

Sandia National Laboratories building centers across country to help solar firms test hardware

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One of the National Security Administration's three national laboratories is building regional testing centers around the country to field-test hardware for solar companies before their multimillion-dollar solar systems are installed in buildings.

The Sandia National Laboratory is building test centers in Albuquerque, Denver, Las Vegas, Orlando, Fla., and Burlington, Vt., the Albuquerque Journal reported.

"The centers are designed to not only provide independent assessments of commercial systems, but to do that in multiple locations and climates," Sandia solar group member Jennifer Granata said.

The test facilities will provide enhanced monitoring and improved performance prediction capabilities for new technologies being introduced to the market and will have detailed [weather stations](#) and measuring and monitoring equipment such as simulators, performance curve tracers and infrared and digital cameras.

They will help develop standard procedures to assess performance of large-scale systems that other labs, utilities and investors can use.

Select companies will then set up their own systems of between 10 and 300 kilowatts on site.

The companies doing field testing at the centers will be responsible for the costs of their systems, while the government will provide labor and expertise.

The lab also just completed a \$17.8 million upgrade to its National Solar Thermal Test Facility in Albuquerque.

While the test centers will focus on solar systems that directly convert sunlight to electricity, the lab's Solar Thermal Test Facility is working to improve [concentrating solar power](#) systems that use sunlight to heat liquids to generate steam for turbine generators.

That facility was established in 1976 in Albuquerque, but much of it had never been updated until now.

Upgrades included construction of a \$10 million [Molten Salt](#) Test Loop, and a nearly \$4 million overhaul of the facility's "solar tower."

Concentrating [solar power systems](#) are increasingly using molten salt to retain heat from the sun because it's cheap and abundant, and it stores thermal energy for long periods, allowing the systems to generate steam for turbines well after the sun goes down. But energy developers need a better understanding of how pressure, high temperature and flow rates interact and impact a system's overall operation.

The Molten Salt Test Loop is now the only test facility in the nation that can provide real power-plant conditions and collect data to help companies make commercial decisions about such systems, Sandia researcher Cheryl Ghanbari said.

Sandia National Laboratories' has a main campus on Kirtland Air Force Base in Albuquerque and another in Livermore, Calif., near the Lawrence Livermore National Laboratory. The research and

development facilities work on a variety of federal science projects and are operated under government contract by Sandia Corp., a subsidiary of defense giant Lockheed Martin Corp. Sandia's objectives include ensuring the security of the nation's nuclear stockpile and addressing threats to national security.

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