Single Electricity Market

SEM RELEASE "I" – APRIL 2022

APPROVED RELEASE SCOPE – HIGH LEVEL IMPACT ASSESSMENT

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Document History

Version	Date	Author	Comment
1.0	03/12/2021	SEMO	Initial Approved Scope

1 INTRODUCTION

This document is intended to provide an overview of those approved changes for implementation in the April 2022 release (SEM Release "I") to the Central Market Systems (CMS). SEM Release I is due for deployment in April of 2022, subject to successful completion of testing.

The approved scope contains a reporting functional impact (*relating to CR237 - M+4 / M+13 / Adhoc - Report Publications – Settlement / Meter Data*) - on interfaces between the CMS and Market Participant systems. Updates on Release I progress will be provided via the Market Operator User Group (MOUG) meetings.

2 FUNCTIONAL SCOPE APPROVED FOR THE APRIL 2022 RELEASE - SEM RELEASE I

This section provides at a summary level details of those Central Market Systems' change requirements which will be implemented in SEM Release I.

For each of the changes, SEMO has provided an assessment of the complexity for delivery of each change, based on the common understanding that existed between the systems vendor and SEMO at the end of the release design phase.

Change Request Reference	Summary	Business Case for Change	Interfacing Impact?
CR-065	**Usage of Seasonal Circuit Ratings from CIM Model in MMS**	The MMS does not currently utilise the correct equipment ratings when there are multiple ratings included in the relevant CIM file. This can result in the MMS using the incorrect equipment rating values, based on the current design. MMS uses equipment ratings in the Network Security Monitor (NSM) function, which is an integral part of producing a secure and economic dispatch schedule (and associated advisory dispatch instructions). This Change Request proposes additional logic to use the relevant equipment ratings based on Operator selection, enabling the correct transition from summer to winter ratings and vice versa, as ratings can differ significantly from Summer to Winter.	None
CR-068	**Timespan of Reports 078, 079, 080 (Contracted Quantities for Generation, Demand and Wind)**	Under current functionality, the below Reports contain values for each Imbalance Settlement Period for which the gate in the corresponding Trading Day is still open: • REPT_078 - Aggregated Contracted Quantities for Generation • REPT_079 - Aggregated Contracted Quantities for Demand • REPT_080 - Aggregated Contracted Quantities for Wind These reports are published each hour at approx. 20 mins past the hour. This impacts reports that are published close to the Trading Day boundary of 23:00, in that there are no gates in the current Trading Day that are open, so by the time that the report is published in the subsequent Trading Day, gates are closed for the first Imbalance Settlement Period (and are therefore never included in any of the above reports).	None

Change Request Reference	Summary	Business Case for Change	Interfacing Impact?
		This Change Request proposes amending the content of the report so that it always contains Trading Period quantities from the start of the Imbalance Settlement Period in which the report is produced, to the end of the current Trading Day. For example, currently the Report produced at approx. 23:20 for a specific Trading Day will contain data from the Imbalance Settlement Period 00:30 to 01:00 until the end of the Trading Day. However, as the publication time of this report resides within the Imbalance Settlement Period 23:00 to 23:30, the first Imbalance Settlement Period within this Report should also be 23:00 to 23:30. This same logic should also be applied to the subsequent reports that are published for the remainder of the current Trading Day.	
CR-203	**Marginal Energy Action Price (No Energy Action(s) same direction as NIV)**	Modification 01_20, seeks to make a change to the current Marginal Energy Action Price (PMEA) calculation which currently take place in RTPIMB (PIMBCALC) within the Market Application section of the Operator User Interface. The change is to ensure imbalance price information is reflective of the underlying system conditions and the associated price of balancing actions taken to resolve the Net Imbalance Volume (NIV). This change will alter the current calculation of the Price of Marginal Energy Action taken to include a condition where there are ranked sets and where there are no energy actions in the same direction as the NIV. Note: in terms of mentioning the 'same direction as the NIV' this represents the following: 1. A positive Quantity Accepted Bid/Offer /incremental volume where the Net Imbalance Volume (NIV) is a positive value. This indicates a generation shortfall 2. A negative Quantity Accepted Bid/Offer / decremental volume where the Net imbalance Volume (NIV) is a negative value. This indicates a generation surplus	None
CR-216	**TH showing in PUMP mode in Merit Order**	The merit order display within the MMS provides price stack information based on incremental and decremental costs and availability MW for generating units or demand side units for the current time.	None

Change Request Reference	Summary	Business Case for Change	Interfacing Impact?
		Currently, Pumped Storage Units are not shown in the Online Merit Order for which they are Incremental when they are in pumping mode. This Change Request seeks to ensure the following: 1. All units that have an EMS (Energy Management System) actual output CB (Circuit Breaker) status of ON (not withstanding current filtering rules for tolerances) should be displayed in the online merit order (incremental and decremental). This includes units which have a negative lower operating limit and negative actual output. 2. When Pumped Storage Units are OFF, they should be displayed in the GEN mode operating range i.e. for Turlough Hill, the Gen mode operating range is above 0 to it's Higher Operating Limit (HOL). This change request will improve operational effectiveness and will also satisfy the scheduling and dispatch process audit requirements set out in the SONI and EirGrid TSO Licences Conditions.	
CR-217	**Reserve Requirements to cater for System wide reserve**	Part of the 'Delivering a Secure Sustainable Electricity System (DS3)' programme requires the provision of Ramping Margin and an associated tool and optimization. Ramping Margin is a means by which a minimum level of ramping capability is available (from available online or offline generator units), to maintain system security. The implementation of Ramping Margin in I-SEM requires utilization in MMS of Ramping Margin Requirements for RM1, RM3 and RM8 ramping products which are defined for each jurisdiction (ROI, NI) and system-wide. Under the current functionality, only Reserve data for the following jurisdictions are submitted to the MMS. • NI (Northern Ireland) • ROI (Republic of Ireland) This change request will facilitate an All Island (TOTL) Ramping Reserve submission and subsequently utilise the reserve requirements data within the Operational Scheduling for LTS, RTC & RTD	None

Change Request Reference	Summary	Business Case for Change	Interfacing Impact?
CR-237	**M+4 / M+13 / Adhoc - Report Publications – Settlement / Meter Data**	The following Settlement runs / Bill Cases are generated for each Settlement Day in the Market: • Indicative – usually run 1 day after Settlement Day • Initial – usually run approx. 5 days after Settlement Day • M+4 – run approx. 4 months after Settlement Day • M+13 – run approx. 13 months after Settlement Day • Adhoc Settlement – as and when required The outputs for these Billcase are published to the Market through a number of Reports. Currently, for certain reports it only possible to publish the Indicative and Initial Billcase data. Implementation of this CR will allow SEM-O to publish the M+4 / M+13 / Ad-Hoc Billcase data. Currently, only Indicative (TD-1) and Initial (TD-5) Meter Data is published to the Market. This CR will facilitate the implementation of a new process which will also publish M+4 / M+13 / Ad-Hoc Meter Data.	Yes

3 TECHNICAL SCOPE FOR THE APRIL 2022 RELEASE – SEM RELEASE I

There are no technical changes to be implemented as part of Release I
