

Single Electricity Market

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| Final REcommendation ReportMod\_05\_18 clarification of administered scarcity pricing function for scenarios not yet covered in rules 10 May 2018  |

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Document History

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| --- | --- | --- | --- |
| **Version** | **Date** | **Author** | **Comment** |
| 1.0 | 10 May 2018 | Modifications Committee Secretariat | Issued to Modifications Committee for review and approval |
| 2.0 | 25 May 2018 | Modifications Committee Secretariat | Issued to Regulatory Authorities for final decision |

Reference Documents

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| **Document Name** |
| [Trading and Settlement Code](http://www.sem-o.com/MarketDevelopment/MarketRules/TSC.docx) |
| [Modification Proposal](http://www.sem-o.com/MarketDevelopment/ModificationDocuments/Mod_05_18%20-%20Clarification%20of%20Administered%20Scarcity%20Pricing%20function%20for%20scenarios%20not%20yet%20covered%20in%20rules.docx) |
| [Presentation](http://www.sem-o.com/MarketDevelopment/ModificationDocuments/Mod_05_18%20Presentation.pptx) |

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# MODIFICATIONS COMMITTEE RECOMMENDATION

## Recommended for approval– Majority Vote

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| **Recommended for Approval by Majority Vote**  |
| Kevin Hannafin | Generator Member | Approved |
| Cormac Daly | Generator Member | Approved |
| Brian Mongan | Generator Member | Abstain |
| William Steele | Supplier Member | Approved |
| Jim Wynne | Supplier Member | Approved |
| Julie-Anne Hannon (Chair) | Supplier Member | Approved |

# Background

This Modification Proposal was raised by SEMO and was received by the Secretariat on 14 February 2018.

This modification proposes two changes to clarify the functioning of Administered Scarcity Pricing in situations which can arise in practice, but which do not materially impact the result of the Imbalance Price, even in times of the ASP function being triggered.

The first proposal is to clarify the equation which calculates the Reserve Scarcity Price so that it reflects the intended outcomes at the edges and outside the bounds of the Reserve Scarcity Price Curve. These scenarios include when the Short Term Reserve provided is less than the requirement, but greater than the last quantity stated in the latest decision on this parameter from the Regulatory Authorities: in this case it is intended that a Reserve Scarcity Price would not be calculated as it is no parameter on which to base it. The means for not having a Reserve Scarcity Price influence the remainder of the pricing process is to set it equal to the value of the Price Floor parameter (PFLOOR), which is what this proposal does.

The other scenario clarified is where when the Short Term Reserve Quantity (qSTR) being provided is zero. This scenario is currently not covered in the Reserve Scarcity Curve calculations, but the Capacity Remuneration Mechanism parameters decision from the Regulatory Authorities outlined that the Full Administered Scarcity Price (FASP) would apply. The rules as they are currently stated have the Reserve Scarcity Price only being calculated if qSTR is greater than the first quantity on the Reserve Scarcity Price Curve, which according to the parameters decision is zero. Therefore this proposal changes the less-than sign to include an equality condition

The Modification Proposal was discussed and voted on at Meeting 81 on 13 March 2018.

# PURPOSE OF PROPOSED MODIFICATION

**3A.) justification of Modification**

The rules as they are currently stated assume that the Operating Reserve Requirement Quantity (qORR) will be less than or equal to the final quantity in the Reserve Scarcity Price Curve (qRSC(Θ=N)), however this may not be the case: since there is no price for RSC stated for the situation where qSTR < qORR but qSTR > qRSC(Θ=N), it should default to PFLOOR like it does in a situation where RSC is not being calculated. The proposal does this by adding an additional element to the “if” statement, where the calculation is only carried out if qSTR is within the range of the Reserve Scarcity Price Curve, and if this additional test does not pass, then part (b) setting the Reserve Scarcity Price Curve to PFLOOR prevails. The actual trigger of the amount being provided being less than the requirement is not changing, this just ensures that when this happens in a range which is in excess of the quantities and prices provided in the Reserve Scarcity Price Curve that the rules reflect the intended outcome of not having the Reserve Scarcity Price come into the final price determination.

The Capacity Remuneration Mechanism (CRM) parameters decision from the Regulatory Authorities outlined that the Full Administered Scarcity Price (FASP) would apply when the quantity of short term reserve being provided (qSTR) is zero. The rules as they are currently stated have the Reserve Scarcity Price only being calculated if qSTR is greater than the first quantity on the Reserve Scarcity Price Curve, which according to the parameters decision is zero. In the case where the available reserve, qSTRφ,is zero and theta = 2 we have 0 < 0 <= qRSC(2). This is an illogical result, which under a strict interpretation of the rules would make it appear as if part (b) of the clause, where the Reserve Scarcity Price is set equal to the value of the PFLOOR parameter, is the one which applies. Therefore this proposal changes the less-than sign to include an equality condition to clarify the outcome in that scenario, that it should equal the value of the price associated with the first quantity in the curve, which with the current parameters is FASP. Although this change in the rules is made to clarify the intended outcome, it is exceptionally unlikely to occur that there would be zero qSTR being provided without some element of demand control occurring, in which case this modification would not have a material impact on the outcome of the Imbalance Price because the Full Administered Scarcity Price would be in effect from other provisions in the Code (in particular sections E.4.3 – E.4.6).

