 1 & 2 – Product ID [1026440](#)*

2012

- *Distribution System Equipment Survey: Hydro-Québec Smart Grid Demonstration: Product ID [3002001379](#)*
- *ESB Networks Case Study on Distribution Volt-VAR Control Integrated with Wind Turbine Inverter Control: Product ID [1026589](#)*
- *Case Study on Conservation Voltage Reduction and Volt-VAR Optimization: Sacramento Municipal Utility District – Product ID [1026446](#)*
- *2012 Grid Strategy: Distribution Management System (DMS) Advanced Applications for Distributed Energy Resources – Product ID [1025572](#)*
- *Smart Grid Conservation Voltage Reduction/Volt-Var Optimization - Smart Grid Training Session #4: Product ID [1024628](#)*

- *Case Study on Capacitor Bank Health Monitor: Southern Company – Product ID [1026447](#)*
- *Field Data Integration for Asset Management and Grid Operations: EPRI's Coordinated Research – Product ID [1025000](#) (public)*
- *System Protection Implications with DER - Smart Grid Training Session #7: Product ID [1025678](#)*

2011

- *Advanced Distribution Management Systems (DMS) Applications Training – Smart Grid Training Session #1: Product ID [1023169](#)*
- *Grid Strategy 2011: Conservation Voltage Reduction and Volt VAR Optimization in the Smart Grid – Product ID [1024482](#)*
- *Grid Strategy 2011: Distribution Management System Data Visibility – Product ID [1024661](#)*
- *Grid Strategy 2011: Distribution Management System Data Visualization—An EPRI White Paper – Product ID [1024621](#)*



Host Site Project Descriptions and Overviews

2012

- *Hawaiian Electric Company (HECO) Smart Grid (SG) Demonstration Project Description: Product ID [1025764](#)*

2011

- *Hydro-Quebec Smart Grid Demonstration Host-Site Overview: Product ID [1023414](#) (public)*
- *Hydro-Quebec Smart Grid Demonstration Host-Site Project Description: Product ID [1023405](#)*
- *Sacramento Municipal Utility District (SMUD) Smart Grid Demonstration Host-Site Overview: Product ID [1023413](#) (public)*
- *Sacramento Municipal Utility District (SMUD) Smart Grid Demonstration Host-Site Project Description: Product ID [1023406](#)*
- *Southern California Edison's Smart Grid Demonstration Project: Irvine Smart Grid Demonstration (ISGD): Product ID [1021420](#) (public)*

2010

- *Duke Energy Smart Grid Demonstration Host-Site Project Description: Product ID [1021399](#)*
- *Duke Energy Smart Grid Demonstration Overview: Product ID [1021421](#) (public)*
- *ESB Networks Smart Grid Demonstration Host-Site Overview: Product ID [1020598](#) (public)*

- *ESB Networks Smart Grid Demonstration Host-Site Project Description: Product ID [1020597](#)*
- *Exelon Smart Grid Demonstration Host-Site Project Description: Product ID [1020893](#)*
- *Exelon Smart Grid Demonstration Project: Product ID [1021419](#)*
- *KCP&L Smart Grid Demonstration Overview: Product ID [1021418](#) (public)*
- *KCP&L Smart Grid Demonstration Host-Site Project Description: Product ID [1020892](#)*
- *Southern California Edison (SCE) Smart Grid Demonstration Host-Site Project Description: Product ID [1021398](#)*
- *Southern Company Smart Grid Demonstration Host-Site Project Description: Product ID [1021400](#)*
- *Southern Company Smart Grid Demonstration Project: Product ID [1021422](#) (public)*

