Smart-Grid Ready PV Inverter With Utility Communication

BRIAN SEAL / ELECTRIC POWER RESEARCH INSTITUTE

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TECHNOLOGY SUMMARY

The proposed project will develop, implement, and demonstrate smart-grid ready inverters with grid support functionality and required utility communication links to capture the full value of distributed photovoltaic (PV). Key objectives are to implement advanced grid-supportive functions into inverters and to establish remote management and configurability of these functions from distribution operation center—together they will enable utility companies to better utilize these grid assets.

KEY PERSONNEL

- Michael Zuercher-Martinson, Solectria Renewables
- Haukur Asgeirsson, Detroit Edison
- Fouad Dagher, National Grid
- Michael Lamb, Xcel Energy

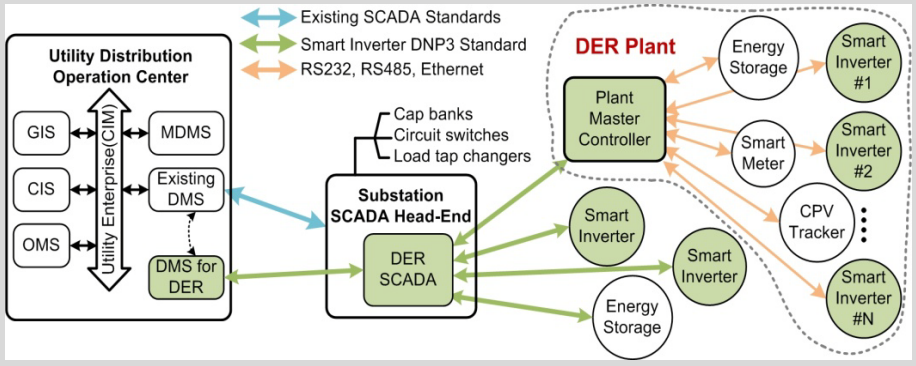
PROGRAM SUMMARY

Period of performance: 36 months

DOE funds:	$ 4.4M
Cost-share:	$ 2.7M
Total budget:	$ 7.1M

Key Milestones & Deliverables

Year 1	• Smart-grid ready inverters, DER plant master controller and distribution management system
Year 2	• Laboratory demonstration of DER DMS connected smart inverters; field installation and commissioning
Year 3	• Utility scale system demonstration and Impact analysis



Technology Impact

Advancement of PV system capabilities, communication systems and open standards, operations center visibility and management, and optimized coordination of smart PV inverters with existing distribution control devices.

Main idea of proposed program

U.S. DEPARTMENT OF ENERGY | SunShot Initiative