



OREGON  
DEPARTMENT OF  
ENERGY

## **Oregon Administrative Rules**

# **1.5 Percent for Solar Energy in Public Building Construction Contracts**

**OAR 330-135-0010 to 330-135-0055  
(Implementing 2007 Or. Laws Chapter 310 – H.B. 2620)**

**Effective January 1, 2008**

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**DIVISION 135**  
**1.5 PERCENT FOR SOLAR ENERGY**  
**IN PUBLIC BUILDING CONSTRUCTION CONTRACTS**

**330-135-0010**

**Purpose**

- (1) The purpose of these rules is to establish procedures to administer 2007 Or. Laws Chapter 310 (HB2620), which requires that a contracting agency spend an amount equal to at least 1.5 percent of a public improvement contract for the construction or major renovation of a public building for the inclusion of appropriate solar energy technology in the building.

**330-135-0015**

**Definitions**

As used in OAR 330-135-0010 through 330-135-055:

- (1) “Building” means any structure used or intended for supporting or sheltering any use or occupancy, as defined in Section 202 of the 2007 Oregon Structural Specialty Code.
- (2) “Contracting agency” has the meaning given the term in ORS 279A.010(1)(b).
- (3) “Department” means the Oregon Department of Energy.
- (4) “Public body” has the meaning given that term in ORS 174.109 and includes the inter-governmental entities described in ORS 174.108(3).
- (5) “Director” means the Director of the Oregon Department of Energy.
- (6) “Total contract price” means the amount of the awarded public improvement contract for a building.
- (7) “Total Solar Resource Fraction” (TSRF) is the percent of a fixed axis solar energy system’s annual performance when compared to a system with optimal tilt and orientation and no external shading.

**330-135-0020**

**Eligible Building Projects**

- (1) These rules apply to permanent buildings that use energy and that will be owned or controlled by a public body and which are either:
  - (a) used by the public; or
  - (b) enclosed by walls and roof to allow employees to use or occupy the building on a regular basis for a significant part of their work.
- (2) Eligible public building projects are new capital construction projects for which the total contract price is \$1,000,000 or more and major renovations that exceed \$1,000,000 and 50% of the insured value of the building.
- (3) These rules apply to projects advertised, but if not advertised then entered into, on or after the effective date of this law. Projects that are funded by bond measures approved by voters before January 1, 2008, are excluded from the requirements of these rules if an application for building permit is made by December 31, 2009.
- (4) Public improvements that are not buildings are not required to comply with the provisions of these rules. This includes, but is not limited to:
  - (a) Group U occupancies as defined in Section 312 of the 2007 Oregon Structural Specialty Code.
  - (b) Motor pools, parking lots, maintenance sheds, highways, bridges, sewers, fishponds, fishways and similar non-architectural structures.

### **330-135-0025**

#### **Eligible Contract Price**

- (1) The 1.5 percent to be spent on solar energy technology shall be based on total contract price, defined as the amount of the awarded public improvement contract.
- (2) The total contract price does not include architectural, engineering or land surveying services as provided in OAR Chapter 125, unless these services are part of the public improvement contract.
- (3) The amount to be spent on solar technology in a building shall be determined without regard to federal, state, or other incentives that may be available for the solar energy technology.
- (4) The amount to be spent on solar technology in a building shall be set at the time the initial public improvement contract is signed.
- (5) Any constitutionally, statutorily or contractually dedicated government funds for the building that have been determined to be unavailable for the installation of solar energy technology may be excluded when determining eligible costs under this section.
- (6) For buildings with a joint public-private ownership and occupancy, the 1.5 percent to be spent on solar technology in the building shall be pro-rated based on the public body's share of the ownership.
- (7) For buildings that are being constructed or renovated with private funding but which are intended for use, operation, or ownership by a public body, the 1.5% to be spent on solar technology in the building shall include the privately-funded share of the construction contract.