2009

- *AEP Smart Grid Demonstration Host-Site Overview: Product ID [1020226](#) (public)*
- *American Electric Power (AEP) Smart Grid Demonstration Host-Site Project Description: Product ID [1020188](#)*
- *Con Edison Smart Grid Demonstration Host-Site Overview: Product ID [1020227](#)*
- *Con Edison Smart Grid Demonstration Host-Site Project Description: Product ID [1020190](#)*
- *Électricité de France (EDF) Smart Grid Demonstration Host-Site Overview: Product ID [1020228](#) (public)*
- *Électricité de France (EDF) Smart Grid Demonstration Host-Site Project Description: Product ID [1020191](#)*
- *FirstEnergy Smart Grid Demonstration Host-Site Overview: Product ID [1020229](#)*
- *FirstEnergy Smart Grid Demonstration Host-Site Project: Product ID [1020189](#)*
- *PNM Smart Grid Demonstration Host-Site Overview: Product ID [1020230](#)*
- *PNM Smart Grid Demonstration Host-Site Project Description: Product ID [1020187](#)*



Program Documents and Compilations

2015

- *Smart Grid Demonstration Initiative Case Studies Volume 2: Product ID [3002005011](#)*
- *Smart Grid Demonstration Initiative Case Studies Volume 3: Product ID [3002005012](#)*

2014

- *EPRI Smart Grid Demonstration Final Update: Product ID [3002004652](#) (public)*

-
- 2013**

 - *A Smart Grid Reference Guide to Integration of Distributed Energy Resources: 2014 Final Version – Product ID [3002004409](#)*
 - 2012**

 - *International Smart Grid Demonstration Project Case Studies and Survey Analysis: Product ID [1026756](#)*
 - *EPRI Smart Grid Demonstration Five Year Update: Product ID [3002000778](#) (public)*
 - 2011**

 - *A Smart Grid Reference Guide to Integration of Distributed Energy Resources: 2012 Version – Product ID [1025763](#)*
 - *EPRI Smart Grid Demonstration Initiative Four Year Update: Product ID [1025781](#) (public)*
 - *Smart Grid Demonstration Initiative Case Studies, Volume 1: Product ID [1026435](#)*
 - 2010**

 - *A Smart Grid Reference Guide to Integration of Distributed Energy Resources: First Edition – Product ID [1023412](#)*
 - *EPRI Smart Grid Demonstration Initiative Three Year Update: Product ID [1023411](#) (public)*
 - 2009**

 - *Smart Grid Demonstration Two Year Update: Product ID [1021497](#) (public)*
 - *Smart Grid Leadership Report: Global Smart Grid Implementation Assessment – Product ID [1021417](#) (public)*
 - *International Smart Grid Projects Update: Product ID [1020303](#)*
 - 2009**

 - *Smart Grid Demonstration Overview: Product ID [1020225](#) (public)*



Progress Reports

- 2015**

 - *Duke Energy Smart Grid Final Report: 2011-2015 – Product ID [3002004671](#)*
 - *Southern Company Smart Grid Final Report: 2011-2015 – Product ID [3002004670](#)*
 - *Sacramento Municipal Utility District Smart Grid Final Report: 2011-2015 – Product ID [3002004641](#)*
- 2014**

 - *Hydro-Quebec Smart Grid Host Site Progress Report: For the Period Ending October 2013 – Product ID [3002001441](#)*
- 2013**

 - *Final Report on the PREMIO Experimental Results: Électricité de France Smart Grid Demonstration Project – Product ID [3002002024](#)*
 - *Sacramento Municipal Utility District Smart Grid Host Site Progress Report: For the Period Ending May 2013: Product ID [3002001438](#)*

-
- *Ergon Energy Smart Grid Host Site 2012 Progress Report: For the Period Ending December 2012 – Product ID [1025758](#)*
 - *Kansas City Power and Light Company Smart Grid Host Site 2012 Progress Report: For the Period Ending December 2012 – Product ID [1025759](#)*

