



Oregon

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Oregon Commercial Energy Conservation Advisory Committee

April 14, 2009

Meeting Summary

****NOTE:** *The following minutes are a summary of the committee's discussion.
To review the meeting in its entirety, the archived video of the meeting is available
on the committee's Web site at the following link: <http://www.bcd.oregon.gov/committees/10cec.html>*

- Members Present:** Martin Brown, City of Wilsonville, Building Official
Skai Dancey, Oregon Health and Sciences University (OHSU)
Andy Dykeman, Lease Crutcher Lewis
Jim Edelson, Governor's Energy Efficiency Working Group (EEWG)
Ron Lowen, Best Heating
Tim Nicol, International Brotherhood of Electrical Workers (IBEW)
Nathan Philips, National Electrical Contractors Association (NECA)
Bruce Soihl, Building Owners and Managers Association (BOMA)
- Members Absent:** Jeff Harris, Northwest Energy Efficiency Alliance (NEEA)
Jim Klopfenstein, Mechanical Board Member
Samir Mokashi, American Institute of Architects (AIA)
Brady Peeks, Oregon Department of Energy (ODOE)
Marci Wichman, United Association of Plumbers and Steamfitters (UA 290)
- Guests Present:** Jim Totten, BOMA
Joe Vaccher, Eugene Water and Electric Board (EWEB)
Kelly Fough, Holophane Lighting
Susan Steward, BOMA
Michael Rosenberg, Pacific Northwest National Laboratory (PNNL)
David Cohan, NEEA
- Staff Present:** Wendy Beard, northwest regional coordinator
Gabrielle Schiffer, sustainability coordinator
Shane Sumption, fire and life safety code specialist
Richard Rogers, structural program chief
Mark Campion, inspector
Alan Seymour, Oregon Department of Energy
Shauna Parker, rules coordinator
Dana Fischer, building code para-technical

Wendy Beard, regional coordinator, provided an overview on the flow and format of the meeting, explaining that while this is an informal advisory group, individuals still need to indentify themselves and who they are representing for the record each time they speak. She then noted the topics on tap for the committee to discuss at the meeting and the order in which they will be discussed.

Shane Sumption, fire and life safety code specialist, explained the goal of increasing energy efficiency in commercial buildings by 15%, noting the number is a broad, overall increase in energy efficiency across nine different building types in two climate zones. He explained the 15% can be obtained from combining different methods in building, which is why the committee is reviewing the lighting, building envelope, and mechanical sections of code.

Martin Brown asked which occupancies will be impacted the most by this change in energy efficiency requirements.

Alan Seymour, energy specialist, Oregon Department of Energy, noted that it will be different across the different building types.

Mr. Sumption discussed the larger code adoption process, explaining that the code is not retroactive but building retrofits may be required to complete the work under the most current code, rather than the code in existence when the building was originally constructed..

Jim Totten, Building Owners and Managers Association (BOMA), asked about the impact on a building owner who does a lighting retrofit or replacement project that includes maintenance such as replacing ballasts.

Mr. Seymour on behalf of the Lighting Code Development Workgroup noted that he had some information that addresses this question that he will discuss later in the meeting.

SECTION 1313, LIGHTING – OTHER BUILDINGS

1313.3.1.3.3- Automatic daylight sensing controls

Nathan Philips noted a typo: “and adjustable” should read “an adjustable” in exception 1.

The committee discussed this topic at their last meeting and members had no further comments.

Mr. Sumption then noted there were no changes to sections 1313.3.2 or 1313.4.

1313.4.1- Tenant space power allowance method

Mr. Sumption noted that the only change in this section is the change in the table number from Table 13 G to Table 1313.4.1.

1313.4.2- Space-by-space method

Mr. Sumption noted that the only change in this section is the change in the table number from Table 13 H to Table 1313.4.2.

1313.4.2.1- Additional lighting power for retail displays

Mr. Sumption noted that this section has been changed by adding new language and performing some reformatting.

