

## **(12) Distributed Energy Infrastructure Analysis and Pilot Project for New Jersey and Pennsylvania Targeted in the Small and Medium Sized Commercial and Industrial Sectors**

This one-year project will evaluate a baseline of distributed energy resources (DER) for all markets, as well as the financial, regulatory and technical barriers to expanding DER in the two states. Based on the analysis, a policy manual will be produced, and pilot projects will be conducted with about 30 to 50 MW of DER installed in each state.

Total project cost: \$1,300,000

Funding request: \$300,000

Project Lead: New Jersey Board of Public Utilities, Office of Clean Energy Project Participants: Pennsylvania Department of Environmental Protection, Office of Energy; Madison Energy Consultants, LLC; The Center for Energy, Economic, and Environmental Policy at the Bloustein School of Planning and Public Policy at Rutgers, The State University of New Jersey; PJM; JCPL; Conectiv; National Council on Electricity Policy; National Association of Regulatory Utility Commissioners

### Progress in Past Quarter and Current Status

#### **Task 1: Project Management**

The recommendation of the STAC Team will be for the BPU to issue a competitive grant solicitation to which any of the New Jersey distribution companies (PSE&G, Atlantic Electric, JCP&L or Rockland Electric) may respond. The grant solicitation will offer up to \$1 million from the Clean Energy Program for companies who install distributed energy resources in their service territories and agree to investigate the use and benefits of DER for lowering costs and increasing reliability of service delivery. Each responding company will be asked to show what type of resources they will deploy, what applications they will use (i.e. CHP, peaking, emergency backup, etc.), what rate treatment they will seek for the pilot, the size and scope of the pilot (number of MWs), how they will integrate the DER into their utility planning and distribution operations, how they will maximize the use of PJM economic and emergency demand response programs, how they will use contractors in the design and deployment process, the schedule of deployment, evaluation methodology, etc.

Mr. Torpey then shared some of the learning's that the STAC project team has found in the project to date. They include the following:

- There will be limited DER installations without extra-market monetizing of DER values.
- Distribution utilities have the potential to realize significant value from DER but they don't have enough experience to change business practices to utilize DER.
- Utilities are one of the best entities to deploy distributed resources
- The STAC pilot should attempt to get a NJ utility to try DER and then find out how to use it. The BPU should decide on appropriate rate treatment to facilitate a 2-20 MW pilot.
- A utility grant solicitation is the best way to proceed.
- Extra-market option should continue to be developed

#### **Task 2: Current Status of Distributed Energy Policy and Deployment**

The deliverable of this Task is to disseminate the April 26, 2004 "New Jersey State Energy Plan 2003-2004 Distributed Energy Analysis Task One Report- The Current Status of DER Policy and Deployment in New Jersey" written by James Torpey and information on the web site at Carnegie Mellon's Electricity Industry Center. These documents and/or links have been created on a

project web site which was completed during this quarter. Access to the material on the site will be shared through a project email dissemination list serve that will build on existing list serves and will add recipients as they choose to join the project information exchange.

### **Task 3: Technology Assessment**

The deliverable of this Task is to provide a report analyzing distributed energy technologies that may be applicable to the STAC project, with a focus on companies either developing or distributing the technologies through New Jersey and Pennsylvania offices.

During the quarter, this report was drafted and sent to CEEEP Rutgers for their review and comments. When these comments, if any, are received, the report will be finalized and posted on the MEC project web site and sent to the BPU Program Manager.

### **Task 4: Baseline New Jersey and Pennsylvania- Where Are We Starting From?**

The deliverable of this Task is to disseminate the KEMA and Navigant NJ market potential studies to a wide audience. The links to the CEEEP web site where the report is available have been created on the MEC project web site for access and use by the public.

### **Task 6: Grid Interconnection Issues**

The deliverable of this Task is to disseminate the recently adopted New Jersey Interconnection and Net Metering Rule to a wide audience. This has been accomplished by creating appropriate links through the project web site located at the MEC site.

### **Task 7: Value of Distributed Energy Resources to the Local Grid**

The deliverable for Task 7 is a Workshop to be presented at CEEEP- Rutgers. In preparation for the Workshop, MEC worked with distribution utilities during the quarter to answer their questions about the project and develop materials which will be presented during the Workshop regarding the value of DER within the distribution grid, methods of quantifying and calculating the value of distribution deferrals and approaches that other utilities across the country are using to integrate the consideration of DER solutions into their distribution planning processes. In addition, MEC developed a business model analysis tool for demand response in commercial and residential markets. The material was presented at two MADRI meetings and posted on the MADRI web site. The model includes quantification of the value of DER to the distribution grid. Efforts underway in Massachusetts to quantify the value of distributed resources to the grid are being monitored and the results of that work leveraged to maximize value to the STAC project.

### **Task 8: Value of Distributed Energy Resources in Wholesale Markets**

MEC has a limited deliverable in this Task; essentially to review the work that CEEEP does with PJM. Madison and CEEEP representatives met to discuss the Scope of the Task Work to be completed by CEEEP. A decision to quantify the real option value of a demand response capability was made. Work on this Task is ongoing at Rutgers. Efforts were made in this quarter to coordinate the Rutgers work with MADRI efforts to quantify the benefits of demand response.

### **Task 9: Distributed Energy Asset Ownership**

The deliverable for this Task is a report on the current policies in New Jersey, Pennsylvania and the region regarding the ownership of DER assets and any limitations that exist in law or policy regarding participation of utilities in the deployment of distributed resources. Activity on this Task during the Second Quarter revolved around the development of alternative business models that would encourage and enable the full participation of distribution utilities in the deployment of distributed resources.

### **Task 10: Rate and Incentive Issues with Distributed Energy Resources**

The deliverable for this Task is a report that reviews the literature regarding rate and tariff issues that impact the deployment of distributed resources. In addition, the report will suggest specific changes that should be considered in New Jersey or Pennsylvania if regulators want to encourage distributed energy options. During the quarter, Madison worked on the development of rate and incentive options including rate decoupling models, incentive structures based on performance, various rate recovery options for distribution utilities, a distributed resource portfolio standard and long term contract structures to reward installed DER capacity and critical peak pricing tariffs to encourage well-timed DER applications. A presentation on these options was made at a MADRI meeting on October 20, 2005.

**Task 11: Costs and Financing**

The deliverable of this Task is to assemble work on the costs of distributed energy technologies and provide some alternative financial structures that are being used successfully to finance DER projects. During the quarter, Madison refined the costs of demand response and enabling metering technology in order to improve Madison's business model for demand response in the PJM area. The revised business model was presented for review at a MADRI Business Case Subcommittee meeting held on September 20, 2005 in Philadelphia.

**Task 12: Policy Options and Recommendations**

Madison is responsible for reviewing and commenting on the CEEEP-Rutgers report that will be written by CEEEP under this Task. There was limited activity for this Task during the quarter.

**Task 13: Design and Manage a Load Management Pilot**

Madison is responsible for designing and implementing a process to procure distributed resources within the STAC pilot. Numerous meetings were held during the second quarter. Decisions on how to best proceed on this Task were made and a competitive solicitation has been drafted.

**COMPETITIVE SOLICITATION**

As presented at the October 31, 2005 status update meeting, a process to issue a competitive solicitation that would go to the four distribution utilities (LDCs) in the State is underway. The most responsive proposal that includes innovative uses of up to \$1 million in Clean Energy Program funds and meets other selection criteria will be selected. A draft solicitation has been prepared by Madison and is now under review. The draft solicitation will be forwarded to Board Staff in the near future so a formal competitive BPU Grant Solicitation for the project can be issued.