

## CHAPTER 25

**TECHNICAL SUFFICIENCY STANDARDS FOR SOLAR ENERGY DEVICES OR SYSTEMS FOR THE PURPOSE OF QUALIFYING FOR A SALES AND USE TAX EXEMPTION**

## Authority

N.J.S.A. 54:32B-8.33 and 52:27F-11q.

## Source and Effective Date

R.1995 d.151, effective February 23, 1995.  
See: 27 N.J.R. 307(c), 27 N.J.R. 1194(b).

## Executive Order No. 66(1978) Expiration Date

Chapter 25, Technical Sufficiency Standards for Solar Energy Devices or Systems for the Purposes of Qualifying for a Sales and Use Tax Exemption, expires on February 23, 2000.

## Historical Note

The rules in Chapter 25, Technical Sufficiency Standards for Solar Energy Devices for the Purpose of Qualifying for a Sales and Use Tax Exemption, were previously codified at N.J.A.C. 14A:5, Department of Energy.

The rules originally were filed and became effective on November 20, 1978, as R.1978 d.401. See: 10 N.J.R. 352(d), 10 N.J.R. 563(b). In compliance with Executive Order No. 66(1978), the chapter was readopted as R.1983 d.486, effective October 19, 1983, with amendments thereto effective November 7, 1983. See: 15 N.J.R. 1450(a), 15 N.J.R. 1867(b). Pursuant to Governor's Reorganization Plan No. 001-1986, effective June 30, 1986, the Division of Energy Planning and Conservation in the Department of Energy was transferred to the Department of Commerce and Economic Development. The chapter expired on October 19, 1988, pursuant to Executive Order No. 66(1978).

The Division of Energy Planning and Conservation in the Department of Commerce, Energy and Economic Development proposed new rules at N.J.A.C. 12A:55 and, upon adoption by the Board of Public Utilities, were recodified at N.J.A.C. 14:25. The new rules were recodified and changed upon adoption to reflect the transfer of the Division of Energy Planning and Conservation from the Department of Commerce, Energy and Economic Development to the Board of Public Utilities, effective August 14, 1989, pursuant to Governor's Reorganization Plan No. 002-1989. The adopted new rules were filed December 28, 1989 and became effective March 5, 1990 as R.1990 d.64. See: 21 N.J.R. 282(a), 22 N.J.R. 832(a).

Pursuant to Executive Order No. 66 (1978), Chapter 25 was readopted as R.1995 d.151. See: Source and Effective Date. See, also, section annotations.

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## SUBCHAPTER 1. GENERAL PROVISIONS

## 14:25-1.1 Scope

These technical sufficiency standards for solar energy systems are designed to establish minimum criteria for the purpose of obtaining a sales and use tax exemption pursuant to P.L.1977, c. 465 (N.J.S.A. 54:32B-8).

## 14:25-1.2 Construction and amendment

(a) These rules shall be liberally construed to permit the Board of Public Utilities to effectively carry out its statutory functions and to insure the maximum conservation of energy sources within the State; and

(b) These rules may be amended by the Board of Public Utilities.

## 14:25-1.3 Definitions

The following words and terms, when used in this chapter, shall have the following meanings unless the context clearly indicates otherwise.

“Active system” means a system that converts solar radiation into thermal energy and requires a mechanical distribution system to transfer the thermal energy to the point of use.

“Administrator” means the Board of Public Utilities.

“Building” means any residential, commercial, or industrial structure.

“Collector” means a device that collects, absorbs and converts solar radiation into thermal energy and commonly includes glazing and/or other optical elements.

“Collector kit” means a collector supplied unassembled to the end user that includes all the component parts necessary to assemble the collector.

“Cost” means the purchase price.

“Direct gain” means the transmission of solar radiation directly into the space to be heated wherein the solar

radiation is converted to thermal energy by absorption into the interior surfaces.

