

(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 STAC project consists of three components. The first is a series of analyses of policy, business and regulatory barriers that are impeding the progress toward a full integration of distributed energy resources into the markets and grid operation in New Jersey and Pennsylvania. Most of the research has been completed and reports on each Task are being written and edited.

The second part of the STAC project is the organization and conducting of a Workshop that will bring together key stakeholders for discussion of solutions and approaches to overcoming the barriers identified in the research to date. The project team has made a determination that the best approach is to offer an initial workshop on DER opportunities in conjunction with a CEO level forum being organized at CEEEP Rutgers in April to address the issue of rate decoupling. Decoupling of utility revenue from throughput (kwh sales) is a key issue for the ultimate success of distributed energy resource integration into the electricity enterprise. We are attempting to coordinate the Workshop with the release of the STAC Grant Solicitation. The forum will attract upper management from State utilities. We will ensure that all electric distribution companies are aware of the Grant Solicitation in order to encourage the widest possible response to its release.

The third component of the project is the implementation of a pilot project that will attempt to achieve a number of goals, including:

- Determine if distributed energy resources (DER) can bring value to the grid and the local grid operator. Some of these potential values include enhanced reliability, lower construction budgets and increased operating flexibility.
- Demonstrate a business model that allows capture of multiple DER values by one or more entities.
- Develop short and longer term regulatory approaches that facilitate the deployment of cost effective DER in New Jersey.

The current approach to achieving the above goals is to work with distribution companies in New Jersey to educate them of the above potential benefits of DER and to elicit their ideas on practical approaches to achieve the project goals. In addition, the structure of the pilot program has been developed in coordination with the Mid Atlantic Distributed Resource Initiative (MADRI) Business and Regulatory Groups.

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. 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 finalized. The report will be posted on the Project web site.

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 one MADRI meeting during the Quarter (January 21, 2006) 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. MEC and CEEEP representatives met to review Task progress being made at CEEEP.

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 research is nearly complete and the Task Report writing has begun.

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, MEC 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. An updated presentation on these options was made at a MADRI meeting on January 21, 2006. The report for this Task is nearly complete.

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, MEC refined the costs of demand response and enabling metering technology in order to improve MEC's business model for demand response in the PJM area. A model showing alternative forms of long term contracts for DER REC programs was developed.

Task 12: Policy Options and Recommendations

MEC 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

MEC is responsible for designing and implementing a process to procure distributed resources within the STAC pilot. Numerous meetings were held during the third quarter leading to the submission of a draft STAC Grant Solicitation to the BPU in December 2005 by MEC. BPU staff and legal consultants are reviewing the work with a goal of seeking BPU Commissioner authorization to issue the Solicitation in March.

COMPETITIVE SOLICITATION

The Grant Solicitation will be an open competitive process wherein the four distribution utilities (PSE&G, Atlantic Electric, JCP&L or Rockland Electric) in the State will be encouraged to submit responses to the solicitation. 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 through their electric distribution system. 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.

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.

The current schedule calls for the Grant Solicitation to be submitted for BPU approval at the March 15, 2006 meeting.