

MODIFICATION PROPOSAL FORM			
Proposer <i>(Company)</i>	Date of receipt <i>(assigned by Secretariat)</i>	Type of Proposal <i>(delete as appropriate)</i>	Modification Proposal ID <i>(assigned by Secretariat)</i>
Tynagh Energy Limited	2nd June 2022	Standard	Mod_08_22
Contact Details for Modification Proposal Originator			
Name	Telephone number	Email address	
Harry Molloy		h.molloy@tynaghenergy.ie	
Modification Proposal Title			
Weekly Strike Price Calculation			
Documents affected <i>(delete as appropriate)</i>	Section(s) Affected	Version number of T&SC or Agreed Procedure used in Drafting	
T&SC Part B	Section F.16.2		
Explanation of Proposed Change <i>(mandatory by originator)</i>			
<p>Tynagh Energy is proposing a modification which will result in more frequent calculations of the Strike Price.</p> <p>Since the inception of I-SEM, the Strike Price has been calculated on a monthly basis. However, given recent developments in global commodity markets we consider it necessary to move to more frequent calculations of Strike Price. Furthermore, we consider this modification to be aligned with the intended purpose of the Strike Price mechanism and the high-level design of the CRM.</p> <p>In SEM-15-103, the SEM Committee decided to adopt a floating Strike Price calculated based on the cost of a hypothetical low efficiency peaking unit. In making this decision, the SEM Committee stated that the Strike Price would be set sufficiently high to avoid cases where capacity providers need to make difference payments even where the market price for energy is less than a unit's fuel costs. This can create distortions in the energy market where generators are required to bid below cost in order to avoid incurring difference charges.</p> <p>Since September 2021, global gas commodity markets have experienced an unprecedented level of price volatility. This issue worsened in February 2022 with the Russian invasion of Ukraine. One consequence of commodity price fluctuations is the calculation of the Strike Price. Currently, the Strike Price is calculated on a monthly basis using monthly commodity values as inputs. Traditionally, this was sufficient, given that movements in gas commodity prices were unlikely to be significant in a single month. However, significant gas price volatility means that it is no longer appropriate to calculate the Strike Price on a monthly basis.</p> <p>This modification proposes that the current methodology for calculating Strike Price is maintained, but that the calculation is carried out on a weekly basis. This will allow a more accurate calculation, as a result of more up-to-date inputs being used. Furthermore, this would reduce the likelihood of generators being exposed to an unavoidable downside as a result of the Strike Price being set too low.</p> <p>We consider this to be an appropriate course of action particularly as the Strike Price is a floating parameter which is based on the value of commodities. Given the significant increase in volatility in inputs to the calculation, it is reasonable to expect this calculation to be carried out more frequently.</p> <p>Failure to implement this modification will mean that the practical implementation of the Strike Price is misaligned with its purpose as set out in SEM-15-103, and continued market distortion.</p>			
Legal Drafting Change <i>(Clearly show proposed code change using tracked changes, if proposer fails to identify changes, please indicate best estimate of potential changes)</i>			
<p><i>While it is not explicitly stated in the Trading and Settlement Code that the Strike Price will be calculated on a monthly basis, it is implied through references to calculating the Strike Price on a monthly basis and acronyms</i></p>			

used throughout the Code ($PSTR_m$). In order to implement this modification, it is proposed that all references to month and monthly, as relevant to the Strike Price, are changed to week and weekly. These changes are primary relevant in Section F.16 of the Code. As commodity prices are not provided on a weekly basis, it is proposed that Balance of Month values are applied instead.

F.16.1 Setting of Strike Price Parameters

F.16.1.1 If requested by the Regulatory Authorities, the System Operators shall report to the Regulatory Authorities, proposing the data source for, or methodology for determining, any of the following parameters to be used in the calculation of the Strike Price:

- (a) The **Balance of Month** Carbon Price ($PCARBON_{m,bom}$) for Month, m;
- (b) The **Balance of Month** Natural Gas Fuel Price ($PFUELNG_{m,bom}$) for Month, m and
- (c) The **Balance of Month** Oil Fuel Price ($PFUELO_{m,bom}$) for Month, m.

