



**Pacific Northwest**  
NATIONAL LABORATORY

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## 3820 – Systems Engineering Building

The new Systems Engineering Building reflects PNNL's dedication to furthering basic and applied research in electricity markets, generation, transmission, distribution, and end use, including buildings-grid integration.

The LEED Gold certified facility provides PNNL strengthened capabilities in all areas of pertinent grid research. The Systems Engineering Building integrates high performance computing with advanced controls and cyber security related to the grid, and includes a power electronics lab to develop and test software and devices. Additionally, the building can function as a backup control center for regional utilities.

As the hub for all power grid research at PNNL, the 24,000 square foot building includes:

- » three control centers (including the campus control center), laboratories focused on power electronics and interoperability, outdoor testing pads, and EV charging stations,
- » data storage and computing capability,
- » state of the art industry software, real-time grid data and advanced computation.

The two control rooms can be reconfigured for different user profiles, such as Reliability Coordinators, Independent System Operators, a Balancing Authority, a Market Operator, a Distribution System Operator, or as a Cyber Security Network Operations Center.



**For more information, contact**

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The building provides dedicated lab space for PNNL's electric vehicle charging, energy storage, sensors and controls research. The adjacent outdoor pad provides space to connect to even larger assets, such as utility scale energy storage units, environmental chambers or commercial grade roof top units.

PNNL's decade long experience in grid research, development and deployment produced nationally and internationally acclaimed tools and accomplishments, such as developing GridLAB-D™ and the Grid Friendly™ Appliance Controller, or leading the Pacific Northwest Smartgrid Demonstration Project, the largest ARRA smart grid demonstration project in the nation. With the new Systems Engineering Building coming online in 2015, PNNL is ready to develop the tools and technologies that will deliver the promise of a safe, secure and sustainable power grid for our nation.