

BILL ANALYSIS

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Date of Hearing: April 8, 2013

ASSEMBLY COMMITTEE ON UTILITIES AND COMMERCE
Steven Bradford, Chair
AB 719 (Hernandez) - As Amended: February 21, 2013

SUBJECT : Energy Efficient Street Lights

SUMMARY : This bill would require an electrical corporation to replace low-efficiency light bulbs with high-efficiency light bulbs in street light poles that the electrical corporation owns.

Specifically, this bill :

- a) Requires electrical corporations, as part of the energy efficiency targets established by the California Public Utilities Commission (PUC), to replace low-efficiency light bulbs with high-efficiency light bulbs in street light poles that the electrical corporation owns, at the same rate as the city, county, or city and county in which any of the electrical corporation's street light poles are located or at the highest rate of an adjacent city or county if the street light poles are located in a city or county that does not own any street light poles.
- b) Expresses the intent of the Legislature that this program be funded through existing collection mechanisms, and that the implementation of this program not result in an increase in any amount collected.

EXISTING LAW

- 1) Directs the PUC to administer cost-effective energy efficiency programs funded by a nonbypassable system benefits charge assessed on ratepayers to fund energy efficiency programs. (Public Utilities Code 381)
- 2) Requires electrical corporations to first meet its unmet resource needs through all available energy efficiency and demand reduction resources that are cost effective, reliable, and feasible. (Public Utilities Code 454.5 (b)(9)(C)).
- 3) Requires the PUC, in consultation with the California Energy Commission (CEC), shall identify all potentially achievable cost-effective electricity efficiency savings and establish

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efficiency targets for an electrical corporation to achieve. (Public Utilities Code 454.55)

FISCAL EFFECT : Unknown

COMMENTS :

1) Author's Statement. According to the author, "Our street lights are neglected public facilities that are operating on outdated energy technology with cities footing the higher energy costs associated with this old technology. Corporate utilities that stand by without making energy efficiency retrofits, profit from the status quo when more energy is consumed by their customers, at the expense of the tax payers and the environment. In my district, of the 653,209 street lights that the servicing utility company owns, only 16 of those have been replaced with energy efficiency lighting. That is less than two tens of thousandths of one percent (0.00025) of their street lights. Something has to be done to provide relief to our cities and counties, particularly when they are making strides and efforts of their own in addressing the matter."

2) Who owns the Street Lights? Street light poles can be owned by local governments, Investor Owned Utilities (IOUs), homeowner associations, or private parties. According to data provided by the PUC, local government and IOUs own the following number of street light poles:

Utility	IOU owned	Local Government Owned

PG&E	175,585	554,000
SCE	653,209	115,460
SDG&E	27,981	119,469

The local government pays the energy bill for the street light regardless of whether the pole is owned by the government or the utility.

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A number of cities in California have received loans and grants to fund energy efficient streetlight replacements through the American Recovery and Reinvestment Act of 2009 (AARA), administered by the California Energy Commission (CEC). It is not known how many cities have converted street lights without assistance or how many will be able to convert assistance now that the grant program has stopped accepting new applications (although some new assistance may be available through revolving loan programs).

Of the local government owned poles, roughly 20% in Pacific Gas and Electric (PG&E) area have been converted, about 1% in Southern California Edison's (SCE's) area have been converted, and about 40% of San Diego Gas & Electric (SDG&E) area poles have been converted. Very few utility-owned poles (less than 40 total) have been converted.

3) Who's motivated to convert Street Lights? Generally it is the entity paying the energy bill that has a motivation to reduce energy consumption. In this situation, the pole is owned by the utility and the local government pays the energy bill. As a result, local governments are motivated to find ways to reduce energy usage and save money.

The author suggests that utilities lack an incentive, particularly for IOUs, to pursue street light efficiency improvements. The PUC-approved rated schedule for PG&E and SCE owned street and highway lighting requires the customer to pay 100% of the conversion cost of High Pressure Sodium Vapor (HPSV) to Light Emitting Diode (LED).

Currently, local governments are eligible for ratepayer-funded rebates to help reduce street light conversion costs. The PUC has not allowed utilities to be eligible for ratepayer-funded rebates for this purpose.

PG&E is proposing to replace up to 160,000 non-decorative utility-owned streetlights in its 2014 General Rate Case. PG&E is proposing that the costs for the program through an adjustment in the facility charge for customers who elect to participate in and benefit from the program. PG&E estimates replacing HSPV with LEDs will saving 52.8 million kilowatt-hours annually, reduce customer energy bills (which includes the cost of the facility charge), and improve reliability through fewer streetlight burnouts.

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4) New Technologies May or May not Meet the Service Requirements for Street Lights. High Pressure Sodium Vapor (HPSV) lights are the predominant type of street light technology. Energy efficiency opportunities for improving street lights can be accomplished via induction lights or light-emitting diode lights. Depending on models and usage, induction lights can reduce energy consumption by 10 to 50 percent and last up to four times longer than HPSV lights. Light Emitting Diode (LED) lights can reduce energy consumption by up to 50 percent and last twice as long as HSPV lights.

