



## CONSULTATION PAPER

# PROPOSED MODIFICATIONS TO METERING CODE

Closing date for submissions of comments and feedback:  
11 Jan 2008

**Note: There will be no extension of deadline beyond 11 Jan 2008, 5 pm**

10 DEC 2007

ENERGY MARKET AUTHORITY  
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**Disclaimer:**

The information in this Consultation Paper is not to be treated by any person as any kind of advice. The Energy Market Authority shall not be liable for any damage or loss suffered as a result of the use of or reliance on the information given in this Consultation Paper.

## **1 Introduction**

- 1.1 The Metering Code sets the minimum conditions that a metering service provider must meet in carrying out its obligation to provide services to metered entities.
- 1.2 The Metering Code also sets out the rights and obligations of metering service providers and metered entities in respect of both the wholesale electricity markets and the retail electricity market.
- 1.3 Specifications for meter installations and equipment are also described in the Metering Code.

## **2 Proposed Modifications**

- 2.1 Pursuant to Section 1.7 of the Metering Code, EMA is seeking consultation on the proposed modifications as set out in the Appendix 1.
- 2.2 The key modifications proposed are to facilitate the connection of embedded generation to the grid, as well as to calibrate the Metering Code to incorporate the policy decision on granting net treatment on non-reserve charges for embedded generators which are not exporting electricity into the grid.

## **3 Request for comments and feedback**

- 3.1 EMA invites comments and feedback on the proposed modifications to the Transmission Code as set out in the Appendix 1.
- 3.2 Please send your submission by e-mail to:  
[chow\\_kien\\_boon@ema.gov.sg](mailto:chow_kien_boon@ema.gov.sg) and [ye\\_luyan@ema.gov.sg](mailto:ye_luyan@ema.gov.sg)

Alternatively, you may send your submission by post/fax to the following address:

*Standards Branch  
Regulation Division  
Energy Market Authority  
111 Somerset Road, #15-05  
Singapore 238164.  
Fax: (65) 6 835 8084*

Please use the form given in Appendix 2 for your submission.

- 3.3 Anonymous submission will not be considered.
- 3.4 Clarifications, if any, with regard to the proposed modifications should reach EMA by 5pm on 17 Dec 2007.
- 3.5 All comments and feedback must reach EMA by 5 pm on 11 Jan 2008.
- 3.6 EMA will acknowledge receipt of all submissions electronically. Please contact Ms Ye Luyan or Mr Chow Kien Boon if you have not received an acknowledgement of your submission within two business days.
- 3.7 EMA reserves the right to make public all or parts of any written submissions made in response to this Consultation Paper and to disclose the identity of the source. Any part of the submission, which is considered by respondents to be confidential, should be clearly marked and placed as an annex. EMA will take this into account regarding disclosure of the information submitted.

~ End ~

**APPENDIX 1**

**PROPOSED MODIFICATIONS TO**

**THE METERING CODE**

## Energy Market Authority of Singapore

### Proposed Modifications to the Metering Code

<u>Modification Ref. No.</u>	<u>Section<sup>1</sup></u>	<u>Original Text</u>	<u>Modification</u>	<u>Reasons</u>
MC/2007/1	1.4.1	None as this is an inserted section.	<p><u>“embedded generation facility” means a generation facility as defined under the market rules;</u></p> <p><u>“generation settlement facility” or “GSF” means a generation facility that has been registered for settlement purposes only in accordance with section 5.4 of Chapter 2 of the market rules;</u></p> <p><u>“non-injecting embedded generation facility” means an embedded generation facility approved for classification as non-injecting by the Authority under the market rules;</u></p> <p><u>“Wholesaler Licensee (Generation)” means a person who is authorized by an electricity licence to trade in any wholesale electricity market operated by the Market Company for the purpose of selling electricity;</u></p>	To add new definitions.
MC/2007/2	1.4.1	<p>“generation facility” means a generating station, a generating unit or both;</p> <p>“meter entity” means a consumer, Generation Licensee or any other person responsible for the flow of electricity measured by a meter at a connection point, and shall include the Transmission Licensee or any person through whose plant or equipment there is a flow of electricity that is being metered for the purposes of settlement by an</p>	<p>“generation facility” means one or more generating units, including its associated equipment such as switchgears, transformers and all auxiliary equipment;</p> <p>“meter entity” means a consumer, Generation Licensee, <u>Wholesaler Licensee (Generation)</u> or any other person responsible for the flow of electricity measured by a meter at a connection point, and shall include the Transmission Licensee or any person through whose plant or equipment there is a flow of electricity that is being metered for the</p>	To refine definitions.

