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Energy Design Conference PROFILE

Business Energy Audits • Project Design Assistance • Conservation Rebates • Grants

Commercial Track: *Commissioning and retro-commissioning among featured topics.*

Energy-conscious building design often involves integrating new or existing systems in unique ways. As buildings become more complex, it is increasingly important to ensure that all systems—heating, ventilation, air conditioning, electrical, lighting, plumbing, building envelope, etc.—work together for maximum performance.

One way to do this is through commissioning, a systematic process of assuring by verification and documentation that all building systems are installed properly and interact in ways that meet the design intent and operational needs. It includes training of building operation personnel on all equipment and systems to achieve consistent long-term results. The objectives are to improve the building turnover process from contractor to operator, verify system performance, reduce contractor and designer callbacks, ensure proper long-term operation and conserve energy.

Commissioning was a popular topic at the 2009 Energy Design Conference and Expo, held at the Duluth Entertainment Convention Center (DECC) in March. This year's conference offered a new track specifically focused on improving the energy performance of commercial facilities.

Rebecca Ellis, president of Questions & Solutions Engineering, Inc., and a nationally recognized leader in the commissioning industry, was a featured speaker. Her presentations, *Commissioning and Retro-Commissioning* and *Commercial HVAC and Commissioning*, walked attendees through the commissioning process with examples of real-world projects, including information currently being gathered at the DECC itself.

Ellis and her firm have spent months meeting with designers, contractors, the building owner and maintenance personnel, reviewing historical information about the DECC, poring over plans for a multimillion-dollar expansion, and documenting the facility's growing maze of equipment, systems and processes.

It is part of an extensive commissioning and retro-commissioning project that will help DECC owners and operators determine whether all systems—old and new—will perform as intended when the expansion is completed. Retro-commissioning applies the same principles and processes as commissioning to adjust and optimize existing systems.




The 2009 Energy Design Conference offered a new track to help participants improve the energy efficiency of commercial buildings.

Learn more about **POWER***Grant*.

Minnesota Power's Conservation Improvement Program
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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 POWERGrant can help you.

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 is 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

"The DECC was built in pieces, so part of our job has been to look over all of the systems in each building, determine their original intent, and validate their performance through testing," Ellis said. "We're taking all of the pieces and parts and putting them back into a campus-wide 'systems' arena to determine how everything works together."

Minnesota Power is funding research through its commercial conservation program to determine whether commissioning and retro-commissioning at the DECC improves energy performance. The DECC is a good candidate because it has many energy-consuming systems, has had multiple renovations, and is in the midst of an expansion that will integrate new systems.

The DECC owner chose to incorporate commissioning very early in the process—from the preplanning stages of the new construction portion of the project—to ensure maximum benefit.

Adding a commercial track to the annual Energy Design Conference reflects growing demand for energy-efficient commercial facilities. More building owners now recognize the long-term benefits of energy efficiency and are choosing to build and retrofit their facilities to standards such as the State of Minnesota Sustainable Building Guidelines (Buildings, Benchmarks & Beyond) and the U.S. Green Building Council's Leadership in Energy and Environmental Design (LEED) Green Building Rating System®.

"We're hoping to educate commercial builders, property owners and facility managers about the value of energy efficiency and the importance of contacting Minnesota Power early in a project for maximum energy savings and rebates."

Tim Gallagher, Minnesota Power

"Commercial construction professionals who understand high performance design and construction have a competitive advantage," said Tim Gallagher, program director of POWERGrant, Minnesota Power's commercial conservation program. "The commercial track is a new tool to help participants grow their businesses."

Other commercial topics included commercial energy management, common energy-efficiency projects and their evaluation, LEED case studies, daylighting fundamentals and energy-efficient commercial lighting.

"Response to the new commercial components of the Energy Design Conference has been very favorable," Gallagher said. "We're already working to expand offerings for next year."

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