Paul Lindahl Liaison Reports to SSPC90.1

These reports cover the liaison roles for ASHRAE TC 3.6, TC 8.6, and SSPC 400, now responsible for Standard 188, Guideline 12, and Standard 514. TC 3.6 is the ASHRAE Technical Committee for Water Treatment and TC8.6 is the ASHRAE Technical Committee for Cooling Towers, Evaporative Condensers, and **Adiabatic** Coolers and Condensers. Under SSPC400, STD 188 covers Legionella hazards in building water systems and is informed by Guideline 12, which provides information and guidance on the control of legionellosis associated with building water systems that is useful in the implementation of Standard 188. 514 covers all building water hazards *other than Legionella* in building water systems, such as additional microbial contaminants, chemical pollutants, and scalding risks. The new SSPC 400 committee structure has now been formed and will meet for the first time at this Conference. The Technical Committees and the two project committees appreciate the opportunity to work with SSPC 90.1 and specifically the MSC.

Please see the end of this report for Committee meeting times for those on the SSPC who would like to attend and participate.

TC3.6 and 8.6

Both TCs continue to work with the Cooling Technology Institute (CTI) to enable certification of dry cooler products in the US and globally. The process within CTI has made substantial progress – the dry cooler certification program has officially launched, certification testing is in progress, and at the time of this writing there continues to be one certified line in place with other product lines still in the testing phase. Our intent continues to be to propose an addition to 90.1 when there are at least two or more participants in the program. Eurovent Certita currently has an active certification program for dry coolers. CTI and ECC continue negotiating toward joining the two programs. Note that the ECC program is a laboratory-testing based program directed at European manufacturers and has multiple participants. The CTI program utilizes full-scale unit testing both in the field and in manufacturer's laboratories, as with the existing certification programs for Evaporative Heat Rejection Equipment. We are working to propose inclusion of the new Certification Standard in the Heat Rejection Table, along with updated minimum performance requirements for dry coolers as soon as possible.

A new testing standard for **adiabatic** fluid coolers has been published by CTI. As you know, a test standard and a minimum efficiency requirement for dry coolers were added into the 2019 90.1 Standard. TC 8.6 proposed including a minimum efficiency and the accompanying test code for adiabatic fluid coolers in the heat rejection efficiency table, which was recently accomplished (Addendum "q"). In addition, the CTI plans to develop a certification program for **adiabatic** fluid coolers. **Air-cooled and adiabatic condenser** test codes and certification (for remote exchangers) are planned to follow afterwards. Note that the CTI Adiabatic Certification Standard Committee is contemplating modifying the thermal condition for adiabatic fluid coolers listed in Standard 90.1 in order to make the base condition more universal. This

Committee will likely submit a continuous maintenance proposal early in the next cycle regarding this issue.

TC8.6 has also made two continuous maintenance proposals on axial fan open-circuit cooling towers, one of which was approved by the SSPC to raise the minimum efficiencies for cooling towers to 42.1 GPM/HP (Addendum "bb"). We have also worked closely with PNNL to finalize the second proposal for a cooling tower energy credit to be voted on at this meeting. We are appreciative of the efforts by Doug Maddox and Mike Tillou in helping us to move this proposal forward. We are also appreciate of the support from John Bade on this approach and his suggestions on the performance levels to target.

Standard 188 and Standard 514

ASHRAE Standard 188-2021 and Guideline 12-2020 (for which SSPC 400 is responsible) are in place and under continuous maintenance. We intend to help SSPC 90.1 balance the often-conflicting needs for public safety and energy efficiency in building water systems. An Addendum developed for SSPC 90.1 with the Service Water Heating WG is in the 2022 edition. Note that this effort has recently moved from the Hydronics WG to the Service Water Heating WG.

Standard 514 has been published and is being reviewed by a team within the Service Water Heating Working Group for potential impacts on Standard 90.1. Standard 514 utilizes a parallel structure to Standard 188, and the requirements are complementary, with 514 referencing 188 and G12 for Legionnaires risk. The new SSPC 400 mentioned earlier is responsible for Standard 188, Guideline 12, and Standard 514.

Standard 205

Both the CTI and TC 8.6 are working with the Cooling Tower Working Group of Standard 205 to help guide their efforts in defining and developing a performance map for axial fan, open-circuit cooling towers while protecting the intellectual property of manufacturers. Once this effort is complete, performance maps for additional types of heat rejection equipment will be considered.

Future

Evaluation of existing proposals and new ones regarding equipment minimum efficiencies and other requirements for heat rejection equipment continue. It has become apparent that some significant issues exist within Energy Plus that prevent appropriate modelling of systems including cooling towers. We will be working with the modelers and those who have been using this tool to resolve the issues.

The committees appreciate the opportunity to work with SSPC 90.1. The committees request feedback or suggestions on any of the above initiatives or other issues that may be of concern to the SSPC.

Thank you.

Paul Lindahl, Consultant to SSPC 90.1
Liaison with SSPC 90.1 for TC 3.6, TC 8.6, SSPC 400 (Standard 188, Guideline 12, and Standard 514)

Committee Meeting Schedule – 2025 ASHRAE Winter Conference

TC 3.6 Water Treatment

Tuesday, February 11, 1:00 – 3:00 PM, Hilton Orlando, Lake Mizell A (Lobby Level)

TC 8.6 Cooling Towers, Evaporative Condensers, and Adaibatic Coolers / Condensers

Monday, February 10, 2:15 – 4:00 PM, Hilton Orlando, Lake Hart A (Lobby Level)

SSPC 400 Risk Management for Building Water Systems

Tuesday, February 11, 3:45 – 5:30 PM, Hilton Orlando, Lake Highland AB (Lobby Level)