<sup>1</sup> Reference to the section of the code where change has been made in the version dated on January 2007 as published on the web.

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<u>Modification Ref. No.</u>	<u>Section<sup>1</sup></u>	<u>Original Text</u>	<u>Modification</u>	<u>Reasons</u>
		electricity licensee;	purposes of settlement by an electricity licensee;	
MC/2007/3	1.4.1	"site-specific adjustment factors" means a loss factor applied to a Pool meter to account for the notional metering point being on the high voltage side of the transformer whereas the physical metering point is on the low voltage side of the transformer or a loss factor, as a result of connection at busbars of different voltages, applied to a generation registered facility or generation settlement facility, in each case larger than 1 MW that provides power directly to a consumer;	"site-specific adjustment factors" means a loss factor applied to a Pool meter to account for the notional metering point being on the high voltage side of the transformer whereas the physical metering point is on the low voltage side of the transformer or a loss factor, as a result of connection at busbars of different voltages, applied to a <del>generation registered facility or generation settlement facility, in each case larger than 1 MW</del> <u>generating unit having a name-plate rating of 1 MW or above, or registered as a GRF or GSF,</u> that provides power directly to a consumer;	To include generation settlement facility that is less than 1MW capacity.
MC/2007/4	2.1.1	Subject to section 2.4.7, for those meter installations associated with a generation facility, the Generation Licensee that owns the generation facility shall be the MESP.	Subject to section 2.4.7, for those meter installations associated with a generation facility <u>or an embedded generation facility having a nameplate rating of 10MW or above,</u> the Generation Licensee <u>or Wholesaler Licensee (Generation)</u> that owns the generation facility shall be the MESP.	To state that Wholesaler Licensee (Generation) who owns a generation facility or an embedded generation facility having a 10MW or above capacity shall be the MESP.
MC/2007/5	2.1.2	For those meter installations other than those that are associated with a generation facility, the Transmission Licensee shall be the MESP.	For those meter installations other than those that are associated with a generation facility <u>and an embedded generation facility having a nameplate rating of 10MW or above,</u> the Transmission Licensee shall be the MESP.	To state that Transmission Licensee is also the MESP for Embedded Generation Facility (EGF) that is less than 10MW capacity.
MC/2007/6	2.4.5	Prior to the commissioning of any generating unit, the MESP responsible for the provision of the meter installation associated with such generating unit shall	Prior to the commissioning of any generating unit, the MESP responsible for the provision of the meter installation associated with such generating unit	To include the meter entity for embedded generation facility to

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<u>Modification Ref. No.</u>	<u>Section<sup>1</sup></u>	<u>Original Text</u>	<u>Modification</u>	<u>Reasons</u>
		install the metering equipment and communication links necessary for the monitoring and reading of the generation meter.	<p>shall <del>install the metering equipment and communication links necessary for the monitoring and reading of the generation meter.</del> <u>require the meter entity of that generating unit or generation facility to provide:</u></p> <ul style="list-style-type: none"> <li>(a) <u>metering current and voltage transformers;</u></li> <li>(b) <u>a suitable facility (including all necessary pre-wiring) in which to house the meter installation; and</u></li> <li>(c) <u>metering equipment and communication links necessary for the monitoring and reading of the generation meter.</u></li> </ul> <p><u>It is the responsibility of the Licensed Electrical Worker employed or engaged by the owner of that generation unit or generation facility requiring metering services to ensure that the metering current and voltage transformers are tested and comply with the standards specified in Appendix A.</u></p>	provide metering equipment such as current and voltage transformers, suitable facility to house generation meter, communication link, etc., and to specify the compliance of standards in Appendix A by the associated LEW.
MC/2007/7	2.4.8	A generating unit having a name-plate rating of 1MW or above shall:	A generating unit having a name-plate rating of 1MW or above, <u>or registered as a GRF or GSF</u> shall:	To include generation settlement facility that is less than 1MW capacity.
MC/2007/8	2.4.9	The main and check meters for a generating unit having a name-plate rating of 1 MW or above shall, individually or in combination, be capable of measuring the net injections of active energy, measured in units of kWh, and reactive energy, measured in kVarh, with such injections being measured and recorded for each half-hour interval in time. For the purposes of this section, net injection	The main and check meters for a generating unit having a name-plate rating of 1 MW or above, <u>or registered as a GRF or GSF</u> shall, individually or in combination, be capable of measuring the net injections of active energy, measured in units of kWh, and reactive energy, measured in kVarh, with such injections being measured and recorded for each half-hour interval in time. For the purposes of	To include generation settlement facility that is less than 1MW capacity.

