

## Final Alignment Supplementary: Incremental Amendments

Incremental Amendments from Provisionally Approved baseline	
Title:	Chapter 0.6 and Appendices – Wholesale Metering
Current Market Rules Baseline:	
This document shows only excerpts from sections that have been revised since the Technical Panel provisionally recommended/IESO Board provisionally approved version with tracked changes. For the full version of this and other chapters, refer to the market rule amendment proposal documents (MR-00481-R00-R12).	

# Introduction

A.1.1 This Chapter is part of the *renewed market rules*, which pertain to:

A.1.1.1 the period prior to a *market transition* insofar as the provisions are relevant and applicable to the rights and obligations of the *IESO* and *market participants* relating to preparation for operation in the *IESO administered markets* following commencement of *market transition*; and

A.1.1.2 the period following commencement of *market transition* in respect of all the rights and obligations of the *IESO* and *market participants*.

A.1.2 All references herein to chapters or provisions of the *market rules* will be interpreted as, and deemed to be references to chapters and provisions of the *renewed market rules*.

A.1.3 Upon commencement of the *market transition*, the *legacy market rules* will be immediately revoked and only the *renewed market rules* will remain in force.

A.1.4 For certainty, the revocation of the *legacy market rules* upon commencement of *market transition* does not:

A.1.4.1 affect the previous operation of any *market rule* or *market manual* in effect before the *market transition*;

A.1.4.2 affect any right, privilege, obligation or liability that came into existence under the *market rules* or *market manuals* in effect prior to the *market transition*;

A.1.4.3 affect any breach, non-compliance, offense or violation committed under or relating to the *market rules* or *market manuals* in effect prior to the *market transition*, or any sanction or penalty incurred in connection with such breach, non-compliance, offense or violation

A.1.4.4 affect an investigation, proceeding or remedy in respect of,

(a) a right, privilege, obligation or liability described in subsection A.1.4.2, or

(b) a sanction or penalty described in subsection A.1.4.3.

A.1.5. An investigation, proceeding or remedy described in subsection A.1.4.3 may be commenced, continued or enforced, and any sanction or penalty may be imposed, as if the *legacy market rules* had not been revoked.

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## 2. Requirements for Metering Installations

2.1.1 Subject to section 2.1.5, the *IESO* shall not permit a person to participate in the *day-ahead market*, *real-time market* or the *procurement markets* or to cause or permit electricity to be conveyed into, through or out of the *IESO-controlled grid*, in respect of a *connection point*, other than an *interconnection*, or in respect of an *embedded connection point*, unless the *IESO* is satisfied that:

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2.1.2 The *IESO* shall refuse to permit a person to participate in the *day-ahead market*, *real-time market* or the *procurement markets* or to cause or permit electricity to be conveyed into, through or out of the *IESO-controlled grid*, in respect of any *connection point*, other than an *interconnection*, or an *embedded connection point* if the conditions set forth in section 2.1.1 are not satisfied. Such refusal is a *reviewable decision*.

2.1.3 [Intentionally left blank – section deleted]

2.1.4 This Chapter applies in respect of a *metering installation* that measures the consumption of *energy* in accordance with ~~MR Ch.9 s.2.2~~section 2.1A.1 of Chapter 9.

## 3. Metered Market Participants

### 3.1 General Obligations

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3.1.2 Each *metered market participant* shall:

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3.1.2.2 if not registered as a *metering service provider*:

- a. enter into an agreement with a *metering service provider* for the registration, provision, installation, commissioning, maintenance, repair, replacement, inspection and testing by that *metering*

*service provider* of each *metering installation* in respect of which it is the *metered market participant*;

- b. ensure that its *metering service provider* provides the *IESO* with the information referred to in sections 1.2 and 1.3 of Appendix 6.5 and updates such information as required to maintain that information current;
- c. where the *metering installation* is associated with more than one *connection point*, *defined meter point* or *facility*, on a timely basis ensure that its *metering service provider* reviews and updates the information referred to in sections 1.2 and 1.3 of Appendix 6.5 and provide it to the *IESO*:
  - i. annually; and
  - ii. when material changes are made to the *IESO-controlled grid* downstream of the *metering installation* including the application by another *metered market participant* to register a different *metering installation* downstream of the *metering installation*; and
- d. be liable to the imposition of financial penalties and other sanctions, in accordance with [MR Ch.3Chapter-3](#), in respect of the failure by each *metering service provider* that acts as a *metering service provider* for a *metering installation* in respect of which it is the *metered market participant* to comply with the obligations imposed on *metering service providers* in this Chapter and in any policy or standard established by the *IESO* pursuant to this Chapter.

## 3.2 Transitional Arrangements

- 3.2.3 Notwithstanding section 3.1.2.2(c), a *metering service provider* designated as such pursuant to section 3.2.1 or 3.2.2, shall, in addition or in lieu of any liability that may be imposed on a *metered market participant* pursuant to section 3.1.2.2(c), be liable to the imposition of financial penalties and other sanctions, in accordance with the enforcement provisions of [MR Ch.3Chapter-3](#), in respect of a failure by the *metering service provider* to comply with the obligations imposed on *metering service providers* in this Chapter and in any policy or standard established by the *IESO* pursuant to this Chapter, and for such purposes, *metering service providers* shall be deemed as *market participants*. Such *metering service providers* shall only be subject to such liability in respect of *metering installations* for which they are designated as *metering service*

*providers* pursuant to section 3.2.1 or 3.2.2 and only until the earliest expiry date of any seal period of any *meter* forming part of the *metering installation*.

