LONDON & MADISON CORRECTIONAL INSTIUTIONS

LONDON, OH | ORC156 | GUARANTEED ENERGY SAVINGS PROJECT

Brewer-Garrett

SIZE
1,360,498 sq. ft.

COST
$6,485,054

GUARANTEED ENERGY SAVINGS
$8,475,447

DURATION
29 Months

SIMPLE PAYBACK
11.2 Years

INMATE COUNT
4,500

SECURITY
Medium/Minimum

SCOPE

- Interior & exterior LED lighting upgrades
- Lighting: perimeter fence, yard, entrance roadway, parking lot, and rooftop floodlights
- HVAC upgrades
- Steam boiler economizer installation
- Air Handling Unit (AHU) replacements
- Water conservation upgrades
- Building Automation System (BAS) upgrades
- Solar thermal system & solar array installation
- Gas-fired boiler installation
- Steam trap survey & condensate replacement

The London/Madison Correctional Institutions was a combined project for two separate facilities that are located less than a mile from one another. The institutions have a combined square footage of 1,360,498 and feature both minimum and medium security inmates. Brewer-Garrett (**BG**) helped both facilities implement an energy conservation program through performance contracting. Though the project implementation for the two facilities was combined contractually, each location was considered for it's own unique solutions and upgrades to increase savings potential and maximize operational effectiveness.

Occupied Construction
IN MEDIUM SECURITY AREAS

$9M
IN GUARANTEED SAVINGS

BG administered numerous HVAC and controls upgrades throughout both facilities. London included heating hot water and chilled water pump replacements with the addition of variable frequency drives. In addition, a complete BAS upgrade was implemented. Together, these changes enabled the flow to be balanced in real time using an outside air rest schedule. Madison, on the other hand, required replacement of multiple AHUs for several dorms. In addition, an air-cooled chiller and AHUs were replaced with a new split unit AHU for the Administration building.

BG installed new domestic hot water (DHW) boilers. BG also employed solar thermal technology at both facilities to produce renewable energy. Each location was equipped with two solar thermal systems to pre-heat DHW. At Madison, both were installed at the food service centers with 15 collectors each. At London, one system was installed with 30 collectors, which has its own storage tank to continue storing pre-heated water even in times of low usage. This was done to capitalize on a larger system and support the existing facility. London also received one system at the power plant with 40 collectors, which pre-heats DHW for the entire facility before entering the newly installed DHW boilers.

BG executed interior and exterior lighting systems upgrades that included replacing and retrofitting nearly 14,000 interior lamps and fixtures. The project also encompassed zone perimeter fixture, and lighting for the yard, entrance roadway, and parking lot of the facilities.

