

**DOCKETED**

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**Signify Comments on Draft Staff Report - GSL Expanded Scope**

*Additional submitted attachment is included below.*



September 17, 2018

Submitted electronically

Mr. Patrick Saxton  
California Energy Commission  
1516 Ninth Street  
Sacramento, California 95814

Docket No.: 17-AAER-07

**RE: Comments on Draft Staff Report - Analysis of General Service Lamps (Expanded Scope)**

Dear Mr. Saxton:

Signify (formerly Philips Lighting) appreciates the opportunity to comment on the draft staff report. Our detailed comments follow.

Signify is a global leader in lighting products, systems and services. Our understanding of how lighting positively affects people coupled with our deep technological know-how enable us to deliver digital lighting innovations that unlock new business value, deliver rich user experiences and help to improve lives. Serving professional and consumer markets, we sell more energy efficient LED lighting than any other company. We lead the industry in connected lighting systems and services, leveraging the Internet of Things to take light beyond illumination and transform homes, buildings and urban spaces.

Please contact me if you have any questions.

Sincerely,

A handwritten signature in black ink that reads 'Anthony Serres'.

Anthony W. Serres, LC  
Manager, Technical Policy  
Philips Lighting North America Corporation

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## Comments

Draft Staff Report – Analysis of General Service Lamps (Expanded Scope)

Docket No.: 17-AAER-07

September 17, 2018

Signify welcomes the opportunity to comment on the draft staff report. Our general observations about this subject are below. Detailed comments on specific topics follow on the next page.

As a member of the National Electrical Manufacturer's Association (NEMA), we support and echo the comments they submitted on this subject. We also draw the Commission's attention to comments submitted by the Association of Home Appliance Manufacturers (AHAM) regarding lamps for use in appliances.

### General Comments

- As the Energy Commission is aware, the US Department of Energy is expected to release a revised draft of their GSL rulemaking soon. Thus, we believe it is premature for the Commission to proceed any further with this rulemaking until it is clear which direction the DOE is proposing to take.
- When this rulemaking is finalized, we implore the Commission to implement it via a manufacture date, rather than a sales date. A sales ban is extremely problematic for the supply chain and will severely impact retailers and manufacturers.
- We support the Commission's concept that no certification would be required for General Service Lamps. As the Commission noted in their workshop presentation, most of these lamps are already certified under other provisions of Title 20.
- The Federal 45 LPW backstop has NOT been triggered. We respectfully disagree with those who argue that it has. An informative discussion of this issue has been published by ICF.<sup>1</sup>

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<sup>1</sup> Doby and Molander, ICF International. *The Facts Behind The Lighting Backstop*, May 2018.

<https://www.icf.com/resources/white-papers/2018/the-lighting-backstop>

- During the workshop, a knowledgeable stakeholder passed around a small, LED landscape light (made by Signify) and commented:

“So if you can make it in a small landscape lamp, I think you can make them in pretty much everything else.”<sup>2</sup>

What the stakeholder failed to note is that the product they presented produces 195 lumens, operates at 12V DC, and is not dimmable. All are factors that make it simpler to create an LED product with a small form factor. The reality is that many LED lamps need to replace products with a much higher lumen package; operate at 120V AC; and are dimmable. All of which make it difficult to design an LED lamp in a small form factor.

The stakeholder’s comments are, at a minimum, disingenuous and overly simplistic. We provide additional comments below on LED form factor and application suitability.

### Detailed Comments

#### **Effective Date**

The Energy Commission proposes the following effective dates for the lamps in this proposal:

<b>Product</b>	<b>Method</b>	<b>Date</b>
Expanded GSLs	Sell by	January 1, 2020
Low lumen products	Manufactured by	

We understand that the Commission is trying to harmonize the implementation method for the expanded GSL rulemaking with the (yet to be finalized) DOE draft, i.e., a sell by date. At the same time, the low lumen products would follow a manufactured by plan. As the draft rulemaking moves forward, we strongly urge to commission to consider that providing two different methods will only lead to confusion in the market.

