

PROPOSAL FOR RULES CHANGE

S/NO.283

Rule Change Title:	Revision of Regulation Price Cap
Submitted By : Company: Date: Telephone No.	Ms Nerine Teo Energy Market Company Pte Ltd 6 February 2009 67793000
Rules Version/Chapter/Section No.	Version 01 Jan 2009 Appendix 6J.1.7
Description of Market Rule	See first column of the table in Annex 1.
Reasons for amendment	<p>The Singapore Wholesale Electricity Market (SWEM) was characterised by a prolonged period of high regulation prices that ran from late 2006 to early 2007.</p> <p>Pursuant to Section 46(2)(b) of the Electricity Act, the EMA has directed the EMC to modify the Market Rules in its letter to EMC dated 6 February 2009 to give effect to the EMA's policy decision to revise regulation offer prices cap and regulation settlement price cap from the existing \$2,750/MWh to \$300/MWh.</p> <p>The revision is intended to avoid the recurrence of such high regulation prices.</p>
Proposed Amendment	See second column of the table in Annex 1.
Impact of proposed amendment on MP, MO, PSO and general public	<p>Under the proposed rule modifications,</p> <ul style="list-style-type: none"> – GRFs' regulation offers prices will be capped at a maximum of \$300/MWh. – Similarly, any regulation price above \$300/MWh will be revised to a maximum of \$300/MWh – EMC will be required to undertake minor system changes to revise the existing regulation price cap in the MCE.

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EMC's Comments	<ul style="list-style-type: none">- The proposed rule amendments are made pursuant to the EMA's directive made under Section 46(2)(b) of the Electricity Act.- This rule change was published for industry comments 27 February 2009.- EMA approved the implementation of the proposed rule admendments on 2 April 2009 and it will come into effect on 14 May 2009.
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ANNEX 1: Proposed Rule Changes

Existing rules (Release: 1 January 2009)	Proposed rules (Deletions represented by strikethrough text and additions (and formatting changes) double underlined)	Reasons for modification/Description of rules
CHAPTER 6	CHAPTER 6	
<p>10.2 <u>DETERMINING SETTLEMENT PRICE DATA</u></p> <p>10.2.1 The <i>EMC</i> shall, for <i>settlement</i> purposes, use the following price data, determined in accordance with section D.24 of Appendix 6D and, where applicable, sections 10.2.2 and 10.2.3:</p> <p>10.2.1.1 the <i>market energy price</i> or <i>MEP</i> for each <i>market network node</i>;</p> <p>10.2.1.2 the <i>uniform Singapore energy price</i>;</p> <p>10.2.1.3 the <i>market reserve price</i> or <i>MRP</i> for each <i>reserve provider group</i>; and</p> <p>10.2.1.4 the <i>market regulation price</i> or <i>MFP</i>.</p>	<p>10.2 <u>DETERMINING SETTLEMENT PRICE DATA</u></p> <p>10.2.1 The <i>EMC</i> shall, for <i>settlement</i> purposes, use the following price data, determined in accordance with section D.24 of Appendix 6D and, where applicable, sections 10.2.2 and 10.2.3:</p> <p>10.2.1.1 the <i>market energy price</i> or <i>MEP</i> for each <i>market network node</i>;</p> <p>10.2.1.2 the <i>uniform Singapore energy price</i>;</p> <p>10.2.1.3 the <i>market reserve price</i> or <i>MRP</i> for each <i>reserve provider group</i>; and</p> <p>10.2.1.4 the <i>market regulation price</i> or <i>MFP</i>.</p>	<p>Rules for reference only. No proposed changes.</p> <p>This section states that prices used for settlement are those determined under section D24 of Appendix 6D and where applicable section 10.2.2 and section 10.2.3 of Chapter 6.</p>
CHAPTER 7	CHAPTER 7	

