

National Grid's Smart Grid Pilot Proposal
SUMMARY – Massachusetts DPU filing
March 31, 2009

This proposal addresses all requirements set forth in Section 85 of the Green Communities Act, including a smart grid and basic service rate alternatives with time-differentiated pricing.

National Grid proposes to implement the Pilot in the northwest part of Worcester, in a thirty square mile area which includes Webster Square, Tatnuck Square, and Airport Hill. The area's approximately 15,000 residential and business customers will all receive Smart Grid technology (applicable metering and communications devices) and will be enrolled in the alternative basic service pricing unless they opt out.

Through advanced metering and a variety of communications options, the Pilot will provide extensive information to customers on their electric usage, and tools for managing it as well. These tools can, for example, enable a home area network, provide automatic monitoring and optimization of appliances, and enable embedded demand response for the benefit of customers and, on a larger scale, National Grid's system requirements.

The Pilot will also enable National Grid to better understand operational conditions on its electric system. National Grid will be able to review near real-time operating conditions and begin to analyze the conditions on its system, capitalizing on the greater amounts of data that will be captured as the Pilot proceeds. In addition, National Grid will be able to monitor the impact of customer actions on the operation of the local electric grid. National Grid hopes to gain a better understanding of large scale customer shifting of loads from one period to another as well as the impact from general reductions in use that may occur with the implementation of rates and customer tools in this Pilot.

National Grid proposes to offer three new basic service rate alternatives to further encourage customers to take full advantage of the Pilot's technology that they will have at their disposal and the knowledge it will provide: a critical peak pricing program, a peak time rebate program, and an hourly pricing program. Through the Pilot, customers will be able to either shift their usage of electricity to lower cost periods or use less electricity overall, thereby saving money and providing environmental benefits.

National Grid estimates that the Pilot will have a total cost of approximately \$56.4 million, of which \$51.2 million is capital-related. National Grid will recover this cost through basic service rates, as provided for by Section 85 of the Green Communities Act. National Grid anticipates that a full roll-out of Smart Grid in its service area would cost substantially less per customer for two main reasons.

First, some of the necessary main back-office components of Smart Grid are designed to allow for large-scale deployment. National Grid proposes to use these components in order to evaluate the actual technologies that would be used for large scale deployment. Second, the cost of other equipment and associated software will be much lower when acquired in large scale.

The federal government is making available \$4.5 billion for smart grid programs throughout the United States. The federal American Recovery and Reinvestment Act of 2009 allotted this money to the Department of Energy (“DOE”) to implement smart grid programs authorized by the Energy Independence and Security Act of 2007. These include smart grid technology research, development and demonstration projects, and federal matching funds for smart grid technologies. The application guidelines, including scope and the funding allocations, are still in development. National Grid anticipates that the DOE will administer the funds by a competitive bid process and require a fifty/fifty cost share. As described in this filing, National Grid believes that its proposed Pilot will be consistent with DOE’s requirements. National Grid is extremely interested in applying for federal funds in cooperation with the Commonwealth to expand this pilot for the benefit of Massachusetts customers. Accordingly, National Grid respectfully requests expedited review of the proposed Pilot in order to be in the best position to be successful in applying to DOE for federal stimulus money.