TC/TG/TRG NO: TC2.7  
TC/TG/TRG TITLE: Seismic, Wind, & Flood Resistant Design  
DATE OF MEETING: 06/25/2019  
Location: Kansas City MO

<table>
<thead>
<tr>
<th>MEMBERS PRESENT</th>
<th>YEAR APPTD</th>
<th>MEMBERS ABSENT</th>
<th>EX-OFFICIO MEMBERS AND ADDITIONAL</th>
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<tbody>
<tr>
<td>Pat Marks</td>
<td>07/01/2016</td>
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<td>Greg Meeuwsen</td>
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<td>Matthew Hooti</td>
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<td>Harold Dubensky</td>
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<td>Angela Waters</td>
<td>02/01/2018</td>
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<td>Melissa Massar</td>
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<td>Scott Campbell</td>
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<td>Robert Simmons</td>
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<td>Jim Carlson</td>
<td>07/01/2016</td>
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<td>David Bloom</td>
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<td>Panos Papavizas</td>
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<td>Sarper Arun</td>
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<td>John Giuliano</td>
<td>07/01/2015</td>
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<td>Brian Poe</td>
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<td>Stephen Duda</td>
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<td>Matt Clark</td>
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<td>Don Warick, Jr.</td>
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<td>Cesar Eizaga C.</td>
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<td>Jim Tauby</td>
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<td>John Iacobellis</td>
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<td>Mike Wolf</td>
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DISTRIBUTION:  
ALL MEMBERS /CM OF  
TC/TG/TRG Section 2SectionHead
TC 2.7 Seismic, Wind & Flood Resistant Design

Committee Scope: Technical Committee 2.7 is concerned with fundamental scientific and engineering design principles for seismic, wind, & flood resistant design of HVACR equipment and building mechanical/electrical service systems.

Chair: Patrick Marks, Johnson Controls, patrick.c.marks@jci.com
Vice-chair: Matthew Hooti, Isotech Industries, mhooti@isotechindustries.com
Secretary: Angela Waters, Kinetics Noise Control, awaters@kineticsnoise.com
Website: https://tc0207.ashraetcs.org/index.php

1. Meeting was called to order at 3:30 PM

2. All present members and guests introduced themselves. See summary/cover sheet above.

3. Quorum was established with 10 of 15 quorum voting members present.
   - Doug Fitts cannot do programs
   - Scott Campbell made the motion and then Matt Clark seconded the motion
   - 9-0-0 CNV to approve the minutes

4. Previous minutes from Atlanta were distributed by email and posted to the TC 2.7 Website. John Giuliano first motion to approve and Matthew Hooti seconded the motion to approve minutes. (9) voting members approved, chair not voting.

5. Will need the subcommittee notes from Research, Programs, and Handbook
   - 9 members approved the minutes 9-0-0 Chair Not voting.

6. TC Chair’s Report (Patrick Marks)
   - Discuss the restructuring of TC:
   - Had meeting on Sunday morning at 6:30 am.
   - Presentation on encouraging synergy between the committees to find common ground and merge & embracing change
   - Bert introduced us to the new Section Chair Jon Cohen
   - Encourage the TC to combine with common ground or similar synergies.
   - Encouraging us to use the offline resources between committee meetings.
   - Always looking for our ideas. John or Bert will send these suggestions to TAC.
   - Robert Simmons asked about the society membership of NIBS. The association membership will have to be renewed if ASHRAE and NIBS wish to continue this association.
7. Honors and Awards (Steve Duda)

- Robert Simmons received the distinguished service award
- Fellow nominations are due in December

8. Publications Subcommittee

- Jim Tauby wants more time for flooding.
  - 8-12 for flooding
  - All 3 groups need to be prepared
  - Need to have interim conference calls and have some accountability deadlines