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<u>Modification Ref. No.</u>	<u>Section<sup>1</sup></u>	<u>Original Text</u>	<u>Modification</u>	<u>Reasons</u>
		shall be generating unit or generation facility output less auxiliary load (including energy withdrawn by station and excitation transformers, where applicable) and transformation losses.	this section, net injection shall be generating unit or generation facility output less auxiliary load (including energy withdrawn by station and excitation transformers, where applicable) and transformation losses.	
MC/2007/9	2.4.10	A main or a check meter for a generation facility shall be a 3-phase, 4-wire type or 3-phase, 3-wire type of accuracy class 0.2s. Metering current transformers of accuracy class 0.2 with 1 or 5 amperes secondary current and 30VA burden shall be provided for each circuit. Metering voltage transformers shall be of accuracy class 0.5 with 110 volts secondary voltage and a burden of not less than 100VA per phase per circuit.	<del>A main or a check meter</del> <u>The main and check meters for a generation facility generating unit having a name-plate rating of 1 MW or above, or registered as a GRF or GSF</u> shall be a 3-phase, 4-wire type or 3-phase, 3-wire type of accuracy class 0.2s. Metering current transformers of accuracy class 0.2 with 1 or 5 amperes secondary current and 30VA burden shall be provided for each circuit. Metering voltage transformers shall be of accuracy class 0.5 with 110 volts secondary voltage and a burden of not less than 100VA per phase per circuit.	To include generation settlement facility that is less than 1MW capacity.
MC/2007/10	2.4.11	Nothing in this Code shall apply with respect to any generating unit or generating facility that has a name-plate rating of less than 1MW.	Nothing in this Code shall apply with respect to any generating unit or <del>generating</del> <u>generation</u> facility that has a name-plate rating of less than 1MW <u>and is not a GRF or GSF.</u>	To clarify that code does not apply to any generating unit of less than 1MW capacity that will not trade in the wholesale market.
MC/2007/11	2.4.12	None as this is an inserted section.	<u>For embedded generation facility, the prevailing accuracy class and burden requirements for its associated Installation Meter shall apply for its generation meter and associated metering transformers.</u>	To clarify that EGF's load and generation are on a contiguous piece of land and the load, generation and land belong to the same owner. It is on this consideration that EGF is basically consumer (i.e. predominantly load).

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<u>Modification Ref. No.</u>	<u>Section<sup>1</sup></u>	<u>Original Text</u>	<u>Modification</u>	<u>Reasons</u>
				Therefore to state feasible accuracy class and burden requirements for EGF's generation meter and associated metering transformers.
MC/2007/12	2.4.13	None as this is an inserted section.	<u>For embedded generation facility, associated installation meter at intake supply point shall be capable of measuring positive and negative injection of active energy, measured in units of kWh, and reactive energy, measured in kVarh (i.e. bidirectional flows) for each half-hour interval.</u>	To state bidirectional flow requirement for EGF's installation meter i.e. meter at intake supply point. The reason for including non-injecting embedded generation facility is for enforcement purpose through Market Rules.
MC/2007/13	2.4.16	The main meter or check meter referred to in section 2.4.15 shall, individually or in combination, be capable of measuring positive and negative injections of active energy and reactive energy (i.e. bidirectional flows) for each half-hour interval.	The main meter or check meter referred to in section 2.4.15 shall, individually or in combination, be capable of measuring positive and negative injections of active energy, <u>measured in units of kWh, and reactive energy, measured in kVarh</u> (i.e. bidirectional flows) for each half-hour interval.	To refine requirements.
MC/2007/14	2.7.1(e)	Any site-specific adjustment factors as defined in the Market Support Services Code to be applied, including the sign of the loss adjustment;	Any site-specific adjustment factors as defined in the Market Support Services Code to be applied, including the sign of the loss adjustment <u>except that for a meter installation in an embedded generation facility having a name-plate rating of less than 10MW, such site-specific adjustment factors for losses shall be provided by the Wholesaler Licensee (Generation);</u>	To include the meter entity for EGF that is less than 10MW capacity to provide the relevant site-specific adjustment factors to MDM as it is not the MESP.

