

MORNINGSIDE CAMPUS CHILLED WATER SYSTEM

PART 1 - GENERAL INFORMATION

There is a central chilled water system on the Morningside campus.

- 1.1 Chilled water distribution within some buildings is via a secondary chilled water pumping system and plate frame heat exchanger ; other buildings utilize the main chilled water loop pressure to deliver primary loop water. Some buildings have a combination of both distribution systems.
- 1.2 The use of campus chilled water requires the approval of CUF Plant Engineering.
- 1.3 Isolation valves must be provided where supply and return piping enters the building. No equipment shall be installed between the chilled water leg and the building shutoff valves. Any other connections to the primary chilled water legs requires isolation valves and the approval of CUF Plant Engineering.
- 1.4 Chilled water is generally available from approximately April 15 thru approximately November 1 for most campus buildings and available year round for science buildings and select others. Confirmation can be provided by CUF Plant Engineering
- 1.5 The chilled water system is subject to both scheduled and unscheduled shutdowns and will go down in the event of a power failure (electrical blackout).
- 1.6 The use of centralized campus chilled water to cool laboratory equipment is prohibited when there is a process chilled water system within the building. In other buildings this chilled water use requires approval by CUF Plant Engineering.
- 1.7 Chilled water return may be used as a condenser water source with the approval of CUF Plant Engineering.

PART 2 - DESIGN REQUIREMENTS

- 2.1 The designer's goal should be to design a system that can function as close as possible to variable flow, constant temperature drop over the entire load range.
- 2.2 Where chilled water sub metering is required, the meter shall be installed downstream of the building meter. Chilled water meters shall be Flexim ADM7407 ultrasonic "strap on" style measuring flow and temperatures capable of automatically registering peak flow and totalization. Meter shall be integrated into the campus data acquisition

system through a BUDA (Building Utility Data Acquisition) panel. Coordinate all metering requirements with CUF Plant Engineering.

- 2.3 All piping and components installed in the chilled water system must be rated for a minimum of 200 psig. See section 230503 for test pressures.
- 2.4 All chilled water coils (AHU, FCU, etc), should be designed based upon counterflow principals, and selected for an entering water temperature of 45°F and a 16°F temperature rise.
- 2.5 All AHU's, FCU loops and equipment or devices consuming more than 5 tons (8 gpm) of primary chilled water shall be provided with pressure independent flow valves or pressure independent control valves. Refer to section 230523.
- 2.6 Fan coil units shall have a 3 row (minimum) high capacity cooling coil. For new building and large renovations fan coil units shall be piped in a dedicated circuit. Each circuit shall have a dedicated pressure independent valve.

REFERENCE

- 3.1 The applicable CSI Specification Section 23 05 00

END OF SECTION