



CONSULTATION PAPER

PROPOSED MODIFICATIONS TO MARKET SUPPORT SERVICES CODE

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

Note: There will be no extension of deadline beyond 18 Jan 2008, 5 pm

14 DEC 2007

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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 Market Support Services (MSS) Code sets the minimum standards of performance in accordance with which a Market Support Services Licensee is required to perform market support services.
- 1.2 The MSS Code also describes the rights and obligations of a Retail Electricity Licensee, a Generation Licensee, the Transmission Licensee and a contestable consumer with respect to market support services.

2 Proposed Modifications

- 2.1 Pursuant to Section 1.6 of the MSS Code, EMA is seeking consultation on the proposed modifications as set out in Appendix 1.
- 2.2 The key modifications proposed are to calibrate the MSS 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 MSS Code as set out in the Appendix 1.
- 3.2 Please send your submission by e-mail to:

Jolene_tan@ema.gov.sg and nq_yuan_chang@ema.gov.sg

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

*Economic Regulation and Licensing 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 21 Dec 2007.
- 3.5 All comments and feedback must reach EMA by 5 pm on 18 Jan 2008.
- 3.6 EMA will acknowledge receipt of all submissions electronically. Please contact Ms Jolene Tan or Mr Ng Yuan Chang 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 MARKET SUPPORT SERVICES

CODE

Energy Market Authority of Singapore

Proposed Modifications to the Market Support Services Code

<u>No.</u>	<u>Modification Ref. No.</u>	<u>Section¹</u>	<u>Original Text</u>	<u>Modification</u>	<u>Reasons</u>
1	MSSC/2007/1	1.3.1	New definition.	<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>	Define term used in sections 6.1.2, 6.1.5 and 6.5.6
2	MSSC/2007/2	1.3.1	New definition.	<u>“classified associated load” means the load being directly supplied by a non-injecting embedded generation facility.</u>	Define term used in section 6.1.2, 6.1.5 and 8.3.4
3	MSSC/2007/3	1.3.1	“embedded generation facility” means, in respect of a consumer, a generation facility associated with the site behind the meter or meters measuring the consumer’s net withdrawal of energy from the transmission system;	<u>“embedded generation facility” means a generation facility that has been classified as such in accordance with section 4.4 of Chapter 7 of the Market Rules.</u>	Revised to be consistent with the definition used under the Market Rules.
4	MSSC/2007/4	1.3.1	New definition.	<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</u>	Defined term to be used in Sections 6.1 and 11.1.1

¹ Reference to the section of the code where change has been made in the version dated on Jan 2005 as published on the web.

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5	MSSC/2007/5	1.3.1	<p>“<i>generation registered facility</i>” means a generation facility that has been registered as a registered facility, as that term is defined in the market rules, with the Market Company to provide one or more of energy, reserve, regulation or contracted ancillary services, as those terms are defined in the market rules</p>	<p>Chapter 2 of the <u>Market Rules</u>;</p> <p>“<i>generation registered facility</i>” or “<i>GRF</i>” means a generation facility that has been registered as a registered facility, as that term is defined in the market rules, with the Market Company to provide one or more of energy, reserve, regulation or contracted ancillary services, as those terms are defined in the market rules</p>	<p>Defined term to be used in Sections 6.1.2, 6.1.4 and 11.1.1</p>
6	MSSC/2007/6	1.3.1	<p>“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 a generation settlement facility larger than 1MW that provides power directly to a consumer;</p>	<p>“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 a generation settlement facility larger than 1MW that provides power directly to a consumer;</p>	<p>Revised to remove reference to >1MW generation</p>