LED lighting systems do not have established standards therefore there may be financial risks with purchasing currently-available technology that does not deliver the type and level of lighting necessary to provide similar level of lighting services that were provided by the HSPV technology. According to a 2011 report by the Rensselaer Polytechnic Institute's Lighting Research Center which tested various streetlight technologies against design criteria specified by

the American National Standards Institute (ANSI), the tested LED streetlights required from 3% to 92% more poles per mile than the base case to meet the ANSI standard. Pole configuration (staggered vs. single sided). The study found that with the additional poles necessary to achieve equivalent lighting the net energy consumption would increase an average of 51% to 41% more per mile. Rensselaer estimated that an incentive range of \$250 to \$1550 per streetlight in addition to a volume discount for an LED with a life of 25, 000 hours or longer or an induction streetlight would be needed to achieve a lower life-cycle cost per mile than the study's base case. As lighting technologies improve, it is likely these issues will be addressed.

Alternatively, or in addition, control technologies could help reduce street light energy consumption by dimming or turning off the lamp during certain specified time periods.

5)Street Lights Perform a Service . Communities use street lights to provide a public benefit. Examples of public benefit include providing enhanced visibility at intersections where vehicles might encounter pedestrians or to deter criminals who benefit from the cover of darkness. According to the U.S. Department of Justice, it street lighting is not always that straightforward and some crime-prevention experts hypothesize

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that street light can sometimes increase crime (nighttime as well as daytime). For purposes of safety, the U.S. Department of Justice, in its report on "Improving Street Lighting to Reduce Crime in Residential Areas," they describe several considerations for police to consider for specific lighting improvement projects:

- a. Product life
- b. Energy Efficiency
- c. Color rendering (the perceived color of an object),
- d. Optical Control (direction of light distribution)
- e. Brightness (of the object and the light emanating from the lamp)
- f. Vertical illumination (the measure of light delivered at a sufficient height from the ground so that people can see the faces of other pedestrians) and
- g. Glare.

6)Who pays for the conversion? The bill intends that streetlight conversions of utility-owned poles be funded through existing mechanisms without increasing collections from ratepayers. The existing mechanisms are ratepayer-funded energy efficiency programs. The PUC has established collections from ratepayers of approximately \$1 billion annually for the current energy efficiency programs.

The ratepayer funds have been allocated to specific programs for residential, commercial, industrial, agriculture, and local government energy efficiency improvements. In order to protect the ratepayer dollars used to fund these programs, they must be cost-effective. According to AB 719, the program is not to cause an increase to existing funding mechanisms. This would result in reduced funding for some currently funded programs or future programs.

7)Unintended Consequences? Because AB 719 does not require the street light owner (the IOU) to fund any of the costs for the lighting retrofit, AB 719 could establish a precedent for this level of ratepayer funding for other energy efficiency programs. In addition, it would set a precedent for using ratepayer funds for energy efficiency improvements at/on utility-owned facilities.

Through the current energy efficiency programs, utilities also receive an incentive for achieving energy efficiency goals. AB

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719 could result in IOU shareholders receiving 100% funding for these conversions and an additional incentive for the deemed savings for these conversions.

8)Proposed Amendments. To address the issues of reducing demand for electricity and reducing electricity costs paid by local

governments for utility owned streetlights, without impacting other ratepayers, the author may wish to amend the bill to allow local governments to voluntarily elect to a new rate plan that will 1) fund the energy efficiency improvements over time through the tariff remitted by the local government, 2) achieve lower electricity bills, and 3) be eligible for ratepayer-funded rebates to help offset the cost of the improvement. Additionally, the author may wish to set a deadline by which the new rate plans are filed at the PUC by the IOUs.

~~384.5. (a) It is the intent of the Legislature that the program created by this section be funded through existing collection mechanisms for the purposes of achieving cost-effective electricity savings and establishing energy efficiency targets, and that the implementation of this program not result in an increase in any amount collected for these purposes. Utility owned street light poles, whose electricity use is paid by local governments, are converted to use cost-effective technology that reduces electricity consumption so that a city, county, or city and county will achieve lower utility bills for the electricity used by these street lights poles. The commission shall order, by March 1, 2014, electrical corporations to submit a tariff to be used, at the discretion of the local government, to fund energy efficiency improvements in street lights pole owned by the electrical corporations to ensure reduced energy consumption and lower electricity bills for local governments who are the streetlight customers covered by these tariffs.~~

~~(b) As part of the energy efficiency targets created pursuant to Section 454.55, an electrical corporation shall, for street light poles the electrical corporation owns, implement a program targeting the replacement of low-efficiency light bulbs with high-efficiency light bulbs. The tariff shall be designed to allow local governments to remit the cost of the improvement through the tariff over time, result in lower energy consumption and lower energy bills, without shifting costs to non-participating ratepayers. -~~

~~(c) (1) For street light poles owned by an electrical~~

corporation, the electrical corporation shall install high-efficiency light bulbs in those street light poles at the same rate that the city, county, or city and county in which those street light poles are located has installed high-efficiency light bulbs. The conversion performed pursuant to the tariff submitted pursuant to subdivision (a) shall be eligible for any rebate or incentives available through ratepayer funded programs intended to increase energy efficiency. -

~~(2) For street light poles located in a city, county, or city and county that do not own any street lighting infrastructure, the electrical corporation shall install high-efficiency light bulbs in those street light poles owned by the electrical corporation at the rate of installation of an adjacent city or county with the highest rate of installation.~~

9)Related Legislation. AB 1235 (Hernández, 2011- 2012) was amended in the Senate and was not heard.

REGISTERED SUPPORT / OPPOSITION :

Support

Sierra Club California

Opposition

San Diego Gas & Electric (SDG&E)
Southern California Edison (SCE) (unless amended)
Pacific Gas and Electric (PG&E)

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