- Jim Tauby said that there were still publications that were selling
- Selman is still working on the Website, Matthew Clark can update the website work
- Jim Tauby did not have anything to report on standards.
- Testing should be done per ASHRAE ANSI standard SPC 171. More generic cyclic testing
- What is the vehicle for proposing testing changes now? Karl asking about precision and accuracy
- Scott had a conversation of the testing standard manager
- To be done when the wind significantly changes again
- Still selling The Applications Seismic Restraint from 2002, most of us did not even know that they were being sold.
- This should not be sold anymore. It should be pulled.
- Pat will request of our Section Head to delete the CD
- Jim Tauby made the motion, Jim Carlson seconded the motion
- 9-0-0 CNV

9. Research (Panos Papavizas)

General
- The Research Subcommittee Chair’s breakfast meeting was held Monday morning, June 24, 2019. Highlights are as follows:
  - Pawel Wargocki rolled off as the Section 2 research liaison and was replaced by William (Bill) Hutzel from Purdue University.
  - Recipients of Grant in Aid, New Investigator, and Homer Adams awards were announced.
  - The Service to ASHRAE Research award recognizes individuals for excellence in volunteer service to Society research. Nominations are provided by TC chairs. The next submission deadline for nominations is September 1, 2019.
  - The Work Statement template has been updated to include space for a 100-word Plain English Abstract. The Abstract will be used to disseminate proposed research projects to a wider technical audience.
Project Monitoring Subcommittee (PMS) meetings are open to membership, and as such, must be scheduled far enough in advance to be included in summer and winter conference schedules. The Section 2 liaison and Manager of Research and Technical Services (MORTS) should be invited to all PMS meetings.

RAC continued to emphasize the important role PMS’s play in research projects. All PMS members should attend training. Training webinars will be provided twice annually in the fall and spring.

RAC is developing a training webinar for Proposal Evaluation Subcommittee (PES) members.

The new workflow process for research projects that result in special publications was discussed. The intent of the new workflow is to involve the Publications Committee and the editor of special publications earlier in the process to ensure publications meet quality requirements and are free of commercialism and bias. The process includes new forms for topic requests (PTAR – Publication Topic Acceptance Request) and work statements (WSP – Work Statement for Publications). RAC is looking for a pilot project.

The ASHRAE Research Strategic Plan is due for update. A Research Advisory Panel (RAP) will be formed by the winter meeting in Orlando and will include 10 members who will serve a 3-year term to develop the Plan. All suggestions for the RAP should be discussed with the Section 2 liaison.

The office of MORTS is preparing a database of research projects to track key statistics such as cost and duration. The purpose of the database is to assist TC members in estimating costs of future projects and evaluating proposals.

- Copies of the RAC presentations from the breakfast meeting are included as attachments to this report.

New Research
- An RTAR for investigating the basis of the seismic restraint exemption for components weighing less than or equal to 75 lb. that are in-line with a duct system is being prepared by Robert Simmons.
- It was proposed by John Giuliano to consider flooding related research to coincide with the publication of a new Handbook chapter on flooding.
- It was proposed by Panos Papavizas to consider funding a research project to determine the appropriate coefficients for horizontal and vertical design wind pressure for rooftop equipment on tall buildings. It is widely considered that the current coefficients in ASCE/SEI 7-16 are overly conservative for tall buildings where the height to plan dimension aspect ratios are large. This study could be performed in a wind tunnel.

Attachments
- Kansas-City-Presentation – RAC2.pptx
- Costing.pptx

Respectfully,

Panos G. Papavizas
TC2.7 Former Research Subcommittee Chair
10. Long Term Planning (Robert Simmons)

This MEETING:
Kansas City, 22-26 June 2019
Track 5: Workshop on Design for Flooding (Carlson)