2012

- *Duke Energy Smart Grid Host Site Progress Report for the Period Ending November 2012: Product ID [1025571](#)*
- *Hydro-Quebec Smart Grid Host Site Progress Report: Product ID [1024839](#)*
- *Kansas City Power & Light Company Smart Grid Host Site 2011 Progress Report: Product ID [1024501](#)*
- *Southern California Edison Smart Grid Host Site Progress Report: Product ID [1025688](#)*
- *Southern Company Smart Grid Host Site Progress Report: Product ID [1025570](#)*

2011

- *American Electric Power Smart Grid Host Site Progress Report: Period Ending December 2010 – Product ID [1021501](#)*
- *Electricity Supply Board Smart Grid Host Site Progress Report for the Period Ending February 2011: Product ID [1023253](#)*
- *Électricité de France Smart Grid Host Site Evaluation Report After Six Months of Operation: Product ID [1024460](#)*
- *Électricité de France Smart Grid Host Site Progress Report: Product ID [1022675](#)*
- *Sacramento Municipal Utility District Smart Grid Host Site Progress Report: Period Ending November 2011 – Product ID [1024620](#)*
- *Southern California Edison Smart Grid Host Site Progress Report: Product ID [1024574](#)*

2010

- *American Electric Power (AEP) Smart Grid Host Site Progress Report: Product ID [1020354](#)*
- *Consolidated Edison Smart Grid Host Site Progress Report: Product ID [1021500](#)*
- *Consolidated Edison Smart Grid Host Site Progress Report: Product ID [1020355](#)*
- *Électricité de France Smart Grid Host Site Progress Report: Product ID [1021488](#)*
- *ESB Networks Smart Grid Host Site Progress Report: Product ID [1021489](#)*
- *FirstEnergy Smart Grid Host Site Progress Report: Product ID [1020352](#)*
- *PNM Smart Grid Host Site Progress Report: Product ID [1020353](#)*
- *Public Service Company of New Mexico Smart Grid Host Site Progress Report: Product ID [1021490](#)*



Public Documents

2016

- *JUMPSmartMaui Demonstration Project Phase 1 Assessment – Product ID [3002007129](#) (public)*

2015

- *Guidebook for Cost/Benefit Analysis of Smart Grid Demonstration Projects: Revision 3 – Product ID [3002006694](#) (public)*
- *Analysis of Sacramento Municipal Utility District Conservation Voltage Reduction (CVR) Tests: June 2013-June 2014 – Product ID [3002004930](#) (public)*

2014

- *Cross-Utilization: Managing Multiple Technologies and Applications on a Distribution System – Product ID [3002004390](#) (public)*
- *EPRI Smart Grid Demonstration Final Update: Product ID [3002004652](#) (public)*
- *A Case Study on the Drexel Smart Grid Campus Project: Product ID [3002002131](#) (public)*
- *A Case Study on the SMUD Residential Summer Solutions Pilot Project: Sacramento Municipal Utility District Smart Grid Demonstration –Product ID [3002002247](#) (public)*

2013

- *Guidebook for Cost/Benefit Analysis of Smart Grid Demonstration Projects: Product ID [3002002266](#) (public)*
- *EPRI Smart Grid Demonstration Five Year Update: Product ID [3002000778](#) (public)*
- *A Case Study on Anti-islanding Protection of Distributed Generation Using Autoground: Hydro-Québec Smart Grid Demonstration – Product ID [3002001375](#) (public)*
- *Quantifying the Impacts of Time-Based Rates, Enabling Technology, and Other Treatments in Consumer Behavior Studies: Protocols and Guidelines – Product ID [3002000282](#) (public)*

2012

- *EPRI Smart Grid Demonstration Initiative Four Year Update: Product ID [1025781](#) (public)*
- *A Case Study on the Demonstration of Storage for Simultaneous Voltage Smoothing and Peak Shifting Product ID – [1026445](#) (public)*
- *Guidebook for Cost/Benefit Analysis of Smart Grid Demonstration Projects: Product ID [1025734](#) (public)*

