U. S. DEPARTMENT OF ENERGY
U.S. ENERGY INFORMATION ADMINISTRATION
Washington, DC 20585

Form Approved
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FORM EIA-63B
ANNUAL PHOTOVOLTAIC CELL/MODULE SHIPMENTS REPORT

GENERAL INFORMATION AND INSTRUCTIONS

I. Purpose

Form EIA-63B is designed to provide the data necessary for the U.S. Energy Information Administration (EIA), a part of the U.S. Department of Energy (DOE), to carry out its responsibilities tracking photovoltaic cell/module shipments in the photovoltaic industry and reporting information concerning the size and status of the industry. The data collected will be published in the Renewable Energy Annual and also be available through EIA's Internet site at http://www.eia.gov/fuelrenewable.html.

II. Who Should Respond to This Survey

This report is mandatory and required pursuant to the authority granted to the Department of Energy (DOE) by the Federal Energy Information Administration Act of 1974 (Public Law 93-275). Form EIA-63B is to be submitted by companies (whether U.S.- or foreign-based) that operate under the laws and regulations pertaining to the conduct of commerce within the United States and its territories and possessions and that engage in photovoltaic-related activities within the United States, its territories, and possessions. T hese activities include photovoltaic cell/module manufacturing, shipping, importing, and/or exporting. C ompanies involved in photovoltaic-related activities during the reporting year can be classified in any of the following categories: (1) manufacturer; (2) brand name manufacturer (private label owner); (3) subsidiary or business unit of overseas manufacturer; (4) U.S. registered publicly traded overseas manufacturer; (5) importer; and (6) exporter.

III. Where to Submit Completed Forms

Submit your data electronically using EIA's Internet Data Collection (IDC) system at https://signon.eia.doe.gov/ssoserver/login.

If you need an alternate means of filing your response or have questions about the data requested on Form EIA-63B, please contact the Survey Manager, Peter Wong at peter.wong@eia.gov or (202) 586-7574.

Please retain a completed copy of this form for your files

IV. When to Submit Completed Forms

The reporting year is from January 1 through December 31 each year. Submit the completed Form EIA-63B to the EIA through the IDC system by February 29, following the end of the calendar year.

V. Sanctions

The timely submission of Form EIA-63B by those required to report is mandatory under Section 13(b) of the Federal Energy Administration Act of 1974 (FEAA) (Public Law 93-275), as amended. Failure to respond may result in a penalty of not more than $2,750 per day for each civil violation, or a fine of not more than $5,000 per day for each criminal violation. The government may bring a civil action to prohibit reporting violations, which may result in a temporary restraining order or a preliminary or permanent injunction without bond. In such civil action, the court may also issue mandatory injunctions commanding any person to comply with these reporting requirements. **Title 18 U.S.C. 1001 makes it a criminal offense for any person knowingly and willingly to make to any Agency or Department of the United States any false, fictitious, or fraudulent statements as to any matter within its jurisdictio**n.

VI. Provisions Regarding Confidentiality of Information

The information reported on this form will be protected and not disclosed to the public to the extent that it satisfies the criteria for exemption under the Freedom of Information Act (FOIA), 5 U.S.C. §552, t he Department of Energy regulations, 10 C .F.R. §1004.11, implementing the FOIA, and the Trade Secrets Act, 18 U.S.C. §1905.

The Federal Energy Administration Act requires the EIA to provide company-specific data to other Federal agencies when requested for official use. The information reported on t his form may also be made available, upon request, to another component of the Department of Energy (DOE); to any Committee of Congress, the Government Accountability Office, or other Federal agencies authorized by law to receive such information. A court of competent jurisdiction may obtain this information in response to an order. The information may be used for any nonstatistical purposes such as administrative, regulatory, law enforcement, or adjudicatory purposes.

Disclosure limitation procedures are applied to the statistical data published from Form EIA-63B survey information on the dollar value of shipments and complete systems to ensure that the risk of disclosure of identifiable information is very small.