FOLLOWING MEETINGS:
Orlando, 1-5 February 2020 (Aug 2nd)
Surviving Natural Disasters (JT)
Flood (Carlson)
Wind AHRI 1310 (Panos)
Seismic (RES)
Track 8: Certification of seismic brace systems (Kenny Hightower)
  How to brace equipment/pipe/duct (Hooti)
  Standard-171 Method of testing (Tauby)
  Rating and Certifications (Simmons)
Tracks:
1: HVAC&R Fundamentals/Applications
2: Systems/Equipment
3: Refrigeration/Refrigerants
4: Cutting Edge Approaches
5: High Efficiency Design/Operation
6: Big Data & Smart Controls
7: Ventilation, IAQ and Air Distribution Systems
8: Standards, Guidelines & Codes

Austin, 27 June-1 July 2020
Track 7: Tornados and Hurricanes
Steve Duda
Scott Fischer
Track 7: Seismic certification of equipment (Hooti)
  Code requirements-When/Where (res)
  Equipment Mfg. experience (Morbi)
  How-Certification Requirements (Giuliano)

Chicago, 23-27 January 2021
Phoenix, 26-30 June 2021
Toronto, June 2022
Canadian Codes

Future Programs

- Possible Flood Seminar
- Wind, flood, bomb Blast
- Session on shake table testing
- Back to Basics seminar
- Seismic for Electrical components and distribution systems.
- Co-sponsor with TC6.1, Hydronic and Steam Systems (TC6.1) One speaker from TC6.1 and Tauby from
- TC2.7-seismic for boilers and pumps
- Seismic restraint vs. Vibration Isolation (CARLSON) Roman-VI, Jim Tauby-SP171, John G-Shake Table
- Integration seminar (Pat)
- ACI/ASCE anchor requirements, housekeeping pads, etc.
- Panel discussion/debate on some topic, e.g., should Ip be higher for components in rural schools?
- Stamping requirement and whether a Structural Engineer is required to perform the work or if Mechanical Engineer is adequate?
- Seismic standards: ASHRAE 171 - Jim T., Kenny H. chair
- ACI - Scott C.
- Seismic applications: Karl chair
- Equipment certification- John G.
- Pictures (Haiti, US embassy? - Joel D.
- Inspections/Permits, approval/enforcement- Matt H.

11. Membership (Robert Simmons)

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<tr>
<th>Name</th>
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<tr>
<td>Mr Patrick C Marks, PE</td>
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<td>Mr Matthew M Hooti, PE</td>
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<td>Secretary</td>
</tr>
<tr>
<td>Mr Stephen W Duda, PE</td>
<td>07/01/2016</td>
<td>Honors Chair</td>
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<tr>
<td>Mr John F Dunlap, PE</td>
<td>07/01/2016</td>
<td>Subcommittee Chair</td>
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<tr>
<td>Mr Panos Papavizas, PE</td>
<td>07/01/2016</td>
<td>Research Subcommittee Chair</td>
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<tr>
<td>Mr James A Carlson</td>
<td>07/01/2016</td>
<td>Handbook Subcommittee Chair</td>
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12. Liaisons:

- ARI: Don Warick JR. - anyone interested in submitting for the conference
- ATC: Jim Carlson - nothing
- AHRI: Standard 1310 will soon be out
- VISCMA Webinar was in April 30th, next webinar will be sometime in November
- Newsletter group has been active as well, emailing out two newsletters, two white papers have been recently updated, further development of Paul Meisel’s FAQ Tree development. Matthew Hooti still needs to be placed on the emailing list
- ASCE 19 is also on its cycle update

13. Old Business: None.

14. New Business:

- Omega knot, how one applies it, on which side of the equation
- New equation with Fp is logistically
- Robert Simmons proposes that ASHRAE renew its association membership with NIMS 8-0-0 CNV
- Is Michael Morby still going to be coming? Do we need a manufacturer back up just in case Michael Morby cannot come?
- Stephen Duda is willing to speak on Tornado Resistant Design
- Jim Tauby proposed the merging again. 9-0-0 chair not voting

15. Next Meeting: Orlando 2020 January Winter Meeting

16. Adjournment: Jim Tauby made motion to adjourn, Scott Campbell seconded the motion.