Minutes of ASHRAE Technical Committee 10.8 (Unapproved)
Refrigeration Load Calculations
Las Vegas, NV Meeting – Las Vegas Convention Center – Room N252
January 30, 2011

1) Call to order by Chairman Bill Kumpf at 3:05 PM.

2) Self-introduction and roster sign-in.

    a) The Chairman requested self-introduction of members, corresponding members, and guests. All present were asked to sign the roster. There were 15 in attendance, including guests. See attachment A.

3) Quorum call.

    a) A quorum was established with 5 of 7 voting members present (including chair). Present: Burdick, Fenton, Hoest, Kumpf (chair), Mody. Absent: Love, Sluga.

4) Minutes from Annual Meeting (Albuquerque, NM). Motion: Approve as submitted, made by Don Fenton, seconded by Ryan Hoest. Approved. Vote: 4-0-0 CNV

5) Chairman's report from Section 10 breakfast.

    a) Hightower Award was awarded.

    b) Web sites were discussed.

    c) Passport needed for border entry for Montreal Meeting.

6) Subcommittee reports

    a) Handbook—Jon Edmonds is no longer attending. Bob Burdick was asked to fill in.

    i) There were minor comments on the handbook changes by D.J. Mody. Careful editing would address the comments.

    ii) Calculations methods were discussed, including the lack of manual calculations and the importance of maintain some form of manual calculations. Don Fenton noted that manual methods for commercial building were removed because they were not accurate. It was noted how a refrigerated warehouse is a different situation, e.g. underfloor heat gains. Bill Kumpf noted that the ASHRAE Handbook is considered the standard of care. Todd Jekel noted that the larger temperature differences in refrigerated warehouses makes extrapolation of curves (for non steady state state) skin loads inaccurate. Burdick suggested adding a footnote to note that steady state load has been compared with XXX software program and compared favorably. Todd commented that the example is OK for what we have in the chapter now; if we want to investigate further we can.

    iii) **Motion**: Approve load calculation example with final review and clerical edits by Bill Kumpf. Motion by Bob Burdick, seconded by Don Fenton. Approved. Vote: 4-0-0 CNV

    iv) **Motion**: Include information regarding packaging loads prepared by Don Cleland in the handbook, with assumption that Handbook staff will address graphics. Motion by Don Fenton, seconded by [not noted]. Approved. Vote: 4-0-0 CNV

    v) Don Fenton is the Handbook Committee Liaison to TC 10.8. Don suggested that the committee identify a Handbook subcommittee chair and start working now on the next Refrigeration Handbook updates.

b) Research (no research subcommittee chair)

    i) 1433-RTAR—"Effect of Loss of Vapor Barrier on Insulation Performance". TC 10.5 was to resubmit. Status in unknown. Don Fenton will find out.

        (1) **ACTION ITEM #1.** Don Fenton. Determine status on 1433-RTAR.

    ii) 1434-RTAR—"Refrigerated Facilities Doorway Infiltration Air Energy Reduction" (TC 10.5 is sponsor, 10.8 is co-sponsor). Work statement has been submitted.

    iii) Future research was discussed:

        (1) Benchmarking is being addressed by Michele Friedrich (continuation of RTAR development discussed in Albuquerque). Dan Dettmers noted that benchmarking is a common topic across ASHRAE, USBGC, etc. Discussion included the relationship of loads and efficiency to usage, right sizing, benchmarking of the peak load vs. original design load vs. benchmarking of operation (efficiency or energy use) over time, and the purpose of a research project. Michele Friedrich will write up.

        (2) **ACTION ITEM #2.** Michele Friedrich. Coordinate development of a refrigeration load benchmarking RTAR.

        (3) Additional topics:

            (a) Bill Kumpf noted the need for research to allow improved calculations of loads for walls of above grade boxes.

            (b) Don Fenton described need for research into the accuracy of heat exchange calculations as they are done now vs. actual heat exchange, for thicker walls and higher temperature differences.

            (c) Optimal thickness of insulation for refrigerated warehouses needs to be better defined, which relies on [better science from] the preceding item, so the hour by hour calculations are more accurate.

c) Programs—Dan Dettmers

    i) Ideas for Montreal

        (1) Program on load calculations

    ii) Ideas for Chicago

        (1) Discussed seminar with three different types of load calculations, one being cooling load on a beef plant kill floor. Two additional examples needed, and people to present.

        (2) A similar approach was discussed, using three examples of unusual or complex load calculations, explaining the challenges and why or what method was used to determine the load, and possibly comparing with the resulting load after construction.

        (3) Develop a forum to precede a research project.

d) Membership—Michele Friedrich

    i) Committee management for 2011-2012

        (1) Chair—Bill Kumpf

        (2) Vice Chair—Don Fenton

        (3) Secretary—Doug Scott

        (4) Handbook Subcommittee Chair—Todd Jekel

      (5) Membership Subcommittee Chair—Michele Friedrich

      (6) Program Subcommittee Chair—Dan Dettmers

      (7) Standards Subcommittee Chair—TBD

      (8) Webmaster—Ryan Hoest

      (9) ALI Coordinator—Bill Kumpf

    ii) Membership, new corresponding members: Possibly Robert Davis.

7) TC 10.8 committee scope.

   a) The scope of the committee was discussed, including whether the scope refers primarily to loads for the purpose of peak loads used in equipment selection, or also includes determination of loads through the course of the year, as required for analysis of operational performance.

   b) **Motion**: Maintain the current committee scope unchanged. Motion by [not noted], seconded by [not noted]. Approved. Vote: 4-0-0 CNV

8) Next meeting: June 25-29, 2011 in Montreal, Quebec Canada

9) Adjourned

Submitted by Doug Scott, Secretary

Attachment A

Attendance List:

Ryan Hoest   rhoest@vacomtech.com

Don Fenton   fenton@ksu.edu

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