



## ATLANTA FDA FACILITY – GETTING ENERGY EFFICIENCY APPROVAL THROUGH RETRO-COMMISSIONING



**Southeast Region FDA Facility Atlanta, GA**

Because of higher energy costs, the Atlanta FDA facility was selected for an energy conservation project that included retro-commissioning as part of the scope in 2008. The purpose of the retro-commissioning was to identify and implement low- and no-cost energy savings opportunities. The retro-commissioning was part of an overall energy conservation project with Georgia Power that implemented other capital improvements to the facility. Those improvements included replacing old boilers and pumps, lighting upgrades and installing low flow plumbing fixtures. Sustainable Engineering Solutions was selected to perform the retro-commissioning. Partial funding of the project was provided through Georgia Power under their energy conservation programs.

### Commissioning Facts

<b>Building Name:</b>	Atlanta FDA Facility
<b>Location:</b>	Atlanta, GA
<b>Project:</b>	Retro-commissioning
<b>Commissioning Scope:</b>	Energy savings measures related to the HVAC systems and controls
<b>Building Size:</b>	162,000 ft <sup>2</sup>
<b>Total Commissioning Cost:</b>	\$44,000
<b>Commissioning Cost/ft<sup>2</sup>:</b>	\$0.27
<b>Annual Energy Savings:</b>	\$24,000 per year

\*Does not include implementation costs

Sustainable Engineering Solutions completed the retro-commissioning in April of 2009. The scope of the retro-commissioning focused on energy savings measures related to the HVAC system and controls. The facility has undergone two additions since originally constructed in 1959 and is actually three distinct buildings with separate heating and cooling plants for each building. As a large building with a high density of laboratories that operate 24 hours per day and interspersed office and administrative areas, it is easy to understand how beneficial retro-commissioning could be to a facility such as this. This building was not owned by the FDA but rather leased and therefore some of the items identified were not readily implemented under this project. Those items were brought to the attention of the landlord with the associated energy and cost savings opportunities they represent subsequent to the project.



An emphasis on optimizing the various control strategies, where practicable, to improve the energy efficiency of the controls systems was a priority throughout the process. Optimization strategies included equipment staging routines, control sensor calibration or replacement, supply air temperature reset, chilled water and hot water supply temperature reset, duct static pressure reset, and night setback and setup routines.

“With the national awareness of energy conservation driving efforts to make efficient building performance part of standard practice, the need for specialists with experience in evaluating energy consumption, performing energy audits and coordinating utility company incentives will continue to grow.”

- Ernest Lawas, PE, CCP, LEED AP, CEM

Sustainable Engineering Solutions, LLC

## Project Highlights:

- Heating hot water strategies not utilized in facility.
- Outside air temperature enable setpoint for cooling plant raised from 42°F to 53°F.
- Occupancy schedules implemented on multiple air handling systems that were operating 24/7.
- Replacement of failed temperature sensors causing mechanical cooling systems to operate when not required.
- Raising air handling unit discharge air temperature setpoints to appropriate values (from 46°F to 55°F).
- Calibration of chilled water differential pressure sensors to correct secondary pumps from over-pumping the system.
- Adjustment of boiler staging to optimize firing sequence.
- Replacement of failed duct static pressure sensor for variable air volume (VAV) air handlers.
- Adjustment of chiller staging to optimize mechanical cooling sequence and disable lag chillers when not required.