## 4. Metering Installation

### 4.1 Metering Installation Standards

4.1.1 Subject to sections 4.1.2, 4.4, and 4.6, each *metering installation* shall:

- 4.1.1.1 contain *meters* that are of a type that are described on the list of conforming *meters* established by the *IESO*;
- 4.1.1.2 be comprised of two *meters*, at least one of which shall be a *revenue meter* that meets or exceeds the 0.2% accuracy class of ANSI standard C12.20;
- 4.1.1.3 have *instrument transformers* whose current transformers and voltage transformers meet or exceed the 0.3% accuracy class of ANSI standard C57.13;
- 4.1.1.4 meet the accuracy requirements set forth in this Chapter and in any policy or standard established by the *IESO* pursuant to this Chapter;
- 4.1.1.5 meet the security requirements set forth in this Chapter and in any policy or standard established by the *IESO* pursuant to this Chapter;
- 4.1.1.6 ~~subject to section 10.3.2,~~ be capable of collating *metering data* into *dispatch intervals*;

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#### 4.1A Metering Installations for Segregated Mode of Operation

4.1A.1 Subject to section 4.4, no *metered market participant* may operate a *resource* in a *segregated mode of operation* unless the *metering installation* for ~~that the~~ associated *facility* generates *metering data* that reads zero, or is capable of such adjustment as may be required to ensure that such *metering data* reads zero, when the *resource* is operating in a *segregated mode of operation*.

## 4.2 Defined Meter Point and Error Correction Factors

4.2.1 Subject to section 4.4, each *metered market participant* shall ensure, in respect of each *metering installation* for which it is the *metered market participant*, that:

4.2.1.1 subject to sections 4.2.2 and 4.2.2A, the *meter point* is located at the *defined meter point* for the *facility* to which the *metering installation* relates and otherwise complies with all requirements for *meter points* set forth in this Chapter and in any policy or standard established by the *IESO* pursuant to this Chapter.

4.2.1.2 —[Intentionally left blank—section deleted]

4.2.2 The *IESO* shall permit a *metering installation* to be registered in respect of a *facility* notwithstanding that the *meter point* is not located at the *defined meter point* provided that all transfers of *energy* at any points of supply or consumption for the *facility* to which the *metering installation* relates are separately ~~metered~~ metered in a manner satisfactory to the *IESO*.

4.2.5 Where the *defined meter point* in respect of a *facility* is an *embedded connection point* and the *meter point* is not located at the *defined meter point*, the *metering service provider* for the relevant *metering installation* shall provide to the *IESO*, at the time of registration of the *metering installation*:

4.2.5.1 the parameters for site specific loss adjustments to reflect losses between the *meter point* and the *defined meter point associated with the embedded facility connection point*, in accordance with section 4.2.6; and

4.2.5.2 the loss adjustments required to reflect losses between the *defined meter point* ~~for the primary RWM~~ associated with the *connected facility* and the *defined meter point* ~~for the embedded RWM~~ associated with the *embedded facility*, obtained where applicable from the relevant *transmitter* or *distributor*, as the case may be depending on the owner of the *facilities* to which the *facility* to which the *meter point* relates is connected.

### 4.3 Use of Metering Data and Metering Data Collection

- 4.3.1 *Metering data* shall be used by the *IESO* for *settlement* purposes following completion of the validation and, where applicable, substitution and estimation processes, in the manner set forth in ~~Chapter 9~~MR Ch.9.
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### 4.4 Alternative Metering Installation Standards

#### Registration Under the Alternative Metering Installation Standard

- 4.4.2 A *metering service provider* applying to register a *metering installation* under the alternative standards specified in Appendix 6.2 shall submit to the *IESO*:
- 4.4.2.1 an application for registration specifying the alternative *metering installation* standard(s) for which registration is sought;
  - 4.4.2.2 applicable supporting information as specified in Appendix 6.2; and
  - 4.4.2.3 information otherwise required by this Chapter ~~6~~ or the applicable *market manual*.
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### 4.5 Alternative Metering Installation Standards for Embedded Generation Facilities

- 4.5.1 A *transmission customer* that has an *embedded generation facility* that:
- 4.5.1.1 registers that *generation facility* for the purpose of determining transmission charges;
  - 4.5.1.2 is rated less than 20 MW; and
  - 4.5.1.3 meets the applicable Ontario Uniform Transmission Rate Schedule requirements with respect to the transmission *delivery point* through which the *generation facility* is connected to the *transmission system* and attracts Line or Transformation Connection Service charges;
  - 4.5.1.4 ~~[Intentionally left blank—section deleted]~~



shall either comply with the *metering installation* standards specified elsewhere in this Chapter 6 or with the alternative *metering installation* standards specified in this section 4.5 for that *embedded generation facility*.

4.5.2 A *transmission customer* that chooses to meet the alternative *metering installation* standards of this section 4.5 for an *embedded generation facility* shall, in accordance with the applicable *market manual*, have their *metering service provider*.

4.5.2.1 register with the *IESO* a *metering point* for that *embedded generation facility*.

~~4.5.2.2 [Intentionally left blank—section deleted]~~

4.5.5 The *IESO* shall adjust the applicable *transmission services charge settlement amounts* by any such amount, submitted in accordance with section 4.5.3 or by the amount determined under section 4.5.4, for the *transmission customer* and the *transmitter*. The *IESO* shall make this adjustment on the applicable *settlement statement* for the last day of the month in which the adjustment information is received or the last day of the month in which the *IESO* determines the adjustment amount, whichever is applicable.