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7	MSSC/2007/7	6.1.2 Equation 6.1(a)	$ESC_B^r = \left[\sum_h^B (USEP_h + HEUC_h + ME) \right]$	$ESC_B^r = \sum_h^B [(USEP_h + HEUC_h + AFP_h)] \bullet E_h^{net,r}$ <p><u>Where:</u></p> <p>$E_h^{net,r}$ = Net kWh of electricity used in half-hour h by consumer r, determined in accordance with equation 6.1(d)</p>	<p>Rewrite equation 6.1(a) to cater for the fact MEUC will now be charged on a net basis for loads of classified non-injecting embedded generators.</p> <p>Note: All definitions of the other terms in equation 6.1(a) remain unchanged.</p>
8	MSSC/2007/8	Equation 6.1(b)	<p><u>Original Text As Above</u></p> $ESC_B^r = \left[\sum_h^B (USEP_h + HEUC_h + MEUC_h + AFP_h) \bullet E_h^r \bullet TLF^r \right]$ <p><u>Modification As Above</u></p> $ESC_B^r = \sum_h^B [(USEP_h + HEUC_h + AFP_h) \bullet E_h^r + (MEUC_h \bullet E_h^{net,r})] \bullet TLF^r$	<p>$E_h^{eg,r}$ = 0, if there is no embedded generation facility larger than 1 MW that provides power directly to consumer r; or</p> <p>Energy in kWh generated in half-hour h by any embedded generation</p>	<p>Revised to accommodate embedded generators <1MW.</p>

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			<p>generation facility that is a <i>GRF</i> or <i>GSF</i> that provides power directly to consumer <i>r</i> as recorded by the meters measuring the embedded generation facility's direct supply of electricity to consumer <i>r</i></p> <p>$ADJ^r = 0$, if there is no embedded generation facility larger than 1 MW that provides power directly to consumer <i>r</i>; or</p> <p>If there is an embedded generation facility larger than 1 MW that provides power directly to consumer <i>r</i>, a site-specific adjustment factor, as a result of connection at busbars of different voltages, that equilibrates the quantities measured at the meter measuring that embedded generation facility's direct supply of electricity to consumer <i>r</i> and the meter or meters measuring consumer <i>r</i>'s net withdrawal from the transmission system or the internal electrical system of the</p>	<p>facilities that is a <i>GRF</i> or <i>GSF</i> that provides power directly to consumer <i>r</i> as recorded by the meters measuring the embedded generation facility's direct supply of electricity to consumer <i>r</i></p> <p>$ADJ^r = 0$, if there is no embedded generation facility that is a <i>GRF</i> or <i>GSF</i> and that provides power directly to consumer <i>r</i>; or</p> <p>If there is an embedded generation facility that is a <i>GRF</i> or <i>GSF</i> that provides power directly to consumer <i>r</i>, a site-specific adjustment factor, as a result of connection at busbars of different voltages, that equilibrates the quantities measured at the meter measuring that embedded generation facility's direct supply of electricity to consumer <i>r</i> and the meter or meters measuring consumer <i>r</i>'s net withdrawal from the transmission system or the internal electricity system of the building</p>	

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9	MSSC/2007/9	6.1.3 Equation 6.1(d)	building New formula.	$E_h^{net,r} = E_h^r - \alpha_h^r \bullet E_h^{c-eg,r} \bullet ADJ^r$ <p><u>Where:</u></p> $\alpha_h^r = \frac{E_h^r}{\sum_r E_h^r}$ <p><u>A_r</u> is the set of all <u>classified associated loads</u> associated with all accounts of a particular consumer <u>r</u> (i.e. <u>A_r = (r,...)</u>).</p> <p><u>E_h^{c-eg,r}</u> = 0, if there is no classified non-injecting embedded generation that is a <u>GRF</u> or <u>GSF</u> and that provides power directly to consumer <u>r</u>, or</p> <p><u>Energy in kWh generated in half-hour h</u> by all classified non-injecting embedded generation facilities that provide power directly to</p>	Introduce equation 6.1(d) to define the term E _h ^{net,r}

