



Vacancy sensor installation completed at Bronx High School of Science

Through the DCAS Energy Management ACE Program, funding was allocated to the Department of Education (DOE) for lighting vacancy sensor installations at 90 school buildings throughout the City. The Bronx High School of Science is one of the first schools to complete installation. As one of the larger schools in the DOE system at over 340,000 square feet, the Bronx High School of Science had 420 sensors and switches installed in 218 rooms.

Vacancy sensors are a simple and proven tool to ensure that lighting is not left on when the room is not occupied, typically saving 10% to 45% of total lighting energy use. In the case of this Bronx school, which uses over 2 million kilowatt hours annually: that's a significant savings! The vacancy sensors function by detecting the heat from people moving within an area to determine when the space is occupied. The sensors are also wireless, which makes the project installation cheaper, faster, and less disruptive.

Installation of 420 sensors and switches – including over 270 wall and/or ceiling mounted vacancy sensors and 70 in-wall sensors – took place across the High School of Science's classrooms, labs, offices, libraries, and storage spaces. The installation is comprised of both sensors and light switches; up to nine sensors may report to a single switch. Sensors are installed to operate in "vacancy" mode in rooms with windows, and "occupancy" mode in rooms with no windows (such as closets, bathrooms, or storage spaces). Through "vacancy" mode, lights must be turned on by an occupant, but then will turn off if no motion is sensed for 15 minutes – whereas in "occupancy" mode, sensors will automatically turn the lights on if occupancy is sensed. This selection of modes achieves optimal savings and code compliance, while ensuring safety and convenience in windowless rooms.

This project was funded through the ACE program, which has allocated nearly \$150 million in funds for over 80 energy efficiency projects in more than 400 City buildings. These projects are slated to reduce the City's emissions by approximately 54,000 metric tons of greenhouse gas equivalent (MT CO₂e), and provide the City with cost savings of over \$25 million per year.