## 5. Metering Service Providers

### 5.1 Registration

5.1.11 Where:

5.1.11.1 an applicant to whom a notice is issued in accordance with section 5.1.8 fails to rectify the deficiency in its qualifications within the time specified in that section; or

5.1.11.2 the rectification described in section 5.1.9 is not such as to satisfy the *IESO* that the applicant meets the qualifications set forth in [section 5.2.3Appendix 6-6](#),

the *IESO* shall:

- 5.1.11.3 notify the applicant in writing that its application for registration as a *metering service provider* has been denied;
- 5.1.11.4 if the *IESO* has not conducted the systems and procedures tests and audits referred to in section 5.1.6, return to the applicant that portion of the application fee referred to in section 5.1.3.3 that is attributable to the costs of conducting such tests and audits; and
- 5.1.11.5 return to the applicant that portion of the application fee referred to in section 5.1.3.3 that is attributable to the costs of conducting the review described in section 5.1.13.

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## **5.2 Activities and Standards for Metering Service Providers**

- 5.2.1 The activities described in section 1.3 of Appendix 6.1 shall be performed by a *metering service provider*.
- 5.2.2 Each *metering service provider* shall comply with all of the obligations imposed on *metering service providers* in Appendix 6.1 and in any policy or standard established by the *IESO* pursuant to this Chapter.
- 5.2.3 Each *metering service provider* shall meet all performance standards as set forth in the applicable *market manual*.
- 5.2.4 Where the provision of written meter-related materials or of post-registration familiarization and competency updating or upgrading to a ~~metering-service~~ *metering service provider* imposes a significant expense on the *IESO*, such documentation, assistance or training may be provided upon payment by the *metering service provider* of a reasonable fee.

## **5.3 Revocation of Registration of Metering Service Providers**

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- 5.3.9 A decision by the *IESO* to revoke the registration of a *metering service provider* is a *reviewable decision* and shall be without prejudice to the right of the *IESO* to impose upon the *metered market participant* for whom the *metering service*

*provider* is acting as *metering service provider* sanctions or financial penalties in accordance with ~~MR Ch.apter 3~~ in respect of any breach of the *market rules* that formed the grounds for revocation of the *metering service provider's* registration.

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## 6. Registration of Metering Installations and Metering Registry

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### 6.2 Metering Registry

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- 6.2.3 The data recorded in the *metering registry* in respect of a registered *metering installation* shall be available to:
- 6.2.3.1 the *metered market participant* for that *metering installation* and an authorized agent of such *metered market participant*;
  - 6.2.3.2 the ~~metering service provider~~ *metering service provider* for that *metering installation*;
  - 6.2.3.3 any *market participant* whose *settlement statement* is determined on the basis of the *metering data* recorded in that *metering installation* and an authorized agent of such *market participant*; and
  - 6.2.3.4 any *transmitter* or *distributor* to whose system a *facility* in respect of the *metering installation* relates is connected.
- 6.2.4 Data recorded in the *metering registry* is *confidential information* and the *IESO* shall ensure that such data is not accessible by or disclosed by the *IESO* to any person other than the *IESO* and the persons referred to in sections 6.2.3.1 to 6.2.3.4 or as otherwise permitted by ~~MR Ch.3 s.5section 5 of Chapter 3~~ or any policy of the *IESO* established pursuant to that section.
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## 7. Testing and Auditing of Metering

# Installations

## 7.3 Costs of Tests and Audits

- 7.3.1 The costs and expenses associated with the inspection and testing of a *metering installation* referred to in section 7.1.1 shall be paid by the *metered market participant* responsible for that *metering installation*, and the costs and expenses of review of such tests referred to in section 7.1.3 shall be paid by the *IESO*.
- 7.3.2 The costs and expenses associated with the audit of a *metering installation* referred to in section 7.1.4, the periodic, random and unannounced audits referred to in section 7.1.5, the security audits referred to in section 9.1.3, or the *connection station service* audit referred to in [MR Ch.9 s.2.2.3](#)~~Chapter 9 section 2.1A.3~~, shall be paid as follows:
- 7.3.2.1 the *IESO* shall pay all of its costs as described in the applicable *market manual*; and
  - 7.3.2.2 the *metered market participant* responsible for that *metering installation* shall pay all costs incurred by any of the *metered market participant*, *metering service provider*, and *facility owner* as described in the applicable *market manual*.

Where the *metering installation* is shown by the test or audit not to comply with the requirements set forth in this Chapter or in any policy or standard established by the *IESO* pursuant to this Chapter, thereby requiring for any reason a re-test or additional inspection or re-audit or any additional work by the *IESO*, the *metered market participant* responsible for that *metering installation* shall bear the costs of that re-test, inspection, audit and remedial work, including but not limited to any and all costs incurred by the *IESO*.

- 7.3.5 The costs and expenses associated with the implementation of the safety requirements and practices referred to in section 7.4.1, including but not limited to the costs associated with training the *IESO's* auditor in respect of such requirements or practices and of accompanying the *IESO's* auditor during an audit referred to in sections 7.1.4, 7.1.5, 7.2.3 and 9.1.3 and ~~section 2.1A.3 of Chapter 9~~ [MR Ch.9 s.2.2.3](#), shall be borne by the *metered market participant* for the *metering installation* that is undergoing the audit.

## 7.4 Safety Requirements and Practices During Audits

7.4.1 The *IESO* shall use reasonable ~~endeavours~~ efforts to ensure that, in performing an audit referred to in section 7.1.4, 7.1.5 or 7.2.3, the *IESO's* auditor complies with such reasonable and *bona fide* safety requirements and practices of:

7.4.1.1 the owner of the *metering installation*; or

7.4.1.2 the owner of the *facility* within which the *metering installation* is located,

or both, as may be applicable, as may be made known to the *IESO's* auditor.

