

News Release

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California ISO garners international award for solar plant findings Groundbreaking test will be instrumental in transition to a low-carbon grid

FOLSOM, Calif. – The California Independent System Operator (ISO), in partnership with First Solar and the National Renewable Energy Laboratory (NREL), has received the inaugural [Smarter E Award for an Outstanding Project](#) for work on photovoltaic solar power and grid reliability.

The project tested and demonstrated the effectiveness of highly responsive and essential services for maintaining grid reliability on a 300-megawatt (MW) utility-scale photovoltaic (PV) power plant in California, proving that renewable resources can be used for ancillary services related to grid stability.

The findings could open the door to better management of a growing amount of green energy into the electric system.

The award was presented on June 22 at the [InterSolar Europe 2018](#) conference in Munich, Germany.

“The test results mean that renewable energy can be incorporated into power systems at a much higher level and faster pace than once believed, giving a glimpse at the clean green grid of the future,” said Clyde Loutan, California ISO’s principal for renewable energy integration. “The ISO is proud to be part of a project that could one day help achieve the vision of using primarily renewable sources to power our economy.”

In the most extensive testing of its kind, the analysis focused on performance in three critical areas: frequency control, voltage control, and ramping capability, all identified as essential reliability services by the North American Electric Reliability Corp. (NERC) for expanded integration of renewable resources into the power grid.

The tests, conducted on a First Solar unit in August 2016, demonstrated that renewable energy plants with smart inverter technology can offer electric reliability services similar to, or in some cases, superior to conventional power plants. The findings highlighted the role of advanced power controls in leveraging solar PV’s value from an intermittent energy resource to providing reliability services.

In the award citation, the review jury called the project, “...a game changer for large-scale solar plants,” saying, “solar plants can not only reduce the need for carbon-emitting resources but can also improve system performance and operate with significantly high levels of variable generation.”



Criteria to be nominated includes exemplary and groundbreaking work in transitioning toward a low-carbon future through global applications, energy innovation, and exploration of renewables.

Click [here](#) to view the final report, and fact sheets on smart inverter technology and the test highlights.

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The California ISO provides open and non-discriminatory access to one of the largest power grids in the world. The vast network of high-voltage transmission power lines is supported by a competitive energy market and comprehensive grid planning. Partnering with over a hundred clients, the nonprofit public benefit corporation is dedicated to the continual development and reliable operation of a modern grid that operates for the benefit of consumers. Recognizing the importance of the global climate challenge, the ISO is at the forefront of integrating renewable power and advanced technologies that will help meet a sustainable energy future efficiently and cleanly.