



University of Colorado at Boulder

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### **Sustainability Focus on Building Operations and Maintenance**

Within the past five years, Facilities Management Operations has established a strong focus on preventative maintenance by dedicating resources and formalizing the responsibilities of specific work areas within the organizational structure.

Over the last five to six years, the sustainability focus has led to the campus completing the recommissioning of nearly of all campus buildings mechanical systems (HVAC). Recommissioning of the HVAC systems has resulted in improved occupants' comfort and energy conservation. Although not directly related to the recommissioning process, water conservation retrofits have been installed in nearly all campus restrooms.

In addition to recommissioning work, the campus uses the Building Automation Systems (BAS). This system serves as an effective tool for trouble shooting and Measurements and Verification (M&V) of building operations with the campus goal of achieving sustainable operations and maintenance. Each building's energy and water usage is monitored, creating a trend aimed at troubleshooting operational problems within individual buildings and identifying potential issues that cut across multiple buildings ([www.colorado.edu/conservation](http://www.colorado.edu/conservation) see building energy usage graphs).

Maintenance operations using a sustainability focus has resulted in a variety of operations and maintenance changes across campus. One example of this shift would be the change in campus lighting standards that now incorporate the need to avoid lighting pollution. This change in standards results in the choice of alternate lighting fixtures, selection of right-sized and right-type light bulbs and reduction of hours of operation to meet specific needs.

Sustainable goals have been incorporated into green cleaning products, with these materials becoming an integral component in campus efforts to strengthen indoor air quality. This manifests itself in the on-going use of green cleaning materials by building operational staff. Additionally, the support from the green purchasing policy ensures that proper cleaning materials continue to be purchased and used. Ongoing feedback from building occupants using surveys and trends analysis continues the focuses on comfort and IEQ. Other examples include: lighting upgrades, lighting control, building envelope improvements (weather stripping, adding insulation, thermal imaging), demand control, temperature set back, to name only a few.