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Beaverton, OR 97008
www.softlights.org

April 10, 2022

BY EMAIL

Maricela Segura, Director, Western Region Los Angeles
Federal Trade Commission
msegura@ftc.gov

Re: San Diego Gas and Electric LED Fraud

Dear Maricela Segura,

The Soft Lights Foundation is a non-profit corporation registered in Oregon, with members in California and other states. We advocate for protection of people and the ecosystem from the harms of light pollution, especially LED light. Since 2017, we have accumulated extensive knowledge about the toxicity of artificial light at night, especially non-uniform surface source light such as LEDs, and about the myth the LEDs are energy efficient.

We hereby request that the Federal Trade Commission hold Pacific Gas and Electric accountable for fraudulently claiming that LEDs are energy efficient. The following statements posted on SDG&E's website are fraudulent.

Purchase discounted energy-efficient LED lamps at various participating retailers around San Diego County, including home improvement, membership, and local market locations.

<https://www.sdge.com/residential/savings-center/rebates/residential-lighting-program>

Time to shine? Time to save. Your business's lighting can affect mood, productivity – and your bottom line. Upgrade to energy-efficient LEDs.

<https://www.sdge.com/businesses/savings-center/rebates-incentives/small-commercial-program>

The LED lights use 85 to 89 percent less energy than incandescent lights. The bulbs are dimmable and come in the 60 to 90 watt range.

<http://newsroom.sdge.com/clean/fall-energy-savings-sdge-and-amazon>

LED lights are a type of light called a surface source light. Light from an LED chip creates a narrowly directed beam of non-uniform energy. This non-uniform energy light interferes with the human nervous system, resulting in nausea, epileptic seizures, migraines, panic attacks, anxiety, and eye injury.

Luminous Efficacy is a measure of the luminous efficiency of a light source. It is the ratio of the total luminous flux emitted to the total power input, expressed in lumens per watt. The chart below shows the approximate luminous efficacy for different lighting technologies.¹

¹ https://www.ledrise.eu/blog/led_efficacy_efficiency_explained-lr/

Lamp Type	Luminous Efficacy (lumens / watt)
Incandescent	10
Fluorescent	60
Compact Fluorescent	60
High-Pressure Sodium	120
Light-Emitting Diode	120
Low-Pressure Sodium	150

Energy Efficiency is providing the same quality of service using less energy.

Energy efficiency and luminous efficacy are not the same thing.

There are two types of light: point source and surface source. These two types of light provide different services. A point source provides uniform illumination which is safe and useful for lighting a volume of space. On the other hand, a surface source provides a directed energy beam of non-uniform light, which is useful for fiber optic communications, but unsafe and not useful for illuminating a volume of space. Surface sources such as LEDs do not provide the same quality illumination service that is provided by point sources such as

incandescent and HPS. For illumination purposes, LED light is of such a low quality that it is toxic for humans.

To make the claim that LEDs are energy-efficient, the LED light must have a higher luminous efficacy, plus the LED light must provide the same quality of service as the incandescent light or the same quality of service as the High-Pressure Sodium light. Since LEDs do not provide the same quality of service as incandescent or HPS, the claim that LEDs are energy efficient cannot be made, even if the luminous efficacy is higher.

San Diego Gas & Electric has purposely equated luminous efficacy with energy efficiency to fraudulently claim that LEDs are energy efficient. By making the impossible leap that luminous efficacy equates to energy efficiency, SDG&E has defrauded hundreds of city governments in California and the public, resulting in profit for SDG&E, and a severely degraded service for SDG&E's customers. This has resulted in hundreds of millions or billions of dollars in damage.

We request that the FTC take the following actions:

- 1) Impose significant monetary penalties on SDG&E for fraudulent and deceptive practices.
- 2) To protect public health, require SDG&E to remove all outdoor LED streetlights.

- 3) Require SDG&E to remove the false claim that LEDs save energy or are energy efficient from its website and marketing materials.
- 4) Require SDG&E to notify the public via its website that LEDs are not energy efficient, and to alert the public to the toxic effects of non-uniform energy surface source LED light.

Sincerely,

Mark Baker

Mark Baker
President

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