

**GLENBROOK HIGH SCHOOLS
District Business Office**

**TO: Dr. Mike Riggle
Hillary Siena**

FROM: Kimberly L. Ptak

DATE: NOVEMBER 14, 2011

RE: CONSENT: RETRO-COMMISSIONING GRANT

Recommendation

It is recommended that the Board of Education accept a grant for retro-commissioning work at GBN and GBS.

Background

The district applied for a retro-commissioning grant through the Department of Commerce and Economic Opportunity (DCEO) for work at GBN and GBS. The DCEO has approved the work and assigned the grants to SEDAC for GBN and Enernoc for GBS. Both vendors meet all of the criteria set forth by DCEO, have licensed technicians on staff to perform the work and are on DCEO's approved vendor list. Under the grant, 100% of Enernoc and SEDAC's retro commissioning fees will be paid by DCEO. The fees are estimated to be \$30,000 for GBN and \$35,000 for GBS.

The work is expected to begin around December 1, 2011 and the entire process takes 18-24 months and is broken out into the following phases:

Phase 1 (12 months): Audit/Investigation – During this phase a comprehensive audit is conducted of all mechanical systems and associated control work. The goal of the investigation is to discover energy efficiency measures (EEMs). Each EEM will have an attached business case that includes the discovery, the recommendation and the payback (all less than 18 months). The goal is to find mainly low to no-cost items that result in energy savings. This phase takes a full year in order to adequately look at all heating and cooling systems.

Phase 2 (6-9 months): Implementation – All recommendations are optional; however, the district is required to spend a total of \$10K implementing some recommendations. The \$10K can be time spent by our maintenance staff or money already spent on existing service agreements.

Phase 3 (3 months): Verification and Re-measure – All items implemented will be remeasured and reverified to properly assess the savings.

RETRO-COMMISSIONING FACT SHEET

What is retro-commissioning (RCx)?

Retro-commissioning is the application of the commissioning process to existing buildings. Retro-commissioning is a process that seeks to improve how building equipment and systems function together. Depending on the age of the building, retro-commissioning can often resolve problems that occurred during design or construction, or address problems that have developed throughout the building's life. In all, retro-commissioning improves a building's operations and maintenance (O&M) procedures to enhance overall building performance.

All forms of building commissioning share the same goals: to produce a building that meets the unique needs of its owner and occupants, operates as efficiently as possible, provides a safe, comfortable work environment, and is operated and maintained by a well-trained staff or service contractor.

Why is retro-commissioning important?

Commercial buildings frequently undergo operational and occupancy changes that challenge the mechanical, electrical and controls systems, hindering optimal performance. Additionally, in today's complex buildings, systems are highly interactive with sophisticated control systems that can create a trickle-down effect on building operations – small problems have big effects on performance.

Unfortunately, most buildings have never gone through any type of commissioning process, and even well-constructed buildings experience performance degradation over time. No matter how well building operators and service contractors maintain equipment, if it operates inefficiently or more often than needed, energy waste and reliability problems can occur.

What are the benefits of retro-commissioning?

Everyone benefits from retro-commissioning. For owners, retro-commissioning reduces building operating costs that can lead to an increase in net operating income. Building managers notice fewer occupant complaints and increased ability to manage systems. Building staff receive training and improved documentation, and building occupants are more comfortable.

Cost Savings: Retro-commissioning can produce significant cost savings in existing buildings. Savings vary depending on the building type, its location, and the scope of the retro-commissioning process. A comprehensive study¹ found average cost savings in the following ranges:

Description	Range of Values
Value of Energy Savings	\$0.11 - \$0.72/sqft
Value of Non-Energy Savings	\$0.10 - \$0.45/sqft

¹

Mills, E., H. Friedman, T. Powell, N. Bourassa, D. Claridge, T. Haasl, and M.A. Piette. 2004. "The Cost-Effectiveness of Commercial-Buildings Commissioning," Lawrence Berkeley National Laboratory. <http://eetd.lbl.gov/EMills/PUBS/Cx-Costs-Benefits.html>