



# Commissioning

## **WHY**

High performance and low operating costs shouldn't just be taken at face value – there is always an opportunity for savings in both old and new buildings. Commissioning (Cx) is a great tool that can help your team develop and assure a high-performing building, with real savings recognized in reduced energy usage, lower operating costs, and improved building systems. Commissioning can help you ensure that buildings are running efficiently and safely for the people inside. If you're looking to optimize an already existing building's performance, "retro-commissioning" (RCx) is the term used and is one of the most effective ways to reduce energy consumption.

Whether your goals include cost-savings, efficiency, or complaint-free operation of your systems, Commissioning provides a quality control process across the breadth of your project from initial design to implementation to troubleshooting after completion. With the greater sophistication of modern systems comes greater complexity throughout your building. A commissioner works on your behalf to communicate and problem-solve with architects, engineers, and trades to ensure your building runs at its optimal efficiency - and with top grades from the occupants.

**SAMPLE REPORT** 

## HOW

Our commissioning process draws on our extensive design, construction, and troubleshooting experience, allowing us to expose issues before they occur and correct hidden problems. Our team can test all unique and critical equipment, lighting and controls, HVAC, plumbing, electrical systems, the building envelope, and any building equipment that contributes to energy usage. We will work with you to determine what tests would be most beneficial to you and your building performance.

Our process allows us to see each test that we run in context within its complete system, which increases understanding, minimizes errors, and maximizes the results you see. We believe commissioning should be utilized with new construction as soon as possible during the design phase. This guarantees decisions made early in the design phase won't have to be reversed or changed if better options and systems are identified.

Retro-commissioning (RCx) can be performed on buildings your business already inhabits. We like to think of RCx as an opportunity for an incredibly indepth tune-up of the systems in your building, moving the equipment closer to its intended operational function. It will also identify changes or upgrades to improve operations. Our team likes to pay particular attention to the realities of the people who work in your facility, the equipment occupying the space, and any budget constraints in place when bringing older systems back to peak performance.

## **FREQUENTLY ASKED QUESTIONS**

## What kind of return on investment can I expect?

We've often found that retro-commissioning projects can result in an ROI of fewer than 18 months.

# What kind of energy reduction could I expect?

Energy reduction is difficult to quantify for new construction projects since there are no utility bills to compare old versus new consumption. Nonetheless, we regularly see thousands of dollars of annual savings come to life with each project.

Energy reduction for existing buildings can range from 3-25% of annual utility expenses.

# Why bother using a commissioning agent?

For larger projects, hiring a commissioning agent is often required by code.

The Cx agent acts as an unbiased expert consultant who helps professional designers and tradespeople communicate and work together for optimal building performance.

When problems arise, the Cx agent helps all stakeholders involved in a project share information effectively to solve them efficiently and quickly.

Cx services save more than they cost – and that doesn't count saved headaches.

#### **BENEFITS**

- Better overall building performance
- Improved efficiency of existing equipment
- Compliance across systems
- · Cost-savings on energy
- Troubleshooting of problems

## **CASE STUDY**

## Client Profile

Newly constructed high school building.

## The Problem

During an icy winter weekend (-10 F), a water coil on the high school roof froze and burst. The general contractor and mechanical contractor could not figure out what caused the costly leak. Diagnosing the problem would require gathering all of the parties involved in the building's initial construction to troubleshoot.

## The Solution

Foresight called a round table meeting with the controls contractor, the mechanical contractor, equipment specialists, and general contractor. We facilitated discussing every aspect of the system and project plan step by step to determine where the problem occurred. As a result, several issues were exposed, including discovering that a portion of the building was piped backward, resulting in the coil not receiving hot water when necessary. This was a costly but correctable error. The commissioning agent acted as a catalyst for uncovering the problem and initiating a solution.

