

## DOCKETED

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*Comment Received From: Tony Coonce*

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**Feedback for 2019 Title 24 Nonres Lighting Retrofits**

*Additional submitted attachment is included below.*

**Comment Summary:**

\* EnerPath Services (Lime Energy) is an implementer of Small Business Direct Install lighting program. We value the change in the code that raised the Luminaire modification cap to 69 fixtures.

\* With fixture wattage going down (with LED lighting), EnerPath Services staff would like the Energy Commission to conduct a re-evaluation of cost-effectiveness of mandatory lighting controls for existing building upgrades on a stand-alone basis. Despite the fact that costs for lighting controls have been going down, lighting controls may not be cost effective based upon energy savings over the course of useful life of controls for a number of applications. Flexibility with regard to controls is crucial as high efficacy LED upgrades drive connected lighting loads further and further downward. More pertinent drivers for the use of controls are smart building data analytics and comfort rather than energy savings.

\* Measure-specific comments from staff at EnerPath Services are captured in the table below.

Measure ID	Measure Type	Measure Description	Comments from staff at EnerPath Services (Lime Energy)
A	Code Cleanup	Restate the existing requirements for “entire luminaire alterations,” “luminaire component modifications,” and “lighting wiring alterations” more clearly, by organizing key information in three tables within the code language.	EnerPath Services (Lime Energy): Support code simplification. Can discuss the proposed language in the follow-up meeting.
B	Code Cleanup	Clarify that “entire luminaire alterations” or “luminaire component modifications” projects that increase lighting power must meet all LPA and control requirements.	EnerPath Services (Lime Energy): The measure makes sense.
C	Code Cleanup	Modify the exception for “entire luminaire alterations” and for “lighting wiring alterations” from two or fewer luminaires in an enclosed space to one luminaire in an enclosed space.	EnerPath Services (Lime Energy): Perceived 2-luminaire exemption as Energy Commission’s attempt to provide much needed relief from strict 2013 Title 24, Part 6 code requirements (and not as an unintended loophole). The 2-luminaire exemption is important to keep.
D	Code Cleanup	Remove the exception for “luminaire component modifications” for two or fewer luminaires in an enclosed space, while keeping the code trigger of 70 or more luminaires per floor per tenant per year.	EnerPath Services (Lime Energy): Same comments as for Measure C. Also, it should be stated in the code (vs. only in Compliance Manual) how 70-luminaire per floor threshold interacts with 2-luminaire per enclosed space threshold (i.e., spaces with 1-2 luminaires are counted towards the 70-luminaire per floor threshold, but are exempt from lighting control requirements if the code is triggered).
E	Substantive Change (Option 3)	Require Option 3 to be applied to an entire enclosed space to reduce the ability for partial retrofits in the enclosed	EnerPath Services (Lime Energy): * Concerned about spaces with track lighting that has been updated from using incandescent screw-in to using LED screw-in bulbs. If track lighting is included in

		space (as already in place for Option 1 and 2).	the pre-existing wattage for an enclosed space, then Option 3 would not be available (since reducing wattage by a certain percentage may not be feasible). * Generally speaking, if one of the layers of lighting has been upgraded, then the ability to use Option 3 for retrofitting other layers of lighting at a later date is limited. This would be undesirable.
F	Substantive Change (Option 3)	Require partial OFF occupant sensing controls for stairwells under Option 3, including stairwells in high-rise residential buildings, hotels, and motels (while keeping the exception for the requirement to have partial OFF occupant sensing controls in corridors).	EnerPath Services (Lime Energy): * Generally, this measure makes sense for projects that replace fixtures (“entire luminaire” project type). * It may not be feasible to install bi-level occupant sensing controls in stairwells as part of a component modification project for fixtures non designed to be dimmable. In this case, business owners will be forced to replace fixtures (which may or may not be efficient) in stairwells to comply with code. This would be undesirable. Would like to see a threshold put in place to target fixtures above certain wattage.
G	Substantive Change (Option 3)	Require a reduction of total existing lighting wattage in altered enclosed spaces by 50% of the rated wattage under Option 3 for all space types (rather than 50% for office, retail, and hotel and 35% for all other occupancies).	EnerPath Services (Lime Energy): * Very concerned that Option 3 as proposed would not be available to businesses with lighting that is already efficient since it will not be possible to reduce existing wattage by 50% (or 45%). * Would like the Energy Commission to consider restructuring nonresidential lighting retrofit code to only target buildings above certain LPD threshold (in other words, would like to reduce the scope of current nonresidential lighting alteration code). LPD threshold could be set for entire building or tenant space to make LPD calculations easier since it is usually easier to obtain building’s or tenant’s gross square footage from deed or lease records (vs. measuring square footage of individual rooms within a building). * Would like to see a minimum LPD threshold set for requiring shut-off controls for retrofit lighting projects (a threshold similar to the one adopted for multi-level controls, which are required when a lighting load exceeds 0.5 W/sf). * Option 3 with more lax requirements for lighting controls is very important since in many applications installing multi-level and shut-off controls is still cost-prohibitive (especially given low wattage of LED lighting; the energy savings from controls do not always allow business owners to recoup costs to install controls over the useful life of controls (~8 years)). <i>Note: Shut-off controls in corridors, stairwells, library stacks, and hotel/motel guest rooms are not required under Option 3 in 2016 code vintage, BUT all other requirements for shut-off controls apply for all three compliance options.</i> * Networked lighting controls are being adopted by some business owners not necessarily for energy savings but for ability to collect useful building information.