White Harvest Energy

CHP CASE STUDY

BACKGROUND

The Round Rock Independent School District (RRISD) Aquatic Practice Facility is a UIL competition level aquatic facility. The new facility is made up of two distinct water bodies and the support facilities and amenities required. The primary waterbody includes a 50m competition pool that provides enough space for three teams to practice crossways simultaneously. It includes two bulkheads and provides 1m springboard diving.

APPLICATION

The buildings and pools are designed to be extremely energy efficient by incorporating a CHP system that is a prototype for the district's efforts in optimizing energy performance. The CHP system will generate electricity for the facility and capture the combustion heat for efficiently warming the pools. The pools will be heated to meet water temperature standards for competitive swimming between 77° to 82° F (25°-28°C). Warmer water is less dense and therefore less friction as a swimmers body moves through it. Standard water temperatures ensure that all performances are on a level state of conditions.

SUMMARY OF BENEFITS

- Generates:
  - 480,000 kWh electricity annually
  - 432,000 Btu/hr hot water
- Reduced operating costs
- Lower reliance upon the electrical grid
- Reduced carbon footprint
- Improvement in power factor

QUICK FACTS

In Operation: April 2022

Site: RRISD Aquatic Center

Location: Round Rock, TX

Generating Capacity: 60 kWe

CHP Equipment: One 2G Energy Reciprocating Engine

Heat Recovery: Hot water

Type of Fuel: Natural Gas



PROJECT TEAM

Owner: Round Rock ISD

CHP Supplier: White Harvest Energy

Engine Manufacturer: 2G Energy

Contractor: Flintco LLC

Engineer: Encotech Engineering

Maintenance: White Harvest Energy

CHP EPA COMBINED HEAT AND POWER PARTNERSHIP

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Tennessee Advanced Energy Business Council MEMBER

2G Partner