Herbert Service Center
Is a Model of Energy Efficiency

Viewed from the outside, Minnesota Power's Herbert Service Center (HSC) in Duluth is a typical, 1970s-era office and garage complex. Open its doors, however, and you'll quickly learn that this unassuming structure houses some of the most cutting-edge, energy-saving technology on the market.

Recent remodeling has transformed the engineering and customer service offices in the HSC facility to a demonstration site for high-performance fluorescent lighting, passive solar energy and resource-efficient heating, ventilation and cooling (HVAC) systems that reduce electrical demand and usage. Minnesota Power is monitoring, measuring and tracking the savings generated by the various technologies and strategies, hoping results will encourage customers to make similar energy improvements.

"Leading by example sends a powerful message," said Timothy Gallagher, program manager for Minnesota Power's Conservation Improvement Program (CIP). Through CIP, Minnesota Power distributes hundreds of thousands of dollars in PowerGrants each year to commercial and industrial customers who install energy-saving equipment or implement conservation measures in their operations. "CIP dollars also helped us convert our own facility into a demonstration site where we can test resource-efficient products and systems in practical applications and share results with customers," Gallagher added.

Lighting is a good place to start for companies seeking energy improvements. The HSC remodeling project replaced bulky, T-12 fluorescent lights with high-output T-5s and electronic ballasts. Using one-third fewer fixtures, these new lights provide more lumens at the workspace level than their predecessors. They also are positioned in zones and equipped with occupancy and photocell daylight sensors so that lights are automatically dimmed or brightened based on room use and time of day.

Two unique passive solar energy technologies help bring natural light to dark or windowless parts of the building. In one room, a LightLouver™ Daylighting System installed at the top of several nine-foot windows harvests light and reflects it deep into the room. Traditional blinds cover the window bottoms to reduce glare and harsh lighting. Vellux Sun Tunnel™ technology brings natural light to a

Prior to ceiling tile installation, it is easy to see how Vellux Sun Tunnel™ skylights draw natural light from the roof into windowless interior rooms using reflective tubes.

MP’s newly remodeled Herbert Service Center in Duluth is a demonstration site for energy efficient technologies.

For more information, please call Minnesota Power's Conservation Improvement Program toll-free at 800-228-4966 ext. 2902.
windowless work area through a tubular skylight.

Another innovation in the HSC building is a rooftop-mounted HVAC system with economizers to draw outside air when appropriate conditions exist. New galvanized ductwork distributes conditioned air more efficiently, and carbon dioxide sensors in the dampers override minimal settings so the system automatically brings in more fresh air when spaces are occupied. HVAC equipment is tied into an Energy Management System (EMS) that automatically controls space conditions so equipment is turned off when it is not needed.

The combined lighting, HVAC and EMS improvements are expected to reduce electric demand at the facility by 53.6 kW. They also will save 431,956 kWh per year, which would translate to a cost savings of $12,138 for a Minnesota Power customer employing similar measures.

Minnesota Power personnel and consultants who work with the CIP program are excited to have this model facility. "It is an opportunity to show off energy-saving technology that we discuss with customers in the field," said Craig Kedrowski, a regional account manager for Minnesota Power. "From a credibility standpoint, it is important for us to 'walk the talk.'"

Gary Olson, an energy consultant with Matt Haley and Associates, agreed. "We’re out there pushing these technologies, now we can physically show contractors and customers how we are putting them to work and provide compelling data about their performance."