For all other data published from the Form EIA-63B, disclosure limitation procedures are not applied. Thus, there may be some statistics that are based on data from fewer than three respondents, or that are dominated by data from one or two large respondents. In these cases, it may be possible for a knowledgeable person to estimate the information reported by a specific respondent.

VII. Filing Forms with Federal Government and Estimated Reporting Burden

Respondents are not required to file or reply to any Federal collection of information unless it has a valid OMB control number. Public reporting burden for this collection of information is estimated to average 5 hours per response including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Send comments regarding this burden estimate or any other aspect of this collection of information, including suggestions for reducing this burden to the U.S. Energy Information Administration, Statistics and Methods Group, EI-70, 1000 Independence Ave., S.W., Washington, D.C. 20585-0670, and the Office of Information and Regulatory Affairs, Office of Management and Budget, Washington, D.C. 20503.

SPECIFIC INSTRUCTIONS

SCHEDULE 1: IDENTIFICATION

In Schedule 1, please provide and verify the following information. Contact the survey manager listed on in Section III on page 1 of the instructions if any of the information needs to be updated.

Part A: Reporting entity name, reporting entity URL, reporting entity street address, reporting entity suite address, reporting entity city, reporting entity state, reporting entity zip code, reporting entity official contact name, reporting entity official title, reporting entity official phone number, reporting entity official fax number, and reporting entity official e-mail address.

Part B: Form preparer name, form preparer title, form preparer company URL, form preparer street address, form preparer suite address, form preparer city, form preparer state, form preparer zip code, form preparer phone number, form preparer fax number, and form preparer e-mail address.

Part C: Entity supervisor name, entity supervisor title, entity supervisor company URL, entity supervisor street address, entity supervisor suite address, entity supervisor city, entity supervisor zip code, entity supervisor phone number, entity supervisor fax number, and entity supervisor e-mail address.

Part D: Parent company name, parent company official contact name, parent company URL, parent company street address, parent company suite address, parent company city, parent company state, parent company zip code, country (if outside U.S.), parent company international phone number, parent company official contact phone number, parent company official contact fax number, and parent company official e-mail address.

Part E: Parent contact name, parent contact title, parent contact company URL, parent contact street address, parent contact suite address, parent contact city, parent contact state, parent contact zip code, country (if outside U.S.), parent contact international phone number, parent contact phone number, parent contact fax number, and parent contact e-mail address.

SCHEDULE 2: COMPANY STATUS (Respondent Business Type)

Select the business activities that best describe the responding company's involvement in photovoltaic-related activities. The responding company may be operated as multiple business types. (See glossary entries in the glossary section). If your company either manufactures Original Equipment Manufacturer (OEM) brands for private label owners or outsources the manufacturing of PV panels to an OEM that manufactures as a private label owner, provide contact information for the other company.

SCHEDULE 3: INDUSTRY STATUS

Part A: (a-h) Report only on photovoltaic-related activities.

Part B: (a-g) Check the appropriate boxes, if you are planning to introduce a new photovoltaic-related product. A new photovoltaic-related product is differentiated from a modified existing product if the "new" product is different enough to warrant a new model number and requires retesting or recertification under existing industry standards.

Part C: Enter the total number of full-time equivalent employees engaged in photovoltaic-related activities during the reporting year. (See glossary entry for "Full-time equivalent employee".)

Part D: Check the appropriate boxes. "Photovoltaic-related activities" includes all activities listed in Schedule 3 Part A.

SCHEDULE 4: PHOTOVOLTAIC SHIPMENTS STATUS

Part A: If you are a contracting manufacturer, you are required to provide information about the photovoltaic cells you manufacture. Please do not include the shipments for brand name manufacturers as this will cause duplication in reporting.

