State Farm Center

Building Gross Sq. Ft: 315,821

Retrocommissioning January 2021 - May 2021

Principal Building Use: Basketball and Event Arena

Building & Occupant Overview

The State Farm Center at the University of Illinois at Urbana-Champaign (UIUC) stands as a premier multipurpose venue that serves as a hub for both academic and entertainment events. Renovated in 2016, the center boasts a modern architectural design, state-of-the-art facilities, and a seating capacity of over 15,000. Primarily known for hosting Illini basketball games, the arena also accommodates a myriad of events, including concerts, graduation ceremonies, and community gatherings.

Project Highlights

- ☐ Scheduled off unneeded AHUs during unoccupied times
- ☐ Reduced the amount of outside air during unoccupied times
- ☐ Fixed several AHU issues
- ☐ Installed building static pressure sensor
- ☐ Added bowl damper control based on building pressure
- ☐ Reduced minimum fan speed for AHUs
- ☐ Reduced minimum air flow for VAVs
- ☐ Fixed several issues with graphics
- ☐ Added occupancy sensors
- ☐ Added humidity sensors
- ☐ Set stop limits on VAV damper actuators
- ☐ Added door seals and sweeps
- ☐ Calibrated VAVs and thermostats
- ☐ Replaced broken thermostats
- ☐ Fixed issues with CHW pipes leaking

Retrocommissioning Specifics & Results

Two of the four main AHUs and half of the concourse ring may be kept off in mild weather running at 30% fan speed, thus drastically improving the energy efficiency within the building

Initially all 26 AHUs had been scheduled to operate until midnight each night. This was changed to 5pm, with 7 units remaining off during the week. Additionally, an “Event Mode” switch was added to graphics to extend the runtime of the AHUs until midnight whenever the center is being used as a venue.

Overall, the Retrocommissioning Team has been successful in reducing costs by over $223,000 as of September 2023, with a projected savings of $250,000 annually, corresponding to a substantial 21% reduction in total energy