## 9. Security of Metering Installations and Data

### 9.2 Security Controls

9.2.5 Each *metering service provider* shall hold 'read-only', 'read plus synchronize time' and 'read plus ~~write~~' passwords for each *metering installation* for which it is the *metering service provider*, where available, and shall forward a copy of such passwords to the *IESO*.

9.3.2A An adjustment required to be made to a *metering installation* to enable it to generate *metering data* that reads zero while the *generation resource(s)* associated with the *facility* to which such *metering installation* relates is operating in a *segregated mode of operation* shall:

9.3.2A.1 be deemed not to be a change to equipment, parameters or settings for the purposes of sections 9.3.1 and 9.3.2 and of section 1.3.2.22 of Appendix 6.1; and

- 9.3.2A.2 shall be effected while at all times maintaining the security of the *metering installation* in accordance with the requirements pertaining to the security of *metering installations* set forth in this Chapter and in any policy or standard established by the *IESO* pursuant to this Chapter.
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## 10. Processing of Metering Data for Settlement Purposes

### 10.1 Metering Database

~~10.1.3A~~ — [Intentionally left blank.]

- 10.1.4 *Metering data* recorded in the *metering database* is *confidential information* and the *IESO* shall ensure that such *metering data* is not accessible by or disclosed by the *IESO* to any person other than the *IESO* and the persons referred to in sections 10.1.3.1 to 10.1.3.4, or as otherwise permitted by ~~MR Ch.3 s.5~~section 5 of Chapter 3 or any policy of the *IESO* established pursuant to that section.
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### 10.3 Periodic Energy Metering

- 10.3.1 *Metering data* relating to the amount of active *energy* and, where relevant, reactive *energy* passing through a *metering installation* shall be collated by *dispatch intervals*.

~~10.3.2~~ ~~[Intentionally left blank — section deleted]~~

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### 10.4 Errors Relating to Metering Installations and Metering Data

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- 10.4.8 If a *metered market participant* disagrees with the *IESO's* determination and action taken in accordance with section 10.4.4 or the *IESO* has not made its determination prior to earlier of either the date referred to in section 10.4.7 or

twelve months after the date of the notice referred to in section 10.4.2, the *metered market participant* may pursue their disagreement through the dispute resolution process outlined in ~~MR Ch.3 s.2-section 2 of Chapter 3~~.

## 11. Performance of Metering Installation

11.1.1 Each *metering service provider* shall ensure that *metering data* from each *metering installation* in respect of which it acts as a metering service provider is made available to the *IESO* for each *dispatch interval* ~~or, where permitted by section 10.3.2, for each dispatch hour~~, in accordance with the requirements of this Chapter and of any policy or standard established by the *IESO* pursuant to this Chapter and in accordance with the following:

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11.1.4A For the purposes of sections 11.1.4.3 and 11.1.4B.2, estimation of *metering data* shall be based on the following:

11.1.4A.1 in the case of a *metering installation* for a ~~generation~~facility resource, production shall be estimated at zero;

11.1.4A.2 in the case of a *metering installation* for a ~~load~~load resource, withdrawal for each hour shall be estimated at 1.80 times the self-cooled rating of the power transformer or, if none exists, the highest hourly level of withdrawal of *energy* recorded for that ~~load~~load resource during the twelve-month period preceding the date of the notice referred to in section 11.1.2 or 11.1.3.1, as the case may be; or

11.1.4A.3 in the case of a *metering installation* for an *electricity storage facility resource*, the injections shall be estimated at zero and the withdraws for each hour shall be estimated at 1.80 times the self-cooled rating of the power transformer or, if none exists, the highest hourly level of withdrawal of *energy* recorded for that ~~load~~electricity storage resource during the twelve-month period preceding the date of the notice referred to in section 11.1.2 or 11.1.3.1 as the case may be.

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## 13. Responsibilities of the IESO

13.1.1 The *IESO* shall:

13.1.1.1 establish and administer a process for the registration of *metering service providers*;

13.1.1.2 maintain and operate facilities necessary for *settlement* in accordance with this Chapter and ~~Chapter 9~~ [MR Ch.9](#);



# **Chapter 6**

# **Wholesale Metering - Appendices**

# Appendix 6.1 – Metering Obligations

## 1.1 Introduction

- 1.1.1 This Appendix sets forth certain obligations of *metered market participants* and *metering service providers* in respect of *metering*.

## 1.2 Obligations of Metered Market Participants

- 1.2.1 Each *metered market participant* shall:

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- 1.2.1.7 ensure that, an adjustment is made to a *metering installation* to enable it to generate *metering data* that reads zero while the *generation resource(s)* associated with the *facility* to which such *metering installation* relates is operating in a *segregated mode of operation*.

~~when a *registered facility resource* to which a *metering installation* in respect of which it is the *metered market participant* relates is operating in a *segregated mode of operation*, the *metering installation* generates *metering data* that reads zero for the period of time during which such *registered facility resource* operated in a *segregated mode of operation*.~~

## 1.3 Metering Service Providers

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- 1.3.3 Each *metering service provider* shall ensure that all members of its personnel that may be entering or may have cause to enter a *facility* owned by a person other than the *metering service provider* for the performance of the *metering service provider's* obligations pursuant to:

- 1.3.3.1 this Chapter 6;

- 1.3.3.2 any policy or standard established by the *IESO* pursuant to this Chapter 6; or

1.3.3.3 the agreement referred to in MR Ch.6 section-s. 5.1.3.2 ~~of this Chapter 6,~~

are familiar with and adhere to the safety requirements and practices of the owner of such *facility*.