“Distribution system” means that portion of a solar energy system which transfers thermal energy from the point of collection, through pipes or ducts and/or, from the point of collection to end-use, and where applicable, includes a fan and/or pump, reverse flow protection, and an automatic airpurging valve or which transfers electric energy through wires, conduits, inverters and devices required to connect to the utility or user’s electric system.

“Eligible” means that a system or component thereof qualifies for an exemption pursuant to N.J.A.C. 14:25-2.1.

“Glazing” means a transparent or translucent material which transmits solar radiation and minimizes loss of thermal energy, including glass, fiberglass, plastics and window films.

“Insulating device” means a fixed or movable exterior or interior device which prevents loss of thermal energy at night and in cold weather through glazing or vents, including insulating shutters, thermal curtains, window films and glazing.

“Passive system” means a solar energy system which utilizes natural convection or thermal radiation to maximize gains of thermal energy for heating and to minimize gains of thermal energy for cooling.

“Photovoltaic cell” means a device which converts solar radiation to electrical energy.

“Shading device” means a device which prevents direct solar gain, including overhangs, shades, and window films.

“Site-built collector” means a collector which must be assembled on-site and is not supplied as a collector kit.

“Solar domestic hot water system” means a system which converts solar radiation into thermal energy for the purpose of heating potable water.

“Solar energy” means energy which has recently originated in the sun, including direct and indirect solar radiation and intermediate solar energy from sources such as wind and sea thermal gradients.

“Solar energy system” means a system or component thereof that converts solar radiation to thermal or electrical energy.

“South” shall be defined as falling within the 90 degree envelope from 45 degrees East to 45 degrees West of true South.

“Storage device” means a device which stores solar energy.

“Sunspace” means a collector that also serves as a living space, including a sunroom, solarium, atrium, attached greenhouse and Florida room.

“Thermal storage wall” means a wall of massive material, such as masonry or water in containers, placed between the glazing and the heated space, including a trombe wall and water wall.

“Wind system” means a device which converts wind energy into usable electrical or mechanical energy.

Amended by R.1984 d.52, effective March 5, 1984.

See: 16 N.J.R. 37(a), 16 N.J.R. 430(a).

Amended by R.1995 d.151, effective March 20, 1995.

See: 27 N.J.R. 307(c), 27 N.J.R. 1194(b).

## SUBCHAPTER 2. ELIGIBILITY CRITERIA

### 14:25-2.1 Eligible solar energy systems

(a) The following solar energy systems shall be eligible for an exemption from sales and use taxes. The exemption shall be for 100 percent of the tax due on the cost unless stated otherwise.

1. Passive and hybrid systems of the following types, provided that the systems generate a net positive gain of thermal energy over the heating season and reduce the gain of thermal energy over the cooling season.

i. Sunspaces and direct gain devices: The following components shall be eligible, provided that the sunspace or direct gain device contains, at a minimum, (a)li(1) through (5) below:

- (1) South facing glazing;
- (2) Distribution systems;
- (3) Insulating devices having an R value of 4.0 or greater;
- (4) Shading devices;
- (5) Storage devices, including:
  - (A) Thermal storage walls.

(I) Load bearing thermal storage walls shall be eligible for an exemption for 50 percent of the tax due on the cost.

(II) Non-load bearing thermal storage walls shall be eligible for an exemption of the tax due on the cost thereof in accordance with the formula two square feet of wall for every one square foot of south facing glazing, not to exceed the wall area of the sunspace or room in which the direct gain device is located; or

(B) Mass floors. Such floors shall be eligible for an exemption of the tax due on the cost thereof in accordance with the formula two square feet of slab for every one square foot of south facing glazing, not to exceed the floor area of the sun-space or room in which the direct gain device is located;

(6) Equipment used solely as bracing or fastening for south facing glazing;

(7) Skylights and roof glazing.

