



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

Date: July 26, 2010

To: Honorable Elizabeth Glidden, Chair Regulatory, Energy and Environment Committee

Referral: Honorable Betsy Hodges, Chair Ways & Means Committee

Subject: **Approval to execute Minnesota Department of Commerce Office of Energy Security grant for Solar Installations within the Energy Innovation Corridor**

Recommendation:

- a) Authorization to accept the \$1.35 million grant from the Minnesota Department of Commerce Office of Energy Security (OES) for solar power installations on public buildings within the Energy Innovation Corridor (EIC).
- b) Authorization to execute documents associated with the grant pending satisfactory review by the proper City officials.
- c) Authorization to negotiate and sign contracts with Hennepin County and the Minneapolis Park Board for disbursement of the grant funds for projects on their respective buildings.
- d) Rescind previous action of August 14, 2009 (273647) allocating \$200,000 of PSD-11 capital funds for the "smart grid" project, and that the City Council approve allocating up to \$200,000 of PSD-11 capital funds towards a city match to the OES EIC grant.

Previous Directives:

August 14, 2009: Authorization to allocate \$200,000 of PSD-11 capital funds for the "smart grid" project

Prepared by: Brian Millberg, Energy Manager 673-3024

Approved by:

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

Presenters: Brian Millberg, Energy Manager, Department of Public Works, Property Services

Reviews

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

In May of 2009, the State Legislature amended Chapter 138 of State law, directing \$3 million to the cities of Minneapolis and St. Paul for solar energy including innovative battery storage installations on public buildings along the Energy Innovation Corridor (EIC). The EIC is ¼ mile on each side of the planned Central Corridor light rail line. The grant is being administered by the Minnesota Department of Commerce Office of Energy Security (OES), which has allocated \$1.35 million of federal stimulus funds for buildings within Minneapolis. A thorough review found eleven city owned buildings within the EIC area, and ten buildings owned by Hennepin County. City of Minneapolis, Hennepin County, and Minneapolis Park Board staff have reviewed all of these public buildings within the EIC and found that half of them were poor candidates for solar power due to shadowing from adjacent buildings. Preliminary solar availability site analyses were performed on the remaining ten of the twenty-one facilities. Of these sites, eight have been selected for solar power installations. The selection was based mainly on the each of the site's solar resources, but also included cost, age of structure and its roof, leverage of other funds, visibility, geographic distribution and public education opportunities of each site. Both solar photovoltaic and thermal systems are envisioned, with a total of 266.5kW of solar PV and 800 square feet of solar thermal collectors installed.

Site	Installation	Owner	City of Minneapolis Funds
Fire Station #1	240 sq. ft. thermal	Minneapolis	\$2,000
Fire Station #19	15.5 kW 160 sq. ft. thermal Battery Storage	Minneapolis	\$2,000
Haaf Parking Ramp	40 kW	Minneapolis	\$0
Royalston Maintenance Facility	100 kW	Minneapolis	\$104,000
2 Solar EV Charging Stations	8kW	Minneapolis	\$0
Hennepin County Government Center	40 kW	Hennepin	\$0
Hennepin County Central Library	35 kW	Hennepin	\$0
Brian Coyle Center	28 kW 400 sq. ft. thermal	Park Board	\$0

**The Hennepin County sites are tentative, pending approval by the County Board.

The City of Minneapolis would obtain 163.5 kW of solar electric power for just \$108,000. At our current electricity cost, this is a payback of less than 8 years. The solar thermal sites would have an instant payback since all of the costs would be paid by the grant. It is recommended that these City funds come from funds previously allocated in August, 2009 for a Department of Energy Smart Grid grant. The City was partnering with Xcel on the Department of Energy Smart Grid grant to implement a 1 megawatt photovoltaic system near the new Twin's stadium, coupled with a large battery storage system. The project was rejected by the Department of Energy early in 2010, freeing up the \$200,000 in City money that was allocated from the PSD-11 capital fund.

Detailed structural engineering studies must still be done on each of the eight sites to make sure the buildings can support the extra load of the solar power systems. If any of the sites fall out of the process after these studies, the Royalston facility can be expanded up to 150kW, and we have the ability to install solar power at the Currie Maintenance Facility. These expansions would require the City of Minneapolis match to rise to the \$200,000 limit requested. In addition to the City of Minneapolis match, Xcel Energy would be providing a total of \$373,500 in funds from its "Solar Rewards" program towards six of the sites. The projects are expected to be completed by September 30, 2011.

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