

*“One of the Catholic Benedictine values that guides us at The College of St. Scholastica is stewardship, which includes environmental stewardship. The college has a history of environmentally progressive policies and practices, ranging from the care of our grounds to the way we run our food service. The construction of new facilities is considered an opportunity to promote and pursue a sustainable future at the college.”*

*Larry Goodwin, President,  
The College of St. Scholastica*

### Science Center Expansion Is Textbook Sustainable Design

Building science rules in the newly expanded Science Center at The College of St. Scholastica. The state-of-the-art project was designed and constructed for optimal performance, from the building envelope to all of the systems that heat, cool, ventilate, power and light the educational facility. Minnesota Power's **power of one** energy conservation team was in on the ground floor, providing St. Scholastica with tools and resources to make effective energy choices to save energy, lower operating costs and support the college's sustainability mission.

The \$15.6 million project added a 40,000-square-foot wing to the college's existing Science Center, which was built more than 40 years ago to accommodate 800 students. That is about one-third of the number served today. With many St. Scholastica students pursuing careers in the sciences, health professions and medicine, an updated Science Center was important to the college's continued success.

The addition features new laboratories for chemistry and biochemistry, research areas, classrooms, faculty offices, an atrium-style gathering area, a greenhouse, tunnels between buildings and advanced environmental and sustainable technologies. It was timed to open during St. Scholastica's centennial celebration in 2012, positioning the college to remain one of Minnesota's top health science institutions in the next century and to demonstrate a commitment to the value of natural resources.

St. Scholastica officials decided early to make the Science Center expansion a model of energy and resource efficiency by following the United States Green Building Council's rigorous Leadership in Energy and Environmental Design (LEED) specifications. LEED promotes a whole-building approach to sustainability by recognizing performance in sustainable sites, water efficiency, energy and atmosphere, materials and resources, and indoor air quality.

Minnesota Power was invited into the process at the very beginning to share its expertise in energy conservation and related technologies. The utility has a longstanding relationship with St. Scholastica and has worked with facilities managers on other energy efficiency efforts over the years, including ENERGY STAR®-rated building projects and numerous lighting and HVAC upgrades throughout the campus.



The new Science Center expansion at The College of St. Scholastica is a model of energy efficiency. Minnesota Power helped the design team identify energy- and cost-saving measures and provided funds for enhanced commissioning of the facility.



Natural daylighting, energy-efficient lighting, and lighting controls in the atrium-style gathering area save energy and create a bright, attractive environment for students.

#### For more information:

Take the first steps toward managing energy use and costs at your business. Learn more about **POWERGrant**, Minnesota Power's commercial, agricultural and industrial energy conservation program, and fill out your free online pre-application form.

Phone: 218-355-2909  
[www.mnpower.com/onebusiness](http://www.mnpower.com/onebusiness)



"Minnesota Power brings a lot to the table with design assistance, rebates and support for commissioning," said Tom Brekke, director of facilities for St. Scholastica. "We brought them in during the design stage to look at what we were trying to accomplish and identify ways to save energy."

Energy consultants from Minnesota Power worked with the design team to integrate energy-efficient lighting, lighting controls, NEMA premium motors, variable frequency drives, air conditioning, variable air volume boxes, energy recovery units and a comprehensive energy management system into the project.

These technologies are expected to save 311,938 kWh in electricity per year, lower demand by 40.5 kW per month, and help the college avoid more than \$14,500 in energy costs and more than \$2,000 in maintenance costs annually. The savings combined with PowerGrant rebates will bring payback to less than three years.

Minnesota Power also provided incentives for enhanced commissioning by a third-party agent. Commissioning is a process that evaluates and verifies energy performance against defined criteria. It begins in the design phase, runs through construction and continues after a project is completed to ensure systems work together as expected.

"Commissioning is an excellent idea," said Gary Olson, of Energy Management Solutions, an energy conservation consultant for Minnesota Power. "Third-party oversight of the design and construction process helps make sure everyone is on the same page as the project develops and often leads to better, more energy-efficient buildings."

The new Science Center actually is exceeding defined energy goals. The college will continue to advance and refine energy-savings goals campus wide, tapping into a shared sense of purpose and community. This is a common theme of Minnesota Power's **power of one**...it begins with you strategy.

"Energy efficiency is part of the culture here," Brekke said. "Minnesota Power is a strong partner in improving the energy performance of our buildings. Working together has a positive impact on our campus and community."

*"St. Scholastica's Duluth campus has seen many environmentally friendly initiatives. In addition to the state-of-the-art, energy-efficient design and construction of the Science Center expansion, these include creation of the first pervious parking lot in the region, bio-filtration ponds that handle runoff before it reaches Chester Creek, elimination of the purchase of foam containers, continuous tree planting, streamlined recycling initiatives, food composting and more."*

*Larry Goodwin, President,  
The College of St. Scholastica*