ASHRAE TC8.7 Variable Refrigerant Flow Committee

TC 8.7 Variable Refrigerant Flow

Location: Webinar /Date: June 22, 2020

Call to Order: Chairman Mohan called the meeting to order

Welcome/Introductions: Chairman Mohan welcomed on attendees

Minutes Approval: Orlando Florida Winter Conference draft minutes were sent out to the committee members prior to this meeting. Minutes were unanimously approved at this meeting.

Agenda Review/Updates

Chair's Comments: Chairman Arturo was unable to attend this meeting and this was set to be his last meeting as chair. Mr. Mohan is stepping up as Chair. Mr. Andrews is coming in as Deputy Chair. Badri Patel will be stepping up as Programs Chair

Subcommittee Reports:

Handbook – Electronic version is being updated to include items that were missed in the printed version. Electronic Revision will be available for download in the ASHRAE Store

Membership – Madhav Kashinath reported that membership roster is continuing to be cleaned up and hope to be finalized in the next couple of weeks.

Programs – Badri Patel reported seminar deadline of June 15 has been extended to August.

> Madhav asked if TC8.7 can continue with SGPC 41 seminar as the committee was notified too late to be able to proceed with the seminar. Badri will work with Arturo and ASHRAE to look into how to proceed.

Research – Chris Laughman stated that the topic of load based testing has been coming up and asked if TC8.7 would be willing to sponsor a RTAR for load based testing VRF Equipment, and put together some models to look into the feasibility of load based testing.

> Vinny Albano stated that this research could be a benefit to the community. Members discussed ASHRAE 205P's work to get data models for all products. Chris Laughman stated that the models needed for this research would be more dynamic models (i.e. as the room temperature changes, what happens to the frequency of the compressor) as opposed to steady state data models. Chairman Mohan Reported that during the VRF ASRAC WG Negotiations, a group of manufacturers participated in experimental load-based testing for VRF equipment. With some challenges that were presented, the group decided to go with a Controls Verification Procedure as opposed to Load-based testing. Chris Laughman proposed to work with a small group from TC8.7 to work on a model that could capture the abilities of a VRF system in a building agnostic to manufacturer specific controls. Chairman Mohan asked for volunteers to participate in this discussion and to send an email if they are interested.

Standards – Chairman Mohan reported that SGPC 41 has become a standing committee and has held a couple of meetings since Winter Conference. AHRI 1230 has been under revision and was part of the

DOE Rulemaking last year. AHRI 1230 is almost complete and awaiting completion of some additional research. AHRI 1230 is expected to be published in 2020 but will not be immediately effective. AHRI 210/240 is published with a 2019 and a 2023 version, which is to align with DOE Appendix M1. AHRI 340/360 is also under revision expected to publish in 2020.

Webmaster – Badri Patel reported that the webpage has been updated with latest information.

Liaison Reports:

90.1 – John Cummings reports that he attended the 90.1 meetings via webinar. SSPC 90.1 Chair Drake Erbe has ended his term and new chair will be Don Brundage. Mr. Cummings reported that Addendum E went out for Public Review. Chairman Mohan stated that the addendum dealt with insulation thickness based on fluid operating temperatures. Addendum that made a distinction in type of air for ERVs in labs. Proposal for new addendum related to Hotels and Dormitories.

62.1 – Kenneth Shifflett reported that 62.1 has been talking about air recirculation and minimum humidity requires but will not impact VRF. In July, there will be a presentation made available discussing the changes from the 2016 version to 2019 version.

SPC 205P – Chairman Mohan reported that 205P is working on data models for all product types and introduced Reinhardt to provide an update on ongoing work surrounding VRF. Reinhardt state that 205P would like to develop a library of parameters that could be used in data modeling programs to determine the performance. The subcommittee decided that a collaborative effort with manufacturers is needed to be able to develop an appropriate model. Reinhardt to send presentation to be shared with TC8.7 members. Members to review and potentially schedule a meeting to discuss.

SSPC 189.1 – Doug Tucker reported that the most recent edition (2017) version can be viewed from the ASHRAE Website, but cannot be purchased from ASHRAE store in the US. The standard does contain VRF Efficiency values. The subcommittee and full meetings will be held in July and can register to attend online. SSPC1891.ashraepcs.org

SSPC15 – Doug Tucker reported that SSPC held its annual meeting on June 5, 2020. The committee has organized into several different working groups that cover portions of the standard that needs to be rewritten. 2-40, 15, 15.2 are being reviewed by group 2. The committee is considering a complete rewrite of the standard. Addendum g addresses RCL went out for APG and received comments from 43 commenters. Addendum C talks about nonflammable refrigerants and Addendum I deals with Ammonia. These are also out for review. Addendum K will be coming out for Public Review soon. 15.2 must be published or significant progress by January

MTG Low GWP Refrigeration – Doug Tucker reported not a lot of activity currently in this MTG. All of the information for this MTG is on BASECAMP.

Other Presentations/Reports:

DOE Rulemaking on VRF Equipment – Chairman Mohan presented an update on changes to the Federal Test Procedure for VRF Equipment. Some notable changes include dimensional requirements for standard 4-way ceiling cassette so all OEMs are rating their systems using the same size of indoor units

and indoor unit combination is now publicly available for transparency. This version of the FTP will also have constraints around Sensible Heat Ratio at 100% and 75% load points. A substantial change was the development of the Controls Verification Procedure to ensure the “critical parameters” that are overridden during testing to operate variable equipment in steady state operation are within acceptable ranges that can be achieved by the equipment’s controls.

Old/New Business: No old or new business was discussed at this time.

Adjournment: Chairman Mohan adjourned the meeting at 6:26 pm eastern.