

Systems Steering Committee (SSC) Activities Update

AHRI 2016 Annual Meeting

In 2012 the AHRI Executive Committee formed the Systems Working Group, which is now known as the Systems Steering Committee (SSC). The group was formed because it had become clear to industry stakeholders that increasing energy efficiency one component at a time was not a sustainable approach and was not addressing system level interactions nor encouraging new technological solutions. Manufacturers and other industry partners understand the potential savings that can be realized by using a systems and subsystem approach, and the industry is moving in that direction with or without AHRI's invaluable leadership.

The "working group" was changed to a "steering committee" because its members recognized it would be impossible for a small group to provide the expertise required to undertake the necessary and inevitable paradigm shift our industry would face to move to a systems based approach to energy efficiency. It was recognized that this group would serve the industry by coordinating and directing the work done at the AHRI Section level to develop the necessary tools to rate and measure system efficiency.

The SSC began providing information and direction to AHRI members, which included several requests for action from the product sections and the development of overall strategic plans for system efficiency to change the current reactive mode of efficiency improvements. On the next page is a list of the product sections identified to assist with the transition to a systems approach. More recently, the SSC determined that it was necessary to clearly demonstrate the benefit of the systems approach through proof-of-concept projects. These projects will use roof-top systems, refrigeration systems and chilled water systems to show the savings possible. The relevant product sections have been identified with an "*" that will assist with the proof-of-concept projects:

Air-to-Air Energy Recovery Ventilation Equipment*
Air Conditioning & Heat Transfer Products
Air Control & Distribution Devices*
Applied Packaged Systems
Blower, Fan & Motor*
Chilled Beams*
Commercial-Industrial Forced-Air Heating
Commercial Refrigeration*
Compressors*
Controls
Datacom Cooling
Dehumidifiers*
Ductless Equipment
Furnace
Geothermal & WSHP
Hydronics Institute (HI)
Industrial Refrigeration & Heat Transfer Products*
Joint Humidifiers & Air Filtration & UV Light Treatment
Joint Unitary Large & Small Equipment*
Liquid Chillers*
Thermal Storage Equipment
Variable Frequency Drives*
Water Heaters

Below is a list of the ongoing activities of the committee:

- A [brochure](#) has been developed and distributed for members to use inside and outside of their companies to ensure full understanding of the need for and the approach to systems efficiency.
- An SSC liaison has been identified for each product section listed above to assist with systems related tasks such as the proof-of-concept projects. Requests from product sections include the following:
 - Maintain strategic plans outlining the steps needed for each product to be considered as part of system
 - Consider the use of product maps
 - Assist ASHRAE 205P, *Standard Representation of Performance Simulation Data for HVAC&R and Other Facility Equipment*, in developing an annex to identify inputs and outputs for each product
 - Review existing system guidelines that will fit the market for each product and consider writing new guidelines where needed
- Part-load and annualized metrics are being developed with relevant sections.
- Technical evaluation of IEER modifications is ongoing in consultation with the ULE Engineering Committee to prepare for a DOE notice of proposed rulemaking (NOPR) to evaluate increased ventilation operation consideration.

- System modeling tool is being developed, which will be critical to the evaluation and implementation of a system.
- The following research and development have been initiated as a result of SSC influence:
 - AHRI Research Project 8012, *Developing Fan Power Terminal Unit Performance Data and Models Compatible with EnergyPlus*
 - ASHRAE development of new climate zone maps and benchmark buildings.
- SSC members are participating with external organizations as follows:
 - [Alliance to Save Energy \(ASE\) – Systems Efficiency Initiative \(SEI\)](#) including the development of the “Year 1 Report”
 - [Consortium for Energy Efficiency \(CEE\)](#)
 - ASHRAE 205 - Development of the new standardized rating format and data exchange formats for rating equipment and components.
 - ASHRAE 90.1
 - Evaluation and possible implementation of a systems approach for chilled water systems
 - Development of baseline system models for Appendix G
- International involvement includes:
 - CEN and ISO Standards development in systems and the holistic approach to building efficiency
 - Participate in a Canadian BEEM C873 and BEEM tool development for systems analysis
 - Spread international awareness of AHRI’s SSC

This list is being provided to ensure AHRI members are aware of the activities of the SSC so that AHRI members can assist by sharing these actions inside and outside of their companies. This work is being done because it is important for our industry to maintain the ability to provide creative systems solutions for energy efficiency and avoid a future where prescriptive building design requirements stifle innovation.

The SSC would like to know what AHRI members are doing to develop more resources that promote system efficiency and learn more about the potential energy savings. We look forward to learning more from AHRI members through conversations at the 2016 Annual Meeting product section meetings.

Please contact Helen Davis (hdavis@ahrinet.org) for more information.