

# **Recommended Practices for the Treatment of Behind-the- Meter Generators in Certificate Tracking Systems**

August 16, 2006

## **1.0 Introduction**

The contents of this document are recommendations for common practices by energy certificate tracking systems. This document is not an agreement among tracking system operators. Rather, it presents the thinking of participating certificate tracking system operators, regulators and other experts on minimum common denominators that should be encouraged to meet changing market needs as Behind-the-Meter (BTM) facilities increase in number and use in state, provincial and federal programs, and in order to maximize harmonization and compatibility among tracking systems. The scope of this document is limited to issues related to BTM facilities.

These recommended common practices were developed by a Subcommittee of interested tracking system operators and regulators participating in the North American Association of Issuing Bodies (NAAIB) Working Group. The document was then approved by NAAIB Working Group. For more information about the NAAIB, please visit our website: <http://www.resource-solutions.org/policy/naaib/faqs.htm>

Some of the practices recommended in this document are not being done anywhere at this time. On some issues, current treatment of BTM facilities vary considerably from region to region and on other issues is reasonably consistent between tracking systems. For this reason, it was difficult to come up with one “common practice” in every instance. In addition, many of the recommendations did not have unanimous agreement by all members of the NAAIB Working Group. However, the recommendations do reflect the majority thinking on a particular issue.

The objective of the NAAIB Working Group has been to determine the needs of the certificate tracking system participants, regulators and market participants, and then try to accommodate those needs through recommended BTM policies and practices. If we include Recommended Common Practices in this document that are not currently taking place, we are simply saying that the consensus of the group is that it would be ideal if these practices were adopted by tracking systems over time. It is not to say that current practices that differ from the recommendations are inadequate or need to be changed. We expect to revisit several issues in this document over time as conditions change.

In drafting this document, the Working Group strived for:

- policies that are not prohibitively expensive or that burden small generators with unnecessary costs;
- parity among the regions in terms of assurance that the certificates are legitimate and represent actual generation; and
- only setting policies for BTM facilities where absolutely necessary – it is preferred to have the same policy for BTM facilities as for non-BTM facilities.

In developing these recommendations, the Working Group tried to tease out the issues that were unique to BTM generators. In some cases, the size of the system is a more important factor in

determining the recommendations than the fact the generation occurs behind the meter. In these instances, we either recommend that the BTM generator is treated the same as other generators of a similar size, or we differentiated our recommended practices for BTM generators based on facility size.

## **2.0 Definitions of Behind-the-Meter (BTM)**

BTM facilities can be large or small in terms of generating capacity. For the purposes of defining BTM facilities, there are no size limitations on potential BTM facilities that might fall under our definition. Rather, the defining characteristics of BTM facilities include:

- The generating unit is located with load.
- No utility-owned transmission or distribution facilities are used to deliver the energy from the generating unit to the load.
- The generation interconnection is located behind a retail customer meter.

## **3.0 Practices that Do Not Need Specific Policies Related to Behind-the-Meter Facilities**

For the following issues, the group agreed that there is no need for specific policies that apply only to BTM facilities. Instead, for the following issues the group agreed that BTM facilities should be treated the same as non-BTM facilities of a similar size.

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### **3.1. Reporting Frequency**

This issue relates to the frequency that generators must report their generation quantities to tracking system operators. Most non-BTM generators need to report (or have reported for them) their meter reads monthly. Most small generators have an exemption from the monthly reporting requirement that allows them to report less frequently. Similarly, the period for reporting adjustments and correcting mistakes may correspondingly vary across states. The Working Group felt that BTM generators should be treated the same as other generators of a similar size with regards to reporting frequency. That is, within a given tracking system, large BTM generators should be treated the same as large non-BTM generators and small BTM generators should be treated the same as small non-BTM generators. In addition, the Working Group did not feel that consistency is needed across tracking systems with regards to reporting frequency, only within a given tracking system.

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### **3.2. Denomination of Certificates**

All tracking systems issue certificates in 1 MWh denominations. Some tracking systems require generators to wait until they accrue a full MWh before issuing a certificate. Other tracking systems round up or down partial MWhs. The Working Group does not think there needs to be a specific BTM policy for this issue. BTM generators will be treated the same as all other generators of a similar size in the tracking system with regards to the denomination of certificates, and accruing generation toward issuing a certificate.