Mr. Brown asked if the retail industry was consulted with regard to the reductions in lighted displays and how these requirements impact them. He also asked about canopy lighting at gas stations and car sales lots and whether they are considered merchandise that is subject to this code section's requirements.

Mr. Seymour explained that this retail lighting requirement is not a reduction but more of a clarification that came from the lighting designers. He noted that retail areas seem to be the hardest areas to light in commercial occupancies. With regard to the canopy lighting at gas stations, Mr. Seymour noted canopy lighting was addressed in the last energy code cycle that created reasonable lighting requirements for canopies. He explained that while the code is not retroactive, the current code does not allow daylight canopies in new or retrofitted gas stations. Mr. Seymour noted that with regard to the car sales lots, the interior lot would be subject to this code section while the exterior lot is covered under exterior lighting code requirements.

Jim Edelson noted that there is a specific allowance in Table 1313.5 relating to outdoor vehicle sales lots and the allowable exterior lighting provisions.

Mr. Philips argued that the suggested change makes the language less clear, explaining that he feels this change makes it harder to understand the requirements. He also noted that the exclusion of major circulation paths in calculating the total additional lighting power allowance is difficult to enforce because circulation paths are often not determined when the building is being constructed, but rather when a merchandiser comes in to lay out the store. Mr. Philips commented that a "major circulation path" is an area that is an ambiguous term that is not necessarily defined, which makes it difficult for the building official to interpret and enforce.

Mike Rosenberg, Pacific Northwest National Laboratory (PNNL), provided background on changes made during the last energy code cycle, explaining the lighting calculations changed from a general requirement to this more specific requirement.

Mr. Philips noted, and Mr. Brown agreed, that the common interpretation for egress in Oregon can cover the entire floor plan of a retail structure. This is because the new definition of "exit/access" calls for a means of egress from the most remote point all the way to the exit, rather than identifying specific egress pathways.

Mr. Sumption noted that the suggested language change was submitted in the form of a code amendment proposal and the committee can change the details to make it more appropriate.

Mr. Seymour further expanded on Mr. Rosenberg's explanation of the lighting calculations, noting that the change from a general allowance for lighting in retail to a more specific allowance using this calculation method results in about the same amount of light used in a retail display. He agreed that this new process is not any easier as a result of the change.

Mr. Philips proposed the following changes: 1.) Keep the original first paragraph and strike the proposed new language; 2.) Keep new items 1, 2, and 3 from the proposed change; 3.) Keep the new paragraph that begins “the specified floor area...”, but modify it by removing the term “major circulation paths” and changing the word “department” to “area”; 4.) In the last paragraph, remove the end of the sentence that states “... and shall be controlled separately from the space general lighting system” as it is duplicative and covered in the first paragraph.

Mr. Rosenberg, PNNL, agreed with some of the proposed changes, but recommended that the lighting designers be consulted to calculate some new numbers so that the allowance could be reduced by an appropriate amount. He explained this would ensure that each retail space is allowed approximately the same amount of lighting as was suggested in this code amendment proposal.

The committee agreed to ask staff to consult with the lighting designers and report on the new numbers for lighting allowances in retail spaces.

1313.5- Exterior lighting

Mr. Sumption explained that this code section expands what had typically been regulated under the code previously.

Mr. Seymour noted he was concerned that there is not an existing problem that is being addressed by adding exterior lighting provisions, asking whether energy savings are being accomplished. He summarized comments by Michael Lane, the code proposal proponent, who said “this code proposal divides the lighting into four zones... most of the industry nationally lights according to zone 4, but this change would require industry to light under zone 3 that allows less lighting.”

Mr. Brown noted his jurisdiction has a dark sky ordinance that regulates exterior uncovered outdoor lighting and is more restrictive in some areas and less restrictive in others than the proposed code section. With this new provision, the jurisdiction would have to throw out the local ordinance or start from scratch. He explained this is a concern for his jurisdiction and many others in the state that have dark sky ordinances. Because of this concern, he proposed an [exception](#) to allow local jurisdictions to have ordinances that are more restrictive. Mr. Brown asked if such an exception would conflict with existing statutory language that describes the state building code and local code ordinance relationship. He noted that the legislature is also supposed to be reviewing dark sky ordinances this session and there may be something as a result.