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MC/2007/15	2.9.1	<p><b>Type of Meter or Cycle</b></p> <p><b>Associated Facility</b></p> <p>Generating Unit                      At least once every two years, timed to coincide with the generating unit being out of service</p> <p>Pool Meter and Intertie Meter    Once every two years</p> <p>...</p>	<p><b>Type of Meter or Cycle</b></p> <p><b>Associated Facility</b></p> <p>Generating Unit                      <del>At least</del> Once every two years; <del>timed to coincide with the generating unit being out of service</del></p> <p><u>Embedded Generation Facility (Including installation meter connected to the transmission system)</u>                      <u>Prevailing cycle for associated installation meter shall applies</u></p> <p>...</p>	To refine installation test cycle requirement for a generating unit, in addition, to specify installation test cycle for EGF.
MC/2007/16	3.7.1	<p>For metered entities having interval meters, the MR for the meter installation shall deliver the following raw meter data to the MDM for the meter installation in such data format as may be determined by the MDM, subject to all delivered metering data having been validated in accordance with the procedures delineated in section 3.4:</p> <p style="padding-left: 40px;">a. the meter identification number;</p> <p style="padding-left: 40px;">b. energy used or withdrawn (kWh) in each half hour for all half-hour intervals in the meter reading period along with the date and time of the half hour interval</p> <p style="padding-left: 40px;">c. for metered entities that are billed for reactive power, the reactive load used (kVarh) in each half hour for all half-hour intervals in the meter</p>	<p>For metered entities having interval meters, the MR for the meter installation shall deliver the following raw meter data to the MDM for the meter installation in such data format as may be determined by the MDM, subject to all delivered metering data having been validated in accordance with the procedures delineated in section 3.4:</p> <p style="padding-left: 40px;">a. The meter identification number;</p> <p style="padding-left: 40px;">b. Energy used or withdrawn (kWh/<u>kVarh</u>) in each half hour for all half-hour intervals in the meter reading period along with the date and time of the half hour interval</p> <p style="padding-left: 40px;"><u>c. For a generation facility or an embedded generation facility, the energy injected (kWh/kVarh) in each half hour for all half-hour</u></p>	EGF could inject energy into the transmission system for market settlement and thus associated meter data to be read by MR.

