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In-Series Metering Connection Configurations Ontario Power Authority Feed-In-Tariff Program

The Ontario Power Authority (OPA) has established a Feed-In-Tariff program (FIT) whereby a property owner (electricity consumer) may install, (or have installed), equipment to generate electricity back to the local distribution company (LDC). The OPA has endorsed three types of connection methods, one of which, (called "indirect-series"), raised concerns from Measurement Canada with respect to the manner in which supplied energy values were to be determined, and in turn, stated on billing invoices. Specifically, it was established that where declared energy quantity amounts were to be calculated indirectly on the basis of mathematical deductions and summations of registered energy values, there is a significant potential for the resultant quantity values to be inaccurate in relation to true energy consumption quantities. It was also established that the magnitude of the potential inaccuracies associated with the derived quantity statements could exceed the limits of error prescribed by section 46 of the *Electricity and Gas Inspection Regulations* (Regulations).

The OPA has subsequently submitted a proposal to Measurement Canada whereby measurement of indirect-series connected FIT program participant's consumption and supplies would be accomplished by way of conducting six (6) distinct and individual trade transactions. The six transactions would take place based on the four (4) meter readings as recorded by the registers of two bi-directional meters. The meters would be approved, verified, and sealed in accordance with Measurement Canada specifications. The subject meter readings and resultant quantity values would, in all cases, appear on the billing invoices issued to energy generators and purchasers as applicable.

The provisions of the *Electricity and Gas Inspection Act* (Act) relate to distinct trade measurement transactions between a purchaser and a seller of electricity (or natural gas). Where a measurement transaction occurs, and the declared quantity value is determined via an approved, verified and sealed meter (uni-directional register or bi-directional registers), the declared quantity value shall be established and settled as a distinct transaction registered by the meter. Where that is the case, Measurement Canada does not have any concerns with specific regard to declared quantity values, provided that the distinct and individual measurement transactions which appear on the billing invoice comply with the Act and any requirements specified by, or pursuant to, the Regulations. With specific respect to the indirect-series connection configuration, as is identified in the OPA FIT program, it is the Agency's conclusion that this configuration is capable of complying with the statutory requirements for trade measurement accuracy, where the declared energy quantities are established and distinctly declared on an individual trade transaction basis via the billing invoices issued to energy purchasers and generators.

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Measurement Canada strongly encourages the use of the parallel metering connections. Parallel metering connection methods are considered capable of providing quantity representations that comply with Measurement Canada's statutory measurement accuracy requirements regardless of whether quantity statements are established on an individual or aggregate basis. However, in the case where in-series connection configurations are employed and the customer is not the owner of the generating equipment (i.e. the generator is a third party), the Agency advises that the potential exists for significant monetary overcharges or underpayments to result in the final billing settlement (even though each distinct measurement recorded for a transaction may be found to comply with the statutory requirements for trade measurement accuracy). The regulation of the monetary portion of billing settlement inequities are not deemed to fall within Measurement Canada jurisdiction and may be the concern of provincial energy boards or provincial consumer protection agencies. Unlike the in-series metering configuration, parallel metering connections do not include the potential to raise billing invoice monetary settlement issues or inequities.

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