### **330-135-0030**

#### **Eligible Solar Energy Technologies and Performance Requirements**

- (1) Solar electric (photovoltaic), solar water heating, solar pool heating, and active solar space heating systems must:
  - (a) be approved by a Professional Engineer;
  - (b) meet the requirements of the Business Energy Tax Credit (BETC) program;
  - (c) have a Total Solar Resource Fraction (TSRF) of 75 percent or greater; and
  - (d) provide a two-year warranty covering all parts and labor.
- (2) Photovoltaic systems must be separately metered to record energy production.
- (3) The passive solar heating system, daylighting system or combined system must:
  - (a) reduce the building's regulated energy use by 20% or more as demonstrated with whole building energy modeling prepared under the direction of a professional engineer. For determining whether the system(s) reduce energy use by 20%, a similar building built to the energy provisions of the 2007 Oregon Structural Specialty Code shall be used as the baseline. Regulated energy includes heating, cooling, fan, pump, hot water, and lighting loads. Other equipment and process loads are excluded; and
  - (b) be commissioned by a third-party commissioning agent to ensure design intent is met and the system functions as designed.
- (4) Wind, biomass, hydro, geothermal, and any other "indirect" forms of solar energy are not eligible for inclusion as a solar energy technology.
- (5) Purchase of green tags does not constitute compliance with the requirements of 2007 Or. Laws Chapter 310.

### **330-135-0035**

#### **Eligible Solar Technology Costs**

- (1) For photovoltaic systems, eligible costs include the PV modules, mounting structure and hardware, modifications to the building structure specifically to accommodate the solar energy system, associated electrical equipment, metering, labor and system commissioning.

- (2) For building integrated photovoltaic (BIPV) systems, eligible costs include the difference between the costs for the BIPV components and the costs of the conventional building components that are modified or replaced to accommodate the installation of the BIPV system components.
- (3) For solar water heating and solar pool heating systems, eligible costs include the solar panels, mounting structure and hardware, associated plumbing and controls, metering, labor, and system commissioning.
- (4) For active solar space heating systems, eligible costs include the solar panels, mounting structure and hardware, associated plumbing and controls, metering, labor, and system commissioning. Costs for heat distribution systems, such as ductwork or radiant floors, do not qualify.
- (5) For passive solar systems and daylighting systems, eligible costs include materials and labor costs that can be directly and exclusively attributed to the passive solar and daylighting system, the cost for modeling the building energy performance, and commissioning to ensure the system is functioning as intended.
  - (a) For passive solar systems eligible costs may include, but not be limited to, added thermal mass and shading controls.
  - (b) For daylighting systems eligible costs may include, but not be limited to, automatic controls, light shelves, overhangs, automated louvers and blinds and related controls, skylights in spaces where automatic controls are present, and the portion of windows higher than 7 feet above the floor.
- (6) If less than 1.5% is spent on the passive solar system, daylighting system, or both, the remainder must be spent on photovoltaic or active solar systems.
- (7) Costs for kiosks or permanent educational displays located in or on the building that explain the solar technology incorporated in the project are allowed.
- (8) The contracting agency must be able to certify that costs are consistent with CPA certification of eligible costs according to the Business Energy Tax Credit Program (BETC) rules, OAR Chapter 330 Division 90.

### **330-135-0040**

#### **Alternative Financing**

- (1) Innovative financing arrangements to allow leveraging of federal, state, utility and other incentives, including but not limited to, lease-purchase agreements, power purchase agreements or energy savings performance contracts qualify under this program if;
  - a) The public body documents that the costs of the solar energy system meets or exceeds 1.5 percent of the total contract price of the building project; and
  - b) The solar energy system is affixed to the building or building site under the control of the public body, allowing for ballasted and other systems installed under a power purchase agreement.
- (2) The minimum term of the agreement under this section shall be ten years, unless ownership of the solar energy system reverts to the public body before that time.
- (3) Any agreement shall be exclusive to the solar energy system required under the provisions of 2007 Or Laws Chapter 310. Operation and maintenance costs clearly associated with the solar project are allowed. It shall not include terms relating to operation and maintenance or capital equipment purchase of any other equipment or services. For energy savings performance contracts, photovoltaic systems must be separately metered.