F.16.2 Calculation of Strike Price

F.16.2.1 The Market Operator shall calculate the Strike Price ($PSTR_{mw}$) in ~~Month, m~~, **Week, w**, as follows:

$$PSTR_{mw} = \text{Max} \left(\frac{1}{FTHEORYPU_y} \times \text{Max} \left(PFUELNG_{m,bom} + (PCARBON_{m,bom} \times FCARBONING_y), PFUELO_{m,bom} + (PCARBON_{m,bom} \times FCARBONIO_y) \right), PTHEORYDSU_y \right)$$

where:

- (a) $FTHEORYPU_y$ is the Peaking Unit Theoretical Efficiency for Capacity Year, y, determined in accordance with section F.16.1;
- (b) $PFUELNG_{m,bom}$ is the **Balance of Month** Natural Gas Fuel Price for Month, m, determined in accordance with section F.16.1;
- (c) $FCARBONING_y$ is the Natural Gas Carbon Intensity Factor for Capacity Year, y, determined in accordance with section F.16.1;
- (d) $PFUELO_{m,bom}$ is the **Balance of Month** Oil Fuel Price for Month, m, determined in accordance with section F.16.1;
- (e) $FCARBONIO_y$ is the Oil Carbon Intensity Factor for Capacity Year, y, in determined accordance with section F.16.1;
- (f) $PCARBON_{m,bom}$ is the **Balance of Month** Carbon Price for Month, m, determined in accordance with section F.16.1; and
- (g) $PTHEORYDSU_y$ is the Demand Side Unit Theoretical Price for Capacity Year, y, determined in accordance with section F.16.1.

There are additional further references to $PSTR_m$ throughout the Code which would need to be amended to refer to $PSTR_w$ instead.

Modification Proposal Justification (Clearly state the reason for the Modification)

The SEM-15-103 Decision Paper outlines the SEM Committee's decision to implement a floating Strike Price which will be set at a level which "should exceed the variable costs of most of those offering energy into the I-SEM energy market". If the Strike Price is not set at a level which reflects actual fuel costs, it is unlikely that the Strike Price will exceed the variable costs of many, if any, conventional generators. This is a result of the fact

that the Strike Price is calculated on a monthly basis combined with a high level of price volatility in the coming months.

If the Strike Price is set dynamically based on generators' marginal costs, and the costs are experiencing a significant level of volatility, it is reasonable to calculate the Strike Price more frequently. In SEM-15-103, the SEM Committee states that "by ensuring that the Strike Price adjusts naturally to the fluctuations of fuel prices, it will ensure that the Strike Price does not fall below the marginal cost of plant". In order to remain consistent with the high-level design of the CRM, it seems imperative that the Strike Price be calculated more frequently in response to a level of volatility which is significantly higher than it has been since the beginning of I-SEM.

This price volatility and its impact on generators' marginal costs has been recognised by the SEM-O in March 2022 following significant price increases. In this instance, SEM-O sought feedback from stakeholders on whether or not to recalculate the Strike Price before ultimately deciding to not to take action. Additionally, the SEM Committee made the decision to postpone Round 18 of Directed Contracts in March 2022, before extending this postponement in April 2022. This decision was based on the high level of volatility in the commodities market. These actions clearly demonstrate a recognition of commodity volatility and its impact on market parameters. Accordingly, we believe that this should be extended to the Strike Price calculation by moving to a weekly rather than a monthly basis.

This proposal does not include any increase to Strike Price or a change in the calculation methodology, but merely a more dynamic Strike Price calculation. We consider this modification to be more consistent with the high-level design and intentions of the Strike Price mechanism.

One of the key purposes of the Strike Price is to provide a hedge for suppliers against high market prices and limit the ability of generators who hold Reliability Options to exert market power. However, if the Strike Price is set at a level which is not reflective of fluctuations in commodity prices and is set too low, generators are exposed to an unavoidable loss. This means that the Strike Price is no longer a means to limit market abuse, but instead becomes a mechanism which penalises generators regardless of how they behave in the market.

Additionally, implementing this modification proposal should reduce the risk of market distortion. This risk was identified by the SEM Committee in SEM-15-103 who noted that setting the Strike Price too low distorts the wholesale energy market by forcing participants to bid below cost.

Code Objectives Furthered

(State the Code Objectives the Proposal furthers, see Section 1.3 of Part A and/or Section A.2.1.4 of Part B of the T&SC for Code Objectives)

A.2.1.4 The aim of this Code is to facilitate the achievement of the following objectives:

- (a) to facilitate the efficient discharge by the Market Operator of the obligations imposed upon it by its Market Operator Licences;
- (b) to facilitate the efficient, economic and coordinated operation, administration and development of the Single Electricity Market in a financially secure manner;
- (c) to facilitate the participation of electricity undertakings engaged in the generation, supply or sale of electricity in the trading arrangements under the Single Electricity Market;
- (d) to promote competition in the Single Electricity Market;
- (f) to ensure no undue discrimination between persons who are parties to the Code; and

Implication of not implementing the Modification Proposal

(State the possible outcomes should the Modification Proposal not be implemented)

If this modification proposal is not implemented, the application of Reliability Options will continue to be misaligned with the high-level design of the CRM (as set out in the CRM). A floating Strike Price that does not

respond to fluctuations in commodity prices cannot accurately reflect the marginal costs of generators in SEM. This creates risk of significant downside and market distortion, which was identified by the SEM Committee in SEM-15-103.

