



Photo By: Scott Weaver

Background:

The Government Employees Credit Union (GECU) is a unique and highly identifiable El Paso, Texas building. The 81,500 square foot facility was built at a cost of \$21.5M and includes an automated hydronic heating and cooling system for the executive office space and internal data centers. As a bank operation headquarters the GECU facility serves as the financial center of the El Paso community.

Location: Texas

Cooling Tons: 300

Application: Heating/Cooling

System Design: Comfort Heating/Cooling

System Pumping: Variable Primary Flow

Modules: One - Chil-Pak®
One - Boiler-Pak™



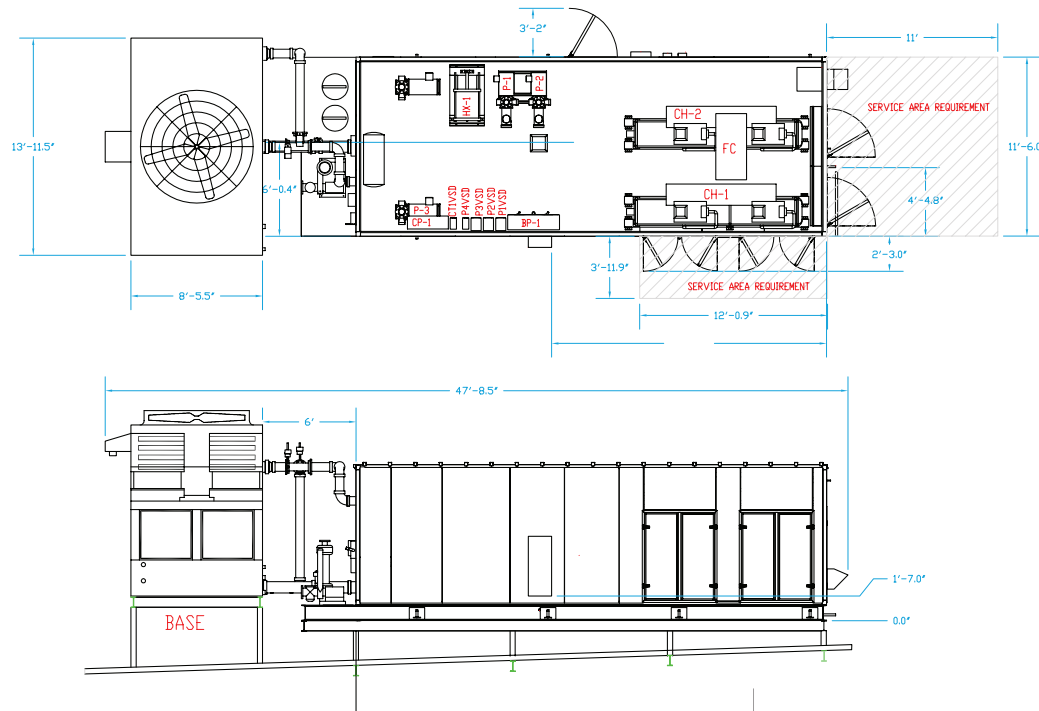
The Government Employees Credit Union (GECU) building in El Paso is an architectural landmark due to its unique design. The facility did not have space inside for the central plant and a built up central plant outside the building did not fit into the architectural design of the building. The solution was to put a central plant on the roof using a modularized solution.

Chil-Pak® was contacted to design a compact modular central plant that could be mounted on the roof. In order to provide an efficient central plant the design incorporated Chil-Pak's *Continuous Economizer Loop (CEL)*. This economizer design utilizes the heat exchanger to provide 100% "free cooling" when ambient conditions allow. The added benefit of the CEL is that it allows use of the heat exchanger to provide cooling even when the heat exchanger cannot meet the entire cooling load. This significantly reduces the ton-hours of cooling produced by the chillers during the shoulder seasons, which reduces the overall operating expenses.

The Chil-Pak® design for GECU included two 150 ton Carrier 30HXC screw chillers, redundant chilled water and condenser water pumps, continuous economizing, all variable speed pumping (both CHW and CW) and full controls for the variable primary flow system.

Challenges:

- Unique Building Design
- Space Limitations
- Roof Mounting
- Cooling and Heating Efficiency



The standard Chil-Pak® design allows any pump to be used with any chiller in order to increase both the reliability and flexibility of the system.

On the GECU project Chil-Pak® also incorporated three high efficiency natural gas fired boilers for 5,400 MBH of heating capacity. The boiler section (Boiler-Pak™) was designed to be completely separate from the chilled water system in order to better match the underlying support structure. The Boiler-Pak™ is integrated into the Chil-Pak® control system and there are redundant HW pumps.

The roof mounted Chil-Pak® and Boiler-Pak™ provide an efficient and reliable modular plant while not taking any valuable building floor space and without limiting the public's view of the GECU building's unique architecture.

Solutions:

- Design Engineering Support
- Off Site Construction
- Compact Roof Installed Design
- Continuous Economizer