- *The Effect on Electricity Consumption of the Commonwealth Edison Customer Application Program: Phase 2 Supplemental Information – Product ID [1024865](#) (public)*
- *Decision Support for Demand Response Triggers: Methodology Development and Proof of Concept Demonstration – Product ID [1022318](#) (public)*
- *Hawaiian Electric Company (HECO) Smart Grid Demonstration Project: "Distributed hierarchical control systems to facilitate the interconnection of high PV and EV penetration levels" – Product ID [1024840](#) (public)*

2011

- *Consumer Engagement: Facts, Myths, and Motivations: Product ID [1024566](#) (public)*
- *EPRI Smart Grid Demonstration Initiative Three Year Update: Product ID [1023411](#) (public)*
- *Estimating the Costs and Benefits of the Smart Grid: Product ID [1022519](#) (public)*
- *Quantifying the Impacts of Time-Based Rates, Enabling Technology, and Other Treatments in Consumer Behavior Studies: Protocols and Guidelines – Product ID [3002000282](#) (public)*
- *Commonwealth Edison Company Customer Applications Program – Objectives, Research Design, and Implementation Details: Product ID [1022266](#) (public)*
- *Commonwealth Edison: The Effect on Electricity Consumption of the Commonwealth Edison Customer Application Program Pilot: Phase 1, Appendices – Product ID [1022761](#) (public)*
- *The Effect on Electricity Consumption of the Commonwealth Edison Customer Applications Program: Phase 2 Final Analysis – Product ID [1023644](#) (public)*
- *Decision Support for Demand Response Triggers: Methodology Development and Proof of Concept Demonstration – Product ID [1022318](#) (public)*
- *Hydro-Quebec Smart Grid Demonstration Host-Site Overview: Product ID [1023414](#) (public)*
- *Sacramento Municipal Utility District (SMUD) Smart Grid Demonstration Host-Site Overview: Product ID [1023413](#) (public)*
- *Southern California Edison's Smart Grid Demonstration Project: Irvine Smart Grid Demonstration (ISGD) – Product ID [1021420](#) (public)*

2010

- *Methodological Approach for Estimating the Benefits and Costs of Smart Grid Demonstration Projects: Product ID [1020342](#) (public)*
- *Concepts to Enable Advancement of Distributed Energy Resources: Product ID [1020432](#) (public)*
- *Distributed Energy Resources and Management of Future Distribution: Product ID [1020832](#) (public)*
- *ESB Networks Smart Grid Demonstration Host-Site Overview: Product ID [1020598](#) (public)*
- *Duke Energy Smart Grid Demonstration Overview: Product ID [1021421](#) (public)*
- *KCP&L Smart Grid Demonstration Overview: Product ID [1021418](#) (public)*

- *Southern Company Smart Grid Demonstration Project: Product ID [1021422](#) (public)*
- *Smart Grid Demonstration Two Year Update: Product ID [1021497](#) (public)*
- *Smart Grid Leadership Report: Global Smart Grid Implementation Assessment – Product ID [1021417](#) (public)*

2009

- *AEP Smart Grid Demonstration Host-Site Overview: Product ID [1020226](#) (public)*
- *Électricité de France (EDF) Smart Grid Demonstration Host-Site Overview: Product ID [1020228](#) (public)*
- *Smart Grid Demonstration Overview: Product ID [1020225](#) (public)*



Training Sessions

(Training videos are listed in order of session number, from oldest to newest.)

