



Agenda

TC 7.5 Handbook Subcommittee

4:45 - 5:30 pm, Sunday, 21 June 2018
Palmer House Hilton
Salon 1
Chicago, IL

Objective for this Meeting: Review final edits to Chapter 42 and review progress on Chapter 61.

4:45 Call to order / introductions / changes to the agenda

Liaison Comments

TC 1.4 Control Theory and Application

TC 1.5 Computer Applications (wireless communications subsection starting at page 40.19)

TC 7.3 Operation and Maintenance Management (AFDD subsection starting at page 39.5)

4:50 **Supervisory Control Strategies and Optimization Chapter (Chapter 42 in 2015 Handbook) Revisions due March 18th**

Computerized building and energy management and control systems provide a variety of effective ways to reduce utility costs and energy consumption associated with maintaining environmental conditions and thermal comfort in buildings. These systems can incorporate advanced control strategies that respond to inputs including changing weather, building conditions, occupancy levels and utility rates to minimize operating costs, energy consumption and greenhouse gas emissions while also enhancing occupant comfort. This chapter focuses on the opportunities and control strategies associated with using supervisory control strategies and optimization methods applied to cooling systems, heating systems, air-handling units, and zone equipment.

Current Subsections: 67 pages total

Terminology 2 p

Methods 6 p

Control Variables,

Supervisory Control Strategies,

Static and Dynamic Optimization 5 p

Control Strategies and Optimization for Cooling Systems

Control Strategies for Cooling Tower Fans 6 p

Chilled-Water Reset with Fixed-Speed Pumping 2 p

Chilled-Water Reset with Variable-Speed Pumping 5 p

Sequencing and Loading Multiple Chillers 7 p

Simplified Static Optimization of Cooling Plants 9 p

Dynamic Optimization for Cooling Using Discrete Storage 8 p

Optimization for Cooling Using Thermal Mass or Tabs 8 p

Forecasting Diurnal Cooling and Whole-Building Demand Profiles 3 p

Black-Box Predictive Cooling Control Strategies 3 p

Control Strategies for Heating Systems 4 p

Control Strategies for Air-Handling Units 2 p

Control Strategies for Building Zones 5 p

5:25 **Smart Building Systems (Chapter 61 in 2015 Handbook), 18 pages total, Revisions due July 31st.**

Smart building systems are building components that exhibit characteristics analogous to human intelligence. These characteristics include drawing conclusions from data or analyses of data rather than simply generating more data or plots of data, interpreting information or data to reach new conclusions, and making decisions and/or taking action autonomously without being explicitly instructed or programmed to take the specific action. These capabilities are usually associated with software, but they can also be possessed by hardware with embedded software code, or firmware. The line between systems that are “smart” and “not smart” is blurry, and, for purposes of this chapter, does not need to be absolutely defined. The purpose of this chapter is to introduce readers to emerging technologies that possess some of these smart characteristics.

Current Subsections:

AFDD 6 p

Sensing and Actuating Systems 2.5 p

Smart Grid Basics 5.5 p

References start at p 14, 4 p

5:30 **Adjourn**

Next Meeting: ASHRAE Annual Conference, Sunday June 24th, Hilton America’s, Houston, TX