Existing rules (Release: 1 January 2009)	Proposed rules (Deletions represented by strikethrough text and additions (and formatting changes) double underlined)	Reasons for modification/ Description of rules
<p>2.2. <u>ENERGY, REGULATION AND RESERVE MARKET DATA</u></p> <p>2.2.2 The <i>EMC</i> shall, for each <i>dispatch period</i> and in accordance with section 10 of Chapter 6, determine the following <i>energy, regulation</i> and <i>reserve</i> prices and quantities for the <i>settlement interval</i> corresponding to that <i>dispatch period</i>:</p> <p style="text-align: center;">.....</p> <p>$MFP_h =$ <i>market regulation price</i> (in \$/MWh) for <i>settlement interval h</i></p>	<p>2.2. <u>ENERGY, REGULATION AND RESERVE MARKET DATA</u></p> <p>2.2.2 The <i>EMC</i> shall, for each <i>dispatch period</i> and in accordance with section 10 of Chapter 6, determine the following <i>energy, regulation</i> and <i>reserve</i> prices and quantities for the <i>settlement interval</i> corresponding to that <i>dispatch period</i>:</p> <p style="text-align: center;">.....</p> <p>$MFP_h =$ <i>market regulation price</i> (in \$/MWh) for <i>settlement interval h</i></p>	<p>Rules for reference only. No proposed changes.</p> <p>This section states that EMC must determine the MFP, the market regulation price, for each settlement interval in accordance with section 10 of Chapter 6.</p>
<p>3.2 <u>NET REGULATION SETTLEMENT CREDITS</u></p> <p>3.2.1 The <i>EMC</i> shall determine the <i>regulation settlement credit</i> (FSC) for each <i>settlement account</i> in each <i>settlement interval</i> in accordance with the following formula:</p>	<p>3.2 <u>NET REGULATION SETTLEMENT CREDITS</u></p> <p>3.2.1 The <i>EMC</i> shall determine the <i>regulation settlement credit</i> (FSC) for each <i>settlement account</i> in each <i>settlement interval</i> in accordance with the following formula:</p>	<p>Rules for reference only. No proposed changes.</p> <p>This section states that the regulation settlement credit, the amount payable to the MPs for provision of regulation, is determined through the</p>

Existing rules (Release: 1 January 2009)	Proposed rules (Deletions represented by strikethrough text and additions (and formatting changes) double underlined)	Reasons for modification/ Description of rules
$FSC_h^a = MFP_h \times GFQ_h^a$ <p>where: a = a <i>settlement account</i> h = a <i>settlement interval</i></p>	$FSC_h^a = MFP_h \times GFQ_h^a$ <p>where: a = a <i>settlement account</i> h = a <i>settlement interval</i></p>	<p>multiplication of the regulation price, MFP, and the amount of regulation provided by a generation registered facility, GFQ.</p>
CHAPTER 6	CHAPTER 6	
<p>5.4 <u>FORM OF REGULATION OFFERS</u></p> <p>5.4.5 The price in each price-quantity pair of a regulation offer shall:</p> <p>5.4.5.1 be expressed in \$/MWh to two decimal places;</p> <p>5.4.5.2 not exceed the upper price limit specified in Appendix 6J; and</p> <p>5.4.5.3 not be less than \$0.00/MWh.</p>	<p>5.5 <u>FORM OF REGULATION OFFERS</u></p> <p>5.5.3 The price in each <i>price-quantity pair</i> of a <i>regulation offer</i> shall:</p> <p>5.5.3.1 be expressed in \$/MWh to two decimal places;</p> <p>5.5.3.2 not exceed the upper price limit specified in Appendix 6J; and</p> <p>5.5.3.3 not be less than \$0.00/MWh.</p>	<p>Rules for reference only. No proposed changes.</p> <p>This section states that regulation offer prices should not exceed that set out in Appendix 6J.</p>
CHAPTER 6, APPENDIX 6D	CHAPTER 6, APPENDIX 6D	

Existing rules (Release: 1 January 2009)	Proposed rules (Deletions represented by strikethrough text and additions (and formatting changes) double underlined)	Reasons for modification/Description of rules
<p><u>D.24 PRICE FORMATION</u></p> <p>D.24.4 The <i>market regulation price</i> or <i>MFP</i> shall be calculated from the values of RegulationPrice, the dual variable corresponding to constraint D.18.2.1, and then further modified in accordance with section D.24.5.</p>	<p><u>D.24 PRICE FORMATION</u></p> <p>D.24.4 The <i>market regulation price</i> or <i>MFP</i> shall be calculated from the values of RegulationPrice, the dual variable corresponding to constraint D.18.2.1, and then further modified in accordance with section D.24.5.</p>	<p>Rules for reference only. No proposed changes.</p> <p>This section states that regulation price should be that determined under D.18.2.1, after which this price will be subjected to minimum or maximum values based on the procedures set out in section D.24.5.</p>
<p>D.24.5 The <i>market clearing engine</i> shall produce the following modified prices corresponding to the prices referred to in sections D.24.1 to D.24.4 for each <i>dispatch period</i>:</p> <p>D.24.5.1 if the price referred to any of sections D.24.1 to D.24.4 is between the applicable upper and lower limits specified in Appendix 6J section J.1, then the modified price shall equal</p>	<p>D.24.5 The <i>market clearing engine</i> shall produce the following modified prices corresponding to the prices referred to in sections D.24.1 to D.24.4 for each <i>dispatch period</i>:</p> <p>D.24.5.1 if the price referred to any of sections D.24.1 to D.24.4 is between the applicable upper and lower limits specified in Appendix 6J section J.1, then the modified price shall equal</p>	<p>Rules for reference only. No proposed changes.</p> <p>This section states that if the prices (market energy price, nodal spot prices, reserve or regulation price) determined under any of the sections D.24.1 to D.24.4 fall within the corresponding limits set out in the</p>

