

236000 Central Cooling Equipment

Sections Included in This Standard:

- 1.1 General Requirements
- 1.2 Applicable Design Standards for New Plants
- 1.3 Refrigerants
- 1.4 Minimum Efficiencies
- 1.5 Design Temperatures
- 1.6 Equipment Access
- 1.7 Chillers
- 1.8 Cooling Towers
- 1.9 Condensers

1.1 GENERAL

- A. Sizes of chillers for new plants are evaluated on need.
- B. Plants shall normally be planned for phased construction. Plant design shall be modular to allow easy expansions.
- C. All closed loop chilled water systems shall have a make-up meter installed and this meter shall be connected to the BAS system for tracking of make-up water consumption.
- D. Cooling Towers shall have make up water meters installed per the 330900 standard.

1.2 APPLICABLE DESIGN STANDARD FOR NEW PLANTS

New plants shall be designed in compliance with latest version of ASHRAE Standard 15.

1.3 REFRIGERANTS

- A. New chiller and chiller replacements shall be capable of using ~~one of the following~~ refrigerants:
 - a. That are not banned in the United States
 - i. Any refrigerant that is planned to be phased out of use in the United States within 5 years is not allowed either.
 - b. Are available for purchase in the United States
 - c. It is preferred that the refrigerant not be proprietary in nature or only available for purchase through the OEM of the chiller.

A. ~~HCFC-123~~

B. ~~HFC-134A~~

1.4 MINIMUM EFFICIENCIES

Chillers shall be designed to exceed State minimum efficiencies by at least 10%.

1.5 DESIGN TEMPERATURES

Chillers should be designed for a temperature rise, which is 2 degrees F less than that of the building load, which the chiller plant will serve. Since chiller plants are interconnected, contact Facilities Services Utilities Engineer for current data.

1.6 EQUIPMENT ACCESS

All plant equipment shall be located so as to be accessible for maintenance and replacement. It is unacceptable that demolition be required for removal and replacement of plant equipment.

1.7 CHILLERS

- A. The rupture disk (safety release) on chiller systems must be plumbed to the outdoors.
- B. Chiller piping from the safety/pressure relief valve shall be in accordance with ASHRAE Standard 15.
- C. Acceptable Manufacturers: Carrier, Trane, and York.
- D. Daiken Chillers are not preferred

1.8 COOLING TOWERS

Cooling towers shall be designed for easy maintenance to insure that they do not become a breeding area for pathogenic bacteria. Cooling towers shall be located on grade (ground level).

1.9 CONDENSERS

All condensers shall be provided with centrifugal gravity separators. New chilled water plants shall be provided with a separator to separate liquid from solids on condenser water. Provide isolation valves for servicing.

END OF SECTION