



PV/Storage Inverter Communication Project for Grid Integration

Interactive Session

**December 6
4:15pm – 5:15pm**

Scott Kuszmaul



Sandia is a multiprogram laboratory operated by Sandia Corporation, a Lockheed Martin Company, for the United States Department of Energy's National Nuclear Security Administration under contract DE-AC04-94AL85000. SAND2009-2801P



Interactive Session - Agenda

Opportunities & Recommendations for Collaborations (15 minutes)

Recommendations for Phase 2 Scope Consideration (15 minutes)

Additional Industry Needs Related to High Penetration (10 minutes)

Contacts and Volunteers for the Technical Focus Work (5 minutes)

Workshop Wrap-up (5 minutes)



Interactive Session - Collaboration

PV/Storage Inverter Communication Project

Opportunities

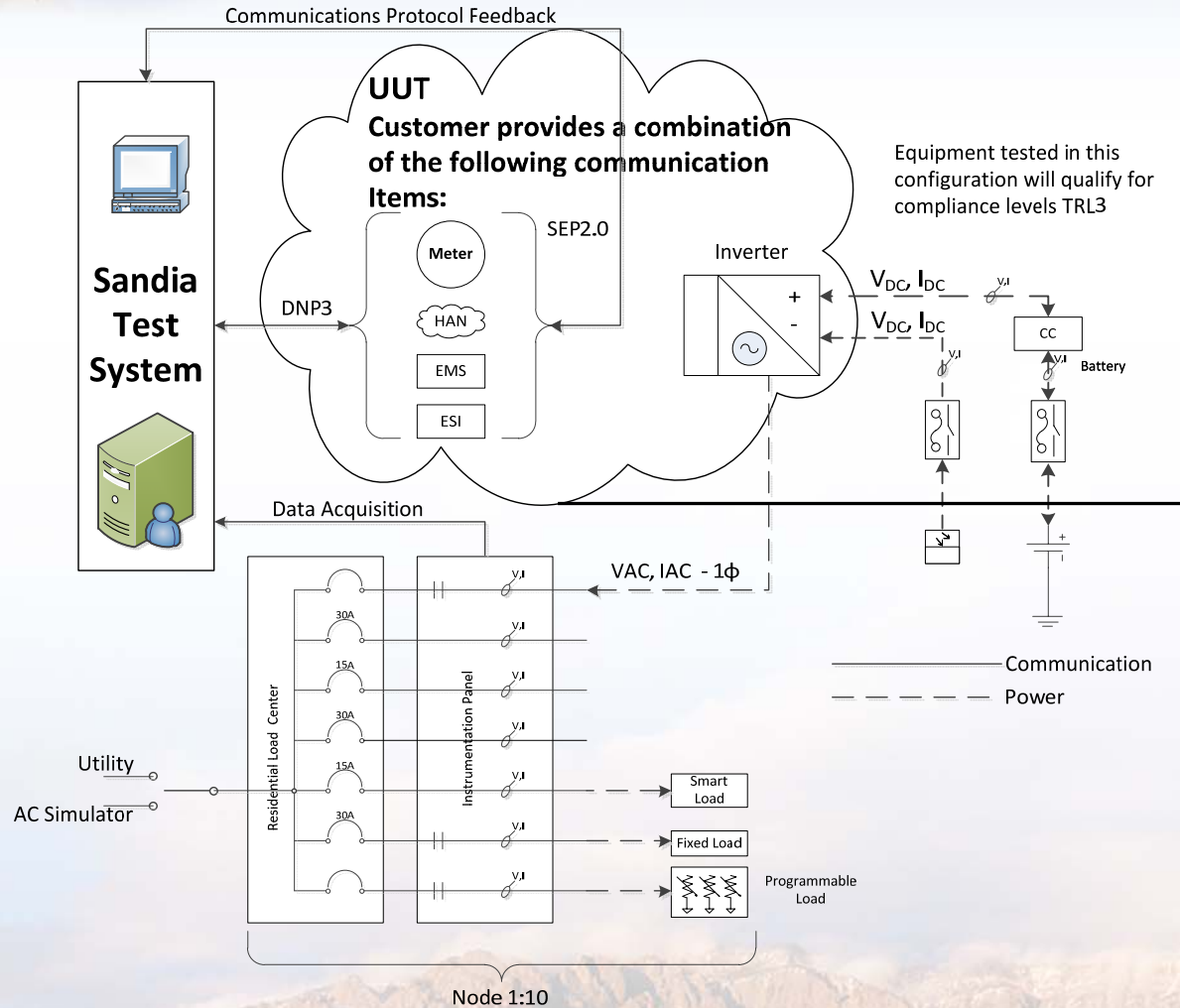
Testability
Scalability
Maintainability
Reliability
Interoperability
Connect-ability
Standard-ability
International-ability

Recommendations

Collaborations



Preliminary Sandia Test System Configuration



Test Protocol Definitions
for Advanced Inverter
Communications Function
document in final review





Interactive Session – Phase 2 Scope


Proposed Phase 2 Functions

- 1) Voltage Sag Ride-Through
- 2) Autonomous Watt-Voltage Management
 - Steady State
 - Transient
- 3) Autonomous Watt-Frequency Management
- 4) Islanding
- 5) Additional Status Reporting Values

Other Functions Identified

- 1) On/Off
- 2) Metering
- 3) Weather Information Exchange
- 4) Global Reconfiguration
- 5) Default Configuration





Interactive Session – High Penetration

This project is specifying functions and the local communication interface necessary for integrating distributed PV and/or electric storage resources with utility distribution management or DER (Distributed Energy Resource) programs.

What are the Industry Needs as related to High Penetration?



Interactive Session – Phase 2 Focus Group

Soliciting [Phase 2 Technical Focus Group](#) design assistance

Scheduled teleconference meetings organized by EPRI

Group interactions to re-start soon

Phase 1 Group participants

Name	Organization
John Kueck	Oak Ridge National Lab
John Altstadt	Xantrex
Bob Schmitt	SMA-America
Lars Johnson	SunPower Corp.
Allen Hefner	NIST
Fouad Dagher	National Grid
Sean O'Connor	Apollo Solar
Chris Eich	enPhase Energy
Ronald Hamaoui	Petra Solar
Dan Pehrson	Silent Power
Jim Perkinson	Satcon
Swarnab Banerjee	Princeton Power
Glenn Skutt	VPT Energy Systems





Workshop Wrap-up

THANK YOU