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<p>that price;</p> <p>D.24.5.2 if the price referred to any of sections D.24.1 to D.24.4 exceeds the applicable upper limit specified in Appendix 6J section J.1, then the modified price shall be set to that upper limit; and</p> <p>D.24.5.3 if the price referred to any of sections D.24.1 to D.24.4 is below the applicable lower limit specified in Appendix 6J section J.1, then the modified price shall be set to that lower limit.</p>	<p>that price;</p> <p>D.24.5.2 if the price referred to any of sections D.24.1 to D.24.4 exceeds the applicable upper limit specified in Appendix 6J section J.1, then the modified price shall be set to that upper limit; and</p> <p>D.24.5.3 if the price referred to any of sections D.24.1 to D.24.4 is below the applicable lower limit specified in Appendix 6J section J.1, then the modified price shall be set to that lower limit.</p>	<p>Appendix 6J, these prices will apply.</p> <p>If the prices determined under any of the sections D.24.1 to D.24.4 exceed their corresponding price cap set out in Appendix 6J, Section J.1, the respective price caps will apply.</p> <p>If the prices determined under any of the sections D.24.1 to D.24.4 are below their corresponding price floors set out in Appendix 6J, Section J.1, the respective price floors will apply.</p>

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<p>J.1 <u>MAXIMUM AND MINIMUM PRICES</u></p> <p>J.1.3 The upper limit on <i>regulation</i> prices in standing offers, offer variations or settlements shall be:</p> <p style="text-align: center;">RegPriceMax</p>	<p>J.1 <u>MAXIMUM AND MINIMUM PRICES</u></p> <p>J.1.3 The upper limit on <i>regulation</i> prices in standing offers, offer variations or settlements shall be:</p> <p style="text-align: center;">RegPriceMax</p>	<p>Rules for reference only. No proposed changes.</p> <p>This section defines the parameter, RegPriceMax, as the price cap on regulation prices in standing offers and offer variations and regulation price used for settlement.</p>																												
<p>J.1.7 Price bound values:</p> <table border="1" data-bbox="304 866 772 1225"> <thead> <tr> <th>Parameter</th> <th>Value</th> </tr> </thead> <tbody> <tr> <td>EnergyPriceMin</td> <td>0.9 * CDC</td> </tr> <tr> <td>EnergyPriceMax</td> <td>0.9 * VoLL</td> </tr> <tr> <td>RegPriceMax</td> <td>0.55 * VoLL</td> </tr> <tr> <td>Res1PriceMax</td> <td>0.85 * VoLL</td> </tr> <tr> <td>Res2PriceMax</td> <td>0.75 * VoLL</td> </tr> <tr> <td>Res3PriceMax</td> <td>0.65 * VoLL</td> </tr> </tbody> </table>	Parameter	Value	EnergyPriceMin	0.9 * CDC	EnergyPriceMax	0.9 * VoLL	RegPriceMax	0.55 * VoLL	Res1PriceMax	0.85 * VoLL	Res2PriceMax	0.75 * VoLL	Res3PriceMax	0.65 * VoLL	<p>J.1.7 Price bound values:</p> <table border="1" data-bbox="1077 866 1579 1225"> <thead> <tr> <th>Parameter</th> <th>Value</th> </tr> </thead> <tbody> <tr> <td>EnergyPriceMin</td> <td>0.9 * CDC</td> </tr> <tr> <td>EnergyPriceMax</td> <td>0.9 * VoLL</td> </tr> <tr> <td>RegPriceMax</td> <td>0.55 <u>0.06</u> * VoLL</td> </tr> <tr> <td>Res1PriceMax</td> <td>0.85 * VoLL</td> </tr> <tr> <td>Res2PriceMax</td> <td>0.75 * VoLL</td> </tr> <tr> <td>Res3PriceMax</td> <td>0.65 * VoLL</td> </tr> </tbody> </table>	Parameter	Value	EnergyPriceMin	0.9 * CDC	EnergyPriceMax	0.9 * VoLL	RegPriceMax	0.55 <u>0.06</u> * VoLL	Res1PriceMax	0.85 * VoLL	Res2PriceMax	0.75 * VoLL	Res3PriceMax	0.65 * VoLL	<p><u>Rule Change</u></p> <p>This change revises the value of the existing regulation price cap of \$2750/MWh (0.55 x VoLL of \$5000) to the EMA’s directed price cap of \$300/MWh (or 0.06 x VoLL of \$5000).</p>
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