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### **3.3. Data Validity**

This issue relates to whether tracking system operators should verify the data that are reported. Some tracking systems (WREGIS and M-RETS) automatically check that generation data fall within certain reasonable bounds for the facility. Others (PJM and NEPOOL) do not. The Working Group decided this was not a BTM specific issue, and that BTM generators should be treated the same as other generators of a similar size to the extent practicable.

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## **4.0 Recommended Common Practices**

### **4.1. Generator Registration and Verification of Static Information**

This section relates solely to reporting of static data. With regards to generator registration with the tracking system and any subsequent verification of static information that may occur after registration, BTM generators should be treated exactly the same as all other generators of a similar size to the extent practicable, with the exception of generators under 1MW. Generators under 1MW may warrant a different treatment because some state and federal filings that are used to verify static information, e.g. EIA Form 860, are not available for generators under 1MW.

Recommended Common Practice: All BTM generators, regardless of size, should be treated the same as non-BTM generators of a similar size with respect to generator registration to the extent practicable, including all of the requirements that registration entails in a particular tracking system. All BTM generators 1 MW or larger in nameplate capacity should be treated the same as non-BTM generators of a similar size with respect to verification of static information, to the extent that such verification occurs.

For BTM facilities less than 1 MW in nameplate capacity, each state or region may have its own criteria in regards to verification of static information. In the absence of a state or regional policy, the following rules on how static data are verified for smaller facilities are recommended as a common practice:

“For generating units with a nameplate capacity of less than one megawatt or that are not required to file EIA Form 860, Account Holders shall either:

- (1) provide to the tracking system Administrator materials that verify required information about each generating unit, such as copies of a bill of sale, equipment specifications, building permits or inspections, utility interconnection agreement, utility net metering agreement, or receipt of utility rebate, or
- (2) confirm static data through a site visit by a Qualified Independent Party.”\*

\* Taken from WREGIS Interim Operating Rules, July 2005.

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### **4.2. Measuring Output and Verification of Dynamic Data**

Currently in tracking systems operating today, there are at least three different ways that generation data are obtained and verified from small BTM generators. Generation is either (1) metered, (2) estimated and then verified by a third party, or (3) estimated and then self-reported with no independent oversight.

The Working Group wants to encourage metering of output for all BTM generators. However, the Working Group understands that the combined costs of high-quality metering equipment, electronic or third party meter reading services, data transmission services, and administrative costs may be prohibitively expensive for very small generators. The Working Group endorses a general goal of requiring metering for very small generators in the future when such technologies and services are more affordable. In the interim, because some regions place a high premium on solar and other BTM certificates, we recommend that potential buyers of certificates are informed when estimates are used.

Recommended Common Practice: We recommend that generators 10 kW or greater in nameplate capacity should be treated the same as non-BTM facilities of a similar size with respect to measuring output. That is, metering generation output for 10kW generators or greater should be a requirement for participation in the tracking systems. “Metering” can mean different things (e.g. a revenue quality meter or an inverter readout, and everything in between). For a further discussion, please see Section 4.4 below, Standards for Metering Equipment.

Generators less than 10kW nameplate capacity may use engineering estimates to record and report their generation output to the tracking system operator. To ensure high quality estimates and a common estimation method, PV Watts<sup>1</sup> estimator is recommended as an easy, free, publicly available program on the NREL website to calculate an estimate of output. Where engineering estimates are allowed, independent verification should accompany them on a spot basis. A 70% confidence level at a minimum is recommended for identifying the number of facilities that should be independently verified.

In addition, the tracking systems should require generators less than 10 kW that use engineering estimates to disclose that the facility’s output is not metered in the certificates’ static data. We recommend that a separate field be added for this purpose on the certificate.

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### **4. 3. Reporting Generation Data to the Tracking System**

This issue refers to how dynamic generation data are reported to the tracking system. There are three ways that generation data are reported to tracking system operators: telemetering, third party reporting, and self-reporting. The most common method is for generation meter readings to be telemetered to the utility or local system operator, settled per the local markets or utility settlement system, and reported to the tracking system operator. It is also permissible in most tracking systems to have the generation data submitted electronically or manually by an independent third party not affiliated with the generator, and reported directly to the tracking system. The third, and least desirable way from an accuracy standpoint, is to

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<sup>1</sup> [http://rredc.nrel.gov/solar/codes\\_algs/PVWATTS/](http://rredc.nrel.gov/solar/codes_algs/PVWATTS/)

have the generation data reported by the generator with no third party oversight. This latter option is available in several of the generation tracking systems, but not all.

