



FAA - FLIGHT DATA CENTER

Background...

The Federal Aviation Administration in Fairbanks, Alaska tracks all regional flights. Run from a large computer center, the FAA required reliable year-round cooling even in minus 50°F weather.

Solution...

ArcticChill deployed a specialty air-cooled chiller with automatic free-cooling with components and controls for the ultra-low ambient conditions.

Results...

The critical computers and switchgear are being kept cool on the new dedicated system. Operational costs are reduced through the use of free-cooling during the long cold winters.

- Mission-critical cooling of FAA flight computer systems.

- Free-cooling designed for reliable operation down to minus 50°F.

- Dual lead/lag pumping system for redundancy.

- Space efficient condenser and free-cooling coils.

- Oversized receiver for use in ultra-low ambient conditions

- Microprocessor controls with remote interface in building.

- Pumps selected for use with 60% glycol.

- Panel and free-cooling valve heaters.



Critical Duty in Ultra-Low Ambient...

Data rooms don't get more critical than the FAA. With hundreds of flights crossing the Alaskan skies, reliable cooling of equipment is an absolute.

ArcticChill's solution provided cost effectiveness, redundancy and effective free-cooling - all in the MINUS 50°F ambient that is often experienced in Fairbanks.

The dual circuit air cooled chiller includes an oversized receiver, large condensers, flooded head pressure control and hot gas bypass to maintain consistent pressures across a wide range of conditions.

Glycol concentrations are maintained with a glycol feed system with integrated air-separation. Dual lead/lag pumps draw from an internal insulated and pressurized reservoir with vacuum vent and pressure relief.

Automatic free-cooling is enabled with a glycol coil and automatic motorized valve that operates when ambient temperatures permit free-cooling. The valve as well as the main panel have heating systems.

