California Public Utilities Commission
505 Van Ness Ave., San Francisco

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CPUC APPROVES THIRD ROUND OF GRANTS FOR CALIFORNIA SOLAR INITIATIVE RD&D PROGRAM

SAN FRANCISCO, March 8, 2012 - The California Public Utilities Commission (CPUC) today approved seven grants totaling up to $7.65 million in funding for the California Solar Initiative (CSI) Research, Development, Deployment, and Demonstration (RD&D) Program's third grant solicitation, which had a primary focus on grid integration of solar energy and a secondary focus on improved photovoltaic (PV) production technologies and business development and deployment. The seven grant recipients are expected to have matching funds of more than $7.8 million for their projects.

"As California moves to the next level of attaining 33 percent of its electric power from renewable resources, the projects funded today can play an integral part in developing new and improved technologies in the area of photovoltaic production and solar grid integration," said CPUC President Michael R. Peevey. "The California Solar Initiative and its RD&D Program continue to be a shining star in the advancement of solar energy throughout California."

The CPUC approved grants for the following projects:

Primary Focus Area: Grid Integration

1. Proposal 327: General Electric International, Inc., (GE) seeks to accelerate integration of high penetration PV into the grid by assessing a utility concern regarding anti-islanding of inverters and Rule 21. The project, a collaboration between GE and Pacific Gas and Electric Company (PG&E), will quantify the risks of unintended islanding in distribution circuits with high penetration of customer-sited distributed PV generation. The results of this research will inform PG&E's interconnection requirements and will also be of value to the other utilities (both investor-owned and

publicly owned). This project will receive $629,100 in CSI RD&D grant funding with a matching fund of $320,700.

2. Proposal 316: Electric Power Research Institute, Inc. seeks to support the integration and interconnection of high penetration PV into the grid by providing California utilities with a useable way of determining available capacity for PV generation on existing distribution feeders. This new methodology will allow California utilities to more quickly screen new applications and accept new PV projects without risk of grid impacts. This project will receive $1,978,239 in CSI RD&D grant funding with a matching fund of $1,978,239.

3. Proposal 322: BEW Engineering addresses the lack of high quality, high resolution, field measured PV data to inform modeling of high penetration. The BEW team will develop methods and software for evaluating high-penetration PV on the distribution grid. This project builds on work that was funded by the first CSI RD&D solicitation. The methods and processes will be used by utilities to facilitate expansion of PV into the grid without negatively impacting system performance. The three utility partners (Sacramento Municipal Utility District (SMUD), PG&E, and Hawaiian Electric Company) will select different feeder configurations to demonstrate, evaluate, and validate high PV penetrations under a variety of scenarios. This project will receive $964,500 in CSI RD&D grant funding with a matching fund of $1,077,100.

4. Proposal 307: Clean Power Research (CPR) builds directly upon one of the first CSI RD&D projects that was funded, titled Advanced Modeling and Verification for High Penetration PV. For this project, CPR will extend the enhanced resolution solar resource database and incorporate a cloud vector motion method to increase the temporal resolution to one-minute. This solar resource database will be used to forecast PV fleet performance. PV fleet simulation methodology will then be validated with data from actual PV fleets. Once validated, the PV fleet simulation methodology and high resolution solar resource database will be integrated into five utility software tools currently used by distribution engineers. The CPR team will also develop a website showing real-time energy production from the California fleet. This project will receive $852,260 in CSI RD&D grant funding with a matching fund of $875,000.

5. Proposal 314: University of California, San Diego (UCSD) will seek to demonstrate that solar resource forecasting is the most cost effective strategy for integrating large amounts of PV into the distribution grid. The UCSD team will demonstrate forecast performance under conditions that have the most impact on aggregate PV output on SDG&E distribution feeders. Ultimately, the UCSD team believes that if improved forecast models were used operationally, ancillary services costs could decrease by 50 percent per additional megawatt of solar PV on the grid. A best practices manual for solar forecasting utility operations is one of the project deliverables. All California investor-owned utilities, SMUD, and the California Independent System Operator are participating in the project, which will receive $1,548,148 in CSI RD&D grant funding with a matching fund of $1,548,148.

Secondary Focus Area: Production Technologies and Business Development and Deployment

6. Proposal 309: Strategic Energy Innovations will demonstrate a solar procurement business model that utilizes a public-private revolving fund mechanism to support public entities (municipalities and schools) in adopting solar technologies. The initial project procurement will involve 15 public partners and up to 100 potential sites resulting in a minimum of 5 megawatts of solar contracts. The primary audience for this project includes public entities in Marin and Sonoma Counties interested in adopting PV. This project will receive $300,000 in CSI RD&D grant funding with a matching fund of $341,150.

Project that addresses both the Primary Focus Area and the Secondary Focus Area

7. Proposal 306: Southern California Edison (SCE) will demonstrate the feasibility and effectiveness of advanced, smart inverters for both single-phase and small scale (less than 100 kilowatts) three-phase applications in zero net energy buildings. The project will also focus on deploying integrated demand side management, energy efficiency, demand response, and energy storage with PV in residential and low-rise office buildings. This project will receive $1,351,907 in CSI RD&D grant funding with a matching fund of $1,398,460.

With a budget of $50 million running through 2016, the CSI RD&D Program awarded $9.3 million for the first round of grants issued in March 2010, and $14.6 million for the second round of grants in September 2010. Today's grants bring the total amount of PV projects funded by the CSI RD&D

Program to more than $31 million. The goal of the program is to fund research, development, demonstration, and deployment of solar technologies that will measurably reduce the cost and accelerate the installation of technologies that employ solar energy to generate or store electricity or to reduce the use of natural gas.

For more information on the CPUC, please visit www.cpuc.ca.gov.

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