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10	MSSC/2007/10	6.1.4	<p>A Market Support Services Licensee shall be responsible for calculating a factor, TLF, that adjusts for transmission losses and unaccounted for energy for use in equations 6.1(a) and 6.1(c). The factor shall be calculated in accordance with such methodology and on such schedule as may be specified by the Authority. TLF may vary amongst consumers based on the voltage at which the consumer is connected to the transmission system and on such other factors as may be determined by the Authority.</p>	<p>consumer r as recorded by the meters measuring the embedded generation facility's direct supply of electricity to consumer r</p> <p>A Market Support Services Licensee shall be responsible for calculating a the factors, TLF, TLF^p and TLF^{grf} that adjusts for transmission losses and unaccounted for energy for use in equations 6.1(a), and 6.1(c); in the <u>Metering and Market Support Services Codes</u>. The factors shall be calculated in accordance with such methodology and on such schedule as may be specified by the Authority. TLF may vary amongst consumers and metering points based on the voltage at which the consumer or metering point is connected to the transmission system and on such other factors as may be determined by the Authority.</p> <p>Where: _____</p> <p>TLF^p = <u>Transmission loss factor for each pool meter</u></p>	<p>To make it more explicit that the MSS Licensee shall calculate the transmission loss factors for consumers as well as pool and generation facilities</p>

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11	MSSC/2007/11	6.1.5	New section.	<p><u>TLF</u> = Transmission loss factor for consumer <i>r</i> at each voltage level</p> <p><u>TLF^{grf}</u> = Transmission loss factor for GRF at each voltage level</p> <p>For the purposes of calculating the net energy value in equation 6.1(d) the Market Support Service Licensee shall only consider the set of <u>classified associated loads</u> associated with consumer <i>r</i> where the consumer has given the Market Support Service Licensee at least 15 business days notification of such <u>classified associated loads</u> and where, if there is more than one associated load, the loads are <u>supplied through a single Market Participant</u>.</p>	To define the circumstance under which MSSL will associate multiple EG and loads together
12	MSSC/2007/12	6.5.6	New section.	<p>A Market Support Services Licensee shall list the item “cumulative electricity usage (kWh) during the billing period” as described in sections 6.5.1-6.5.4, on both a gross and a net load basis for those accounts that contain non-injecting embedded generation facilities.</p>	Rules change: oblige both gross and net electricity usage to be itemised.

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13	MSSC/2007/13	8.3.4	New bullet point (e).	(e) For a service transaction request referred to in section 8.1.1(a) through 8.1.1(d) for an account of a set of <u>classified associated load</u> , immediately prior to the nominated transaction date there exists a service transaction request for each account associated with the set of <u>classified associated loads</u> nominating the same Market Participant settlement account and transaction date for each of the <u>classified associated loads</u>	To prevent multiple loads associated with an EG from being split across different market participants.
14	MSSC/2007/14	11.1.1	(i) The output of any embedded generation facility larger than 1 MW that provides energy directly to the consumer's installation.	(i) The output of any embedded generation facility larger than 1 MW that is a <u>GRF or GSF</u> and that provides energy directly to the customer's installation.	To cover EG <1MW that are registered in the wholesale market.
15	MSSC/2007/15	11.1.1	New bullet point (o).	(o) Where a consumer has presented a valid copy of approval from the Authority stating that their <u>embedded generation facility has been classified as a non-injecting embedded generation facility</u> , the Market Support Services Licensee shall maintain a record of such an <u>approval, along with details of the</u>	Rule change: oblige the injecting/non-injecting statuses of an embedded generator to be recorded

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				embedded generation facilities covered by the <u>approval and the approval number as issued by the Authority.</u>	

Industry Comments on the Proposed Modification to the Market Support Services Code

Name: _____ Designation: _____

Company: _____ Email: _____

Role (Generation Licensee/ Retailer/ Consumer): _____

Submission Date: _____ (dd/mm/yy)

Modification Ref. No.	Section*	Industry Comments

* Reference to the section of the code where change is to be made in the version dated on January 2005 as published on the web.