

From: Anderson, Mary
To: Berman, Janice S; Zelmar, Karen
Cc: Eilert, Patrick L; Hunt, Marshall
Subject: RE: Confirming dinner at 7:30
Date: Monday, October 26, 2015 2:01:53 PM

Jan,

Here are the bullet points on the Computer and LED rulemaking. Please let us know if you have any questions.

- We don't have an indication yet on how DOE will be handling LEDs and computers.
- DOE will begin expedited rulemakings on these two products between November and February.
- If California does not finalize the LED and the computer rulemakings by the beginning of 2016 we will pre-empted by DOE's standards.
- We have informal indications that DOE isn't planning on being as aggressive as CA in these two rulemakings.
- The CEC is hoping that after Title 20 adoption DOE will eventually adopt the same levels and the IOUs plan on supporting the CEC levels at the federal level.

LED Summary

- CEC's 45 Day Language has a two tiered standard with the first tier effective January 1, 2017 and the second tier effective January 1, 2019.
- PG&E is generally supportive of the CEC's general direction on LEDs but supports a single tier. This will be easier for the market to respond to a single tier.
- PG&E supports a color rendering index (CRI) of 90 beginning 2017, the CEC's Tier 2 CRI level is 82. PG&E believes that by 2018, lighting efficiencies higher than the CEC's Tier 2 level, so the standard will be too weak at that point to have a long-term impact. The standard in the 45 day language would only support a price premium for quality.

Computer Summary

- Still waiting for the CEC's 2nd Staff Report.
- Currently, the CEC and the IOUs are generally aligned on the latest proposed standard, and what is expected in the 2nd Draft Report.
- Not only will the DOE standard likely be less stringent, DOE's standard would be effective 5 years after the final rule (currently estimated to be ~2021), which would arguably make the standard irrelevant, given computer technology advancement. In order to get savings from the Title 20 computers standard, it is imperative that it adopt a standard before DOE does.

Below are additional details on LEDs and Computers to have just in case but I doubt it will be necessary.

Lighting Details

- Lamp Specification - LED lamps = 2,600 lumens that produce white light (i.e. within Duv of 0.012 of the black-body curve and capable of providing light between 2200 K and 7000K), and that have an E12, E17, E26, or GU-24 base, including retrofit kit products with those base types.
- Luminous Efficacy Requirement - The minimum levels for high color rendering index (CRI) lamps are as follows:
 - 85 lumens per watt (lpw) in 2017
 - 90 lpw in 2019There is a tradeoff with CRI, so efficacy requirements will actually be higher for products with CRI in mid 80s (~90 and 100lpw).
- CRI - Lamps greater than or equal to 150 lumens must have CRI = 82 and a minimum score of 72 for each individual color sample R1 - R8.
- Correlated Color Temperature (CCT) - Lamps greater than or equal to 150 lumens : No more than four MacAdam steps below the black-body curve, and no more than 4 MacAdam steps above the ANSI target white curve (from ANSI C78).
- Rated Life - Lamps greater than or equal to 150 lumens: minimum 10,000 hours L70 projection

Computer Details

- The IOU and CEC proposal scope includes desktops, notebooks, workstations, and small-scale servers. The standards for desktops and notebooks framework is a Typical Energy Consumption (TEC kWh/yr), with a base allowance plus adders for functionality. For workstations and small-scale servers standard would be a power supply requirement.
- For desktops, which is the majority of the savings, the IOUs are currently proposing a two-tier approach with Tier 1 going into effect on January 1, 2018 and Tier 2 one year later. Tier 1 is based on low-hanging fruit improvements in current technology, and includes additional power allowances for higher performance computers, based on the concept of expandability. Tier 2 is based on cost-effective technology improvements that resolve the power supply limitations and remove the need for expandability energy allowances.
- The IOUs have been actively engaged with the computer industry group (ITI), including a number of in-person meetings to discuss the proposal and submission of a joint proposal for definitions. This week we will be comparing proposals for categorization.

-----Original Message-----

From: Berman, Janice S
Sent: Monday, October 26, 2015 10:21 AM
To: Eilert, Patrick L; Anderson, Mary; Hunt, Marshall; Zelmar, Karen
Subject: FW: Confirming dinner at 7:30

Pat -- we need to get back to Melissa on what's up on California vs DOE approach on LEDs and Computers. Who can provide background today?

--Jan

-----Original Message-----

From: Lavinson, Melissa A
Sent: Monday, October 26, 2015 10:18 AM
To: Krause, Mark; Berman, Janice S
Subject: FW: Confirming dinner at 7:30

Mark,

What Bob will likely raise. I have the background on furnaces. I will inquire about the issues we discussed this morning.

Jan, anything on computers?

Melissa

-----Original Message-----

From: Mack, Grant@Energy [mailto:Grant.Mack@energy.ca.gov]
Sent: Monday, October 26, 2015 1:15 PM
To: Lavinson, Melissa A
Subject: RE: Confirming dinner at 7:30

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Hi Melissa,

Happy Monday! Confirmed. Bob will likely want to discuss DOE's EE std rulemakings for NG furnaces, LEDs and computers in relation to California's.

Best regards,

Grant A. Mack
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-----Original Message-----

From: Lavinson, Melissa A [mailto:Melissa.Lavinson@pge-corp.com]
Sent: Monday, October 26, 2015 9:10 AM
To: Mack, Grant@Energy
Subject: Confirming dinner at 7:30

Daily Grill in Bethesda.

Thanks!