Joe Vaccher, Eugene Water and Electric Board (EWEB), described Eugene’s dark sky ordinance.

The committee continued to discuss dark sky ordinances and brainstormed ways to address the issue.

Mr. Seymour recommended using some language and terminology from the 2009 International Energy Conservation Code (IECC), explaining some things are not regulated or covered by the electrical code, but industry may still need some level of regulation.

Kelly Fough, factory representative with Holophane Lighting, provided information on an upcoming new model lighting ordinance that is under review by the Illuminating Engineering Society (IES) and Dark Sky Association (DSA). This new model lighting ordinance is creating a luminaire classification

system that evaluates the types of lighting industry should use by giving it a BUG rating (backlight, upright, and glare) and quantifying the light coming out of the system.

Mr. Sumption summarized the committee's discussion, noting that BCD will have a policy analyst review statute and the proposed code language to evaluate its impact on local jurisdictions.

Mr. Philips asked why the code would allow incandescent mercury vapor lighting of other than 120 volts, explaining that aside from low voltage uses, the requirement seems to be moving away from the goal of energy efficiency. He noted that if the intent is to allow and encourage using low voltage, the code should use language along the lines of "120 volts or greater."

Mr. Seymour explained that the code originally said incandescent mercury vapor lighting was not permitted and industry requested the change to allow greater flexibility.

Mr. Edelson proposed adding Mr. Philips' suggestion of "120 volts or greater" to the code language to make it clearer. *The committee agreed to the change.*

Break.

The committee continued discussing section 1313.5 following the break.

Mr. Seymour provided the committee with a [handout](#) proposing new language related to exit sign wattage (section 1313.2) and exterior lighting provisions (section 1313.5). While explaining the suggested changes, he noted that some of the language comes from the 2009 IECC. He clarified that use of the term "input" was language he added, explaining he was unsure of the most appropriate code terminology for conveying that same meaning.

The committee discussed the scope of the building code and how it relates to both the exterior lighting provisions and chapter 13 of the energy code. They noted their concerns that the language in Mr. Seymour's proposal that states "When the power for exterior lighting is supplied through the energy service to the building..." could be interpreted incorrectly and could allow for improper installations.

Mr. Rosenberg, PNNL, explained that at the beginning of chapter 13 in the energy code, there is a note that describes the types of exterior lighting covered under the chapter. He suggested this change to the definition of exterior lighting might be best captured in the note section of chapter 13.

Mr. Philips asked about the exception in Mr. Seymour's proposal that pertains to low voltage landscape lighting, noting that the way it is currently written, low voltage lighting is dealt with in two different ways, making the requirement inconsistent.

Mr. Sumption asked the committee what they thought about expanding the exterior lighting and bringing it into the code, noting that based on the discussion it seems the committee would like to see some of the exterior lighting requirements included in the code.

The committee talked about the differences between the electrical, building, and energy codes. They also discussed the ASHRAE (American Society of Heating, Refrigerating, and Air-Conditioning Engineers) and IESNA (Illuminating Engineering Society of North America) standards.

Mr. Sumption summarized the committee's discussion, noting that the voltage scoping had some concerns and that the division needs to check with a policy analyst to determine the impact to local ordinances.

Mr. Philips asked for clarification on the paragraph related to charging and points to the table of permitted lighting areas. He asked whether other areas not listed in the table are excluded. He suggested that perhaps the word "other" should be added to the list of acceptable lighting areas in order to make sure everything is covered.

Recommendations from previous meeting

The committee reviewed the [recommendations](#) made at the March 31, 2009 Oregon Commercial Energy Advisory Committee meeting.