- *Advanced Distribution Management Systems (DMS) Applications Training – Smart Grid Training Session #1: Product ID [1023169](#)*
- *Smart Grid Communications – Smart Grid Training Session #2 - October 2011: Product ID [1023428](#)*
- *Smart Grid Cyber Security – Smart Grid Training Session #3 - December 2011: Product ID [1023489](#)*
- *Smart Grid Conservation Voltage Reduction/Volt Var Optimization - Smart Grid Training Session #4: Product ID [1024628](#)*
- *Cost Benefit Analysis for the Smart Grid - Smart Grid Training Session #5: Product ID [1025676](#)*
- *IEC 61850 for the Smart Grid - Smart Grid Training Session #6: Product ID [1025677](#)*
- *System Protection Implications with DER - Smart Grid Training Session #7: Product ID [1025678](#)*
- *Utility Grade Communications - Smart Grid Training Session #8: Product ID [3002001096](#)*
- *Smart Inverter–Smart Grid Training Session #9: Product ID [3002001873](#)*
- *Cost Benefit Analysis in the Smart Grid: Training Session #10–Product ID [3002002274](#)*



Standards & Requirements

2015 (planned)

- *KCP&L Case Study on Residential Demand Response Standards and Interoperability – Product ID [3002004639](#)*
- *Substation Automation: Irvine Smart Grid Demonstration – Product ID [3002004613](#)*

2012

- *IEC 61850 for the Smart Grid - Smart Grid Training Session #6: Product ID [1025677](#)*

2011

- *Standard Portfolio Analysis at Public Service of New Mexico: Product ID [1024459](#)*
- *A Utility Application Implementation Strategy Using the EPRI IntelliGrid Methodology and the GridWise Architecture Council Stack as a Model: Product ID [1024590](#)*

2010

- *Utility Reference Guide to the National Institute of Standards and Technology Smart Grid Standards Effort: Product ID [1020343](#)*

2009

- *Integration of Requirements and Use Cases into an Industry Model: Product ID [1020384](#)*



Use Cases

(Use Cases can be accessed via the online [Use Case Repository](#))

AMI

- *AEP AMI Network*
- *AEP Bulk Meter Readings*
- *AEP In Field Programming of Smart Meter & Firmware Upgrade*
- *AEP Meter Remote Connect Disconnect*
- *AEP On Demand Meter Reading from CIS*
- *AEP Outage Management System Poll Multicast*
- *AEP Outage Management System Poll Unicast*
- *AEP Outage Notification*

-
- *AEP Outage Restoration Notification*
 - *AEP Remote Meter Firmware Update*
 - *AEP Remote Programming of Smart Meter*
 - *AMI Network*
 - *Field Meter Programming and Firmware Update*
 - *Last Gasp Message*
 - *OMS On-Demand Poll*
 - *OMS Ping*
 - *On-Demand Meter Read from CIS*
 - *Remote Connect-Disconnect*
 - *Remote Meter Programming of Smart Meter*
 - *Remote NIC-ESP Firmware Upgrade*
 - *Scheduled Bulk Read from AMI Head End*

British Columbia Transmission Corporation Use Cases

- *BCTC - Operations to Planning v2*
- *BCTC - Planning to Operations v2*
- *BCTC - Planning to Planning v2*

Congestion Revenue Rights Model Use Cases

- *Create CRR Contingency Files V04*
- *Create CRR Model V04*
- *Create CRR Settlement File V04*

Customer Applications

- *AEP Customer Portal*
- *Customer Portal*
- *CAISO – IC-2 – ISO Publishes Indicators of Grid Conditions with Expectations Consumers Will Adjust Usage*
- *Consumer Portal P6 Customer Needs Meter Device*
- *Consumer Portal Scenario P4 Customer Account Move*
- *Consumer Portal Scenario P5 Customer Sign-Up for Demand Reduction Program*
- *Consumer Portal Scenario P7*
- *Consumer Portal Scenario P8*
- *Consumer Portal Scenario P9*
- *Customer Communications Portal Management*
- *Customer Communications Portal Management - Security Issues*
- *Customer Communications Portal Management - System Issues*
- *Customer Communications Portal Management - Telecommunications Issues*
- *Customer Implements Demand Response System*
- *Customer Provides Photovoltaics (PV) Based Generation Source*
- *PAP03 – Specifications for Common Electricity Products and Pricing Definition*
- *PAP11 – Different Utility Plans to Identify the Basic Customer Attributes*