As with previous recommendations, the Working Group recommends that BTM generators be treated the same as all other generators with the possible exception of very small generators. The Working Group encourages third party oversight or electronic reporting for all BTM generators to the extent practicable to provide an added level of assurance that the data have not been manipulated. The Working Group recognizes that this is not always feasible and can be cost-prohibitive for small BTM generators.

Recommended Common Practice: Facilities of 5 MW or larger nameplate capacity will be treated the same as non-BTM of a similar size and will be required to telemeter their metering data to the control area operator or utility settlement system, or will use an independent third party to report their generation data to the tracking system operator. For facilities under 5 MW for now we recommend disclosure of reporting protocol in the certificate data.

The group recognized that 5 MW represents a significant jump in scale from the other common practice recommendations that set cut-offs of 10kW and 1MW, and some NAAIB Working Group members would prefer a smaller capacity cut-off for telemetering as the common practice. This 5 MW limit was derived from the NEPOOL market settlements system, which allows BTM generators under 5MW to self-report their generation. Most other settlement systems that were represented on the NAAIB Working Group have a 1 MW cut-off for participation in the market settlement system. Therefore, most generators 1MW or above will participate in the market settlement system and therefore their generation will be reported the same as non-BTM generators of a similar size. In addition, some states verify self-reported BTM generation for various incentive programs.

The group did not develop a specific recommendation on generators 5MW or less with regard to reporting generation to the tracking systems, but the general consensus was that most states will have more stringent requirements regarding self-reporting.

There was general agreement among the Working Group that disclosure should be required indicating the reporting protocol (i.e. the certificate's static data should indicate whether the generation data are telemetered, 3<sup>rd</sup> party reported, or self-reported). The group agreed that all three practices were acceptable so long as there is disclosure to explain which reporting practice was used. We expect this issue will be revisited and tightened-up over time.

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#### **4. 4. Standards for Metering Equipment**

We assume that any generator that goes through a utility or control area markets settlement process is using a meter that meets local standards. However, local standards vary and some metering equipment is more precise than others.

Recommended Common Practice: BTM generators equal to or over 10kW that do not go through a control area settlements process should use a revenue-quality meter, i.e., an ANSI

C-12 certified, bi-directional meter that measures generation and losses at the point of service entry (i.e. where the BTM generation asset ties into the electrical system of the facility) or a meter that meets applicable state standards, to the extent such standards are in place. Generators under 10 kW of nameplate capacity should be exempted from this requirement, because small quantities of generation may not warrant the use of a revenue quality meter. The Working Group did not specify any metering equipment standards for facilities under 10 kW.

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#### **4. 5. Where is the Output Measured? How are Line Losses Accounted for?**

All tracking systems currently issue certificates for gross generation from BTM generators. By gross generation, we mean generation not netted of load (other than station service load). Also such gross generation assumes there are no line losses (which occur when electricity is transmitted over long distances from generator to load) since all or most generation is used on-site.

In Canada, certificates from gross generation from a BTM facility may not be eligible for some federal programs. Since the prevailing practice in the U.S. is to issue certificates for gross generation, and because it would be impossible for tracking systems to identify which certificates were associated with load used on-site or not, it is recommended that there be a mechanism for certificate buyers to be able to identify when a certificate is associated with a BTM generator.

Recommended Common Practice: Gross output (total generation regardless of that consumed on-site other than for station service) of the facility is eligible for certificate creation. The fact that the facility is BTM should be indicated in a field on the certificate. The meter should be measured at the point of service entry (i.e. where the BTM generation asset ties into the electrical system of the facility).

#### **Information Resources**

- NEPOOL GIS: <http://www.nepoolgis.com/> (*halfway down the page under Program Info*) and also [http://www.nepool.com/rules\\_proceeds/operating/isone/op18/OP18\\_RTO\\_FIN.doc](http://www.nepool.com/rules_proceeds/operating/isone/op18/OP18_RTO_FIN.doc)
- PJM GATS: <http://www.pjm-eis.com/documents/downloads/gats-operating-rules.pdf>
- M-RETS: <http://www.gpisd.net/mrets/documents/M-RETStechrec14.pdf>
- WREGIS: <http://www.westgov.org/wieb/wregis/reports/InOpRulesfnl7-15-04.pdf>
- TX RECs: we have only hardcopy and could not find this on the web. Available as PDF file upon request from Dan Lieberman.
- NJ SRECs: <http://www.njcep.com/srec/faq.html>