4.A.a (Product Available): (1-5) For each type of photovoltaic cell, enter the quantity of peak kilowatts (not the number of cells) available in inventory at the beginning of the reporting year, manufactured and imported during the reporting year, purchased from U.S. OEM (original equipment manufacturers), and the cumulative total available for shipment. The cumulative total should be the sum of (1-4). The total column on the right-hand side of the form should contain the total quantity of peak kilowatts for all photovoltaic cell types in a given row.

4.A.b (Shipments): (1-4) For each type of photovoltaic cell, enter the quantity of peak kilowatts (not the number of cells) assembled into modules by the respondent during the report period, shipped to U.S. OEM (resale only), exported overseas, and the total shipments. Total shipments should be the sum of (1-3). Incomplete cells, such as wafers, should not be reported. The total column on the right-hand side of the form should contain the total quantity of peak kilowatts for all photovoltaic cell types in a given row.

4.A.c (Revenue): (1-2) Enter the total value received for the total photovoltaic cell shipments in Schedule 4.A.b.4 by type. The value reported should be the total value received for cells only (not complete systems) at your company's net billing price, freight-on-board factory, including charges for cooperative advertising and warranties. Do not include excise taxes, freight and/or transportation charges. Report values to the nearest dollar. The total column on the right-hand side of the form should contain the total revenues revenue for all photovoltaic cell types in a given row. Verify that the average value is equal to the dollar value of the total shipments divided by the quantity of total shipments.

4.A.d (Inventory): (1) For each type of photovoltaic cell, enter the quantity of peak kilowatts (not the number of cells) that remain in inventory at the end of the reporting year. These values should be equal to the difference between Schedule 4.A.a.5 and Schedule 4.A.b.4. The total column on the right-hand side of the form should contain the total quantity of peak kilowatts for all photovoltaic cell types in a given row.

Part B: If you are a contracting manufacturer, you are required to provide information about the photovoltaic modules you manufacture. Photovoltaic modules intended for applications in space programs (satellites, military projects, etc.) are to be excluded. Also exclude shipments for brand name manufacturers as this will cause duplication in reporting.

4.B.a (Product Available): (1-5) For each type of photovoltaic module, enter the quantity of peak kilowatts (not the number of modules) available in inventory at the beginning of the reporting year, manufactured and imported during the reporting year, purchased from U.S. OEM, and the cumulative total available for shipment. The cumulative total should be the sum of (1-4).

The total column on the right-hand side of the form should contain the total quantity of peak kilowatts for all photovoltaic module types in a given row.

4.B.b (Shipments): (1-4) For each type of photovoltaic module, enter both the quantity of peak kilowatts (not the number of modules) and the number of photovoltaic systems shipped within U.S. (sold within U.S.) excluding sales for resale, shipped to U.S. OEM (for resale only), exported overseas, and the total shipments. Total shipments should be the sum of (1-3). The total column on the right-hand side of the form should contain the total quantity of peak kilowatts and the total number of photovoltaic systems for all photovoltaic module types in a given row.

4.B.c (Revenue): (1-2) Enter the total values received for the total photovoltaic module shipments in Schedule 4.B.b.4 by type. The values reported should be the total values received for both modules and for complete systems (including balance of system components) at your company's net billing price, freight-on-board factory, including charges for cooperative advertising and warranties. Do not include excise taxes, freight and/or transportation charges. Report values to the nearest dollar. The total column on the right-hand side of the form should contain the total revenues revenue for all photovoltaic modules in a given row. Verify that the average value is equal to the dollar value of the total shipments divided by the quantity of total shipments.

4.B.d (Inventory): For each type of photovoltaic module, enter the quantity of peak kilowatts (not the number of modules) that remain in inventory at the end of the reporting year. These values should be equal to the difference between Schedule 4.B.a.5 and Schedule 4.B.b.4. The total column on the right-hand side of the form should contain the total quantity of peak kilowatts and the total number of photovoltaic systems for all photovoltaic module types in a given row.

