



Shaping Tomorrow's Built Environment Today

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**ENERGY MANAGEMENT
A Sub-Committee of TC 7.6
ASHRAE 2016 SUMMER CONFERENCE IN ST. LOUIS
Tuesday, JUNE 28, 2016
MINUTES OF MEETING MONDAY, JUNE 27, 2016**

6 TC members and 5 guests attended the Monday afternoon sub-committee meeting.

TC 7.6 Energy Management Subcommittee Scope

The scope of the energy management subcommittee of TC 7.6 encompasses the activities associated with the effective use and management of all forms of energy in the built environment. This includes methods for determination of building energy performance, development of metrics and databases for performance comparison and assessment, guidance and training for energy management practitioners to improve energy performance, and the monitoring of public policy that impacts the effective use of energy in residential, commercial, and industrial buildings.

The subcommittee implements this scope by developing ASHRAE programs, ALI courses, and information for the TC on energy management topics. The subcommittee interacts with the CTTC committee of ASHRAE, to promulgate successful energy management programs and practices at the Chapter level of the Society. The subcommittee endeavors to interact with other societies, government and professional organizations to facilitate the most efficient use of energy resources in the built environment.

The subcommittee meeting consisted of a review of the draft Long Term Plan developed by John Constantinide, which discussion is summarized as follows:

- I. Discussion of efforts to present at APPA at the Society level and increase collaboration with IFMA and SAME (Dick Pearson)
 - a. John Constantinide and Dick Pearson to continue working towards this

- II. Review of long-range plan and objectives (listed below) for TC 7.6 Energy Management Subcommittee (John Constantinide)
 - a. Education and Training Material
 - i. Dick presents two ASHRAE Energy Management courses (3-hr and 6-hr) at Society conferences and other events where invited.

- ii. Both Energy Management courses are part of an ALI-offered Energy Savings Practices Career Enhancement Curriculum
 - iii. Dennis is working on a slide deck (6-hr) on the ASHRAE Green Guide he is perfecting. Expecting to be finished in the next 2-3 months.
- b. Conference Programs
 - i. John put together a program in Orlando. Annie put together a program for St. Louis that was very well-attended.
 - ii. Annie putting together a program for Las Vegas. Dennis and Eric may be willing to be speakers for this.
 - iii. Annie to get in touch with Track Chair for Vegas and let Anthony York know about the session we're working on.
 - iv. Discussion of tracks planned for Long Beach conference.
- c. HVAC Applications Handbook, Chapter 36
 - i. John willing to set up the working group and is looking for volunteers. Terry Sharp, Kushagra Juneja, and Annie Smith volunteered. Nate Boyd was volunteered by John.
 - ii. Need to collaborate with Handbook subcommittee (Nate Boyd) and with ASHRAE Publications.
 - iii. Three goals with handbook changes: update energy management section, expand content to include water, connect energy and water to overall building performance
- d. Water-Energy Nexus
 - i. Need a volunteer to take ownership of research project(s) for this objective and be point of contact.
 - ii. Main responsibility would be to oversee research project submissions through the TC 7.6 Research Subcommittee and potentially through RAC.
- e. Apply Research to ASHRAE Standards and Documents
 - i. Need a volunteer for this.
 - ii. This is a long-term item as this responsibility will only come into play after the research is completed.

III. Adjourned

Respectfully submitted,



TC 7.6 Building Energy Performance Energy Management Subcommittee

Introduction

The key to the Technical Committee (TC) 7.6 Energy Management Subcommittee's success is a plan, one that addresses both short- and long-term goals and objectives. This long-term plan (LTP) will address the subcommittee's goals for the next three Society years. These goals are primarily aligned with the TC 7.6 scope, with links to the ASHRAE Strategic Plan made where possible.

Before understanding the subcommittee's goals, an understanding of TC 7.6's scope and how that is connected with the Energy Management Subcommittee is needed. The committee's scope is as follows.

TC 7.6 is concerned with the estimation, measurement, analysis, benchmarking, and management of whole building and building systems energy and water performance. This includes performance and resource management of new and existing buildings.