## Appendix 6.2 – Alternative Metering Installation Standards

### 1.1 Introduction

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#### 1.1.2 This Appendix sets forth:

- 1.1.2.1 the alternative standards and accompanying conditions that must be met in respect of a *metering installation* registered under [MR Ch.6 s.section 4.4.3 of Chapter 6, section 4.4.3](#);
- 1.1.2.2 the information that must be submitted by a *metering service provider* in support of an application referred to in [MR Ch.6 section 4.4.2 of Chapter 6, section 4.4.2](#);
- 1.1.2.3 the circumstances in which the *IESO* may revoke the registration granted pursuant to [MR Ch.6 s.section 4.4.3 of Chapter 6, section 4.4.3](#); and
- 1.1.2.4 the time at which registration granted by the *IESO* under [MR Ch.6 s.section 4.4.3 of Chapter 6, section 4.4.3](#) expires. Where the time at which registration expires is specified to be the earliest expiry date of the seal period of any *meter* within the *metering installation*, that date shall be the earliest expiry date of the seal period of any *meter* within the *metering installation* as of the *market commencement date*.

### 1.1A Metering Installation Not Comprised of Two Meters

- 1.1A.1 Each *metering installation* for which registration is being sought under [MR Ch.6 section 4.4.2 of Chapter 6, section 4.4.2](#) that does not comply with the dual *meter* requirement referred to in [MR Ch.6 section 4.1.1.2 of Chapter 6](#) shall meet the following conditions:
  - 1.1A.1.1 the *meter* within the *metering installation* is one in respect of which Measurement Canada has granted approval of type;
  - 1.1A.1.2 a person that is an accredited meter verifier within the meaning of the *Electricity and Gas Inspection Act* (Canada) has verified and sealed the *meter* within the *metering installation*;

1.1A.1.3 the seal period for the *meter*, including the seal period for the *data logger* if sealed separately from the remainder of the *meter*, within the *metering installation* has not expired;

1.1A.1.4 the *metering installation* shall be capable of collating *metering data* into *dispatch intervals*; and

1.1A.1.5 [Intentionally left blank – section deleted]

1.1A.1.6 the *meter* contained in the *metering installation* shall be capable of time synchronization by the *IESO* to eastern standard time.

~~1.1A.1.7 [Intentionally left blank]~~

1.1A.2 Registration of a *metering installation* that meets the conditions set out in section 1.1A.1 shall expire on the earliest expiry date of the seal period of the *meter* within the *metering installation*, including the expiry date of the seal period of the *data logger* if sealed separately from the remainder of the *meter*.  
Registration of a *metering installation* shall not expire in instances where there are multiple *metering installations* served by a single *data logger* whose seal expires.

## 1.2 Compliance with Blondel's Theorem

1.2.1 Each *metering installation* for which registration is being sought under ~~MR Ch.6 s.section 4.4.2 of Chapter 6, section 4.4.2~~ that does not comply with Blondel's theorem shall:

1.2.1.1 comply with rulings issued by Measurement Canada on two and one-half element *metering*; and

1.2.1.2 have a magnitude of maximum error satisfactory to the *IESO*.

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1.2.5 Where the magnitude of maximum error referred to in section 1.2.2 exceeds 3.0%, registration relating thereto shall expire.

~~1.2.5.1 [Intentionally left blank]~~

~~1.2.5.2 [Intentionally left blank]~~

## 1.3 [Intentionally left blank – section deleted]

~~1.3.1 [Intentionally left blank – section deleted]~~

1.3.1.1 — [Intentionally left blank — section deleted]

1.3.1.2 — [Intentionally left blank — section deleted]

1.3.2 — [Intentionally left blank — section deleted]

1.3.3 — [Intentionally left blank — section deleted]

1.3.4 — [Intentionally left blank — section deleted]

## 1.4 Accuracy

1.4.1 Each *metering installation* for which registration is being sought under MR Ch.6 section 4.4.2 of Chapter 6, section 4.4.2 that does not comply with the accuracy requirements set forth in this Chapter and in any policy or standard established by the *IESO* pursuant to this Chapter shall meet the following conditions:

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## 1.5 Functional Requirements

1.5.1 Each *metering installation* for which registration is being sought under MR Ch.6 section 4.4.2 of Chapter 6, section 4.4.2 that does not comply with the functional requirements set forth in this Chapter and in any policy or standard established by the *IESO* pursuant to this Chapter shall meet the following conditions:

- 1.5.1.1 the *meters* within the *metering installation* are ones in respect of which Measurement Canada has granted approval of type;
- 1.5.1.2 a person that is an accredited meter verifier within the meaning of the *Electricity and Gas Inspection Act* (Canada) has verified and sealed the *meters* within the *metering installation*;
- 1.5.1.3 the seal periods for the *meters* within the *metering installation* have not expired;
- 1.5.1.4 the *metering installation* shall be capable of collating *metering data* into *dispatch intervals*; and
- 1.5.1.5 [Intentionally left blank – section deleted]
- 1.5.1.6 the *meters* contained in the *metering installation* shall be capable of time synchronization by the *IESO* to eastern standard time.

