

Single Electricity Market

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| Final REcommendation Report*Mod\_27\_11 Market Operator solver policy*Version 1.008 September 2011 |

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Document History

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| **Version** | **Date** | **Author** | **Comment** |
| 0.2 | 31 August 2011 | Modifications Committee Secretariat | Issued to Modifications Committee for review and approval |
| 1.0 | 08 September 2011 | Modifications Committee Secretariat | Issued to the Regulatory Authorities for final decision. |

Reference Documents

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| **Document Name** |
| [Trading and Settlement Code](http://semopub/MarketDevelopment/MarketRules/TSC.doc)  |
| [Mod\_27\_11 Market Operator Solver Policy](http://semopub/MarketDevelopment/ModificationDocuments/Mod_27_11%20%20Market%20Operator%20Solver%20Policy.docx)  |

Relevant Sections

| **In accordance with Section 2.215 of the Trading & Settlement Code, the sections marked applicable will be included in the FRR** |
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| **Modifications Committee Recommendation**  | **Applicable** |
| **Development Process**  | **Applicable** |
| **Purpose of Proposed Modification**a.) Justification for Modificationb.) Impact of not implementing a solutionc.) Impact on Code Objectives | **Applicable** |
| **Assessment of Alternatives** | **N/A** |
| **Working Group and/or Consultation** | **N/A** |
| **Impact on other Codes/Documents** | **N/A** |
| **Impact on Systems and Resources** | **N/A** |
| **Modifications Committee Views** | **Applicable** |
| **Proposed Legal Drafting** | **Applicable** |
| **Legal Review** | **Applicable** |
| **Implementation Timescale, Costs and Resources** | **Applicable** |

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# 1 MODIFICATION COMMITTEE RECOMMENDATION

## Recommended for approval- Unanimous Vote

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| **Recommended for Approval by the Modifications Committee as follows:** |
| Generator Alternate | Brian Mongan | AES |
| Generator Alternate | Mary Doorly | IWEA |
| Generator Member | Andrew Burke | ESBI |
| Generator Member | Kevin Hannafin | Viridian Power & Energy |
| Supplier Member | William Steele | NIE Energy Supply |
| Supplier Member | Jill Murray | Bord Gáis Energy Supply |
| Supplier Alternate | William Carr | ESB Electric Ireland |
| Supplier Member  | Iain Wright | Airtricity |

# 2 DEVELOPMENT PROCESS

The Modification Proposal was raised by SEMO and proposes changes to T&SC Section 4 and Glossary. It was received by the Secretariat on 27 July 2011 and initially presented at Meeting 37 on 09 August 2011, where it was voted on.

# 3 PURPOSE OF PROPOSED MODIFICATION

## 3A.) Justification for Modification

This proposal seeks to define the existing policy used by SEMO in relation to MIP and LR as the ‘Market Operator Solver Policy’, and to make any changes to it subject to the approval of the SEM Committee.

This ensures that there is a clear process for implementing any changes to the Market Operator Solver Policy and removes any discretion that may have existed in relation to the use of different solvers.

## 3B.) Impact on Code Objectives

It is believed that this Modification Proposal, if implemented, would further the Code Objective set out in paragraph 1.3.5; that is “to provide transparency in the operation of the Single Electricity Market”

## 3C.) Impact of not implementing a solution

If this Modification Proposal is not implemented, the existing method for changing and updating the Market Operator Solver Policy would remain.

# 4 MODIFICATIONS COMMITTEE VIEWS

## Meeting 37 – 09 August 2011

Proposer provided brief outline of proposal advising that it puts the SEM Committee approval of the Market Operator Solver Policy on a formal basis and provides through the Code, a clear mechanism for enabling any future changes to the process, thus enhancing transparency. Supplier Member queried as to why SEMO were formalising the process. Proposer advised that it is being formalised in an effort to aid further transparency and advised that the SEM committee and Participants have expressed preference for it to be on a more formal basis. RA Member advised that it was already informally the case; however, inserting it in the Code would ensure the process is clear. Generator Alternate queried as to who approves the policy. Proposer advised that the RAs approve it and this is implied in the definition by referring to the relevant paragraphs in the Code. Observer noted that in the Primary Solver definition it is necessary to add in the word “be”.