The Energy Management Subcommittee is directly connected to this scope through these two elements:

- *"Management of whole building and building systems energy and water performance";* and
- *"Resource management of new and existing buildings."*

These two elements, along with other elements in the scope related to building and building system energy management, provide a broad scope for the subcommittee to address. This scope will be approached in pieces in the LTP. Moreover, work accomplished by the subcommittee will be linked to the scope and LTP objectives.

Subcommittee Objectives and Plans of Action

In light of the TC 7.6 scope and the ASHRAE Strategic Plan, the Subcommittee will pursue the following objectives, with their associated plans of action, in the next three Society Years:

1. **Education and Training Material:** Develop and promote energy management educational and training material within ASHRAE and collaborating professional societies.
 - a. In line with Strategic Plan Initiative 3.D: *Professional development is a keystone of ASHRAE that can be delivered through our grassroots organization. ASHRAE will develop a comprehensive portfolio of practical applications courses intended to be delivered through our grassroots organization.*
 - b. In line with Strategic Plan Initiative 1.C: *Students and young engineers are the future of ASHRAE. ASHRAE will work with universities to develop HVAC&R-related courses for university credit, use ASHRAE publications for education, and continue to strengthen our student branches.*
 - c. Plan of Action: In concert with the ASHRAE Society and TC 7.6 leadership, the Subcommittee will work with professional societies, particularly those whose membership consists of facility managers, to increase the accessibility of ASHRAE Learning Institute (ALI) energy management-related courses to these societies' memberships. Moreover, these courses will be incorporated into a new ALI-issued Energy Efficiency and Management course track that provides a foundation of knowledge for understanding energy management and maintaining energy-efficient operations.

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- d. Assigned Point of Contact: Dick Pearson
2. **Conference Programs:** Create conference programs about energy, water, and resource management programs that inform and educate about the link between energy and water efficiency and resource conservation.
 - a. In line with Strategic Plan Initiative 3.D, the TC 7.6 scope, and the aforementioned elements.
 - b. Plan of Action: The Subcommittee will continue to work with the Program Subcommittee to organize seminar sessions about energy management in various settings, such as municipalities and campuses, with a focus on exhibiting case studies. These seminar sessions will expand to address the link between energy and water management and show both as steps towards achieving a comprehensive resource management and conservation program through the built environment.
 - c. Assigned Point of Contact: Annie Smith
 3. **HVAC Applications Handbook, Chapter 36:** Revise HVAC Applications Handbook content in Chapter 36 to update energy management sections, expand chapter to include current information about water and resource management, and connect energy and resource management to overall building performance.
 - a. In line with the TC 7.6 scope and the aforementioned elements.
 - b. Plan of Action: The Subcommittee will work with the Handbook Subcommittee to update the energy management content in the HVAC Applications Handbook, Chapter 36, and expand that chapter to include current information about water and resource management from a facility standpoint and how energy and water management is part of a larger picture of resource conservation and management at the building and community levels. The TC 7.6 Standards Subcommittee will be included in the review process to update content related to ASHRAE Standards, particularly those of which TC 7.6 is the Cognizant Committee.
 - c. Assigned Point of Contact: Working group to be organized by John Constantidine
 4. **Water-Energy Nexus:** Collaborate with the TC 2.8 Water-Energy Nexus and Green Guide Subcommittees to formulate research projects that demonstrate stronger links between energy, water, and resource efficiency and conservation.
 - a. In line with the TC 7.6 scope and the aforementioned elements.
 - b. Plan of Action: The Subcommittee will work with the Research Subcommittee, Standard Project Committee (SPC) 191P, and the Water-Energy Nexus and Green Guide Subcommittees from TC 2.8 to sponsor or co-sponsor research projects that provide quantitative and qualitative information linking energy and water efficiency, investigate what management techniques can better address both energy and water usage rather than either resource independently, and quantify how facilities with sound energy and water management practices contribute to resource conservation at the community level (e.g. watershed conservation, aquifer preservation, reduced salt intrusion on water sources).

