

PowerGrant Profiles

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Duluth Federal Prison Camp Rehabilitates Buildings for Energy Performance



PowerGrant Contact Information

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

*Chad DeRungs, Electrical Worker
Supervisor, adjusts one of the new high
bay T-8 fluorescent lights in the Federal
Prison Camp garage.*

The Federal Prison Camp in Duluth, Minn., is a sprawling complex of 62 buildings where, at any given time, approximately 900 inmates are learning skills to help them transition back into society. Some current inmates are helping prison staff rehabilitate the camp itself into a model of energy efficiency, apprenticing on projects that range from simple lighting upgrades to more significant changes to heating, ventilation, and cooling (HVAC) systems. Minnesota Power's PowerGrant program was a valuable tool in the decision to make these energy-efficient improvements.

Energy conservation is a high priority within the U. S. Department of Justice's Federal Bureau of Prisons. A new Facilities Manual outlines stringent energy performance goals for all buildings within the system. Under the leadership of Warden R. L. Morrison and the executive staff, the Federal Prison Camp in Duluth is making great strides to meet or exceed the new requirements. Its maintenance staff and Energy Conservation Committee continually look for ways to reduce waste, curb energy usage, and operate more efficiently.

"We have a lot of top-down support to improve our facilities' energy performance," said Marc Wolff, Facility

Manager. He and Chad DeRungs, Electrical Worker Supervisor, are working with Minnesota Power and its consultant Matt Haley and Associates to improve energy efficiency and lower utility costs on the compound.

The process began in summer 2006 with walk-through energy audits of two key buildings. Utility representatives visited the prison camp, interviewed facility managers and electricians, analyzed energy usage and costs for each building, and identified opportunities for utility savings.

Auditors recommended that the Federal Prison Camp replace or retrofit lights with more energy-efficient T-8 fluorescents; convert to ENERGY STAR® appliances and office equipment when making new purchases; add carbon dioxide sensors and controls; install lighting controls and occupancy sensors in multiple locations; retrofit motors with variable frequency drives; install vent dampers on boilers; conduct regular boiler tune-ups; and replace faucets and urinals with water-saving fixtures. Recommendations for the first two buildings alone could save the prison more than \$13,000 per year on its utility bills and cut electric usage in these facilities by nearly one third.

“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 Minnesota Power 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 Minnesota Power Products and Services

In addition to PowerGrants, Minnesota Power CIP offers Commercial, Industrial, and Agricultural 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.



Minnesota Power is auditing the energy usage of buildings at the Federal Prison Camp in Duluth. Pictured left to right are Matt Haley, Energy Auditor/Consultant; Marc Wolff, Facility Manager; Chad DeRungs, Electrical Worker Supervisor; and Craig Kedrowski, Regional Account Manager, Minnesota Power.

Projects save energy and money...

Part of Minnesota Power’s energy-audit service is to work with customers and prioritize improvements based on costs, impact, and payback. Energy-efficient lighting was identified as a good place to start at the prison camp. Lighting upgrades in multiple buildings, which included installation of new high bay T-8 fluorescents, are expected to reduce monthly electric demand by 13.2 kW and conserve 111,918 kWh per year. The projects qualified the Duluth Federal Prison Camp to receive \$6,479 in PowerGrant rebates from Minnesota Power. Combined with projected annual energy cost savings of \$6,063, the improvements will pay for themselves in less than three years.

“We started in areas where we could realize the most gain in terms of our costs and results,” DeRungs said. “We’re trying to do as much as we can to be cost efficient.”

Additional projects will be completed as the budget allows and more building audits are completed.

Using apprentice workers is helping to keep labor costs low, while providing valuable skills the inmates can use upon release. DeRungs and other foremen plan to attend Minnesota Power’s Building Operator Certification training, to ensure that they are using—and teaching—best practices at the prison.

“The Federal Prison Camp in Duluth is being very proactive,” said Craig Kedrowski, Regional Account Manager, Minnesota Power. “They are getting the appropriate training so when we are done with the auditing process their people will be able to carry the conservation banner forward without a lot of help.”