# 5 PROPOSED LEGAL DRAFTING

Section 4

4.66 The Market Operator shall ensure that the MSP Software operates in accordance with the Code including on the basis of the principles set out below and as further specified within Appendix N “Operation of the MSP Software”.

4.67 The high level objective of each run of the MSP Software when producing a Unit Commitment Schedule or Market Schedule Quantities, as set out in more detail within Appendix N “Operation of the MSP Software”, is to minimise the aggregate sum of MSP Production Costs for all Price Maker Generator Units over a given Optimisation Time Horizon, subject to the following constraints:

1. to schedule Output by Price Maker Generator Units to match, in aggregate, Schedule Demand (as set out within Appendix N “Operation of the MSP Software” for the relevant run of the MSP Software) in each Trading Period within the Optimisation Time Horizon;
2. to schedule each Price Maker Generator Unit at a level of Output between its Minimum Output and its Availability; and
3. to schedule each Price Maker Generator Unit within the additional Technical Capabilities given within its Minimum Stable Generation and Technical Offer Data, including Ramp Rates, Minimum On Times and Minimum Off Times, with consideration given to the Warmth State.

4.67A Where the MSP Software can use more than one Solver, the Market Operator shall publish a Market Operator Solver Policy that sets out the Solver that shall be designated as the Primary Solver, the only circumstances under which a Solver other than the Primary Solver can be used and the process and timescales under which the Market Operator shall publish a notification of the use of a Solver other than the Primary Solver.

4.67B The Market Operator may from time to time submit a report to the Regulatory Authorities recommending any revisions to the Market Operator Solver Policy. Such a report must set out any relevant research or analysis carried out by the Market Operator, the justification for the specific revisions proposed and the results of any consultation on the proposed changes to the policy undertaken by the Market Operator.

4.67C If approved by the Regulatory Authorities, the Market Operator shall publish the revised Market Operator Solver Policy, the Regulatory Authorities’ decision and implementation date of the revised policy within 5 Working Days of receipt of the decision from the Regulatory Authorities.

Glossary

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| **Market Operator Solver Policy** | means the Market Operator’s approved policy on the use of Solvers in the MSP Software determined in accordance with paragraphs 4.67A to 4.67C |
| **Primary Solver** | means the Solver designated as such in the Market Operator Solver Policy to be used in all circumstances except those set out in the Market Operator Solver Policy. |
| **Solver** | means any algorithm for producing the Unit Commitment Schedule that is certified for use in the MSP Software.  |

# 6 LEGAL REVIEW

Complete.

***GAL DRAFTING***

# 7 IMPLEMENTATION TIMESCALE, COSTS AND RESOURCES

The proposed implementation date is one working day after the day on which the Regulatory Authority decision is made. It is proposed that this Modification is made on a Trading Day basis.

