



## Request for City Council Committee Action From the Department of Public Works

**Date:** August 3, 2009  
**To:** Honorable Scott Benson, Chair Health, Energy and Environment Committee  
**Referral:** Honorable Paul Ostrow, Chair Ways & Means Committee  
**Subject:** **American Recovery and Reinvestment Act – Smart Grid Demonstration Project Grant Application**

**Recommendation:**

- a) Authorize proper City Officers to submit necessary documents to support the City of Minneapolis in being a partner with Xcel Energy in submitting an American Recovery and Reinvestment Act (ARRA) grant application to the U.S. Department of Energy for a Smart Grid Demonstration Project in Minneapolis.
- b) If awarded, authorize proper City Officers to negotiate and execute all agreements as required to receive and execute the grant.
- c) If awarded, authorize the use of up to \$200,000 of the 2009 capital budget (Department 9010923 Project CPSD11) to fund the City's contribution to project.

**Previous Directives:**

None

**Prepared by:** Greg Goeke, Director of Property Services, 673-2706

**Approved by:**

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Steven A. Kotke, P.E., City Engineer, Director of Public Works

**Presenters:** Greg Goeke, Director of Property Services

**Reviews**

Permanent Review Committee (PRC):	Approval <b>NA</b>	Date _____
Civil Rights Approval	Approval <b>NA</b>	Date _____
Policy Review Group (PRG):	Approval <b>NA</b>	Date _____

**Financial Impact**

No financial impact – **Utilize existing capital funding (2009)**

Action is within the Business Plan

Action requires a change to the Business Plan

Request provided to the Finance Department

### **Community Impact**

Neighborhood Notification:

City Goals: Enriched Environment

Comprehensive Plan:

Zoning Code:

### **Background/Supporting Information**

Through the Federal American Recovery and Reinvestment Act, the Department of Energy has released a Smart Grid Demonstration competitive grant opportunity. Xcel Energy is developing a grant application in possible partnership with the Metropolitan Council, the City of Minneapolis, Hennepin County and the University of Saint Thomas. The objective of this proposed smart grid demonstration project is to evaluate the ability of battery storage and customer load management to mitigate the variability effect of solar generation on the distribution system by firming up intermittent solar generation and extending the output to cover the entire peak load window.

The main hypothesis behind this demonstration is that the value of PV generation can be maximized if utilities can rely on consistent output from the solar-battery combination during the peak load window, which is between noon and 8pm on average in the Northern States Power (NSP) Minnesota service territory.

The proposed demonstration area includes the City's Currie and Royalston Maintenance Facilities. Grant funds would be used to pay for one-half of the anticipated costs for purchasing and installing a 40 Kw solar PV system on each site in 2010-2011. It is anticipated that Xcel Energy will also be offering solar rebates of \$2 per Kw of solar energy that will also lower the price. The net result is the City would provide about 25% of the total costs for the solar PV systems on the City's facilities. Estimated total costs to the City are projected to be \$160,000. Estimated savings (at 2009 pricing for electricity) are projected to be \$9,300 per year. The City would own the systems. In addition, these buildings would be also participating in the grant's proposed energy load management study whereby additional savings would be gained by shedding discretionary loads as needed by Xcel during peak timeframes. This project supports the City's Sustainability Indicators of increasing renewable energy and reducing our carbon footprint.

This grant application requests \$7.5 million in total funding for the entire project with Xcel Energy providing the great majority of the 50% match requirement and the other partners will be contributing proportional funding (similar to the City) to offset a portion of the costs to purchase and install solar PV systems on their facilities Grant applications are due on August 26, 2009.

Data will be collected on the effectiveness of this combination solar/ storage / load management system in providing the desired benefits. By demonstrating energy storage technology at an appropriate scale and in a real-world operational setting, we will gain knowledge in order to deploy it in larger applications in the future and ultimately lead to more solar energy development and lower costs.

Cc: Heather Johnston  
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