

(1) a “solar photovoltaic energy system” is a system of components which generates electricity from incident sunlight by means of the photovoltaic effect, and which shall include all components, including energy storage devices where appropriate, necessary to provide electricity for individual, industrial, agricultural, or governmental use;

(2) the term “solar photovoltaic energy system” may be used interchangeably with the term “photovoltaic system”;

(3) a “hybrid solar photovoltaic energy system” is a system of components that generates electricity from incident sunlight by means of the photovoltaic effect and, in conjunction with electronic and, if appropriate, optical, thermal and storage devices, provides electricity, as well as heat and/or light for individual, commercial, industrial, agricultural, or governmental use;

(4) “photovoltaic effect” refers to the physical phenomenon exhibited under certain circumstances by some materials in which a portion of the light energy striking the material is directly converted to electrical energy;

(5) “facility” means any building, agricultural, commercial or industrial complex or other device constructively employing photovoltaic systems; and

(6) “Secretary” means the Secretary of Energy.

(Pub. L. 95-590, §3, Nov. 4, 1978, 92 Stat. 2515.)

**§ 5583. Establishment and promotion of research, development, and demonstration programs**

The Secretary is directed to establish immediately and carry forth such research, development, and demonstration programs as may be necessary to meet the objectives of this subchapter as set forth in section 5581(b) of this title, and as a part of any such program shall—

(a) conduct, and promote the coordination and acceleration of, research, development, and demonstrations relating to solar photovoltaic energy systems and components thereof, and

(b) conduct, and promote the coordination and acceleration of, research, development, and demonstrations for systems and components to be used in applications that are dependent for their energy on solar photovoltaic energy systems.

(Pub. L. 95-590, §4, Nov. 4, 1978, 92 Stat. 2515.)

**§ 5584. Federal assistance application procedures; selection of applicants; agreements; financial assistance; observation and monitoring of photovoltaic systems; reports; projects and activities**

(a) In carrying out the provisions of section 5583 of this title, the Secretary is authorized—

(1) to establish procedures whereby any public or private entity wishing to install solar photovoltaic components and systems in any new or existing facility may apply for Federal assistance in purchasing and installing, in such facility, photovoltaic components or systems;

(2) to select, as soon as he deems it feasible, a number of the applicants under paragraph (1)

and enter into agreements with them for the design, purchase, fabrication, testing, installation, and demonstration of photovoltaic components and systems. Such selection shall be based on the need to obtain scientific, technological, and economic information from a variety of such systems under a variety of circumstances and conditions; and

(3) to arrange, as part of any agreement entered into under paragraph (2), to provide up to 75 per centum of the purchase and installation costs of photovoltaic components or systems, taking into account relevant considerations involving the relative stage of consumer and industry interest and development at the time of the financial assistance action. Such arrangements shall be contingent upon terms and conditions prescribed by the Secretary, including an express agreement that the entity with whom the agreement is entered into shall, in such manner and form and on such terms and conditions as the Secretary may prescribe, observe and monitor (or permit the Secretary or his agents to observe and monitor) the performance and operation of such system for a period of five years, and that such entity (including any subsequent owner of the property) shall regularly furnish the Secretary with such reports thereon as the agreement may require.

(b) The Secretary shall, as he deems appropriate, undertake any projects or activities (including demonstration projects) to further the attainment of the objectives of this section.

(Pub. L. 95-590, §5, Nov. 4, 1978, 92 Stat. 2516.)

CODIFICATION

Section 5583 of this title, referred to in subsec. (a), was in the original “section (4)” and was translated section 5583 of this title as the probable intent of Congress.

**§ 5585. Contracts, grants and arrangements**

**(a) Selection of photovoltaic components and systems, design concepts, and designs**

The Secretary is authorized to select on the basis of open competitions—

(1) a number of readily available photovoltaic components and systems;

(2) a number of design concepts for various types of applications which demonstrate adaptability to the utilization of photovoltaic components and systems; and

(3) a number of designs for applications selected under paragraph (2), so that each design includes specific provisions for the utilization of solar photovoltaic components and systems selected under paragraph (1).

