

Overview of Changes

SWEPCO has finalized modifications to its energy efficiency programs which will ultimately lead to the phase out of incentives for the replacement of T-12 systems. The program modifications will require that all T-8 systems incentivized through the programs be high performance ("high lumen output" or "low wattage") T-8 systems when they are replacing T-12 systems.

Why Are the Lighting Standards Changing?

Since 2005, The Energy Policy Act (EPACT 2005) has become a driving force in setting efficiency standards for products and Federal building energy consumption. The focus of EPACT 2005 is to increase lighting efficiency by 25-30% and includes the phase out of older T-12 fluorescent lighting in favor of products that produce greater lumens per watt of power. In 2012, T-12 lamps and magnetic ballasts can no longer be manufactured. In response, SWEPCO is seeking to decrease the estimated useful life of T-12 lighting retrofits, allowing them to accurately reflect the savings impacts of these products until the market has transitioned away from T-12 technology. In addition, all T-12 to T-8 lighting retrofits must use high performance T-8 systems.

What Are the “High Performance T8 System” Requirements?

The “High Performance” T-8 requirement sets the performance requirements on eligible T-8 lamps and ballasts described in the list below. Once SWEPCO finalizes and implements the changes, all projects that have not completed and passed pre-inspection by that point will be evaluated under the new requirements.

1. 4-foot T-8 systems – Equipment must meet the High Performance or Reduced Wattage lamp and the ballast efficiency specifications developed by the Consortium for Energy Efficiency (CEE) - <http://www.cee1.org/com-1t/com-1t-main.php3>. Lamp specifications are found on the next page.
2. Note: **Retrofit projects using T-12 electronic ballasts or standard T-8 electronic ballasts will not be eligible for incentives.**
3. 8-Foot T-8 System Ballasts – As with 4-foot systems, premium efficiency ballasts (i.e. Trade Names: Ultramax, QHE, Optanium) will be required. Lamp/ballast systems must meet the system efficacy requirements found on the next page. 3-Foot and 2-foot T-8 Electronic Ballasts – These lamps use the same ballasts as the 4-foot systems, so projects using these systems will need to use qualified ballasts from one of the CEE Qualifying lamp/ballast listings above.
4. 8-Foot, 3-foot, 2-foot, and U-bend T-8 Standard and 30W Reduced Wattage Lamps – CEE does not include these lamp products in their listing, but all lamps within these categories will need to be high light output “800-Series” or reduced wattage lamps to be eligible for an incentive. These lamps are sold under a wide variety of trade names that vary from manufacturer to manufacturer. Specific lamp performance requirements for each type of lamp are found below.

Specifications for Qualifying T8 Lamps and Ballasts

Lamp Description	Rated Lamp Life (hrs)	CRI	Initial Lumens per Lamp	Mean Lumens per Lamp	Minimum Mean Lumens per Watt (MLPW)
4-foot and U-Bend T8 Lamps ¹	≥ 24,000	> 80	≥ 3100	≥ 2900	90 (IS ballast) ³ 88 (PRS ballast) ³
4-foot and U-Bend T8 25W and 28W Reduced Wattage Lamps ²	≥ 18,000	> 80	≥ 2585(28W); ≥ 2400 (25W)	≥ 2430(28W); ≥ 2256 (25 W)	90 ³
2-foot T8 and Reduced Wattage lamps	≥ 20,000	> 80	NA	NA	75 ⁴
3-foot T8 and Reduced Wattage Lamps	≥ 20,000	> 80	NA	NA	75 ⁴
4-foot T8 30W Reduced Wattage Lamps	≥ 24,000	> 80	NA	NA	80 ⁴
8-foot T8 Lamp and Ballast Systems	≥ 18,000	> 80	NA	NA	80 ³
21.5"/22.5" Reduced Watt long twin tube CFL	≥ 20,000	> 80	NA	NA	92 ⁴

1) For lamps with color temperatures > 4500 K, minimum requirement of 2950 initial and 2750 mean lamp lumens

2) For lamps with color temperatures > 4500 K and/or > 24,000 hrs rated life, minimum requirements of 88 MLPW system efficacy and for 28W lamps (2600 initial lumens; 2430 mean lumens) and 25W lamps (2300 initial lumens; 2185 mean lumens)

3) System Efficacy = Mean System Lumens/System Wattage; Lamp and Ballast performance taken together.

4) Lamp Efficacy = Mean Lumens/Lamp Wattage

Why Use High Performance (HP) Equipment?

While the use of High Performance T-8 equipment will be required to receive incentives through SWEPCO's programs, there also technical and economic reasons for using high performance equipment.

- **Reduced Payback.** In many cases, the slightly higher initial cost associated with high performance products will pay off economically for a customer by dramatically reducing the project payback time. Going beyond standard 8-foot 2-lamp T-8's slightly reduces payback time using HP 8-foot equipment; additionally, the payback time can be dramatically reduced if an 8-foot system is converted to a more cost-effective 4-foot system.
- **Reduced Maintenance.** Longer life and fewer lamps results in lower maintenance costs. Additionally, fewer lamps have to be kept in stock.
- **Improved Color Rendering Index.** High performance lamps provide better color rendering with a more natural color appearance, making environments more comfortable and pleasant.
- **More Light Using Less Energy.** High performance systems have higher lumen output using less energy to save on operating costs.