-
- *Real Time Pricing*

Demand Response

- *AEP Direct Load Control Event*
- *AEP DR HAN Device Provisioning*
- *AEP DR HAN Pricing & Event Customer Opt-Out*
- *B2G - DR Load Profile Management via Pricing Mechanisms*
- *B2G – DR Load Profile Management via Reliability Based Signals*
- *B2G – Load Management with Dynamic Tariffs, DR and DER*
- *CAISO - IC-1 Demand Response Providers Adjust Consumer’s Energy Consumption in Response to ISO Dispatch Instructions*
- *Demand Response - Utility Commanded Load Control*
- *Direct Load Control*
- *Dispatch of Customer Load Controllers for Compact Network Load Alleviation*
- *Infotility Automated Demand Response for Network Operators*
- *Load Shedding - By Frequency Relay*
- *Load Shedding - By Order*
- *NEDO – BEMS Control of DERs and HVAC Equipment in a Commercial Building Which Enables Islanding Operation*
- *NEDO – Equipment Control within Smart House by HEM*

Distribution Automation and SCADA

- *AEP Circuit Reconfiguration*
- *Create DA Settlement File V04*
- *Data Acquisition*
- *Data Acquisition and Control DAC*
- *Data Acquisition from External DMS Network Monitoring Subsystem*
- *Maintain SCADA Database*
- *Remote Supervisory Control – KCPL*
- *SCADA Data Update*
- *SCADA Data Update – KCPL*

Distribution Energy Resources

- *Advanced Distribution Automation with DER Function*
- *CAISO – IC-3 – Non-Dispatchable Distributed Energy Resources (DER) Changes ISO Forecast and Unit Commitment Decisions*
- *Controlled Islanding*
- *Distributed Energy Resource Controller Generates and Executes Substation black start Sequence*
- *Distributed Energy Resource Controller Reconfigure Systems in Response to Faulted Segments with Islanding*
- *Distributed Energy Resource Forecasting*

-
- *Distributed Energy Resources Controller Configures EPS Equipment Based on Daily DER and Load Forecasts*
 - *NEDO – PV Output Forecasting*
 - *PAP07 – Key Energy Storage and DER Use Cases*
 - *Software Demonstration of Intentional Islanding*
 - *Utility Implements Integrated Management of Distributed Energy Resources*

Distribution Management System and Volt-VAR Control

- *Circuit Reconfiguration*
- *IVVC Centralized*
- *IVVC Decentralized*
- *Methodology for Volt/VAR Optimization on a Substation Basis*
- *NEDO C1 Hierarchical Control of DMS and Micro DMS*
- *NEDO C2 Hierarchical Control of EMS, EVECC, DMS & μ DMS*
- *PAP08 – Distribution Grid Management (Advanced Distribution Automation) Functions*
- *Voltage Regulation*
- *Volt/VAR Dispatch A Sub-function of Operator Switched Feeder*
- *Volt VAR Optimization*

Electric Transportation

- *AEP Plug In Electric Vehicle (PEV) Charging at Premise*
- *PAP11 – Electric Vehicle Load Management*
- *PAP11 – Electric Vehicle Network Testing and Diagnostics*
- *PAP11 – Electric Vehicle Roaming*
- *PAP11 – Impact of PEV as Load and Electric Storage on Distribution Operations*
- *PAP11 – PEV as Storage Scenario*
- *PAP11 – PEV Default Charge Mode*
- *PAP11 – PEV Participates in Utility Events*
- *PAP11 – Plug-In Electric Vehicle Diagnostics*
- *PAP11 – Utility Provides Accounting Services to PEV Use Case*
- *PEV Charging at Premise*
- *PEV - E - General Registration & Enrollment Process*
- *PEV - L1 - Customer connects PEV at Home – premise*
- *PEV - L2 - Customer connects PEV at Another Home*
- *PEV - L3 - Customer connects PEV Outside Home Territory*
- *PEV - L4 - Customer connects PEV at Public Location*
- *PEV - PR1 - Customer charges the PEV*
- *PEV - S1 - Cordset (Rev D)*
- *PEV - S2 - Premise EVSE (Rev D)*
- *PEV - S3 - Premise EVSE that includes the charger (Rev D)*
- *PEV - U1 - TOU Program*
- *PEV - U2 - Discrete Event Program*

