

Chillers

- ◆ Increase the chilled water temperature set point if possible.
- ◆ Use the lowest temperature condenser water available that the chiller can handle. (Reducing condensing temperature by 5.5 0C, results in a 20 - 25% decrease in compressor power consumption)
- ◆ Increase the evaporator temperature (5.50C increase in evaporator temperature reduces compressor power consumption by 20 - 25%)
- ◆ Clean heat exchangers when fouled. (1 mm scale build-up on condenser tubes can increase energy consumption by 40%)
- ◆ Optimize condenser water flow rate and refrigerated water flow rate.
- ◆ Replace old chillers or compressors with new higher-efficiency models.
- ◆ Use water-cooled rather than air-cooled chiller condensers.
- ◆ Use energy-efficient motors for continuous or near-continuous operation.
- ◆ Specify appropriate fouling factors for condensers.
- ◆ Do not overcharge oil.
- ◆ Install a control system to coordinate multiple chillers.
- ◆ Study part-load characteristics and cycling costs to determine the most-efficient mode for operating multiple chillers.
- ◆ Run the chillers with the lowest energy consumption. It saves energy cost, fuels a base load.
- ◆ Avoid oversizing -- match the connected load.
- ◆ Isolate off-line chillers and cooling towers.
- ◆ Establish a chiller efficiency-maintenance program. Start with an energy audit and follow-up, then make a chiller efficiency-maintenance program a part of your continuous energy management program.