

2009 Innovations Awards Program APPLICATION

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ID # (assigned by CSG): 09-S-44WV

Please provide the following information, adding space as necessary:

State: West Virginia

Assign Program Category (applicant): Natural resources: energy (Use list at end of application)

1. Program Name: West Virginia Smart Grid Implementation Plan
2. Administering Agency: West Virginia Division of Energy
3. Contact Person (Name and Title): John F. "Jeff" Herholdt Jr., director
4. Address: Capitol Complex, 1900 Kanawha Blvd. E., Building 6, Room 645, Charleston WV 25305
5. Telephone Number: (304) 558-2234 or (800) 982-3386
6. FAX Number: (304) 558-0362
7. E-mail Address: jherholdt@energywv.org
8. Web site Address: www.energywv.org
9. Please provide a two-sentence description of the program:
The West Virginia Smart Grid Implementation Plan will determine the cost and the benefits of implementing a modern electricity grid in West Virginia. For Smart Grid scenarios where the benefits outweigh the costs, implementation plans will be developed that provide a recommended path forward for West Virginia utilities and consumers to achieve the benefits of a Smart Grid.
10. How long has this program been operational (month and year)? Note: the program must be between 9 months and 5 years old on March 2, 2009 to be considered.
The program began in February 2008.
11. Why was the program created? What problem[s] or issue[s] was it designed to address?
An aging electric transmission infrastructure represents a considerable risk to the nation in the form of blackouts. Modern computer-based technology has not been applied to the transmission system at a time when the capability exists for real-time monitoring, which would allow grid operators to anticipate and avoid system overloads or under-use, as well as allow consumers to control electric costs through decisions to use electricity when it is cheaper. A smarter, more flexible electric grid would lead to increased efficiency as well as freedom from unplanned outages.
A smarter grid can lead to reduced energy usage by allowing better control of resources and reducing the need for power in reserve. This, coupled with reduced system losses, can ultimately reduce how much capacity is needed at times of peak usage. A modern grid can increase the amount of renewable energy capacity as well as open up opportunities for the use of plug-in electric vehicles, allowing customers to re-charge during periods of low electricity use. Customers monitoring electricity costs in real time can make better choices about when and whether they use power.

As West Virginia exports two-thirds of the electricity it produces, a more modern transmission infrastructure will benefit the state's economy as well as increase the state's ability to reliably get electricity to the rest of the nation.

12. Describe the specific activities and operations of the program in chronological order.

The program contains three aspects. A gap analysis will determine the existing status of the grid and what is needed to modernize it for today's needs. A business case will determine the benefits and costs of implementation. An implementation plan will be developed based on positive business cases. Currently, the gap analysis is 90 percent complete. The West Virginia Division of Energy is financially supporting the gap analysis. The National Energy Technology Laboratory, based in Morgantown, W.Va., and Pittsburgh, Pa., West Virginia University's Advanced Power & Electricity Research Center and Horizon Energy Group, are contributing partners.

13. Why is the program a new and creative approach or method?

West Virginia's Smart Grid Implementation Plan is the nation's first statewide smart grid study.

14. What were the program's start-up costs? (Provide details about specific purchases for this program, staffing needs and other financial expenditures, as well as existing materials, technology and staff already in place.)

This project is a collaborative study funded jointly by NETL and the West Virginia Division of Energy. Funding supports research partnerships charged with specific tasks at NETL and WVU. Initial budget totals \$525,000.

15. What are the program's annual operational costs?

The program is to conclude by June 2009. No funding beyond the initial \$525,000 is anticipated.

16. How is the program funded?

Funding participants on the \$525,000 project include the National Energy Technology Laboratory, West Virginia University, Allegheny Power, American Electric Power and the West Virginia Division of Energy. Contributions from Allegheny Power and Appalachian Electric Power are in-kind.

17. Did this program require the passage of legislation, executive order or regulations? If YES, please indicate the citation number.

No.

18. What equipment, technology and software are used to operate and administer this program?

Applicable Smart Grid technologies are reviewed but not purchased.

19. To the best of your knowledge, did this program originate in your state? If YES, please indicate the innovator's name, present address, telephone number and e-mail address.

Yes. Contacts include:

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20. Are you aware of similar programs in other states? If YES, which ones and how does this program differ?

Yes. The state of Illinois is also developing a Smart Grid implementation plan. West Virginia's Smart Grid Implementation Plan is the nation's first statewide Smart Grid study.

21. Has the program been fully implemented? If NO, what actions remain to be taken?

No. The gap analysis is 90 percent complete. The business case and the implementation plan have yet to be developed.

22. Briefly evaluate (pro and con) the program's effectiveness in addressing the defined problem[s] or issue[s]. Provide tangible examples.

Success to date has been to bring to the table investor-owned utilities and federal and state government to analyze and plan the adoption of a statewide Smart Grid.

23. How has the program grown and/or changed since its inception?

The program has remained the same since its inception.

24. What limitations or obstacles might other states expect to encounter if they attempt to adopt this program?

The project was able to gain involvement of NETL staff and their contractors, the Advanced Power & Electricity Research Center at WVU. The active involvement of West Virginia electric utilities enabled this project to garner relevance as a true implementation plan. Other successful state projects would need to replicate this buy-in.

2009 Innovations Awards Program Program Categories and Subcategories

Use these as guidelines to determine the appropriate Program Category for your state's submission and list that program category on page one of this application. Choose only one.

Infrastructure and Economic Development

- Business/Commerce
- Economic Development
- Transportation

Government Operations

- Administration
- Elections
- Public Information
- Revenue

Health & Human Services

- Aging
- Children & Families
- Health Services
- Housing
- Human Services

Human Resources/Education

- Education
- Labor
- Management
- Personnel
- Training and Development
- Workforce Development

Natural Resources

- Agriculture
- Energy
- Environment
- Environmental Protection
- Natural Resources
- Parks & Recreation
- Water Resources

Public Safety/Corrections

- Corrections
- Courts
- Criminal Justice
- Drugs
- Emergency Management
- Public Safety

Save in .doc or rtf. Return completed application electronically to innovations@csg.org or mail to:

CSG Innovations Awards 2009
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This application is also available at www.csg.org, in the Programs section.

Deadline: March 2, 2009