-
- *PEV - U3 - Real Time Pricing (RTP) Program*
 - *PEV - U4 - Critical Peak Pricing (CPP) Program*
 - *PEV - U5 - Active Management Program*
 - *PEV - U5 - Active Management Program*
 - *PEV - Use Case Instructions and Status*

Energy Storage

- *AEP Community Energy Storage (CES) Energy Dispatch*
- *AEP Configuration of a CES Controller*
- *AEP Configuration of a CES Unit*
- *CAISO – IS-1 – ISO Uses Energy Storage for grid Operations and Control*
- *CES Energy Dispatch*
- *Configuration of a CES Controller*
- *Configuration of a CES Unit*
- *NEDO - Peak Shift Contribution by Battery Aggregation*
- *NEDO - Online Power System Control by Battery Aggregation*
- *PAP07 – Key Energy Storage and DER Use Cases*
- *Utility/Customer Provides Electrical Energy Storage in Conjunction with Photovoltaics*

Engineering and System Operations

- *AGC Frequency Control*
- *Alarm management*
- *Application Adjusts Load to Meet System Capacity Based On Settings from System Operator*
- *Maintenance Engineer Monitors Health of Primary Equipment*
- *PAP12 – System Engineer Configures IEC 61850 Gateway to DNP3 Substation*
- *Protection Engineer Analyzes Run time Data and Protection Model after Fault Event*
- *Protection Engineer Changes Settings across a Network*
- *Protection Engineer Plans wide Area Protection Schemes Based on System Model*
- *Protection Engineer Sets up Bus Protection Based on Topology of Substation*
- *Protection Engineer Verifies Protection Models*
- *System Engineer Adds A Transmission Line with IEC 61850 Protection*
- *System Engineer Creates CIM Model from IEC 61850 Configuration*
- *System Engineer Retrofits a Substation*
- *System Operator Identifies, Locates, Isolates and Restores Service after a Fault*
- *System Operator Switches Feeders Based On Contingency Analysis*

Microgrids

- *NEDO A1 Energy Management of Grid Connected Microgrid*
- *NEDO A2 Autonomous Decentralized Microgrid Islanding Mode*
- *NEDO H1 Energy Management of Grid Connected Microgrid*

-
- *NEDO H2 Energy Management of Microgrid Islanding Operation*
 - *NEDO - Energy Management by Configuring a Virtual Microgrid*
 - *NEDO - Sendai Microgrid Use Case*
 - *Miscellaneous Use Cases*
 - *AEP Utility DOE Smart Grid Clearinghouse*
 - *As-Built Equipment Installation-Commissioning*
 - *As-Built Model Update – KCPL*
 - *Asset Manager Verifies Equipment Location*
 - *CAISO – IP-1 – ISO Uses Synchrophasor Data for Grid Operations, Control, Analysis and Modeling*
 - *Contingency Analysis – Baseline*
 - *Contingency Analysis - Future Advanced*
 - *Convert PMCR to NOMCR V0.9*
 - *Create EMS Production Mode V03*
 - *Create EMS Test Model V03*
 - *Create MMS DA Model V04*
 - *Create MMS RT Model V04*
 - *Create NOMCR V0.9*
 - *Create Planning Model V0.5*
 - *Create PMCR V0.6*
 - *Create RT Contingency Files V01*
 - *Create RT Settlement File V04*
 - *Data Warehouse*
 - *Define Transmission Outage Schedules*
 - *Energy Scheduling Billing and Settlement*
 - *Export Powerflow Use Case 120606*
 - *Extension Implementation*
 - *Extension Planning*
 - *Field Control Request*
 - *Functional Requirements for Network Management*
 - *Functions of the Work Management System (WMS)*
 - *Hours Ahead Load Optimization*