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		<p>reading period along with the date and time of the half hour interval;</p> <p>d. a flag for each half-hour interval in which a pulse overflow condition exists;</p> <p>e. details for meter reading in which the meter clock differs from the meter reading device clock by more than three minutes;</p> <p>f. details of any meter alarms that were recorded during the period (e.g., power failure, VT failure); and</p>	<p><u>intervals in the meter reading period along with the date and time of the half hour interval;</u></p> <p><u>e.</u> A flag for each half-hour interval in which a pulse overflow condition exists;</p> <p><u>f.</u> Details for meter reading in which the meter clock differs from the meter reading device clock by more than three minutes;</p> <p><u>g.</u> Details of any meter alarms that were recorded during the period (e.g., power failure, VT failure); and</p>																	
MC/2007/17	4.2.1	<table style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="text-align: left; width: 50%;"><b>Type of Metered Entity or Meter Installation</b></th> <th style="text-align: left; width: 50%;"><b>Meter Reading Frequency</b></th> </tr> </thead> <tbody> <tr> <td>Generating Unit</td> <td>Every business day</td> </tr> <tr> <td>Pool Meter and Intertie Meter</td> <td>Every business day</td> </tr> <tr> <td>...</td> <td></td> </tr> </tbody> </table>	<b>Type of Metered Entity or Meter Installation</b>	<b>Meter Reading Frequency</b>	Generating Unit	Every business day	Pool Meter and Intertie Meter	Every business day	...		<table style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="text-align: left; width: 50%;"><b>Type of Metered Entity or Meter Installation</b></th> <th style="text-align: left; width: 50%;"><b>Meter Reading Frequency</b></th> </tr> </thead> <tbody> <tr> <td>Generating Unit</td> <td>Every business day</td> </tr> <tr> <td>Embedded Generation Facility <u>(Including installation meter connected to the transmission system)</u></td> <td>Every business day</td> </tr> <tr> <td>...</td> <td></td> </tr> </tbody> </table>	<b>Type of Metered Entity or Meter Installation</b>	<b>Meter Reading Frequency</b>	Generating Unit	Every business day	Embedded Generation Facility <u>(Including installation meter connected to the transmission system)</u>	Every business day	...		To add EGF and associated installation meter for meter reading frequency, as current requirement for “non-market participant consumer connected to the transmission system at a level below 66kV” is only read on a business day, once every week.
<b>Type of Metered Entity or Meter Installation</b>	<b>Meter Reading Frequency</b>																			
Generating Unit	Every business day																			
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Generating Unit	Every business day																			
Embedded Generation Facility <u>(Including installation meter connected to the transmission system)</u>	Every business day																			
...																				
MC/2007/18	4.4.1(c)	For meter installations other than a generator meter, intertie meter or a pool meter, where half hour interval kVarh data are recorded, check for intervals where reactive load is present and active load is not, indicating an unusual or abnormal usage pattern and possible meter malfunction. The MDM shall flag these intervals.	For meter installations other than a <del>generator</del> <u>generation</u> meter, intertie meter or a pool meter, where half hour interval kVarh data are recorded, check for intervals where reactive load is present and active load is not, indicating an unusual or abnormal usage pattern and possible meter malfunction. The MDM shall flag these intervals.	To refine requirements.																

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MC/2007/19	4.5.9	If the interval data is from a generator licensee meter, intertie meter or a pool meter, it shall not have the data validation tests as described in section 4.5 applied. Estimation procedures for generator licensee meter, intertie meter or a pool meter, shall be implemented by the MDM when the relevant interval data is deemed missing.	If the interval data is from a <del>generator licensee</del> <u>generation</u> meter, intertie meter or a pool meter, it shall not have the data validation tests as described in section 4.5 applied. Estimation procedures for a <del>generator licensee</del> <u>generation</u> meter, intertie meter or a pool meter, shall be implemented by the MDM when the relevant interval data is deemed missing.	To include Wholesaler Licensee (Generation)'s generation meter.
MC/2007/20	4.6.5(i)	A Generation Licensee for a generation meter. The generation Licensee may use any means it deems appropriate, but in any case will provide justification for the approach adopted, along with supporting evidence to justify their estimation for each occasion an estimate is requested. Such information shall be recorded by the MDM and made available to the Authority or surveillance panel at their request, to support an investigation into inappropriate behaviour.	A Generation Licensee <u>or a Wholesaler Licensee (Generation)</u> for a generation meter. The generation Licensee <u>or a Wholesaler Licensee (Generation)</u> may use any means it deems appropriate, but in any case will provide justification for the approach adopted, along with supporting evidence to justify their estimation for each occasion an estimate is requested. Such information shall be recorded by the MDM and made available to the Authority or surveillance panel at their request, to support an investigation into inappropriate behaviour.	To include Wholesaler Licensee (Generation) to provide justification for the approach adopted in the event of intervals deemed missing from the MR initial data validation tests as stipulated in section 3.4.
MC/2007/21	4.7.1	The MDM for a meter installation shall obtain site-specific adjustment factors for losses, if relevant, from the MESP for that meter installation.	The MDM for a meter installation shall obtain site-specific adjustment factors for losses, if relevant, from the MESP for that meter installation <u>except that for a meter installation in an embedded generation facility having a name-plate rating of less than 10MW, such site-specific adjustment factors for losses shall be provided by the Wholesaler Licensee (Generation);</u>	To include the meter entity for EGF that is less than 10MW capacity to provide the relevant site-specific adjustment factors to MDM as it is not the MESP.
MC/2007/22	4.8.1	$WEQ_n^a$ = Loss adjusted, withdrawal energy quantity (in MWh), deemed to be withdrawn at the Singapore HUB, by the market participant with the settlement account a for settlement interval h.	$WEQ_n^a$ = Loss adjusted, withdrawal energy quantity (in MWh), deemed to be withdrawn at the Singapore HUB, by <del>the market participant</del> <u>all load facilities associated with the settlement account a for settlement interval h, grossed up to include injection energy quantities for all groups of embedded generation facilities</u>	To clarify that WEQ is a gross quantity and for consistency with the proposed change to the market rules.  To introduce the term