**(b) Commercial production and utilization of photovoltaic components and systems; selection of components and systems compatible with chosen design concepts; procurement of components and systems**

The Secretary, in accordance with the applicable provisions of sections 5906, 5907, and 5908 of this title and with such program guidelines as the Secretary may establish, shall—

(1) enter into such contracts and grants as may be necessary or appropriate for the devel-

opment for commercial production and utilization of photovoltaic components and systems, including any further planning and design which may be required to conform with the specifications set forth in any applicable criteria;

(2) select, as being compatible with the design concepts chosen under subsection (a)(2) of this section, a reasonable number of photovoltaic components and systems; and

(3) enter into contracts with a number of persons or firms for the procurement of photovoltaic components and systems, including adequate numbers of spare and replacement parts for such systems.

**(c) Design integration; demonstration of prototype photovoltaic systems; utilization of systems in existing facilities; terms and conditions upon transfer of facilities and systems**

The Secretary is authorized to award contracts for the design integration between the application concepts and the photovoltaic systems procured by the Secretary under subsection (b)(3) of this section, and for the demonstration of prototype solar photovoltaic systems, and, when appropriate, for the utilization of such systems in existing facilities. Title to and ownership of the facilities so constructed and of photovoltaic systems installed hereunder may be conveyed to purchasers of such facilities under terms and conditions prescribed by the Secretary, including an express agreement that any such purchaser shall, in such manner and form and on such terms and conditions as the Secretary may prescribe, observe and monitor (or permit the Secretary to observe and monitor) the performance and operation of such systems for a period of five years, and that such purchaser (including any subsequent owner) shall regularly furnish the Secretary with such reports thereon as the agreement may require.

**(d) Arrangements with Federal agencies for demonstration of systems in Federal buildings and facilities**

The Secretary, in consultation with the Administrator of General Services or the Secretary of Defense or both (as may be appropriate) shall enter into arrangements with appropriate Federal agencies concurrently with the conduct of the programs under this section and section 5586 of this title, to carry out such projects and activities (including demonstration projects), with respect to Federal buildings and facilities, as may be appropriate for the demonstration of photovoltaic systems suitable and effective for use in such applications.

**(e) Projects and activities**

The Secretary shall, as he deems appropriate, undertake any projects or activities (including demonstration projects) to further the attainment of the objectives of this section.

(Pub. L. 95-590, § 6, Nov. 4, 1978, 92 Stat. 2516.)

**§ 5586. Test procedures and performance criteria**

**(a) Testing program**

The Secretary shall conduct a testing program for photovoltaic systems to assist in the development and demonstration of prototype photo-

voltic systems, including collectors, controls, power conditioning, and energy storage systems.

**(b) Establishment and use of performance criteria**

Data obtained from the testing program under subsection (a) of this section shall be evaluated and used in establishing performance criteria. These performance criteria shall be used in the demonstration program described in sections 5583, 5584, and 5585 of this title.

**(c) Determination and publication in Federal Register**

The Secretary shall determine, prescribe, and publish in the Federal Register, at a time which he determines to be feasible and justified—

(1) performance criteria for photovoltaic components and systems to be used in appropriate applications, and procedures whereby manufacturers of photovoltaic components and systems shall have their products tested in order to provide certification that such products conform to the performance criteria established under this paragraph; and

(2) revised performance criteria for photovoltaic components and systems to be used in appropriate applications, and procedures whereby manufacturers of photovoltaic components and systems shall have their products tested in order to provide certification that such products conform to the performance criteria established under this paragraph. Such criteria may be annually revised by the Secretary, as he deems appropriate.

**(d) Performance criteria applicable to photovoltaic component or system procured or installed by Federal Government or with Federal assistance**

Any photovoltaic component or system procured or installed by the Federal Government or procured or installed with Federal assistance under section 5584 or section 5585 of this title shall meet appropriate performance criteria prescribed under this section, if such performance criteria have been prescribed.

(Pub. L. 95-590, § 7, Nov. 4, 1978, 92 Stat. 2517.)

CODIFICATION

Section 5584 or section 5585 of this title, referred to in subsec. (d), was in the original "section (5) or section (6)" and was translated section 5584 or 5585 of this title as the probable intent of Congress.

**§ 5587. Supervision of research, development, and demonstration programs**

**(a) Monitoring of photovoltaic systems; collection and evaluation of data; studies, investigations, and reports**

The Secretary, in coordination with such Government agencies as may be appropriate, shall—

(1) monitor the performance and operation of photovoltaic systems installed under this subchapter;

(2) collect and evaluate data and information on the performance and operation of photovoltaic systems installed under this subchapter; and

(3) from time to time carry out such studies and investigations and take such other ac-