



The following requirements apply when EWEB pays incentives or rebates for savings. Customers are responsible for any necessary permits needed for their application and proper disposal of all removed equipment.

## **PART I: LIGHTING PROJECTS**

1. Existing Building Lighting Retrofit:
  - A. Light fixtures retrofitted or replaced with more efficient systems. A fixture retrofit uses the existing housing to accommodate new lamps and ballasts in the same or different configurations.
2. New Construction and Major Renovation Lighting:
  - A. All new construction and spaces that are being extensively remodeled where more than 50% of the existing fixtures are replaced and are required to meet the Oregon Energy Code requirements.

## **PART II: ACCEPTABLE PRODUCTS**

2. Fluorescent Ballast:
  - A. Ballast shall be a high frequency electronic type, ANSI C82.11-1993, and operate lamps at a frequency of 20-33 kHz or above 40 kHz.
  - B. Ballast shall be Underwriters Laboratory (UL 935) listed, Class P and CSA certified.
  - C. Ballast shall operate lamps with no visible flicker (<3% flicker index).
  - D. Ballast shall have a Power Factor greater than 90%.
  - E. Ballast shall be Sound Rated A.
  - F. Ballast shall not contain polychlorinated biphenyl (PCB's).
  - G. Ballast shall tolerate operation in ambient temperatures up to 105°F (40°C) without damage.
  - H. Input current Total Harmonic Distortion shall not exceed 20%.
  - I. Ballast shall be manufactured in an ISO 9002 Certified Facility.
  - J. Ballast shall be provided with a 5-year replacement warranty against defects in materials and workmanship from the date of manufacture.
  - K. Ballast must be NEMA Premium or be on the current CEE approved ballast list.
3. Fluorescent T8 Lamps:
  - A. Minimum of 24,000-hour rated average life on 3 operating hours per start.
  - B. Minimum color rendering index of 80.
  - C. Minimum of 2,950 initial lumens, 2,710 design (mean) lumens.
  - D. Must meet EPA TCLP compliant mercury content standards.
4. Fluorescent T5HO Lamps:
  - A. Minimum of 20,000-hour rated average life on 3 operating hours per start.
  - B. Minimum color rendering index of 80.
  - C. Minimum of 4,450 initial lumens, 4,140 design (mean) lumens.
  - D. Must meet EPA TCLP compliant mercury content standards.

5. LED Luminaries:
  - A. Luminaries and components shall be Underwriters Laboratory (UL) or CSA listed or classified.
  - B. Must be listed ENERGY STAR, DLC or LDL
6. Screw-in LED Lamps:
  - A. Must be on Energy Star qualified LED light bulbs list

**LED Lamp Lists**

[Energy Star LED Light Bulbs](#)

[LDL LED Lamp List](#)

7. Fluorescent Luminaries:
  - A. Luminaries and components shall be Underwriters Laboratory (UL) or CSA listed or classified.
8. High Performance 32W T8 Systems:
  - A. Lamps and ballasts shall meet Consortium for Energy Efficiency (CEE) specifications, and be on the current CEE products list. [www.cee1.org](http://www.cee1.org)
  - B. Load reduction must meet the following Energy Density Limit:
    1. Rebate retrofit: system wattages per rebate catalog
    2. Site-Based retrofit: Lighting power density 120% of current Oregon Energy Code.
    3. New construction: Lighting power density 80% of current Oregon Energy Code.
    4. Manufacturing Facility: Load Reduction 30% of existing Lighting Load.
9. Occupancy Sensors and Electronic Timers:
  - A. Occupancy sensors shall be U.L. listed or CSA classified.
  - B. Occupancy sensors shall be provided with manual sensitivity adjustment and an adjustable or fixed-time delay during which controlled luminaries remain on after the space is vacated. Fixed-time delays shall be at least 30 seconds and no more than 20 minutes.
  - C. Occupancy sensors shall be provided with a minimum 3-year manufacturer warranty.
  - D. Electronic timers shall be capable of automatic shut-off of lights in unoccupied space. Time range shall be adjustable for 5 minutes to 12 hours.
  - E. Electronic timers shall have a visual warning when automatic shut-off is imminent when controlling interior lighting.
  - F. Outdoor lighting shall be automatically controlled by both time clock and photocell or by astronomic time clock. Timers shall be capable of automatic adjustment for seven days and shall have back-up capabilities to prevent the loss of the device's program and time setting for at least 10 hours if the power is interrupted.
10. Daylighting Controls:
  - A. Electronic dimming ballast shall control the light output of the lamps continuously within the range of 10% to 100% light output.
  - B. Daylighting sensors shall be adjusted and commissioned, with maximum trim adjusted for no more than 120% of target light level.
11. HID Lighting:
  - A. Luminaries and retrofit kits shall be U.L. listed or classified per specific application (e.g., exterior luminaries to carry a U.L. wet or damp label designation).
  - B. Power factor shall be greater than 90%.
  - C. Lamps in open fixtures shall be of the safety type in which the arc will automatically extinguish if the outer glass envelope is broken.