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<u>Modification Ref. No.</u>	<u>Section<sup>1</sup></u>	<u>Original Text</u>	<u>Modification</u>	<u>Reasons</u>
			<p><u>WCQ<sub>h</sub><sup>a</sup> = total withdrawal charge quantity (in MWh), being the quantity of energy determined as follows:</u></p> <p style="padding-left: 40px;"><u>= WEQ<sub>h</sub><sup>a</sup> minus sum of all injection energy quantities for all groups of embedded generation facilities, which have been classified as non-injecting under the Market Rules, and whose loads are associated with settlement account a for settlement interval h</u></p>	WCQ and to specify how it is determined.
MC/2007/23	4.8.2	<p><i>TLF<sup>p</sup></i> = Transmission loss factor for each pool meter as defined in the Market Support Services Code</p> <p><i>TLF<sup>r</sup></i> = Transmission loss factor for consumer r at each voltage level as defined in the Market Support Services Code</p> <p><i>TLF<sup>grf</sup></i> = Transmission loss factor for generation registered facilities <i>grf</i> at each voltage level as defined in the Market Support Services Code</p>	<p><i>TLF<sup>p</sup></i> = Transmission loss factor for each pool meter as <u>defined stipulated</u> in <u>section 6.1.4</u> of the Market Support Services Code</p> <p><i>TLF<sup>r</sup></i> = Transmission loss factor for consumer r at each voltage level as <u>defined stipulated</u> in <u>section 6.1.4</u> of the Market Support Services Code</p> <p><i>TLF<sup>grf</sup></i> = Transmission loss factor for generation registered facilities <i>grf</i> at each voltage level as <u>defined stipulated</u> in <u>section 6.1.4</u> of the Market Support Services Code</p>	To specify reference
MC/2007/24	4.8.3	None as this is an inserted section.	<p><u>For each electricity licensee who has been approved by the Authority for price neutralization under Chapter 7 section 4.4 of the market rules, the MDM shall calculate the aggregate WPQ for each settlement interval for each authorized settlement account, as defined in the market rules:</u></p> <p style="padding-left: 40px;"><u>WPQ<sub>h</sub> = total withdrawal price quantity (in</u></p>	<p>To introduce the term WPQ and to specify how it is determined.</p> <p>WPQ is separated from 4.8.1, as it is only</p>

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			<u>MWh) determined for the purpose of (USEP + HEUC) nodal price neutralization as defined in the market rules, being the quantity of energy deemed to be withdrawn at the SHUB for settlement interval h by the associated load (as defined in section 4.4.4 of Chapter 7 of the Market Rules) for each group of embedded generation facilities</u>	required for specific meter installations.
MC/2007/25	4.9.1(a)	The quantities of IEQ, WEQ and IIQ defined in section 4.8.1 for each settlement account, as defined in the market rules, associated with that meter installation; and	The quantities of IEQ, WEQ, <u>WCQ, and IIQ and, when required by the market rules, WPQ, as defined in sections 4.8.1 and 4.8.3</u> for each settlement account, as defined in the market rules, associated with that meter installation; and	To include WCQ and WPQ.
MC/2007/26	4.9.2	No later than the close of business on the fifth business day after a trading day, as defined in the market rules, the MDM for a meter installation shall deliver to each market participant retailer associated with that meter installation via the retail electronic business transaction system validated, unadjusted metering data and loss-adjusted metering data for each meter used for settlement purposes in the retail electricity market and associated with each market participant consumer that purchases electricity from that market participant retailer.	No later than the close of business on the fifth business day after a trading day, as defined in the market rules, the MDM for a meter installation shall deliver to each market participant retailer associated with that meter installation via the retail electronic business transaction system validated, unadjusted metering data and loss-adjusted metering data for each meter used for settlement purposes in the retail electricity market and associated with each market participant consumer that purchases electricity from that market participant retailer. <u>The MDM shall also deliver the unadjusted metering data and loss adjusted metering data for those non-injecting embedded generation facilities.</u>	To include WCQ for delivery of metering data.
MC/2007/27	4.9.3	No later than the close of business on the fifth business day after a trading day, as defined in the market rules, the MDM for a meter installation shall deliver via the retail electronic business transaction	No later than the close of business on the fifth business day after a trading day, as defined in the market rules, the MDM for a meter installation shall deliver via the retail electronic business transaction	To include WCQ for delivery of metering data.

