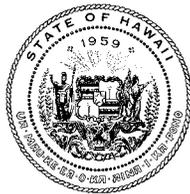


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TAX INFORMATION RELEASE NO. 2010-03

May 21, 2010

Re: Further technical clarification regarding the term "system" for purposes of the Renewable Energy Technologies Income Tax Credit, HRS § 235-12.5

The purpose of this Tax Information Release (TIR) is to provide additional guidance on the Department of Taxation's (Department) interpretation of the term "system" for the purposes of the Renewable Energy Technologies Income Tax Credit set forth at Section 235-12.5, Hawaii Revised Statutes (HRS).

In prior TIRs on this subject, the Department clarified that qualified renewable energy technology systems:

- (a) must be fully integrated (i.e. must incorporate all components necessary to convert a renewable energy source into useful thermal or electrical energy) (*see* TIR 2007-02 at page 4);
- (b) must have an independent connection into a project site's electrical system (i.e. a final utility metering device, circuit breaker or other overcurrent protection device¹ (*see* TIR 2010-02 at page 3).

Beyond providing further guidance regarding the term "system," the Department sought in TIR 2010-02 to address its concerns that in some instances, persons involved in the installation of photovoltaic systems were not adhering to one or both of the above principles. Instead, some persons improperly relied upon changes in system component technology (in particular, the availability of "micro-inverters") to overstate the number of systems for which credits may be claimed. TIR 2010-02 at page three discusses how a single micro-inverter, attached to a single solar panel, could be inappropriately characterized as a separate system. In an effort to prevent the manipulation of system design solely for tax purposes, the Department set forth five hypothetical examples to provide guidance on the design of legitimate systems.

¹ Per National Electric Code 2008 240.2 (treatment of overcurrent protection devices).

Upon further consideration and review, the Department believes additional guidance is necessary regarding what constitutes a legitimate, fully integrated and independent system to provide greater clarity and certainty for industry participants, taxpayers and tax practitioners. In this case, and in the case of all such guidance, the Department's intent is to provide standards that can be relied upon by tax practitioners.

As noted above and in the earlier TIR's, the number of inverters alone cannot be used to determine the number of systems for the purpose of computing the cap. The number of independent connections into the building's electrical system is the determining factor, as illustrated by the following examples:

Example 1:

Taxpayer installs and places into service ten photovoltaic panels, with a micro-inverter attached to each panel for a total of ten inverters, and associated attachment and connection equipment sufficient to make a single connection into a circuit breaker in the main distribution panel or a subordinate PV system output panel or other code compliant connection method used in the electrical system of a single-family home. The taxpayer has installed one system, not ten.

Example 2:

Taxpayer installs and places into service twenty photovoltaic panels, with a micro-inverter attached to each panel for a total of twenty inverters, and associated attachment and connection equipment sufficient to make two connections into two circuit breakers in the main distribution panel or a subordinate PV system output panel or other code compliant connection method used in the electrical system of a single-family home. The taxpayer has installed two systems, not twenty.

Example 3:

Taxpayer installs and places into service ten photovoltaic panels, with a micro-inverter attached to each panel for a total of ten inverters, and associated attachment and connection equipment sufficient to make ten independent connections into ten circuit breakers in the main distribution panel of a single-family home. Assume further that there is no independent nontax reason for the ten separate connections to the ten independent circuit breakers. The taxpayer has installed one system, not ten.

Example 4:

Taxpayer installs and places into service twenty photovoltaic panels, with a micro-inverter attached to each panel for a total of twenty inverters, and associated attachment and connection equipment sufficient to make a connection into a circuit breaker in each of two circuit breaker panels in a home with two such panels (for example, a main distribution panel and a subordinate panel used to control a swimming pool). The taxpayer has installed two systems, not twenty.

Note that in Example 2, the PV Installation is classified by the Department as having been appropriately divided into two systems for legitimate nontax reasons by virtue of the fact that microinverter manufacturers explicitly specify a maximum number of modules that can be wired in parallel in a single circuit (i.e., into a single overcurrent protection device) for each microinverter model to reduce the risk of fire, electrocution, and to prevent damage to the equipment. Therefore, the design specifications of the system determine the need for multiple connections to the electrical system, and the number of connections has not been determined by tax concerns.

The Department's guidance has been clear and consistent across the three TIR's.

From TIR 2007-02, Example 5 (page 4) reads:

Taxpayer installs and places into service three photovoltaic panels/arrays, three inverters, and associated attachment and connection equipment sufficient to make three separate, independent connections to the project site's electrical system. If the taxpayer installs each array to a separate inverter, which is connected to the project site's electrical system separately and independently of the other inverter-array combinations, the taxpayer has installed three systems.

This guidance was reaffirmed in the Department's Letter Ruling 2010-05 (dated March 25, 2010) in footnote two on page two, where it states:

The proper test for determining the number of systems under TIR 2007-02 is the number of independent connections to the project site's electrical system – not the number of central or string inverters. The number of independent electrical connections may be equal to the number of central or string inverters, or it may not. Ordinarily, on a system involving central or string inverters, the number of inverters involved will be equal to the number of systems because each central or string inverter will have its own independent connection to the electrical system.”

This language is also repeated verbatim in the Department's guidance in TIR 2010-02 (see page 3). TIR 2010-02 goes on to articulate a partial list of legitimate non-tax purposes for multiple connections to electrical systems on page 5.

The following examples further clarify the appropriate use of central or string inverters for nontax reasons:

Example 5:

Taxpayer installs and places into service twelve photovoltaic panels, attached to a single 6,000 watt central or string inverter, along with associated attachment and connection equipment. The output from the inverter is then connected to a single circuit breaker in the main distribution panel or a subordinate PV system output panel or other code compliant connection method used in the electrical system. The taxpayer has installed one system.

Example 6:

Taxpayer installs and places into service twelve photovoltaic panels, attached to two 3,000 watt central or string inverters, along with associated attachment and connection equipment. The output from each inverter is then connected to a unique circuit breaker in the main distribution panel or a subordinate PV system output panel or other code compliant connection method used in the electrical system. The taxpayer has installed two systems.

Example 7:

A single taxpayer installs and places into service a PV project on a single rooftop of a facility with two utility meters, one for the main load and another to handle a refrigeration load. Half of the project is wired into the electrical system attached to one utility meter and half of the project is wired into the electrical system associated with the other utility meter. The taxpayer has installed two systems not one.

The design basis for different central or string inverter combinations can be driven by many factors including but not limited to Maximum Power Point Tracking, multiple roof planes, shading, future system expansion, increased inverter efficiency, utility interconnection requirements, and maximizing production of renewable energy (for instance, the systems in Example 6 above will yield more renewable energy over time than the single system in Example 5). Legitimate design motivations, including but not limited to those listed above will not be considered to be "tax motivated."

For additional information regarding this TIR, please call (808) 587-1577.


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