



On October 14, 2015, Public Service Company of Colorado (PSCo) issued a 60-Day Notice to update technical assumptions and add new measures for the Lighting Efficiency and Lighting – Small Business products. The technical assumption changes will be implemented as proposed, throughout the 2015/16 DSM Plan period; the new measures will launch January 1, 2016. The original Notice and accompanying documentation can be found on the Company's website, here:

http://www.xcelenergy.com/Company/Rates_&_Regulations/Filings/Colorado_Demand-Side_Management.

The Company received written comments on the Notice from one Roundtable participant: the Energy Efficiency Business Coalition (EEBC). The Company appreciates EEBC's thorough review of the 60-Day Notice and thoughtful comments. After careful consideration of the comments, the Company determined that further changes to these products were not necessary at this time, but may be applied in the future (for comments (a) and (c) below). The Company provides a detailed response to comments below:

1. Comments Submitted by EEBC

- a. *As far as the high bay lighting to LED goes; I think it is a good plan. Hopefully they have something in the rebate that compares replacing fluorescent systems with LED's in addition to replacing HID systems with LED's.*

Response: The Company evaluated replacement of fluorescent and HID systems with LED high/low bay technology. The results indicated HID to LED high/low bay retrofits are cost-effective, while fluorescent to LED high/low bay retrofits are not cost-effective. The Company thinks fluorescent to LED high/low bay retrofits will be cost-effective within the near future as LED costs continue to decrease and we will evaluate the opportunity to add this option.

- b. *The LED tubes I am not sold on, but glad they are moving in the right direction. They need to make sure they have something from the bulb manufacturer that doesn't void the UL on the fixture after the retrofit. For example are the sockets*

rated for a line voltage lamp or will they burn them up and cause a fire. Another question I have is a lot of these bulbs can operate off of a T8 ballast; do those qualify or is the hard wired ones only? What about the ones with the external driver, where do those fall? I hope they considered it all when determining what will qualify.

Response: The Company evaluated all three UL Type LED tubes (A, B, and C). Through the evaluation process, we identified that the UL Type B tubes pose a safety risk due to the direct line voltage connection to the fixture sockets. In discussions with the major lighting manufactures about the UL Type B LED tubes, manufactures have decided to no longer manufacture this UL Type B product. The Company interpreted this information to mean that the UL Type B will likely be phased out, therefore the Company will no longer offer a prescriptive rebate for them. However, the UL Type B can still be evaluated under the Company's Custom Efficiency program for a potential rebate.

The Company will offer UL Types A and C tubes as prescriptive rebates. These technology types have found to be the industry-wide accepted standard and also are listed as a product category within the DesignLights Consortium (DLC) Qualified Product List (QPL). The DLC defines the UL Type A and the UL Type C as the following:

Replacement Lamps ("plug and play") (UL Type A). Four- and two-foot "tubes" designed to replace four- or two-foot fluorescent lamps, respectively. Products in this category employ lamp holders to connect to the fixture being retrofitted and are designed to be "plug and play" replacements for fluorescent lamps. That is, products in this category can operate off existing fluorescent ballast, and do not require mechanical or electrical changes to the fixture. Note that due to testing considerations, at this time only products that can operate off electronic instant start ballasts are eligible. Replacement lamps designed to operate off existing magnetic ballasts, or off other types of electronic ballasts, are not eligible. (see DLC Replacement Lamps page for more detail on testing requirements)

External-driver Lamp-Style Retrofit Kits (UL Type C). Four- and two-foot "tubes" designed to replace four- or two-foot fluorescent lamps, respectively. Products in this category employ lamp holders to connect to the fixture being retrofitted, do not operate off the existing fluorescent ballast, and require rewiring of the existing fixture to replace the ballast with an external driver. The lamp holders are then wired to receive only the low-voltage electricity that is supplied by that external driver. Note that due to testing considerations, only one- or two-lamp four-foot lamp systems, or one- and three-lamp two-foot lamp systems are eligible. Development of provisions for systems with alternative numbers of lamps

operating off single drivers is under consideration. (see DLC Replacement Lamps page for more detail on testing requirements)

c. I hope they took into consideration a range of wattages instead of a specific wattage, because LED's are getting more and more efficient every day.

Response: The Company did take into consideration a range of wattages available in the market during the time of measure development and will work to update the wattage ranges as the efficacy increases, over time. This will be updated within the Deemed Fixtures & Combinations Table available on our website here:

<http://www.xcelenergy.com/staticfiles/xcel/Marketing/Files/CO-Bus-Deemed%20Fixture-Table-Combinations.pdf>.