(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 determined that the best approach was to offer an initial workshop on DER opportunities in conjunction with a CEO level forum held at CEEEP Rutgers in April that addressed 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. Details of the workshop results can be found in the description of Task 7.

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. Details of the Grant Solicitation will be found in the summary of Task 13.

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. The report has been completed.

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 the Workshop that was presented at CEEEP- Rutgers on April 11, 2006. During the quarter, MEC worked with the staff at CEEEP to design a workshop program that would provide value to the wide interests of the likely audience. MEC developed materials which were 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 and presented a business model analysis tool for demand response in commercial and residential markets. The presentation included quantification of the value of DER to the distribution grid.

Attendance at the Workshop exceeded expectations. Approximately sixty persons attended the workshop. Attendees included senior executives at Atlantic Electric, Rockland Electric, Public Service Electric and Gas, Jersey Central Power and Light, three Commissioners from the NJBPU (President Fox, Commissioners Butler and Bator), Directors of the Electricity and Clean Energy Divisions of the BPU, numerous renewable and distributed generation developers, environmental advocates (e.g. NJPIRG and NRDC), etc. There was a lively discussion of distributed resources including barriers to their deployment, necessary changes in the PJM demand response programs and tariff revisions that should be analyzed.

The presentation made by Mr. Torpey at the Workshop may be accessed at the Rutgers-CEEEP website @ http://policy.rutgers.edu/ceeep/decoupling.html (**Developing a Distributed Resources Agenda for NJ** *by Jim Torpey*)

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 reviewed an early draft of the CEEEP report and made suggestions to the author regarding additional sources of information that could be accessed.

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 Fourth Quarter revolved around researching PUC opinions around the country, reviewing the extensive report of the California PUC on the issue and reviewing the Code of Conduct and Affiliate Standards that govern competitive services in New Jersey. The Task Report is nearly complete.

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. 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 fourth quarter, MEC collected information on the costs of various DER technologies and existing financing approaches for renewable energy project financing. The report for this Task is nearly complete.

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. MEC will review the Report when drafted by CEEEP.

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. The STAC Grant Solicitation was approved by the NJBPU Commissioners and issued on March 16, 2006. A copy of the Solicitation is included as Attachment Five to this Report.

COMPETITIVE SOLICITATION
The Grant Solicitation is 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 offers 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 following is a revised schedule for the implementation of the Pilot DER Project:
1. Issue Solicitation- March 16
2. Utility response period- 45 days ending May 15
3. Project evaluation Committee meets and recommends award winner to BPU- May 15-June 15
4. BPU approves grant- June 15-July 15
5. Final negotiations of details with tentative awardee(s)- July 15- Sept 1
6. Grant Award finalized and approved by BPU- Sept. 1- October 1
7. Pilot project starts- October 15, 2006
8. Project period- October 15, 2006- September 30, 2007
9. Evaluate results- October 1- November 1, 2007
10. Disseminate results thru NARUC/NCEP, etc.- November- December 31, 2007

Project complete and final report submitted by December 31, 2007
During the quarter, a Solicitation Evaluation Committee was formed and an initial teleconference scheduled for May 17, 2006. Members of the Evaluation Committee include the following persons:

1. Richard Sedano- Regulatory Assistance Project
2. Brad Johnson- ACN Associates and DOE Advisor to MADRI
3. Dennis Moran- Regional CHP Application Center
4. Dan Rastler- Electric Power Research Institute, Palo Alto Ca.
5. Joseph Carpenter- NJ Department of Environmental Protection
6. Scott Gebhardt- Pennsylvania Office of Environmental Protection
7. Joseph Sullivan- New Jersey Institute of Technology

In addition, the following members of the New Jersey Clean Energy Program Staff at the BPU will serve as ex-officio members of the Evaluation Committee.

- Michael Winka
- Sharon Wolfe
- Mona Mosser