- 1.5.2 The *IESO* may, by notice to the *metered market participant*, revoke registration of a *metering installation* granted under ~~MR Ch.6 -section 4.4.3 of Chapter 6, section 4.4.3~~ that met conditions set out in section 1.5.1 if the *metering installation* fails to comply with the requirements of any of sections 1.5.1.4 to 1.5.1.6, in which case the *metered market participant* shall ensure that the *meters* within the *metering installation* are replaced with *meters* that comply with the functional requirements set forth in this Chapter 6 and in any policy or standard established by the *IESO* pursuant to this Chapter 6 within 2 *business days* of the date of notice of such revocation.
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## 1.6 Instrument Transformers – Power Switching

- 1.6.1 Each *metering installation* for which registration is being sought under ~~MR Ch.6 s. section 4.4.2 of Chapter 6, section 4.4.2~~ that does not comply with the power system switching requirements for *instrument transformers* set forth in this Chapter and in any policy or standard established by the *IESO* pursuant to this Chapter shall meet the following conditions:
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- 1.6.2 *Metering data* from a *metering installation* in respect of which registration has been granted under ~~MR Ch.6 section 4.4.3 of Chapter 6, section 4.4.3~~ that met the conditions set out in section 1.6.1 shall be the subject of adjustment by the correction and loss adjustment factors referred to in sections 1.6.1.3 and 1.6.1.4 in the manner described in the wholesale revenue metering standard established by the *IESO* pursuant to this Chapter.

- 1.6.3 The *IESO* may, by notice to the *metered market participant*, revoke registration of a *metering installation* granted under ~~MR Ch.6 section 4.4.3 of Chapter 6, section 4.4.3~~ that met the conditions set out in section 1.6.1 if the conditions set forth in any one of sections 1.6.1.1 to 1.6.1.4 are not met or if the *metered market participant* fails to:
- 

## 1.7 Instrument Transformers – Accuracy Requirements

- 1.7.1 Subject to section 1.7.1A, each *metering installation* for which registration is being sought under ~~MR Ch.6 section 4.4.2 of Chapter 6, section 4.4.2~~ that does not comply with the 0.3% accuracy requirements of ANSI standard C57.13, as evidenced by factory test cards complete with serial numbers, for *instrument transformers* set forth in this Chapter and in any policy or standard established by the *IESO* pursuant to this Chapter shall meet the following conditions:

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- 1.7.2      *Metering data* from a *metering installation* for which registration has been granted under ~~MR Ch.6 section 4.4.3 of Chapter 6, section 4.4.3~~ that met the conditions set out in section 1.7.1 shall be the subject of adjustment by the correction factors referred to in section 1.7.1.2(b) in the manner described in the wholesale revenue metering standard established by the *IESO* pursuant to this Chapter.
- 1.7.3      The *IESO* may, by notice to the *metered market participant*, revoke registration of a *metering installation* granted under ~~MR Ch.6 Chapter 6, section s.4.4.3~~ that met the conditions set out in section 1.7.1 if the conditions set forth in any one of sections 1.7.1.1 to 1.7.1.3 are not met, in which case the *metered market participant* shall ensure that each *instrument transformer* within the *metering installation* is replaced with an *instrument transformer* that complies with the accuracy requirements set forth in this Chapter and in any policy or standard established by the *IESO* pursuant to this Chapter within 8 weeks of the date of notice of such revocation.
- 1.7.4      If the *IESO* does not grant the *metered market participant* the right to retain registration under ~~MR Ch.6 section s.4.4.8 of Chapter 6,~~ the registration of a *metering installation* that met the conditions set out in section 1.7.1 shall expire on the date that the *metering installation* or the *facility* to which such *metering installation* relates undergoes upgrading or refurbishment that is, in the *IESO's* opinion, substantial.

## 1.8      **Instrument Transformers – Secondary Cabling**

- 1.8.1      Each *metering installation* for which registration is being sought under ~~MR Ch.6 section 4.4.2 of Chapter 6, section 4.4.2~~ that does not comply with the secondary cabling requirements for *instrument transformers* set forth in this Chapter and in any policy or standard established by the *IESO* pursuant to this Chapter shall meet the following conditions:

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- 1.8.2      *Metering data* from a *metering installation* in respect of which registration has been granted under ~~MR Ch.6 section s.4.4.3 of Chapter 6, section 4.4.3~~ that meets the conditions set out in section 1.8.1 shall be the subject of adjustment by the correction factors referred to in sections 1.8.1.4 and 1.8.1.5 in the manner described in the wholesale revenue metering standard established by the *IESO* pursuant to this Chapter.
- 1.8.3      The *IESO* may, by notice to the *metered market participant* in respect of the *metering installation* to which the registration relates, revoke registration of a



*metering installation* granted under ~~MR Ch.6 section 4.4.3 of Chapter 6, section 4.4.3~~ that meets the conditions set out in section 1.8.1 if the conditions set forth in any one of sections 1.8.1.1 to 1.8.1.5 are not met, in which case the *metered market participant* shall ensure that each *instrument transformer* within the *metering installation* is replaced with an *instrument transformer* that complies with the secondary cabling requirements set forth in this Chapter and in any policy or standard established by the *IESO* pursuant to this Chapter within 8 weeks of the date of notice of such revocation.

- 1.8.4 If the *IESO* does not grant the *metered market participant* the right to retain registration under ~~MR Ch.6 section 4.4.8 of Chapter 6,~~ the registration of a *metering installation* that meets the conditions set out in section 1.8.1 shall expire on the date on which the *metering installation* or the *facility* to which such *metering installation* relates undergoes upgrading or refurbishment that is, in the *IESO's* opinion, substantial.