**3B.) Impact of not Implementing a Solution**

Lack of transparency in the rules due to ambiguity between design intent of the functionality and the exact drafting in the Code.

**3c.) Impact on Code Objectives**

* to provide transparency in the operation of the Single Electricity Market;
* to ensure no undue discrimination between persons who are parties to the Code.

This modification proposal if implemented would ensure that participants unambiguously understand the intended functioning of the Administered Scarcity Price functionality, including those who have not been part of the market design process and therefore may only have the Code as their source of understanding.

1. **Assessment of Alternatives**

N/A

# Working Group and/or Consultation

N/A

# impact on systems and resources

There may be a need for an interim provision to be raised on calculating the Reserve Scarcity Price which qSTR = the first qRSC (which with the current parameters is zero), as the current rules reflect the system design and it may not be possible to change the systems in time for the Market Cutover Time.

# Impact on other Codes/Documents

N/A

# MODIFICATION COMMITTEE VIEWS

## Meeting  **81 – 13 March 2018**

Proposer delivered a [presentation](http://www.sem-o.com/MarketDevelopment/ModificationDocuments/Mod_05_18%20Presentation.pptx) summarising the requirement for this proposal which is driven by two main issues. Proposer discussed the scarcity curve in detail explaining that as it is currently defined there is no requirement to calculate the reserve scarcity price when it is at point zero, only when it is above point zero. This proposal makes sure that the proposal is defined in all instances and is not being raised to reflect the system and removes the risk that it is not defined that calculations occur at point zero also (in line with the regulators’ capacity market decision).

Questions were raised as to whether the system was able to calculate this at present when reserve is at point zero and regarding implementation. Proposer advised that this proposal was in line with the regulators’ decision in this area and that if the systems cannot do it currently, then if the Mod is approved a workaround would likely be implemented. Committee were in agreement to vote on this proposal.

# Proposed Legal Drafting

As set out in Appendix 1.

# LEGAL REVIEW

N/A

# IMPLEMENTATION TIMESCALE

It is proposed that this Modification is implemented on a Trading Day basis with effect from one Working Day after an RA Decision.

# Appendix 1: Mod\_05\_18 Clarification of Administered Scarcity Pricing function for scenarios not yet covered in rules

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| **MODIFICATION PROPOSAL FORM** |
| **Proposer***(Company)* | **Date of receipt***(assigned by Secretariat)* | **Type of Proposal***(delete as appropriate)* | **Modification Proposal ID***(assigned by Secretariat)* |
| **SEMO** | **14 February 2018** | **Standard** | **Mod\_05\_18** |
| **Contact Details for Modification Proposal Originator** |
| **Name** | **Telephone number** | **Email address** |
| **Martin Kerin** |  | **Martin.Kerin@EirGrid.com** |
| **Modification Proposal Title** |
| **Clarification of Administered Scarcity Pricing function for scenarios not yet covered in rules** |
| **Documents affected***(delete as appropriate)* | **Section(s) Affected** | **Version number of T&SC or AP used in Drafting** |
| **T&SC Part B** | **Section E.4.2, E.4.3** | **20** |
| **Explanation of Proposed Change***(mandatory by originator)* |
| This modification proposes two changes to clarify the functioning of Administered Scarcity Pricing in situations which can arise in practice, but which do not materially impact the result of the Imbalance Price, even in times of the ASP function being triggered.The first proposal is to clarify the equation which calculates the Reserve Scarcity Price so that it reflects the intended outcomes at the edges and outside the bounds of the Reserve Scarcity Price Curve. These scenarios include when the Short Term Reserve provided is less than the requirement, but greater than the last quantity stated in the latest decision on this parameter from the Regulatory Authorities: in this case it is intended that a Reserve Scarcity Price would not be calculated as it is no parameter on which to base it. The means for not having a Reserve Scarcity Price influence the remainder of the pricing process is to set it equal to the value of the Price Floor parameter (PFLOOR), which is what this proposal does.The other scenario clarified is where when the Short Term Reserve Quantity (qSTR) being provided is zero. This scenario is currently not covered in the Reserve Scarcity Curve calculations, but the Capacity Remuneration Mechanism parameters decision from the Regulatory Authorities outlined that the Full Administered Scarcity Price (FASP) would apply. The rules as they are currently stated have the Reserve Scarcity Price only being calculated if qSTR is greater than the first quantity on the Reserve Scarcity Price Curve, which according to the parameters decision is zero. Therefore this proposal changes the less-than sign to include an equality condition  |
| **Legal Drafting Change***(Clearly show proposed code change using* ***tracked*** *changes, if proposer fails to identify changes, please indicate best estimate of potential changes)* |
| 1.
2.
3.
4.
5. 1.
	2.
	3.
	4. 1.
		2. 1. For each Imbalance Pricing Period, φ, the Market Operator shall calculate the Reserve Scarcity Price (PRSφ) as follows:
				1. If qSTRφ < qORRφ and qSTRφ ≤ qRSC(Θ=N), the Market Operator shall calculate the value of Θ that satisfies qRSCΘ-1 ≤ qSTRφ ≤ qRSCΘ where 2 ≤ Θ ≤ N and then calculate,