The desire to harmonize with the DOE also implicitly assumes that if the DOE implements a 45 LPW limit, it will be implemented as a sales ban. The DOE has publicly recognized the difficulties of a sales ban, however, and may decide on something more practical like a manufactured by plan.

According to the California Retail Association website, there are over 400,000 retail establishments in California. If we conservatively estimate that only 10% of these stores sell lamps, there are roughly 40,000 points of contact that would have to know about and implement a ‘sell by’ date. This is a huge communication task for the Commission or their consultants. Contrast this with the 100 or fewer manufacturers that currently have product in the MAEDBS database who would have to be contacted.

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<sup>2</sup> California Energy Commission. Transcript of 08/28/2018 General Service Lamps (Expanded Scope) Staff Workshop, pg 72.

Implementing a ‘manufactured by’ date is much simpler from a logistics point of view. There are no products to return, no stranded inventory for retailers, no unhappy consumers and, despite what some stakeholders would have you think, it is easier for the CEC to enforce a ‘manufactured by’ date with 100 or so producers than keep product off the shelf at 40,000 retailers.

Because the actual product manufacturing needs to be shut off well in advance to deplete the pipeline, from a manufacturer perspective a ‘sell by’ date actually goes into effect months earlier for the manufacturer. A ‘manufacturer by’ date would give manufacturers time to develop new products. A ‘sell by’ implementation will hurt consumers, retailers and manufacturers.

We strongly urge the Energy Commission to adopt an effective date based on ‘date of manufacture’ for General Service Lamps.

### **Lamp Form Factor**

We want to explore in more detail the idea that if you can make a low lumen, non-dimmable, 12V LED lamp in a small size, you can make any LED lamp in a small form factor.

Consider the double ended halogen lamp shown below:



Typical parameters for wattage and lumen package are: 100W (1200 lm), 150W (2400 lm), 300W (6000lm), 500W (10500 lm) for lamps that are 4.7 inches long and 3/8 inch in diameter.

There are LED replacements for the 100W lamp on the market now. However, they have a larger diameter, ~0.6 inches, and may not produce the desired light output, because the fixture optics were designed for a small high intensity linear filament.

It may be possible to reach higher lumen packages by building a LED lamp that extends outside the outline of the halogen lamp it is replacing, but it is likely that it will not fit in all fixtures designed for the original halogen lamp. Also, If the lamp is completely enclosed by the fixture, then the maximum lumen package (for identical lifetime) decreases because of the increased temperature in the enclosed space.

Another example is the 120V halogen T4 lamp with a looped-pin G9 base.



These are available up to 100W (1900 lm), and in 40W (500 lm); 50W (750 lm); 60W (830 lm); and 75W (1100 lm).

The highest lumen output LED replacement for this product is a non-dimming 380 lumen product that uses 3.5W, with a 15000 hour life. Thus, only lamps below an equivalency of ~30W are feasible, where the halogen lamps 100W/1900 lumens.

Dimming places extra requirements on LED lamps. Especially in small form factors and at lower power levels, dimming electronics are considerably less efficient. If dimmability is required, then the maximum number of lumens available from a given lamp volume decreases. Dimmability in small form factors will reduce maximum light output. The effect depends on the exact volume and power level, but may cause as much as a 25% reduction in maximum light output.

The Commission has seen issues similar to the above as a result of the SDDL rulemaking where certain types of incandescent/halogen lamps cannot be replicated by LED lamps in the same form factor and are not available in the market.

Irrespective of whether a manufacturer has the technical ability to make an LED version of all GSL's covered by the proposed regulation, the fact is that the US lighting industry does not have a complete portfolio of 1:1 LED replacements. New product development is driven by sales volume and business cases. Building up an entire portfolio takes time and cannot occur overnight.

END COMMENTS