## 1.9 Parallel Current Transformer Secondaries

- 1.9.1 Each *metering installation* for which registration is being sought under ~~MR Ch.6 section 4.4.2 of Chapter 6, section 4.4.2~~ that does not comply with the prohibition on parallel current transformer secondaries set forth in this Chapter and in any policy or standard established by the *IESO* pursuant to this Chapter shall meet the following conditions:

- 
- 1.9.2 *Metering data* from a *metering installation* in respect of which registration has been granted under ~~MR Ch.6 s. section 4.4.3 of Chapter 6, section 4.4.3~~ that meets the conditions set out in section 1.9.1 shall be the subject of adjustment by the correction factors referred to in section 1.9.1.17 in the manner described in the wholesale revenue metering standard established by the *IESO* pursuant to this Chapter.

- 1.9.3 The *IESO* may, by notice to the *metered market participant* in respect of the *metering installation* to which the registration relates, revoke registration of a *metering installation* granted under ~~MR Ch.6 section 4.4.3 of Chapter 6, section 4.4.3~~ that meets the conditions set out in section 1.9.1 if the conditions set forth in any one of sections 1.9.1.1 to 1.9.1.17 are not met, in which case the *metered market participant* shall ensure that each parallel current transformer secondary within the *metering installation* is removed within 8 weeks of the date of notice of such revocation.

- 1.9.4 If the *IESO* does not grant the *metered market participant* the right to retain registration under ~~MR Ch.6 section 4.4.8 of Chapter 6,~~ the registration of a *metering installation* that meets the conditions set out in section 1.9.1 shall

expire on the date on which work or upgrading that is, in the *IESO's* opinion, substantial is carried out at the *metering installation's meter point*.

## **1.10 Meter Installation Enclosures**

1.10.1 Each *metering installation* for which registration is being sought under [MR Ch.6 section 4.4.2 of Chapter 6, section 4.4.2](#) that does not comply with the enclosure requirements for *metering installations* set forth in this Chapter and in any policy or standard established by the *IESO* pursuant to this Chapter shall meet the following conditions:

- 1.10.1.1 the *metering installation* is, in the *IESO's* opinion, secure; and
- 1.10.1.2 the *metering installation* complies with as many of the enclosure requirements described in this Chapter and in any policy or standard established by the *IESO* pursuant to this Chapter as is practicable and any requirements not so complied with have been identified to the *IESO*.

1.10.2 The *IESO* may, by notice to the *metered market participant*, revoke registration of a *metering installation* granted under [MR Ch.6 section 4.4.3 of Chapter 6, section 4.4.3](#) that meets the conditions set out in section 1.10.1 if the conditions set forth in any one of sections 1.10.1.1 or 1.10.1.2 are not met, in which case the *metered market participant* shall ensure that each *metering installation* complies with the enclosure requirements set forth in this Chapter and in any policy or standard established by the *IESO* pursuant to this Chapter within 2 *business days* of the date of notice of such revocation.

1.10.3 Registration of a *metering installation* that meets the conditions set out in section 1.10.1 shall expire on the earliest expiry date of the seal period of any *meter* within the *metering installation*.

## **1.11 Instrument Transformers – Primary Connection Point**

1.11.1 Each *metering installation* for which registration is being sought under [MR Ch.6 section 4.4.2 of Chapter 6, section 4.4.2](#) that does not comply with the primary connection point proximity requirements for *instrument transformers* set forth in this Chapter and in any policy or standard established by the *IESO* pursuant to this Chapter shall meet the following conditions:

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1.11.2 *Metering data* from a *metering installation* in respect of which registration has been granted under [MR Ch.6 section 4.4.3 of Chapter 6, section 4.4.3](#) that meets the conditions set out in section 1.11.1 shall be the subject of adjustment

by the correction factors referred to in section 1.11.1.1 or 1.11.1.2, as the case may be, in the manner described in the wholesale revenue metering standard established by the *IESO* pursuant to this Chapter.

- 1.11.3 The *IESO* may, by notice to the *metered market participant* in respect of the *metering installation* to which the registration relates, revoke registration of a *metering installation* granted under ~~MR Ch.6 section 4.4.3 of Chapter 6, section 4.4.3~~ that meets the conditions set out in section 1.11.1 if the conditions set forth in section 1.11.1.1 or 1.11.1.2 are not met, in which case the *metered market participant* shall ensure that each *instrument transformer* within the *metering installation* is replaced with an *instrument transformer* that complies with the primary connection point proximity requirements set forth in this Chapter and in any policy or standard established by the *IESO* pursuant to this Chapter within 8 weeks of the date of notice of such revocation.
- 1.11.4 If the *IESO* does not grant the *metered market participant* the right to retain registration under ~~MR Ch.6 section 4.4.8 of Chapter 6,~~ the registration of a *metering installation* that meets the conditions set out in section 1.11.1 shall expire on the date on which the *metering installation* or the *facility* to which such *metering installation* relates undergoes upgrading or refurbishment that is, in the *IESO's* opinion, substantial.

## 1.12 Instrument Transformer – Primary Cable

- 1.12.1 A *metering service provider* that seeks to register a *metering installation* under ~~MR Ch.6 section 4.4.2 of Chapter 6, section 4.4.2~~ that does not comply with the permissible primary cable error factor requirements for *instrument transformers* set forth in this Chapter and in any policy or standard established by the *IESO* pursuant to this Chapter shall provide to the *IESO*, for the *IESO's* approval, a constant correction factor.
- 1.12.2 *Metering data* from a *metering installation* in respect of which registration has been granted under ~~MR Ch.6 section 4.4.3 of Chapter 6, section 4.4.3~~ that meets the conditions set out in section 1.12.1 shall be the subject of adjustment by the correction factor referred to in section 1.12.1 in the manner described in the wholesale revenue metering standard established by the *IESO* pursuant to this Chapter.
- 1.12.3 If the *IESO* does not grant the *metered market participant* the right to retain registration under ~~MR Ch.6 section 4.4.8 of Chapter 6,~~ the registration of a *metering installation* that meets the conditions set out in section 1.12.1 shall expire on the date on which the *metering installation* or the *facility* to which such *metering installation* relates undergoes upgrading or refurbishment that is, in the *IESO's* opinion, substantial.