$$PRS\_{φ}= \left(\frac{PRSC\_{Θ}-PRSC\_{Θ-1}}{qRSC\_{Θ}-qRSC\_{Θ-1}}\right)×\left(qSTR\_{φ}-qRSC\_{Θ-1}\right)+PRSC\_{Θ-1}$$where (PRSCΘ, qRSCΘ) is the Θth Reserve Scarcity Price Quantity Pair in the Reserve Scarcity Price Curve applying to the Capacity Year in which Imbalance Pricing Period φ falls and qSTRφ is the Short Term Reserve Quantity for Imbalance Pricing Period, φ;* + - * 1. Otherwise, the Reserve Scarcity Price (PRSφ) is set equal to PFLOOR.
 |
| **Modification Proposal Justification***(Clearly state the reason for the Modification)* |
| The rules as they are currently stated assume that the Operating Reserve Requirement Quantity (qORR) will be less than or equal to the final quantity in the Reserve Scarcity Price Curve (qRSC(Θ=N)), however this may not be the case: since there is no price for RSC stated for the situation where qSTR < qORR but qSTR > qRSC(Θ=N), it should default to PFLOOR like it does in a situation where RSC is not being calculated. The proposal does this by adding an additional element to the “if” statement, where the calculation is only carried out if qSTR is within the range of the Reserve Scarcity Price Curve, and if this additional test does not pass, then part (b) setting the Reserve Scarcity Price Curve to PFLOOR prevails. The actual trigger of the amount being provided being less than the requirement is not changing, this just ensures that when this happens in a range which is in excess of the quantities and prices provided in the Reserve Scarcity Price Curve that the rules reflect the intended outcome of not having the Reserve Scarcity Price come into the final price determination.The Capacity Remuneration Mechanism (CRM) parameters decision from the Regulatory Authorities outlined that the Full Administered Scarcity Price (FASP) would apply when the quantity of short term reserve being provided (qSTR) is zero. The rules as they are currently stated have the Reserve Scarcity Price only being calculated if qSTR is greater than the first quantity on the Reserve Scarcity Price Curve, which according to the parameters decision is zero. In the case where the available reserve, qSTRφ,is zero and theta = 2 we have 0 < 0 <= qRSC(2). This is an illogical result, which under a strict interpretation of the rules would make it appear as if part (b) of the clause, where the Reserve Scarcity Price is set equal to the value of the PFLOOR parameter, is the one which applies. Therefore this proposal changes the less-than sign to include an equality condition to clarify the outcome in that scenario, that it should equal the value of the price associated with the first quantity in the curve, which with the current parameters is FASP. Although this change in the rules is made to clarify the intended outcome, it is exceptionally unlikely to occur that there would be zero qSTR being provided without some element of demand control occurring, in which case this modification would not have a material impact on the outcome of the Imbalance Price because the Full Administered Scarcity Price would be in effect from other provisions in the Code (in particular sections E.4.3 – E.4.6). |
| **Code Objectives Furthered***(State the Code Objectives the Proposal furthers, see Section 1.3 of T&SC for Code Objectives)* |
| * to provide transparency in the operation of the Single Electricity Market;
* to ensure no undue discrimination between persons who are parties to the Code.

This modification proposal if implemented would ensure that participants unambiguously understand the intended functioning of the Administered Scarcity Price functionality, including those who have not been part of the market design process and therefore may only have the Code as their source of understanding. |
| **Implication of not implementing the Modification Proposal***(State the possible outcomes should the Modification Proposal not be implemented)* |
| Lack of transparency in the rules due to ambiguity between design intent of the functionality and the exact drafting in the Code. |
| **Working Group***(State if Working Group considered necessary to develop proposal)* | **Impacts***(Indicate the impacts on systems, resources, processes and/or procedures; also indicate impacts on any other Market Code such as Capacity Marker Code, Grid Code, Exchange Rules etc.)* |
| N/A | There may be a need for an interim provision to be raised on calculating the Reserve Scarcity Price which qSTR = the first qRSC (which with the current parameters is zero), as the current rules reflect the system design and it may not be possible to change the systems in time for the Market Cutover Time. |
| ***Please return this form to Secretariat by email to*** *modifications@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. **to the Market Operator and the Regulatory Authorities to publish and/or distribute the Modification Proposal for free and unrestricted access;**
	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;**
	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.**