Planning and Marketing Operations

- *Import Operational Model to Planning*
- *Load Forecast Data between EMS and Planning*
- *Market Operations - Long Term Planning*
- *Market Operations - Medium and Short Term Planning*
- *Market Operations – Overview*
- *Market Operations - Post Dispatch*
- *Network Equivalents between EMS and Planning*
- *Network Extension Use Case for Planning 110706*

Power Quality

- ***Permanent Power Quality Measurement***
- ***Power Quality Contracts***
- ***Power Quality Event Notifications***

Real Time Pricing (RTP)

- ***AEP Performing Real Time Price Auction***
- ***AEP Post Real Time Price Auction Processing***
- ***AEP Real Time Price (RTP) Billing***
- ***AEP Real Time Price HAN Device Provisioning***
- ***AEP Real Time Price HAN Messaging***
- ***AEP RTP System Initialization of Customer Enrollments***
- ***Real-Time Pricing - Top Level***
- ***RTP Baseline Use Case***
- ***RTP - Base RTP Calculation Function***
- ***RTP - Customer's BAS Optimization***
- ***RTP - DER Device Management***
- ***RTP - Energy Service Provider Energy and Ancillary Services Aggregation***
- ***RTP - ESP Customer Specific RTP Calculator***
- ***RTP - Load Forecasting***
- ***RTP - Market Operations Ancillary Services***
- ***RTP - Market Operations Energy Services***

Relay Protection

- ***Adaptive Transmission Line Protection***
- ***Earth Fault Localization***
- ***End To End Testing Of Protective Scheme***
- ***Fault Isolation***
- ***Synchrophasor***
- ***Short Circuit Localization***

Volt-Var Management

- ***AEP Integrated Volt Var Control Centralized***
- ***AEP Integrated Volt VAR Control Decentralized***

Wide-Area Monitoring and Control

- ***WAMAC Emergency Operations Baseline***
- ***Wide Area Control System for the Self-Healing Grid SHG***
- ***Wide-Area Control System Advanced Auto-Restoration***
- ***Wide-Area Monitoring and Control - Automated Control Functions***
- ***Wide-Area Wind Generation Forecasting***
- ***Inter-Area Oscillation Damping***
- ***Low Side Rollover Specifications***

-
- ***Market Operations - Day Ahead Market Operations***
 - ***NEDO – S1 Cooperative Control Among Smart Grid and External Area EPS Energy Management Systems***
 - ***Network Colouring***
 - ***Network Modification***
 - ***PAP13 – Harmonization of IEEE C37.118 with IEC 61850 and Precision Time Synchronization Process Contingency Definition V03***
 - ***Process Dynamic Rating V0.3***
 - ***Process NOMCR V0.14***
 - ***Process PMCR V0.3***
 - ***Process SAMR V0.4***
 - ***Real Time Topology Processor***
 - ***Service Restoration***
 - ***State Estimation***
 - ***Study Mode Topology Processor***
 - ***Telemetry Definition***
 - ***Training Session***
 - ***Transport Contingency Specifications***
 - ***Voltage Security***



MEMBERS OF THE EPRI SMART GRID DEMONSTRATION INITIATIVE

American Electric Power | Ameren | Central Hudson Gas & Electric | CenterPoint Energy | Consolidated Edison | Duke Energy | Electricité de France | Entergy | Ergon | ESB Networks | Exelon (ComEd & PECO) | HECO | Hydro-Québec | FirstEnergy | KCP&L | PNM Resources | Sacramento Municipal Utility District | Southern California Edison | Southern Company | Southwest Power Pool | Salt River Project | Tokyo Electric | Tennessee Valley Authority | Wisconsin Public Service Corporation