Additionally, failure to implement the modification proposal is detrimental to several of the TSC objectives as identified above. Specifically, in relation to operating the Single Electricity Market in a financially secure manner by not exposing market participants to significant downside regardless of behaviour in the market.

Additionally, not amending the process in the face of high volatility interferes with the TSC objective of facilitating participation in the SEM. By exposing generators to an unavoidable downside where they have no choice but to make a loss in the market, it is unclear how parties are expected to participate long-term in the market. Furthermore, the code objective of promoting competitiveness is affected due to the market distortion affect which has been outlined above.

<p style="text-align: center;">Working Group <i>(State if Working Group considered necessary to develop proposal)</i></p>	<p style="text-align: center;">Impacts <i>(Indicate the impacts on systems, resources, processes and/or procedures; also indicate impacts on any other Market Code such as Capacity Market Code, Grid Code, Exchange Rules etc.)</i></p>

Please return this form to Secretariat by email to balancingmodifications@sem-o.com

Notes on completing Modification Proposal Form:

1. If a person submits a Modification Proposal on behalf of another person, that person who proposes the material of the change should be identified on the Modification Proposal Form as the Modification Proposal Originator.
2. Any person raising a Modification Proposal shall ensure that their proposal is clear and substantiated with the appropriate detail including the way in which it furthers the Code Objectives to enable it to be fully considered by the Modifications Committee.
3. Each Modification Proposal will include a draft text of the proposed Modification to the Code unless, if raising a Provisional Modification Proposal whereby legal drafting text is not imperative.
4. For the purposes of this Modification Proposal Form, the following terms shall have the following meanings:

Agreed Procedure(s):	means the detailed procedures to be followed by Parties in performing their obligations and functions under the Code as listed in either Part A or Part B Appendix D "List of Agreed Procedures". The Proposer will need to specify whether the Agreed Procedure to modify refers to Part A, Part B or both.
T&SC / Code:	means the Trading and Settlement Code for the Single Electricity Market. The Proposer will also need to specify whether all Part A, Part B, Part C of the Code or a subset of these, are affected by the proposed Modification;
Modification Proposal:	means the proposal to modify the Code as set out in the attached form
Derivative Work:	means any text or work which incorporates or contains all or part of the Modification Proposal or any adaptation, abridgement, expansion or other modification of the Modification Proposal

The terms "Market Operator", "Modifications Committee" and "Regulatory Authorities" shall have the meanings assigned to those terms in the Code.

In consideration for the right to submit, and have the Modification Proposal assessed in accordance with the terms of Section 2 of Part A or Chapter B of Part B of the Code (and Part A Agreed Procedure 12 or Part B Agreed Procedure 12) , which I have read and understand, I agree as follows:

1. I hereby grant a worldwide, perpetual, royalty-free, non-exclusive licence:
 - 1.1 to the Market Operator and the Regulatory Authorities to publish and/or distribute the Modification Proposal for free and unrestricted access;
 - 1.2 to the Regulatory Authorities, the Modifications Committee and each member of the Modifications Committee to amend, adapt, combine, abridge, expand or otherwise modify the Modification Proposal at their sole discretion for the purpose of developing the Modification Proposal in accordance with the Code;
 - 1.3 to the Market Operator and the Regulatory Authorities to incorporate the Modification Proposal into the Code;
 - 1.4 to all Parties to the Code and the Regulatory Authorities to use, reproduce and distribute the Modification Proposal, whether as part of the Code or otherwise, for any purpose arising out of or in connection with the Code.
2. The licences set out in clause 1 shall equally apply to any Derivative Works.
3. I hereby waive in favour of the Parties to the Code and the Regulatory Authorities any and all moral rights I may have arising out of or in connection with the Modification Proposal or any Derivative Works.
4. I hereby warrant that, except where expressly indicated otherwise, I am the owner of the copyright and any other intellectual property and proprietary rights in the Modification Proposal and, where not the owner, I have the requisite permissions to grant the rights set out in this form.
5. I hereby acknowledge that the Modification Proposal may be rejected by the Modifications Committee and/or the Regulatory Authorities and that there is no guarantee that my Modification Proposal will be incorporated into the Code.