Recommendation #1

Mr. Sumption reviewed the first change proposed by the committee that lowers the 50 percent requirement to the lesser of 10 percent of the connected lighting load. He explained that using the language "greater than" or "lesser than" provides two thresholds, recommending the committee use a straight percentage amount.

Mr. Seymour contributed comments from the code proponent, Michael Lane, who said, "this is an ASHRAE proposal that has not finished the public comment period yet, but the intent is to capture larger energy savings... the 10 percent requirement seems tight, and in Washington they recommended the same proposal with a 20 percent threshold."

David Cohan, Northwest Energy Efficiency Alliance (NEEA), clarified that at the previous meeting he believes the committee's intent was to include the space size in this exception in addition to the greater than or less than language.

The committee discussed various options on how to handle the exception and the amount of threshold they want to provide. They discussed the pros and cons of smaller and larger thresholds and what triggers would require alterations to the full code rather than begin covered under the exception.

Mr. Vaccher, EWEB, noted that there are two issues at hand in this code section, the first being to reduce the lighting power density and the second being that changing fixtures triggers the code.

Mr. Totten, BOMA, asked for clarification on the intent of the exception, noting that someone could easily exceed the requirement in the code simply by performing regular maintenance. He suggested removing the language "this requirement shall also be met for alterations that involve just the lamps plus the ballasts" to avoid confusion or added expense on building owners, noting that most building owners want to save energy.

Mr. Cohan, NEEA, argued that the changes may be encouraging people to never change fixtures, and to just replace lamps and ballasts. He suggested having an additional requirement of 50 percent to avoid such gaming strategies.

Mr. Sumption clarified that the new language “this requirement shall also be met for alterations that involve just the lamps plus ballasts” is from the ASHRAE standard.

Mr. Philips noted his concern that by doing a lamp and ballast upgrade, you are triggering a light fixture replacement, which results in the code discouraging people from upgrading lamps and ballasts.

The committee agreed to the suggested changes with the modification to the sentence in the first paragraph to say “this requirement shall also be met for alterations that replace greater than 50 percent of the lamps and ballasts” and keeping the exception at the 10 percent and ten fixture threshold as proposed at the previous meeting.

Recommendation #2

Mr. Sumption reviewed the recommended changes with the committee, noting the language and formatting changes.

Mr. Rosenberg, PNNL, suggested moving the parts of exception 4 that were deleted relating to display and accent lighting to the main text of the requirement.

Mr. Sumption noted that he will double check, but thought that those requirements were already covered in code in a cross reference.

The committee discussed the recommendation, discussing dental offices and research facilities and whether the exceptions cover these occupancies. *After discussion, they determine their concerns were addressed and agreed to all the changes.*

Recommendation #3

Mr. Sumption reviewed the recommended changes with the committee, explaining the new daylight/skylight language used in this section came from the IEEC.

Mr. Philips said that this exception would not capture his concern about skylights in corridors and daylight controls.

Mr. Rosenberg, PNNL, stated he did not understand the need for the exception.

The committee agreed that this section needed to be re-evaluated, and that the new language in 1313.3.1.3.1 should read “located within a distance equal to the ceiling height inward from the wall that the window is located within 5 feet...”

Ms. Beard wrapped up the meeting, stating the committee will discuss the commissioning information at a future meeting. The next meeting is scheduled for Wednesday, April 29th where the discussion will center on the building envelope.

Mr. Seymour, representing NEEA, briefly discussed the lighting value tables, noting that a group of energy industry representatives agreed on the values currently listed in the table.

Mr. Philips asked for clarification on where the values came from, noting that he has concerns with using stakeholder agreed upon values rather than sticking with the model code requirements.

Mr. Rosenberg, PNNL, noted that these numbers are very modest and are not a huge jump, explaining the history with the energy code has been that Oregon gets the numbers before the national code.

Ms. Beard explained that if this needs to be discussed at a future meeting to notify Mr. Sumption or herself and adjourned the meeting at 4:05 pm.