12. Exit Lighting:
  - A. All new exit sign fixtures shall be LED type.
13. LED Lighting:
  - A. Luminaries must be on current Energy Star qualified LED lighting products list

#### **LED Fixture Lists**

[Energy Star Qualified LED Lighting](#)

[Design Lights Consortium Commercial Fixtures](#)

[LDL LED Fixtures and Tubes List](#)

- B. Must have lighting facts labeling on product packaging
- C. If product has none of the above, contact EWEB Commercial Energy Management Services at (541) 685-7000

### **PART III: INSTALLATION—All Fixture Types**

1. In retrofit lighting applications, fixtures, and fixture lens shall be clean and all dirt and dust removed by vacuuming, wiping, or brushing. Wash with a suitable cleansing agent and dry.
2. When installing new fixtures, visible labels are to be removed and blemishes touched up. Fixture and lamps shall be clean.
3. Delamped fixtures shall have the ballast and lamp holder wire leads cut. Ballast and unused sockets must be removed from the fixture and the ballast cover labeled "delamped."
4. Ballasts removed from a fixture must have the power leads cut at the ballast so that they are permanently disabled.
5. PCB ballasts and fluorescent lamps must be disposed of in accordance with local, state, and federal regulations.
6. All fixtures removed must be dismantled and recycled or disposed of, unless they are to be retrofitted and relocated within the project space.
7. EWEB shall be notified when the work will be performed. **EWEB reserves the right to inspect fixtures for program compliance before, during, and at the time of substantial completion.**
8. Contractor shall provide materials and labor warranty for one year from date of installation, including 5-year fluorescent ballast manufacturer replacement warranty.

### **PART IV: DISPOSAL – LAMPS AND BALLASTS**

1. All lamps and ballasts must be disposed of in accordance with applicable federal, state and local waste disposal regulations.
2. Submit [Lighting Waste Disposal Form](#) at project completion.

## PART V: EWEB INCENTIVE AND REBATE ELIGIBILITY

1. Lamps not funded under our program:
  - A. T12 and T8, 8-foot F96 fluorescent lamps
  - B. T12, T10, VHO, and HO fluorescent lamps
  - C. Incandescent lamps
  - D. Low Voltage incandescent lamps
  - E. Halogen lamps
  - F. Mercury Vapor
  - G. LED exit sign retrofit kits
  - H. Compact Fluorescent
  
2. Other conditions where funding is not allowed:
  - A. Delamping as a sole method of achieving energy efficiency.
  - B. Site-Based (non-rebate) projects that are not PRE-approved by EWEB. (Projects that do not have a signed Energy Savings Purchase Agreement.)
  
3. Funding calculated based on electric savings shall be limited as follows:
  - A. Rebates are limited to cost as documented on invoice or receipts.
  - B. Retrofit site-based project funding is limited to 65% of contracted cost, or 100% of material cost where installed by customer facilities management staff.
  - C. New construction funding is limited to the **incremental** cost of the installed system where the cost is greater than a system that meets Oregon energy code or standard construction practice.
  - D. Additional design costs may be funded with prior approval.