

## retro-commissioning



National Federation of the Blind Jernigan Institute  
Baltimore, Maryland

### ENERGY UPGRADES AND HVAC SYSTEM RETRO-COMMISSIONING PROJECT

Faced with high energy costs and operational issues that plagued the building since it opened, the National Federation of the Blind (NFB) and building owner Jacobus Tenbroek Memorial Fund turned to Global Facility Solutions (GFS) to provide turn-key facility upgrade design and implementation services at NFB's Jernigan Institute located in Baltimore, Maryland.

GFS teamed with Electrical Automation Services, Inc. (EASI) to develop an energy upgrade and HVAC system retro-commissioning plan to improve system operation and reduce deficiencies with the central chillers, boilers, air systems and building controls.

As part of the turn-key implementation, GFS procured and managed all subcontractors necessary to complete the recommended scope of work. EASI performed the upgrade of the DDC Control System including retro-commissioning of existing controls.

#### the NFB project plan:

- > implement piping modifications to chiller plant to improve flow & loading on chillers
- > modify heating water system to create a primary/secondary distribution system with variable speed drives & hot water reset
- > re-commission DDC controls on mechanical systems
- > re-balance air & water systems to match current building loads

#### scope of work:

- > energy auditing
- > systems engineering
- > project management
- > commissioning
- > O&M documentation
- > on-going performance measurement
- > variable frequency drives
- > DDC control upgrades
- > mechanical systems revisions
- > air & water balancing

#### engineering expertise:

"By teaming with EASI and the NFB facility group, we were able to identify significant savings opportunities within the facility and correct operational issues that have been plaguing them since the building was opened 5 years earlier," says Robert K. Calloway, PE, president.

"The key here is that it's not always the older buildings that need help, new buildings (those under 5 years of age) may have significant opportunities for energy savings as well."

#### project savings & results:

Since the turn-key retro-commissioning project began at NFB's Jernigan Institute in Baltimore, energy reports measure an 18% reduction in electricity consumption and over \$45,000 in annual cost savings. Project results include:

- > **Improved building comfort & operations**  
with corrected operations & maintenance issues.
- > **Reduced energy consumption & costs**  
with systems operating at optimal performance.

#### project value:

**\$568,000**

"As a not-for-profit organization, every utility dollar saved by the National Federation of the Blind enables the organization to re-focus those saved dollars back on their core mission," says Robert K. Calloway, PE, president.