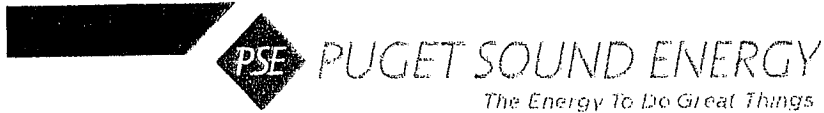


# PSE SMART GRID PROJECT

*Using technology to improve reliability and service*



PSE is seeking a U.S. Department of Energy grant for implementation of smart grid technologies that will improve reliability and service for our business and residential customers, as well as provide the foundation for future improvements in energy efficiency.

## **PSE's proposed Smart Grid project will:**

- Improve electric system reliability and reduce the length of outages through technologies that allow the electric system to automatically respond to equipment failures, storms and other events.
- Provide PSE crews with more detailed and timely information about damage to the system.
- Mitigate peak energy needs by more accurately monitoring and controlling system voltage.
- Increase the number of PSE residential and municipal customers taking part in the utility's load-control pilot programs, which use new technology to better manage energy use.
- Provide the foundation for emerging technologies that will give consumers greater information about their energy use.
- Utilize new technologies at 37 PSE substations in nine counties across Western Washington (Island, Jefferson, King, Kitsap, Kittitas, Pierce, Skagit, Thurston and Whatcom).
- Create integrated smart grid pilot projects in four Western Washington communities (Bainbridge Island, Mercer Island, Point Roberts and Whidbey Island) involving 55,586 PSE residential electric customers and 6,914 PSE business electric customers.

## **PSE's Smart Grid community pilot project communities:**

- Smart grid technologies selected for deployment in pilot projects in the communities of Bainbridge Island, Mercer Island, Point Roberts and Whidbey Island.
- Selected communities were chosen for their ability to provide measurable and accurate data on the impacts of new smart grid technologies on reliability, service and energy efficiency.

## **PSE's Smart Grid community pilot project components:**

- 2-way communication systems connecting customer "smart meters" to the utility. These advanced meters are will be installed in 25 percent of customer homes and will allow selected homes from within that group to be able to both send customer energy use data to PSE and to receive information from PSE, enabling energy demand to be reduced at periods of peak use.
- Geographic information system (GIS) technology to create digital maps of all utility transmission and distribution infrastructure, allowing for greater reliability and increased service through faster response to storms, equipment failures and other events.
- Systems control and data acquisition (SCADA) and outage management system (OMS) deployment to increase automation technologies in local electric substations and power distribution systems to reduce both the frequency and duration of power outages.

- Advanced voltage regulation (on Mercer Island only) to allow greater energy efficiency by more accurately managing energy distribution and energy demand, eliminating losses due to excess voltage.

**PSE's Smart Grid community pilot project incorporates expanded PSE energy efficiency programs including:**

- Demand-response pilot technology for 20 percent of area residents on Mercer Island, Point Roberts and Whidbey Island, enabling the utility to curtail energy use as needed at the homes of participating customers during periods of high energy demand.
- Load-control pilot technology, enabling the utility to curtail energy use as needed at facilities of selected municipalities on Bainbridge Island, Mercer Island, Point Roberts and Whidbey Island during periods of high energy demand.

**PSE Smart Grid Project Cost:**

Total cost: \$42.5 million  
Total eligible for DOE 50 percent matching grant: \$40 million  
Total DOE matching grant request: \$20 million  
Total PSE funding: \$22.5 million

**For more information, please contact:**

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