

PowerGrant Profiles

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SMDC Takes the LEED® in Health Care Design



PowerGrant Contact Information

For more information, please call Minnesota Power's Conservation Improvement Program toll-free at 800-228-4966 ext. 2909.

Minnesota Power provided conservation research dollars and a substantial PowerGrant rebate to help SMDC determine and then integrate the best in healthy, sustainable design, construction, operations and maintenance practices into the new 1st Street Building.

Hospitals and clinics are expected to provide a healthy environment for patients and workers. SMDC Health System takes this responsibility very seriously. Its new 240,000-square-foot 1st Street Building in Duluth is a model of "Healthy Building" design and construction that incorporates concepts, materials and systems to enhance human and environmental health.

The facility is among the first health care projects in Minnesota built to rigorous standards set by the U.S. Green Building Council for Leadership in Energy and Environmental Design (LEED®). Minnesota Power was a key partner in helping SMDC pursue the prestigious LEED® certification. Long before construction began, it provided a research grant to have The Weidt Group, an energy design consulting firm, conduct a comparative analysis that simulated and calculated the impacts of proposed energy design decisions.

This front-end energy modeling helped SMDC and its architectural team to understand, evaluate and select the

most effective set of integrated design strategies to achieve their energy and performance goals.

"LEED® certification is very difficult to achieve because the performance metrics are intensive to meet," said James Brew of LHB, the project's LEED® consultant. "It requires whole building energy modeling, so Minnesota Power's support had a major impact in getting us over the bar."

"The process encouraged us to view the building as a system and analyze how different decisions impact each other in terms of energy savings and payback," said John Rice, director of plant operations and maintenance at SMDC. "It led us in directions we might not have considered for lighting, heating, cooling and energy management."

The bundle of energy-saving strategies implemented includes broad use of natural daylighting; a building-wide T8 fluorescent lighting system with occupancy sensors and dual level switching capabilities; high performance

"Energizing Our Region" through Conservation Improvement

Minnesota Power's Conservation Improvement Program (CIP) works with local leaders, businesses, community groups, other energy providers and government entities to help customers reap the economic and environmental benefits of sustainable energy savings. Minnesota Power and its partners accomplish this through research, education, evaluation and direct impact initiatives.

Find out how you could get a PowerGrant

Minnesota Power awards grants to commercial/industrial customers who use innovative technologies, improve manufacturing processes, undertake renewable electric energy projects, or who need project design assistance. PowerGrant awards are available for a wide variety of projects employing diverse technologies.

Here are some examples of activities or products that could qualify for MP funding under the PowerGrant Program:

- New electro-technologies that lower energy costs per unit of production in a manufacturing process
- Innovative technologies that are new and underutilized in our regional marketplace
- Inclusion of energy-efficient options in the design phase of a project

Maximum annual grants are determined by a customer's average billing demand:

<i>Customer Demand</i>	<i>Maximum Rebate</i>
0 to 100 kW	\$10,000
101 to 300 kW	\$25,000
Over 300 kW	\$50,000

Customers may submit multiple grant requests.

Other MP Products and Services

In addition to PowerGrants, MP CIP offers commercial and industrial customers other energy efficiency products and services. These include energy audits, rebates, dual fuel, storage/off-peak services, outdoor and area lighting and economic development assistance.



(Top) John Rice, director, plant operations and maintenance, SMDC; (Bottom) Properly designed, sealed and insulated piping and ducting optimize the total performance of energy-efficient boilers, chillers, air-to-air heat exchangers and other HVAC components in the SMDC facility.

"Healthy Building" offers long-term, sustainable benefits...

heating and cooling equipment with variable speed motors; and load-responsive mechanical controls. These and other enhancements are expected to lower energy usage to 32% below code standards. Minnesota Power energy auditors estimate SMDC will save 1,088,500 kWh per year and reduce demand by 351 kW per month.

"This will generate substantial savings," Rice said, noting that the energy efficient design qualified for a \$45,000 PowerGrant rebate from Minnesota Power. "We've worked with Minnesota Power on many conservation improvements over the years. Their expertise helps us identify savings and see the paybacks."

"SMDC is very proactive about energy conservation and

consciously looks for ways to operate its buildings more efficiently," said Steve Lent, regional account manager, Minnesota Power. "This project was an opportunity to design and build an energy-efficient facility from the very beginning, which is much easier than trying to retrofit later. When customers like SMDC think about conservation at this early stage, there is more we can do to assist them."

The new SMDC 1st Street Building offers a healthy environment for patients and staff, long-term sustainable benefits for the community and global environment, an impressive facility to recruit top specialists, and long-term energy and money savings. With paybacks like that, other health care institutions are certain to follow SMDC's LEED®.