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<u>Modification Ref. No.</u>	<u>Section<sup>1</sup></u>	<u>Original Text</u>	<u>Modification</u>	<u>Reasons</u>
		system to each market participant retailer associated with that meter installation that is not being served by a market participant retailer validated, unadjusted metering data and loss-adjusted metering data for each meter used for settlement purposes in the retail electricity market associated with that market participant consumer.	system to each market participant retailer associated with that meter installation that is not being served by a market participant retailer validated, unadjusted metering data and loss-adjusted metering data for each meter used for settlement purposes in the retail electricity market associated with that market participant consumer. <u>The MDM shall also deliver the unadjusted metering data and loss adjusted metering data for those non-injecting embedded generation facilities</u>	
MC/2007/28	4.9.4	<p>No later than the close of business on the fifth business day following the meter read date, the MDM for a meter installation shall deliver to the applicable market support services licensee validated unadjusted metering data and loss-adjusted metering data for each meter that is used for settlement purposes in the retail electricity market of for settlement for regulated supply service as follows:</p> <p>(a) If the MDM for ammeter installation and the applicable market support services licensee are the same entity, this data may be transferred by whatever internal systems are suitable for this task; or</p> <p>(b) If the MDM for a meter installation and the applicable market support services licensee are not the same entity, the data shall be transmitted via the electronic business transaction system.</p>	<p>No later than the close of business on the fifth business day following the meter read date, the MDM for a meter installation shall deliver to the applicable market support services licensee validated unadjusted metering data and loss-adjusted metering data for each meter that is used for settlement purposes in the retail electricity market of for settlement for regulated supply service as follows:</p> <p>(a) If the MDM for a meter installation and the applicable market support services licensee are the same entity, this data may be transferred by whatever internal systems are suitable for this task; or</p> <p>(b) If the MDM for a meter installation and the applicable market support services licensee are not the same entity, the data shall be transmitted via the electronic business transaction system.</p> <p><u>The MDM shall also deliver the unadjusted metering data and loss adjusted metering data for those non-injecting embedded generation facilities.</u></p>	To include WCQ for delivery of metering data.
MC/2007/29	4.9.5	The MDM for a meter installation shall accommodate	The MDM for a meter installation shall	To include WCQ for

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<u>Modification Ref. No.</u>	<u>Section<sup>1</sup></u>	<u>Original Text</u>	<u>Modification</u>	<u>Reasons</u>
		<p>a request by a non-market participant retailer or non-market participant consumer associated with that meter installation, but not served by a non-market participant retailer to receive data from an interval meter directly from the MDM according to a schedule and via a transmission process that is mutually agreeable among the parties. The price charged for such services shall cover the full incremental cost of providing the service and shall be subject to approval by the Authority.</p>	<p>accommodate a request by a non-market participant retailer or non-market participant consumer associated with that meter installation, but not served by a non-market participant retailer, to receive data from an interval meter directly from the MDM according to a schedule and via a transmission process that is mutually agreeable among the parties. <u>The MDM shall also accommodate a request to receive unadjusted metering data and loss adjusted metering data for those non-injecting embedded generation facilities.</u> The price charged for such services shall cover the full incremental cost of providing the service and shall be subject to approval by the Authority.</p>	<p>request to receive metering data.</p>

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Appendix 2

**Industry Comments on the Proposed Modification to the \_\_\_\_\_ Metering \_\_\_\_\_ Code**

Name: \_\_\_\_\_

Designation: \_\_\_\_\_

Company: \_\_\_\_\_

Email: \_\_\_\_\_

Role (Generation Licensee/ Retailer/ Consumer):  
\_\_\_\_\_

Submission Date: \_\_\_\_\_ (dd/mm/yy)

<b>Modification Ref. No.</b>	<b>Section*</b>	<b>Industry Comments</b>

\* Reference to the section of the code where change is to be made in the version dated on January 2007 as published on the web.