

Chilled and Condenser Water Systems

Design, Performance and Commissioning Issues

Introduction



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Class Material Location

The slides and other supporting information for the class can be found at:

- <http://www.av8rdas.com/pacific-energy-center-classes1.html#Current>

They will be there until the next class, at which time they will be relocated to the PEC Class materials link from my blog

About using my spreadsheets and other resources:

- They are my tools vs. tools I developed to be used by others
- Use at your own risk; I provide them as a resource for you to use as a starting point
- You still need to understand how it works and fix it if it doesn't work for you

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Learning Objectives

After completing this course you should be able to:

1. Be familiar with how loads interact with the chilled water system serving them
2. Be aware of how critical the details of system configuration are to success
3. Be aware that the physical realities of a system can influence the way a control process will operate
4. Be familiar with various chiller technologies
5. Be familiar with various cooling tower technologies
6. Recognize how important understanding the load profile is to chilled and condenser water system design and operation

Agenda

1. Introduction
2. Where the load comes from
3. Plant configurations
4. Chillers
5. Cooling towers
6. Load profiles
7. Optional Modules (Time permitting)
 1. Pump interactions between large pumps that share common piping
 2. Distribution pump optimization
 3. Cooling tower fan speed control options and techniques
 4. Cooling tower freeze protection options