

SECTION 15680 - CHILLED WATER PLANTS

PART 1 - GENERAL

1.1 SCOPE OF SECTION:

This section contains guidelines relating to the design of chilled water plants, including water chillers and cooling towers.

1.2 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. Direct expansion units, coils, package units and fan coil units (due to their limited ability to satisfy high percentages of outside air, the resulting lack of dehumidification capability, and lack of ability to accept high efficiency pre and final air filters) shall not be used without written permission from PPD.

1.3 APPLICABLE DESIGN STANDARD FOR NEW PLANTS:

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

1.4 REFRIGERANTS:

New chiller and chiller replacements shall be capable of using one of the following refrigerants:

- A. HCFC-123
- B. HFC-134A

1.5 MINIMUM EFFICIENCIES:

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

1.6 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 PPD Utilities Engineer for current data.

1.7 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.

1.8 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.

1.9 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).

2.0 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