2. Active systems and solar domestic hot water systems of the following types:

i. Collectors:

(1) Commercially manufactured collectors which meet the standards set by a nationally recognized testing organization, such as the Air-conditioning and Refrigeration Institute (ARI); Solar Rating and Certification Corporation (SRCC); Florida Solar Energy Center (FSEC); or International Association of Plumbing and Mechanical Officials (IAPMO).

(2) Collector kits which meet the standards specified in (a)2i(1) above;

ii. Distribution systems;

iii. Storage devices.

3. Solar electric generating systems of the following types:

i. Photovoltaic cells, including mounting racks, arrays, wires, batteries, meters, switches, miscellaneous electrical equipment and other devices required for the installation.

4. Wind systems: The following components shall be eligible:

i. Structural parts, including towers and supporting pads;

ii. Electrical equipment, including alternators, generators, inverters, meters, batteries, controls and circuits;

iii. Mechanical equipment, including gearboxes, heads, transmissions, pumps, and shafts;

iv. Interconnecting devices, including wire and conduits used to connect the wind system to the electric service panel, and equipment required to complete the installation and interconnection of the wind system to the utility.

Amended by R.1984 d.52, effective March 5, 1984.  
See: 16 N.J.R. 37(a), 16 N.J.R. 430(a).  
Amended by R.1995 d.151, effective March 20, 1995.  
See: 27 N.J.R. 307(c), 27 N.J.R. 1194(b).

#### 14:25-2.2 Ineligible equipment

(a) The following shall not be considered eligible for an exemption from sales and use taxes:

1. Building insulation used to reduce heat lost through walls, roofs, slabs, and foundations except for insulation required expressly and only for insulating mass storage floors and walls.

2. Uninsulated skylights:

3. Heat storage devices or delivery systems which are also utilized for other means of heating and/or cooling including back-up systems;

4. Bracing equipment used as building structural members such as columns, beams, and studs;

5. Devices such as draperies, venetian blinds, and curtains which are not part of the solar energy system and do not meet the definition of insulating devices and/or shading devices pursuant to N.J.A.C. 14:25-1.3;

6. Heat pumps and other refrigerators;

7. Devices used to extract and store heat generated by organic waste piles;

8. Trees, shrubbery, and other forms of vegetation.

Amended by R.1984 d.52, effective March 5, 1984.

See: 16 N.J.R. 37(a), 16 N.J.R. 430(a).

(a)5 formerly contained rule pertaining to walls and floors constructed of masonry, deleted and replaced.

Amended by R.1995 d.151, effective March 20, 1995.

See: 27 N.J.R. 307(c), 27 N.J.R. 1194(b).

#### 14:25-2.3 Determination by administrator

(a) If a solar energy system is neither specifically eligible nor ineligible for exemption, or if eligibility is in dispute, or in the case of site-built collectors, the Administrator shall examine said system to determine its eligibility.

1. The applicant for an exemption shall submit information required by the Administrator at the time of application pursuant to N.J.A.C. 18:24-26.

2. The Administrator shall issue a ruling as to the system's eligibility within 20 working days of receipt of the request for a determination and shall communicate the ruling to the applicant and to the Department of Treasury, Division of Taxation.

3. Rulings of the Administrator are prospective and shall apply to all future exemption applications for systems of that type.

4. If a determination is not issued within 20 working days of receipt of the request, the system shall be deemed eligible for a full exemption in this case. This will not affect the eligibility of future systems of the same type.

5. The determination of the Administrator shall constitute final agency action concerning the system's eligibility.

Amended by R.1984 d.52, effective March 5, 1984.

See: 16 N.J.R. 37(a), 16 N.J.R. 430(a).

(a) expanded to allow for examination by Administrator.

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SUBCHAPTER 3. SOLAR SYSTEM STANDARDS

**14:25-3.1 Applicability of New Jersey Uniform Construction Code**

The manufacturing, sale or installation of solar components and/or systems, solar energy systems constructed or purchased for heating and/or cooling utilizing active and/or passive concepts shall comply with applicable provisions of the New Jersey Uniform Construction Code, N.J.A.C. 5:23.