### **330-135-0045**

#### **Determining When Solar Energy Technology is Inappropriate**

- (1) If a contracting agency believes that the use of solar energy technology in a public building project is inappropriate, it shall request a review of these requirements from the Department. The public body must present the reasons for requesting the deferral in a document addressed to the technical panel.
- (2) The Department will refer any requests submitted under this section to a technical panel appointed by the Director. The technical panel will be a permanent panel with members serving terms of up to three years. The technical panel will include, but not be limited to, the following membership:
  - (a) A representative from a school district, education service district, or local government;
  - (b) A representative from a state agency or a university;
  - (c) A representative from the solar energy industry;
  - (d) An engineer or architect; and
  - (e) A member of the general public.
- (3) The technical panel will review the request and make a recommendation to the Department whether solar energy technology is inappropriate within 60 days of the request. In making its recommendation, the technical panel generally will consider whether there are physical constraints in the building or funding constraints that make the installation of solar energy technology inappropriate for the building. For example, it may consider, but not be limited to, the following issues:
  - (a) Whether the funding sources for the planned building specifically limit how the funds are to be expended;
  - (b) Whether the building is listed or eligible for listing on the National Register of Historic Places, and the solar installation would be visually disruptive to the historic character;
  - (c) Whether the Total Solar Resource Fraction (TSRF) is less than 75 percent;
  - (d) Whether net metering with the electric utility for a photovoltaic system is available on the site, and whether there is opportunity to use solar thermal, passive solar heating, or daylighting in the building;
  - (e) Whether the installation of solar energy technology would create security risks for staff or inhabitants of the building.
- (4) The recommendation of whether solar technology in a building is inappropriate will not consider cost-effectiveness of the solar energy system.
- (5) The technical panel may review a contracting agency's request to defer funds to a future building project rather than the next building project, if that future project is clearly identified and construction is planned to begin within the next three years.
- (6) The Department will convey the recommendation of the technical panel to the contracting agency requesting the review. The contracting agency or public body, as appropriate, will make the final determination whether installation of solar energy technology on the building is appropriate.
- (7) Nothing in this section shall be construed to waive the requirements that funds be deferred to a future building project pursuant to OAR 330-135-0040 if the request to deem the use of solar energy technology in a particular building project as inappropriate is approved.
- (8) The Department will include the technical panel's recommendation as well as the final decision regarding the installation of solar energy technology in the building in the biennial report to the legislature.

### **330-135-0050**

#### **Deferral of Required Solar Expenditures to Future Building Projects**

- (1) When a contracting agency determines that it is inappropriate to include solar energy technology in a building pursuant to OAR 330-135-0050, 1.5 percent of the total contract price for the

building so designated shall be included in the next building project undertaken by the contracting agency, in addition to the 1.5 percent otherwise required for the inclusion of solar energy technology in the future building project. This provision does not apply to a public improvement contract for which no state funds are directly or indirectly used. State funds include funds authorized for construction or renovation of the building. Incentives (e.g. Business Energy Tax Credit) and funds intended to support general purpose operations are not considered direct or indirect state funds for the purpose of this section.

- (2) Funds may not be used on an existing building or another site. The contracting agency may request a recommendation from the technical panel to defer funds to a future project if that future project is clearly identified and construction is planned to begin within the next three years.
- (3) Any amount spent on solar energy technology in excess of 1.5 percent of the total contract price may not be credited to other current or future projects.
- (4) If a solar energy system is removed from the building for any reason within 10 years of completion, the public body must spend an equivalent amount for solar energy technology on the next building project undertaken by the public body.

### **330-135-0055**

#### **Reporting of Expenditures on Solar Energy Technology**

- (1) For eligible buildings, the contracting agency shall report on compliance with these rules when funding for a building project is approved and upon completion of the project, in a format specified by the Department and which will be available to the public.
- (2) Information shall include, but not be limited to;
  - (a) public body name;
  - (b) building name;
  - (c) building use;
  - (d) building location;
  - (e) building size;
  - (f) estimated price of the public improvement contract upon which the amount to be spent on solar technology is calculated;
  - (g) projected completion date of building;
  - (h) a description of the solar energy technology or technologies used, or a description of why inclusion of solar energy technology was determined to be inappropriate;
  - (i) the costs of the solar energy system installed;
  - (j) estimated energy production or savings of the solar energy system; and
  - (k) estimated energy cost savings of the solar energy system.