***IEWS***

# Appendix 1: Modification Proposal – Mod\_27\_11

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| **MODIFICATION PROPOSAL FORM** |
| **Proposer** | **Date of receipt** | **Type of Proposal** | **Modification Proposal ID** |
| **SEMO** | **27/07/2011** | **Standard**  | **Mod\_27\_11** |
| **Contact Details for Modification Proposal Originator** |
| **Name** | **Telephone number** | **Email address** |
| **Aodhagan Downey** | **+353-1-2370124** | **aodhagan.downey@sem-o.com** |
| **Modification Proposal Title** |
| **Market Operator Solver Policy** |
| **Documents affected***(delete as appropriate)* | **Section(s) Affected** | **Version number of T&SC or AP used in Drafting** |
| **T&SC****AP** | **Section 4.66-4.67****Glossary** | **V9.0** |
| **Explanation of Proposed Change***(mandatory by originator)* |
| SEMO has undertaken a comprehensive analysis of the differences between the LR and MIP solvers in the MSP Software. That analysis has raised questions about which solver should be used and how any decision to use a different solver should be reached. This Modification Proposal, submitted following discussions with the RAs, puts the SEM Committee approval of the Market Operator Solver Policy on a formal basis and provides, through the Code, a clear mechanism for enabling any future changes to the process. |
| **Legal Drafting Change***(Clearly show proposed code change using* ***tracked*** *changes, if proposer fails to identify changes, please indicate best estimate of potential changes)* |
| Section 44.66 The Market Operator shall ensure that the MSP Software operates in accordance with the Code including on the basis of the principles set out below and as further specified within Appendix N “Operation of the MSP Software”.4.67 The high level objective of each run of the MSP Software when producing a Unit Commitment Schedule or Market Schedule Quantities, as set out in more detail within Appendix N “Operation of the MSP Software”, is to minimise the aggregate sum of MSP Production Costs for all Price Maker Generator Units over a given Optimisation Time Horizon, subject to the following constraints:1. to schedule Output by Price Maker Generator Units to match, in aggregate, Schedule Demand (as set out within Appendix N “Operation of the MSP Software” for the relevant run of the MSP Software) in each Trading Period within the Optimisation Time Horizon;
2. to schedule each Price Maker Generator Unit at a level of Output between its Minimum Output and its Availability; and
3. to schedule each Price Maker Generator Unit within the additional Technical Capabilities given within its Minimum Stable Generation and Technical Offer Data, including Ramp Rates, Minimum On Times and Minimum Off Times, with consideration given to the Warmth State.

4.67A Where the MSP Software can use more than one Solver, the Market Operator shall publish a Market Operator Solver Policy that sets out the Solver that shall be designated as the Primary Solver, the only circumstances under which a Solver other than the Primary Solver can be used and the process and timescales under which the Market Operator shall publish a notification of the use of a Solver other than the Primary Solver. 4.67B The Market Operator may from time to time submit a report to the Regulatory Authorities recommending any revisions to the Market Operator Solver Policy. Such a report must set out any relevant research or analysis carried out by the Market Operator, the justification for the specific revisions proposed and the results of any consultation on the proposed changes to the policy undertaken by the Market Operator. 4.67C If approved by the Regulatory Authorities, the Market Operator shall publish the revised Market Operator Solver Policy, the Regulatory Authorities’ decision and implementation date of the revised policy within 5 Working Days of receipt of the decision from the Regulatory Authorities.Glossary

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| --- | --- |
| **Market Operator Solver Policy** | means the Market Operator’s approved policy on the use of Solvers in the MSP Software determined in accordance with paragraphs 4.67A to 4.67C |
| **Primary Solver** | means the Solver designated as such in the Market Operator Solver Policy to used in all circumstances except those set out in the Market Operator Solver Policy. |
| **Solver** | means any algorithm for producing the Unit Commitment Schedule that is certified for use in the MSP Software.  |

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| **Modification Proposal Justification***(Clearly state the reason for the Modification)* |
| This proposal seeks to define the existing policy used by SEMO in relation MIP and LR as the ‘Market Operator Solver Policy’ and to make any changes to it subject to the approval of the SEM Committee.This ensures that there is a clear process for implementing any changes to the Market Operator Solver Policy and removes any discretion that may have existed in relation to the use of different solvers. |
| **Code Objectives Furthered***(State the Code Objectives the Proposal furthers, see Section 1.3 of T&SC for Code Objectives)* |
| It is believed that this Modification Proposal, if implemented, would further Code Objective set out in paragraph 1.3.5; that is “to provide transparency in the operation of the Single Electricity Market” |
| **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 existing method for changing and updating the Market Operator Solver Policy would remain. |
| **Working Group***(State if Working Group considered necessary to develop proposal)* | **Impacts***(Indicate the impacts on systems, resources, processes and/or procedures)* |
| No | MO process for changing the Market Operator Solver Policy |
| ***Please return this form to Secretariat by email to*** ***modifications@sem-o.com*** |