- c. Assigned Point of Contact: To be determined.
5. **Apply Research to ASHRAE Standards and Documents:** Utilize information gained from water, energy, and resource efficiency and conservation research projects to better attribute water efficiency and resource conservation with energy efficiency and conservation in ASHRAE Standards where TC 7.6 is the cognizant committee (e.g. Standard 90.1, 90.2, 191P).
 - a. In line with the TC 7.6 scope and the aforementioned elements.
 - b. Plan of Action: The Subcommittee will work with the Standards Subcommittee to update the content of current ASHRAE Standards that TC 7.6 and 2.8 are the cognizant committees of, the Handbook Chapters overseen by TC 7.6 and 2.8, and the ASHRAE Green Guide in light of the information gained from the aforementioned research. If necessary, another ASHRAE Standard, Guideline, or publication may need to be created to properly apply the information gained from the mentioned research.
 - c. Assigned Point of Contact: To be determined.

Horizon Plan and Goals

The described Subcommittee goals, which are connected to the above objectives, will be scheduled based on the following horizon plan, as of July 1, 2016.

First Year: 2016-2017

- Goal 1: Per the Objective 1 Plan of Action, Subcommittee will already be underway with developing and promoting educational materials related to energy management within ASHRAE and through ALI. Collaborations with other professional and technical societies, primarily with a membership consisting of facility managers, will include having ALI courses offered to those societies' memberships or act as a supplement to those societies' current continuing education efforts.
- Goal 2: Per the Objective 2 Plan of Action, Programs have already been scheduled or presented addressing energy management at a large-scale and from the municipality and campus perspectives. A program is being planned that will address energy management in terms of the water-energy nexus for the 2017 Winter Conference in Las Vegas. This program, as well as other related programs, will include collaborations with TC 2.8 Water-Energy Nexus Subcommittee and TC 7.3.
- Goal 3: Per the Objective 3 Plan of Action, Handbook content in Chapter 36, as of the 2015 version, will be reviewed by a Subcommittee working group, including members from the TC 7.6 Standards Subcommittee, and redlined to address updates to energy management practices.

Second Year: 2017-2018

- Goal 1: Most of the collaborative elements in the Objective 1 Plan of Action will continue as relationship maintenance. Additional collaborations with professional societies and organizations, specifically those composed of building owners and users, will be pursued.

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- Goal 2: Using the experience of presenting energy management topics to a wide variety of audiences from the Objective 2 Plan of Action, education and training material should be further refined by Subcommittee members to cater to specific audiences, such as those managing military bases, higher education campuses, industrial parks, and laboratory facilities.
- Goal 3: A seminar session addressing the water-energy nexus should be held in collaboration with TC 2.8 Water-Energy Nexus Subcommittee, whether TC 7.6 will sponsor or co-sponsor the program.

Although this goal will complete the Objective 2 Plan of Action, programs should continue to be created to address case studies exhibiting the application of energy management principles explained in HVAC Applications Handbook, Chapter 36.

- Goal 4: Redlines from the Handbook content in Chapter 36, as of the 2015 version, will be submitted to the Handbook Subcommittee for review. The submission will complete Objective 3.
- Goal 5: Per the Objective 4 Plan of Action, the Subcommittee and the TC 2.8 Water-Energy Nexus and Green Guide Subcommittees should work with their respective TC Research Subcommittees, along with SPC 191P, to formulate Research Topic Acceptance Requests (RTAR) addressing research topics identified in the goal's plan of action.

Third Year: 2018-2019

- Goal 1: By this point, all desired collaborations with professional societies and organizations should be undergoing relationship maintenance, with Objective 1 being continued by one or more successive objectives.
- Goal 2: Programs will continue to be scheduled as a continuation of maintaining Objective 2 based on interest of various seminar topics. Focus on the water-energy nexus will shift towards research per Objective 4.
- Goal 3: Working towards the completion of Objective 4, formulated RTARs will be submitted to the TC 7.6 and 2.8 Research Subcommittees and Main Committees for review and vote. If passed by both TCs, the RTARs will be submitted to RAC for review and vote. Upon approval of the RTARs by RAC, Work Statements will be created with members of the TC 7.6 and 2.8 Research Subcommittees for future review and vote by the subcommittees and their corresponding Main Committees.

Concluding Statement

This LTP is meant to act as a framework for work to be done by the Subcommittee. Successive versions of this plan may be made to modify, update, or change the direction of the Subcommittee's work based on the TC 7.6 scope and ASHRAE Strategic Plan.