4.B.e (Efficiency): For each type of photovoltaic module, enter the energy conversion efficiency of the corresponding photovoltaic (PV) devices, which convert sunlight directly to electricity by means of PV modules (under standard conditions), in percent of the energy in light converted to electricity.

SCHEDULE 5: ORIGIN OF PHOTOVOLTAIC MODULES

Part A: List the country or countries from which the photovoltaic modules reported in Schedule 4.B.a.3 were imported. Begin by reporting the country name for each manufacturer in column (a). In column (b) enter the name of the manufacturer that produced the imported modules. For each type of photovoltaic module, enter the quantity of peak kilowatts (not the number of modules) imported during the reporting year. The values in the total row should equal the values from Schedule 4.B.a.3. The total column on the right-hand side of the form should contain the total quantity of peak kilowatts for all photovoltaic module types in a given row.

Part B: List the state(s) in which the photovoltaic modules reported in Schedule 4.B.a.2 were manufactured. Begin by reporting the state for each manufacturer in column (a). In column (b) enter the name of the manufacturer that produced the photovoltaic modules. For each type of photovoltaic module, enter the quantity of peak kilowatts (not the number of modules) manufactured during the reporting year. The values in the total row should equal the values from Schedule 4.B.a.2. The total column on the right-hand side of the form should contain the total quantity of peak kilowatts for all photovoltaic module types in a given row.

SCHEDULE 6: DESTINATION OF PHOTOVOLTAIC MODULES

Part A: List the country or countries to which photovoltaic modules reported in Schedule 4.B.b.3 were exported. For each type of photovoltaic module, enter both the quantity of peak kilowatts (not the number of modules) and the number of photovoltaic systems exported during the reporting year. The values in the total row should equal the values from Schedule 4.B.b.3. The total column on the right-hand side of the form should contain the total quantity of peak kilowatts and the total number of photovoltaic systems for all photovoltaic module types in a given row.

Part B: Please complete 6.B. for each and every state modules are shipped to within the United States. You may want to make copies of the blank 6.B. page before beginning this section.

Begin by reporting the final destination of the shipments by entering the two letter U.S. Postal Service Abbreviation of the destination state/territory in the box provided above the table.

U.S. Shipments (sales within the U.S. excluding sales for resale) by State, Sector, and End Use: Provide for each type of photovoltaic module both the quantity of peak kilowatts (not the number of modules) and the number of photovoltaic systems shipped to each sector by end use. (See sector and end-use category definitions below.) The values in the total row should equal the values from Schedule 4.B.b.1. For grid-connected end uses, enter separate values for distributed and centralized uses. For off-grid end uses, enter separate values for household and non-household uses. The total column on the right-hand side of the form should contain the total quantity of peak kilowatts and the total number of photovoltaic systems for all photovoltaic module types in a given row.

The sector categories in Schedule 6.B.a are:

Residential: Solar applications related to any building used for residential occupancy that has a system.

Commercial: Solar applications for use in businesses where services (rather than products) are provided, such as wholesale and retail trade or health and educational services.

Industrial: Solar applications for use in businesses where products (rather than services) are provided, such as the manufacture and processing of goods and basic materials.

Electric Power: Shipments of photovoltaic modules to the electric power sector for use in power generation or for experimental applications (includes gas and electric utilities). Includes central stations, decentralized systems or experimental applications.

The end-use categories in Schedule 6.B.b are:

Grid-connected Centralized PV System: U.S. shipments of photovoltaic modules that are connected to the electric power grid and whose output is directly fed into the grid.

Grid-connected Distributed PV System: U.S. shipments of photovoltaic modules that are connected to the electric power grid and whose output is consumed mainly on site.

Off-grid Domestic PV System: U.S. shipments of photovoltaic modules that are not connected to the electric power grid and are used to provide electric power to remote households or communities.