## 1.13 Instrument Transformers – Burdens

- 1.13.1 A *metering service provider* that seeks to register a *metering installation* under ~~MR Ch.6 section .4.4.2 of Chapter 6, section 4.4.2~~ that does not comply with the prohibition against errors resulting from calculated burdens for *instrument transformers* set forth in this Chapter and in any policy or standard established by the *IESO* pursuant to this Chapter shall provide to the *IESO*, for the *IESO's* approval, a correction factor.
- 1.13.2 *Metering data* from a *metering installation* in respect of which registration has been granted under ~~MR Ch.6 s. section 4.4.3 of Chapter 6, section 4.4.3~~ that meets the conditions set out in section 1.13.1 shall be the subject of adjustment by the correction factor referred to in section 1.13.1 in the manner described in the wholesale revenue metering standard established by the *IESO* pursuant to this Chapter.
- 1.13.3 If the *IESO* does not grant the *metered market participant* the right to retain registration under ~~MR Ch.6 section s.4.4.8 of Chapter 6,~~ the registration of a *metering installation* that meets the conditions set out in section 1.13.1 shall expire on the date on which the *metering installation* or the *facility* to which such *metering installation* relates undergoes upgrading or refurbishment that is, in the *IESO's* opinion, substantial.

## Appendix 6.3 – Inspecting and Testing Requirements

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### 1.2 On-Site Reconciliation and Meter Register Dial Readings

- 1.2.1 Subject to ~~MR Ch.6 section ss.4.6.5 of Chapter 6~~ and ~~section 1.2.3~~, on-site reconciliation shall be conducted to confirm whether the *energy* measured by a *meter* over a given period of time was accurately transmitted to the *meter's data logger* within the *meter*.
- 1.2.2 Each *metering service provider* shall record an error detected as a result of the procedure referred to in section 1.2.1 that exceeds one multiplier, calculated as the current transformer ratio times the voltage transformer ratio times the *meter* register multiplier, as an *outage* or defect and shall report the error as such to the *IESO* in accordance with ~~MR Ch.6 section s.11.1.2 of this Chapter~~.

- 1.2.4 Where a *meter* within a *metering installation* is not capable of transmitting *meter* register dial readings during the remote acquisition of *metering data* as described in ~~MR Ch.6 section s.7.2.6 of this Chapter~~, the *metering service provider* shall provide such readings to the *IESO* so as to enable the *IESO* to perform the comparison described in section 7.2.5 of this Chapter.

### 1.5 Frequency of Routine Testing

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- 1.5.4 Each *metering service provider* shall test the currents and voltages applied to a *meter*, for each *metering installation* that is comprised of an alternate *meter* and that is registered under ~~MR Ch.6 section s.4.6 of Chapter 6~~ for which it acts as a *metering service provider*, once every 6 months following the date of registration of the *metering installation*. -This test may be conducted by remote means if the *meter* is capable of transmitting the applied currents and voltages.

# Appendix 6.4 – Metering Service Provider Qualifications

## 1.1 Qualifications

1.1.1 Each person that wishes to be registered by the *IESO* as a *metering service provider* shall demonstrate to the satisfaction of the *IESO* that it has:

1.1.1.1 an adequate number of personnel having the qualifications described in sections 1.1.1.2 to 1.1.1.7 to permit it to perform all of the functions and obligations of a *metering service provider* under this Chapter and any policy or standard established by the *IESO* pursuant to this Chapter and to meet the performance standards set forth in [Appendix 6.6MR Ch.6 s.5.2.3](#);

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1.1.1.8 the necessary equipment, materials, systems and procedures to enable it to perform all of the functions and obligations of a *metering service provider* under this Chapter and any policy or standard established by the *IESO* pursuant to this Chapter and to meet the performance standards set forth in [MR Ch.6 s.5.2.3](#) ~~Appendix 6.6~~; and

1.1.1.9 all licences and other authorizations required by *applicable law*, all of which are valid and in good standing.

## Appendix 6.5 – Metering Registry and Meter Point Documentation

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### 1.3 Meter Point Documentation

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- 1.3.4 The *metering service provider* for a *metering installation* that measures the consumption of *energy* referred to in [MR Ch.9 s.2.2.1.1](#)~~section 2.1A.1.1 of Chapter 9~~ or that measures the consumption of *station service* shall provide to the *IESO*, in support of the application to register the *metering installation*, the proportions referred to in [MR Ch.9 s.2.2.4.1 or 2.2.4.2\(a\)](#)~~section 2.1A.4.1(a) or 2.1A.4.2(a)~~, as may be applicable, to the extent that such proportions have been agreed in the manner specified in those sections and in such form as may be required by the applicable *market manuals*.

#### 1.3A Transmitter Confirmation of Meter Point Documentation

- 1.3A.1 No *metering service provider* to whom a request has been made pursuant to section 6.1.2A of Chapter 6 shall submit to the *IESO* the *meter point* documentation referred to in section 1.3 in respect of a *metering installation* that will be used for the calculation and collection of charges for *transmission service* unless the relevant portion of the *meter point* documentation is accompanied by the confirmation of the approval of each applicable *transmitter* referred to in [MR Ch.10 s.sections 3.1.3, 5.1.3, 6.1.3 or 6A.1.2.2](#)~~of Chapter 10~~, as may be applicable.
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## **Appendix 6.6**

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