

RCx Update FY21

Since August 2007, the Retrocommissioning (RCx) team has completed thirteen years of operation on campus in over 80 campus buildings covering 10 million square ft. of campus space. We have avoided more than **\$84M** in utility costs considering the campus fully loaded utility rate. We continue to accrue and maintain significant energy usage reductions (**average of 27%**) on our retrocommissioned buildings. This rate of energy reductions has been generally maintained over the years. More investment in preventative maintenance and larger projects will be needed going forward to achieve larger energy conservation results.

Newer items we are working on this year include a focus on labs and fume hoods. Over \$20M per year are spent on utilities in campus lab buildings with an average fume hood operating cost of \$3k-5k/year. There are over 1700 fume hoods on campus and significant dollars can be saved if we can get the cooperation of users to shut off fume hoods or identify fume hoods which are no longer in use.

The Natural History Building is a **terrific example**, we worked with the Division of Research Safety (DRS) and the researchers in the building to identify lab spaces that were only used as labs for shorter periods throughout the year. To accommodate the occasions when fumes are present, "Lab-override" occupancy buttons were added and lab exhausts were reduced the remainder of the year. These modifications along with other optimization principles reduced energy consumption to roughly half of previous usage.

RCx is **currently moving** into Turner Hall and already identified many savings measures within the lab spaces and mechanical systems which will improve efficiencies and help prepare this structure for a potential ESCO project.

The Department of Athletics Bielfeldt Administration Building and the State Farm Center are future RCx projects.

Auxiliary units such as Housing are seeing the benefits of retrocommissioning, as is evident by their 1st two locations, Student Dining and Residence Programs Building and Nugent Hall. They are RCx's latest success project stories where the team identified and corrected mechanical system inefficiencies, that are yielding significant decreases in energy consumption and improved occupant comfort.

Over the past several years, we have been working with various campus constituents in order to reduce energy consumption in several buildings and to resolve various maintenance problems. We would not be as successful as we have been without **their participation** in the retrocommissioning process. Such cooperation is imperative to achieve remarkable results. **Together**, we have implemented significant energy savings schemes in almost every building. The new Integrated & Value-Centered Budgeting model, means these utility savings will be realized by the departments.

If there are energy conservation items that warrant attention, please drop me an email khelmink@illinois.edu.

A 42% reduction in EUI (btu/ft²/yr) has been achieved since the 2007 baseline. The following pages show some of the impressive results the University has accomplished. Retrocommissioning is grateful to join forces with the many other energy conservation efforts in motion on campus. We hope that FY21 will prove to be another rewarding year.

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P.S. Our RCx web page can be found at: <http://www.fs.illinois.edu/retro>