

## **Commercial Prescriptive Path and Renewables Working Group**

### **Meeting #4**

June 28th, 2022

3 p.m. – 4 p.m.

#### **Introductions:**

1. CASR: Katrina Managan, Courtney Anderson
2. CPD: Eric Browning, Chuck Bartel, Robert Pruett, Allan Yanong
3. Attendees: Sean Denniston (NBI), Mark Jelinske (RMH Group), John Arent (Noresco)

#### **Review Updated Prescriptive Proposal: (Sean)**

1. All electric property has been given more specificity. All electric space heating and water heating has been calibrated so it doesn't require high efficiency. Getting benefit for electrification and can still get more credits for going to higher efficiency. Calibration of credit requirements to ensure a mixed fuel building that the target was reasonably achievable with credits available. Combined Mandatory minimum renewables into C406. Bringing in demand responsive thermostat credit as recommendation from Supplemental Meetings
2. All electric property has been given more specificity. All electric space heating and water heating has been calibrated so it doesn't require high efficiency. Getting benefit for electrification and can still get more credits for going to higher efficiency. Calibration of credit requirements to ensure a mixed fuel building that the target was reasonably achievable with credits available. Combined Mandatory minimum renewables into C406. Bringing in demand responsive thermostat credit as recommendation from Supplemental Meetings.

#### **Summary of Topics Discussed:**

1. **Demand Response Program**
2. **Allowable Fan Power**
3. **DOAS**
4. **Lighting Power Densities**
5. **Overall Stringency**

#### **Discussion/Detailed Notes:**

1. *Demand response program* – not required to participate but to have specific controls that are capable of

participating in a utility program.

## 2. Allowable Fan Power

- a. From a proposal to reduce the required fan power for most commercial buildings. 10% lower than fan power allowance than IECC defines currently. Next tier is to reduce by 20%. Keep it simple. John took energy modeling prototypes from DOE to determine fan energy end use as function of total building end use and see what reduction you would get. Office buildings have lower fan power since it is a bigger end use.
  1. Mark – why is there less credit for business occupancies when it has bigger impact for fan power?
    - a. John – EM prototypes suggest that retail fan power of higher energy use as a fraction. Offices have significant plug load. Larger buildings will have smaller impact.
  2. Chuck – C403.8.1 in base code only applies to fans 5 hp or more. Is the intent to be applied to all fans regardless of size?
    - a. John – That is the eventual intent. Right now C403.8.1 applies to larger fan powers. IECC looks to be changing in the future.
  3. Chuck - C403.8.1 - If you have higher filtration system, you calculate use a table that allows a higher pressure drop or ERV with HVAC system. Is the intent to use additional tables to calculate allowable fan power? \*Make sure it covers both tables
- b. Chuck - Can you explain the existing building sentences?
  1. If existing buildings can use a more efficient fan, they would be able to use this credit.
    - a. Chuck – trying to wrap his head around it. Do we even need this last sentence? How is it difference than C406.15.1 above?
    - b. Chuck – If I was reviewing this, I'd be looking at what was new vs what was existing.
    - c. Mark J – All of C406.1 only applies to new buildings. Unless we're trying to expand that scope, the charging language is about new buildings.
    - d. Chuck – if it's change of use, then the space needs to comply with this.
    - e. Mark J – The code tells you how to comply with change of us, the code

tells you what to do. C406

- f. Smaller fans – committee approved to lower minimum level of where fans are triggered to meet that. Mark thought we left reduction in trigger level 1 hp but took lowered number.
  - g. Resolution: Take last sentence out
2. John- since IECC is in the process of being updated, he wanted to make sure he had the right reference point.
  3. Chuck – We discussed moving allowable fan power to C406.
    - a. John – Proposal that was presented, this C406 is replacing that other proposal. Providing energy credit to beat requirements in base code.
  4. Chuck – do we need to adjust size and power?
    - a. Chuck – proposal was for 1 hp.
  5. Confirm this is replacing what was discussed in offline. 1 hp.
  6. Mark J – amended IECC 403.8 has to do for every building. Make me do that at 1 hp. For extra points, make me do a larger reduction.
  7. John – 1 hp should be in base code.
    - a. Courtney – my recollection is the Supplemental Hearing wanted it moved into C406, not to adjust the mandatory IECC and add credit to C406.
    - b. Sean – only fans subject to requirement. Need to look at language if we can remove phrase in C406.15
      - i. Mark J – Thinks you want to keep fan requirements
  8. Chuck – best way to do it is to lower to 1 hp in mandatory and give credits. The offline hearing was the meat of the tables. This is completely different than the proposal that was presented to offline working group but achieves similar outcome.

### 3. DOAS

- a. Package requirements for basic DOAS.
  1. Tier 1 - DOAS has some additional requirements for ERV. Basic requirements.
  2. Tier 2 – At least 75% of conditioned floor area shall have DOAS ventilation system. Good system

3. Tier 3 - more advanced; additional requirements for ERV and variable speed drive. Requires a certain fan power requirements.
4. Leveraged researched done for energy savings. Vary for building types.
5. Made it much simpler that 75% conditioned floor area served by DOAS systems, meets the requirement.
6. Katrina – If this gets really complicated, we’ll need to think how to handle it.
  - a. Mark J – Thinks it will get complicated. Big question - what is the status of the HRV proposal that modified heat recovery requirements in 403?
    - i. Courtney – Would likely be heard in a supplemental meeting
    - ii. Chuck – Has gone back and forth with proponent of that. It has dropped off.
    - iii. Mark – what is the resulting code for Denver?
  - b. Several things in here are actually less than code minimum requirement. If code minimum requirement, needs to
  - c. Katrina – this may just have to come out because it’s not ready.
  - d. Katrina – we can try to integrate some pieces from this proposal into the other proposal where it makes sense.
  - e. Chuck – Public proposal is regarding energy recovery. This proposal has some ERV proposants to it but it’s slightly different.
- b. Eric – Can we move to another committee hearing? Eric - Noresco’s availability at specific hearings creates a challenge.
- c. Katrina – Do you want to spend time to enter DOAS?
  1. Chuck – out of town next two weeks. Other proponent isn’t. Base code has credits for DOAS. Leave as is.

#### 4. Lighting Power Density

- a. John - This takes a slightly different track. Increase minimum lighting threshold reduction to achieve credit points from 10% to 15%. Lighting has shorter lifespan than HVAC. 10% to 15% makes it slightly harder to get, but gives you more credit points.
- b. Points are higher in credit tables, but eliminates points for 10%.

#### 5. Overall Stringency

- a. Katrina – questions or input on points or lighting power, fan power lines

1. Mark J – Curious that lighting isn't an impact in I. It's a huge impact in I occupancies, so disappointing. Right now 90% of additional energy measures we use are the lighting ones. Do you want us to continue to punch our ticket with lighting? You can't do any one point unless you're all electric. You're making us do more additional energy measures than just lighting. You're making us do LEDs even better with this, alright.
- b. Katrina – Is fan power and light a good gut check?
  1. Mark J – I think so. It looks right. Harder than current which is the intent.
  2. Chuck – other occupancies groups warehouess, manufacturers, with restaurants. That's the way the base code is set up. When we're having credits for other occupancies, those occupancies can use a lot of energy.
    - a. Katrina – limitations of table for next code cycle
- c. Mark J – Always a proponent of C406. Wish we had more time. Wonderful ways to incentivize people to save energy. Thinks this proposal will be problematic if electrification is passed.
- d. Chuck – Leave base code with credit for DOAS, we're ok.
  - i. Katrina – take out DOAS and leave it as is in the base code

**\*Meeting adjourned\***