Off-grid Non-domestic PV System: U.S. shipments of photovoltaic modules that are not connected to the electric power grid and are used to provide electric power for a variety of non-domestic applications.

Total U.S. Shipments, sector by end use: The sum of all end use modules in the total row should equal the values from Schedule 4B.b.1.

SCHEDULE 7: COMMENTS

Part A: Please provide any explanations and comments for this report. For clarification purposes, please identify schedule, part, line number, and column (if applicable) for each entry.

GLOSSARY

Amorphous Silicon: An alloy of silica and hydrogen, with a disordered, noncrystalline internal atomic arrangement, that can be deposited in thin-film layers (a few micrometers in thickness) by a number of deposition methods to produce thin-film photovoltaic cells on glass, metal, or plastic substrates.

Brand Name Manufacturer (Private Label Owner): A "private labeler" is the owner of a brand or trademark on the label of a manufactured product which bears a private label. A product is considered to "bear a private label" if the product or its container is labeled with the brand or trademark of a person other than the manufacturer and the manufacturer's brand or trademark is not on the product or container. In other words, a brand name manufacturer is a company that sells manufactured products under its name but does not produce them.

Cast Silicon: Crystalline silicon obtained by pouring pure molten silicon into a vertical mold and adjusting the temperature gradient along the mold volume during cooling to obtain slow, vertically advancing crystallization of the silicon. The polycrystalline ingot thus formed is composed of large, relatively parallel, interlocking crystals. The cast ingots are sawed into wafers for further fabrication into photovoltaic cells. Cast silicon wafers and ribbon silicon sheets fabricated into cells are usually referred to as polycrystalline photovoltaic cells.

Commercial Sector: An energy-consuming sector that consists of service-providing facilities and equipment of: businesses; Federal, State, and local governments; and other private and public organizations, such as religious, social, or fraternal groups. The commercial sector includes institutional living quarters. It also includes sewage treatment facilities. Common uses of energy associated with this sector include space heating, water heating, air conditioning, lighting, refrigeration, cooking, and running a wide variety of other equipment. *Note:* This sector includes generators that produce electricity and/or useful thermal output primarily to support the activities of the above-mentioned commercial establishments

Electric Power Grid: A system of synchronized power providers and consumers connected by transmission and distribution lines and operated by one or more control centers. In the continental United States, the electric power grid consists of three systems: the Eastern Interconnect, the Western Interconnect, and the Texas Interconnect. In Alaska and Hawaii, several systems encompass areas smaller than the State (e.g., the interconnect serving Anchorage, Fairbanks, and the Kenai Peninsula; individual islands).

Electric Power Sector: An energy-consuming sector that consists of electricity only and combined heat and power (CHP) plants whose primary business is to sell electricity, or electricity and heat, to the public – i.e., North American Industry Classification System code 22.

Export (renewable equipment): A shipment of renewable equipment sent from the United States and any of its territories to a foreign country.

Full-time Equivalent Employee (FTE): A ratio that represents the number of hours that an employee works, on photovoltaic-related activities, to 40 hours. Full-time employment is generally considered to be forty hours a week. An FTE is any combination of workers that combines to forty hours per week and does not necessarily equate to headcount. For example, two, half-time (twenty hours per week) workers together amount to one FTE.

Grid-connected Centralized Photovoltaic (PV) System: A solar electric or PV power production system, which performs like a central generating power plant, connected to the electric power grid and its output is directly feeds into the grid.

Grid-connected Distributed Photovoltaic (PV) System: A solar electric or PV power production system designed to install on a grid-connected consumer's premises. The electric power supplied by such a system is consumed mainly on s ite, the consumer will be given electricity from the grid when their power demands exceed the PV system output, and any excess may be exported to the grid.

Import (renewable equipment): A shipment of renewable equipment sent into the United States and any of its territories from foreign countries.

