MEETING MINUTES
TC 5.10 Kitchen Ventilation
Handbook Subcommittee
2015 Summer Meeting

Monday June 29, 2015. 2:15 - 3:15 pm,
Atlanta Hilton, 4th Floor
Room 404
Prepared by Frank Kohout – Handbook Subcommittee Chair

I. The meeting was called to order, with introductions and the sign-in sheet circulated. (See attendance sheet on following page).

II. It was announced that the 2015 edition of Applications 2015 – which includes Kitchen Ventilation (Chapter 33) - has been published. So a new revision cycle has begun with this meeting.

III. Derek Schrock submitted a correction to the 2015 chapter - a clarification for the research section. It will be submitted for a revision to the electronic version, which can be updated as deemed necessary.

IV. Suggested Additions/Revisions for the 2019 editions were briefly discussed:
1. Easy to follow design process flow chart.
2. Design Examples
3. Residential Applications
4. Sustainability Updates
5. Add Commentary section in support of Standard 154.
6. Solid Fuel Cooking Considerations
7. Dishwasher Exhaust rates.
8. Research Updates
9. Electronic Apps

V. Afterward, the attendees agreed to divide into working groups to discuss what we felt were the four major revision topics and create a draft outline
1. Solid Fuel
2. Residential
3. Dishwasher Exhaust
4. Design Examples

VI. The attendees reconvened and provided a brief update on their discussions. (See following pages for details from each group).

VII. The meeting was adjourned at 3:15.

Next steps – For the January meeting, the attendees (on their own) will research and collect information that can be developed into content for the next revision. The intent is to share this information within their working group at the January meeting. I will ask for, and distribute, this content prior to that meeting.

List of TC 5.10 Handbook Meeting Attendees – Atlanta 2015

Frank Kohout	McDonald's Corp	Terry McCabe	Greenheck	J. Carlos Haiad	JCH EMS, Inc.
Jason Greenberg	AS Engineering, LLC	Mike Morgan	Captive Aire	Mike Watz	Accurex/Greenheck
Jimmy Sandusky	Halton	Russ Robinson	Gaylord Industries	Jason Brown	Melink
Rich Sweirczyna	FSTC	Dwayne Sloan	Underwriters Laboratories	Matt Meyer	Melink
Vern Smith	Smith Energy Engineers	Derek Schrock	Halton	Tom Johnson	Johnson Risk Solutions
Steve Brown	LC Systems	Fuoad Parvin	Halton	Bob Adjemian	Green Kitchen Designs
Curt Sawan	Red Lobster Restaurants	Brian James	Southern California Edison	Michael Lubowicki	Hood Depot International
Greg DuChane	Trane	Meng Kong	Syracuse University	Greg Gress	International Code Council
Doug Horton	D.J. Horton and Associates	Nicholas Harlow	Halton	Jonathan Kane	Kane
Andre Saldivar	Southern California Edison	Kyle Sunderlin	Halton	James Sweeney	Texas A&M University

Details of working groups discussions

1) **Solid Fuel**
   a) No duct detection for conventional mechanical / wet chemical systems. One system on the market does include additional temp sensor at the exhaust fan for solid fuel, such that detection will occur, if the fire starts above the hood, beyond the hood detection.
   b) No fuel shut off, extreme heat source.
   c) Creosote is an added fire challenge since it allows fires to spread very quickly.
   d) Issue of Spark Arrester filters, default reference to
   e) Integrity of ducts, cleanouts (many field welded ducts leak)
   f) Discussed UL300 standard test protocol, and the use of horizontal ducts, which is quite different from a strong vertical duct, chimney effect.
   g) Fire triangle. Oxygen, heat, fuel
   h) Room for code enhancement, (test standard for spark arrester filters, as an example)
   i) Much different challenge than a gas appliance with small wood sparker for wood assist.
   j) Clearance to combustibles, and overall design

2) **Dishwasher**
   a) Layout
      i) Separate
      ii) Integral
   b) Indoor Environmental Quality
      i) Thermal comfort
      ii) Design Temp / %rh
      iii) Air Quality
   c) Effluent from hooded and unhooded appliances
   d) Dishwasher Heat Gain – sensible convective/latent convective/radiation & moisture.

i) Door type
ii) Conveyor
iii) Flight type
iv) Heat Recovery DW
v) Condensing Hood

e) Booster Heater
f) Comp sinks
g) Power soaks
h) Scrappers
i) Ventilation Rates
j) Door type
i) Conveyor
ii) Flight type
iii) Effect of mua
iv) Effect of transfer air
k) Energy Efficiency Measures
i) energy saving technologies
ii) water saving technologies

3) <u>Residential</u>

a) 710 hood required?
b) IMC
c) C&C testing
d) Impacts on 62.1 and 90.1 standards (?? Since these are commercial building standards)
e) No criterion to determine when a UL710 listed hood is required for residential application.
f) Possible codes for additional reference: IBC (specifically look into occupancy types), IMC, IRC, 90.2, CA Title 24 (possibly).
g) Dwayne Sloan to review IMC section 505 for updates to handbook.
h) Most hoods are listed to UL507 but there is no C&C test to verify performance.
i) Jimmy Sandusky to review 90.2 for updates to handbook.
j) Other organizational standards may have language for residential hoods, need to research further. IMC will be driver for most applications.
k) Doug Horton has information on residential applications, Jimmy to follow up.
l) Reference UC Berkley study on IAQ. May be possible to spin into RTAR at some point.

4) <u>Design Examples</u>

a) Easy to follow flow chart
b) Reference external resources
i) (FishNick; Greenheck; IKEA)
ii) Electronic apps (?)
c) Sample calculations and diagrams
i) Building pressurization
ii) Make-up air
d) Hood comparisons including LCC
i) Backshelf
ii) Canopy
iii) Island
iv) Demand control
v) Side panels and overhangs.
e) Savings breakdowns
i) Design

ii) Operations

f) Controls: What and how.

g) Design Do's and Don'ts
   i) VFD to Fan distance
   ii) Fan speed laws showing savings
   iii) Optimized sized fan wheel.
   iv) Conditioned Make-Up Air Heating and Cooling savings
   v) Appliance Layout Savings (FSCI)
   vi) Hood to Fan ratio (No manifold systems)
   vii) Duct Access for Cleaning.
   viii) When is DCKV not optimal