The University of Montana in Missoula, Montana decided to re-commission the 110,380-square-foot Gallagher School of Business Administration Building. The University wanted to determine the value of re-commissioning a relatively new building with complicated HVAC and control systems. The facility was built in 1997 and was originally commissioned late in the process, during initial occupancy, to confirm HVAC systems, equipment, and controls were installed per the contract documents.

The University partnered with the Montana Department of Environmental Quality to initiate a commissioning study to identify the problems and diagnose corrective action. The Montana DEQ, with funding from the Northwest Energy Efficiency Alliance, and support from US DOE’s Rebuild America Program, developed a scope of work and contracted with a local commissioning provider.

The Gallagher School facility contains classrooms, lecture halls and offices on four levels. The building’s complex HVAC system was designed to be a state-of-the-art energy-efficient system. Operational problems and occupant complaints started to surface after several years of use. The re-commissioning concentrated on the operation and performance of key HVAC systems and controls. The re-commissioning project identified, diagnosed and pro-

This is one in a series of case studies on commissioning. To review other case studies go to www.betterbricks.com/commissioning.
vided recommended corrective action of 346 problems including damper and linkage binding that prevented full opening and closure, leaky or non-closing valves, plugged filters, and calibration and adjustment of controls connected to equipment.

It is interesting to note that 87% of the potential for energy savings found in the re-commissioning project were attributed to systems that had been manually overridden to “occupied” mode and never returned to the original scheduled settings.

As a result of the re-commissioning and a payback analysis, Montana DEQ recommended that the University have the Gallagher Building re-commisioned on a three to five-year cycle to keep the building performing efficiently.

LESSONS LEARNED

• Even commissioned buildings may need to be revisited over time. Re-commissioning is required for complex HVAC control systems on a periodic basis to help assure the building operates efficiently and meets the building owner needs.

• Re-commissioning may be needed sooner if the original commissioning begins after the design phase.

• Re-commissioning can address many of the reoccurring changes associated with building operation, performance, comfort and use.

“Although many of the design problems were identified during original commissioning, the problems were not adequately addressed and, as a result, those problems became apparent again during the re-commissioning of the building.”

- John Phillips, P.E., Facility Improvement Corporation

COMMISSIONING BENEFITS

- Reduced energy costs (operating costs)
- Increased occupant comfort and indoor air quality
- Reduce operational deficiencies through enhanced maintenance.
- Fewer occupant complaints

PROJECT PARTNERS

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Gallagher School of Business Administration Building