Industrial Sector: An energy-consuming sector that consists of all facilities and equipment used for producing, processing, or assembling goods. The industrial sector encompasses the following types of activity: manufacturing (NAICS codes 31-33); agriculture, forestry, fishing and hunting (NAICS code 11); mining, including oil and gas extraction (NAICS code 21); and construction (NAICS code 23). Overall energy use in this sector is largely for process heat and cooling and powering machinery, with lesser amounts used for facility heating, air conditioning, and lighting. Fossil fuels are also used as raw material inputs to manufactured products. Note: This sector includes generators that produce electricity and/or useful thermal output primarily to support the above-mentioned industrial activities

Manufacturer: An entity in the business of manufacturing.

Off-grid Domestic Photovoltaic (PV) System: A solar electric or PV power production system installed to provide electric power to a household or community not connected to the electric power grid.

Off-grid Non-domestic Photovoltaic (PV) System: A solar electric or PV power production system not connected to the electric power grid and is used to provide electricity for a variety of non-domestic applications such as water pumping, remote telecommunications towers, health care devices, consumer goods, etc.

Peak Kilowatt: One thousand peak watts.

Peak Watt: A manufacturer's unit indicating the amount of power a photovoltaic cell or module will produce at standard test conditions (normally 1,000 watts per square meter and 25 degrees Celsius).

Photovoltaic Cell (PVC): An electronic device consisting of l ayers of semiconductor materials fabricated to form a junction (adjacent layers of materials with different electronic characteristics) and electrical contacts and being capable of converting incident light directly into electricity (direct current).

Photovoltaic (PV) Conversion Efficiency: The ratio of the electric power produced by a photovoltaic device to the power of the sunlight incident on the device.

Photovoltaic Module: An integrated assembly of i nterconnected photovoltaic cells designed to deliver a selected level of working voltage and current at its output terminals, packaged for

protection against environmental degradation, and suited for incorporation in photovoltaic power systems.

Photovoltaic (PV) System: A complete set of component for converting sunlight into electricity by the photovoltaic process, including the array and balance of system components.

Residential Sector: An energy-consuming sector that consists of living quarters for private households. Common uses of energy associated with this sector include space heating, water heating, air conditioning, lighting, refrigeration, cooking, and running a variety of other appliances. The residential sector excludes institutional living quarters. *Note*: Various EIA programs differ in sectoral coverage.

Retrofit: An upgrade to an existing system. Retrofitting refers to the replacement of components of a system, but not the replacement of the entire system.

Ribbon Silicon: Crystalline silicon that is used in photovoltaic cells. Ribbon silicon is fabricated by a variety of solidification (crystallization) methods that withdraw thin silicon sheets from pools of relatively pure molten silicon.

Silicon: A semiconductor material made from silica, purified for photovoltaic applications.

Single Crystal Silicon: An extremely pure form of crystalline silicon produced by dipping a single crystal seed into a pool of molten silicon under high vacuum conditions and slowly withdrawing a solidifying single crystal boule (rod) of silicon. The boule is sawed into thin silicon wafers and fabricated into single-crystal photovoltaic cells.

Subsidiary or Business Unit of Overseas Manufacturer: An entity directly or indirectly controlled by a manufacturer that is headquartered overseas (parent company) or the logical segment of an overseas manufacturer (such as accounting, production, or marketing that representing a specific business function).

Transportation Sector: An energy-consuming sector that consists of all vehicles whose primary purpose is transporting people and/or goods from one physical location to another. Included are automobiles; trucks; buses; motorcycles; trains, subways, and other rail vehicles; aircraft; and ships, barges, and other waterborne vehicles. Vehicles whose primary purpose is not transportation (e.g., construction cranes and bulldozers, farming vehicles, and warehouse tractors and forklifts) are classified in the sector of their primary use. *Note*: Various EIA programs differ in sectoral coverage.

U.S. Registered Publicly Traded Overseas Manufacturer: A manufacturer that is headquartered overseas but whose stock is publicly traded on a U.S. stock exchange.