



Single Electricity Market

**SEM RELEASE “J” – NOVEMBER 2022
APPROVED RELEASE SCOPE – HIGH LEVEL IMPACT
ASSESSMENT**

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Document History

Version	Date	Author	Comment
1.0	24/06/2022	SEMO	Initial Approved Scope

1 INTRODUCTION

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

The approved scope contains a reporting functional impact (*relating to CR-253 - Payment for Energy Consumption in SEM for non-energy Services Dispatch*) on Settlement Report (REPT_044) which will be updated to include a new determinant/value called DS3_SSPF.


Updates on Release J progress will be provided via the Market Operator User Group (MOUG) meetings.

2 FUNCTIONAL SCOPE APPROVED FOR THE NOVEMBER 2022 RELEASE - SEM RELEASE J

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

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-259	Intermediary option for Supplier Units in the MPI	<p>Decision paper SEM-20-063 (LINK) now allows for Supplier Units to register under an Intermediary in the market. The Regulatory Authorities have requested this information from SEMO to meet their quarterly reporting requirements.</p> <p>The Resource screen for Generator (GEN), Demand Side Unit (DSU), European Union (EU) has an option to tick "Intermediary". This is not available for other unit types currently. This change will provide this option for the unit type Supplier Unit (SU) on the Resource screen.</p>	No
CR-219a	Changes to Penalty Cost Structure	<p>For the wind Transmission Constraint Groups (TCGs) to work effectively, the current penalty cost structure needs to be amended from how it currently works.</p> <p>When a new wind TCG is added by the user to the Market Management System (MMS), it will need to have its own unique penalty cost associated with it. The current structure does not allow for this, as all MW TCGs fall under the same Minimum Import and Maximum Export penalty cost.</p> <p>The change in penalty cost structure, will be implemented in a way, that rectifies an issue that currently exists within the MMS penalty cost implementation, where the jurisdictional reserves under all the TCGs for the Republic of Ireland (ROI) or Northern Ireland (NI) have the same penalty cost associated with them, for example; a 1 MW breach of the Primary Operating Reserve (POR) for ROI or NI will have the same cost as a 1 MW breach of the Secondary Operating Reserve (SOR), Tertiary Operating Reserve 1 (TOR1), Tertiary Operating Reserve 2 (TOR2), Replacement Reserve (RR), Negative Reserve (NR), Ramping Margin 1 (RM1), Ramping Margin 3 (RM3) & Ramping Margin 8 (RM8) as it uses the cost associated with Minimum Import and Maximum Export. The penalty costs for each category of reserve under the ROI or NI TCGs should be split out, similar to the structure implemented for the total TCG, where each category of reserve has its own unique penalty cost.</p>	No

Change Request Reference	Summary	Business Case for Change	Interfacing Impact?
CR-224	Participant user updates in the MPI	<p>A bell icon is currently displayed beside the Party, Participant, Resource or Trading Site Name to indicate that some information has changed that needs Market Operator approval.</p> <p>An issue arose when a Participant submitted a change to a Trading Site without notifying the Registration team, at a similar time to the Registration team making a change.</p> <p>This change will introduce the following edit Icon -  to flag when a Participant has submitted a change. This will help differentiate changes made by the Registration team from those made by the Participants. The bell icon will continue be used to highlight cases where information has been changed by the Registration team.</p>	No
CR-226	MPI: Validation Rules	<p>Incorrect data in certain Market Participant Interface (MPI) fields has resulted in follow on issues for the settlement system and across the market for Participants e.g. variations in Meter Transmission Type caused issues for the settlement system resulting in delays in the publication of settlement documents. This change will provide the following new validation rules in order to avoid the reoccurrence of such issues in the future.</p> <p>1. Meter Transmission Type Validation</p> <p>'Meter Transmission Type' is a mandatory field on the Balancing tab for Generator, Supplier Unit and Interconnector.</p> <p>The change proposes that when a Resource Type GENERATOR (GU) is added, the only available options in the 'Meter Transmission Type' drop down list should be Non-Price Effecting Generator (NPEG) or Price Effecting Generator (PEG). For Resource Type: SUPPLIER_UNIT (SU), the only available drop-down options should be Non-Price Effecting Demand (NPED) or Price Effecting Demand (PED). This change would only apply for Generators and Supplier Units.</p>	No

Change Request Reference	Summary	Business Case for Change	Interfacing Impact?
		<p>2. Associated Unit Validation</p> <p>The change proposes that the 'Associated Unit' field should only be populated for the following resources:</p> <ul style="list-style-type: none"> • Interconnector, Resource Type IU • Interconnector Error Unit, Resource Type IEU • Interconnector Residual Capacity Unit, Resource Type IRCU • Shipping Agent, Resource Type AU, Assetless Unit SubType SA <p>It should be non-editable for all other resources.</p>	
CR-227	MPI – End Date Users	<p>There is currently no option to end date a user within the MPI. An End Date field is displayed on the User tab of the User Details screen, but this is non-editable. In cases where a user should no longer have access to the MPI, the process of revoking the certificate can take up to 5 days.</p> <p>The change will allow the End Date field on the User tab of the User Details screen to be editable by the Market Operator– Party Administration User (PAU) role only.</p> <p>Access will be fully denied to users who have no access to any sub-system, reports or any portion of the MPI.</p>	No
CR238	ISEM OUI Global Parameters (ADMIN) changes	<p>The OUI (Operator User Interface) is an application used by the Controllers to manage the Market Systems. Within the OUI, there are many pre-configured automated Events which carry out various tasks such as publication of reports, pushing data to different locations, Opening or Closing Gates, etc.</p> <p>One of the primary Settlement data pushes is triggered by the MISTL_DLY_PUSH event - this process pushes Settlement Data from the Market Interface (MI) to Clearing, Settlements and Billing (CSB).</p> <p>The standard MISTL_DLY_PUSH event has been automated to run once per day at 14:30. Note: This event can also be run manually at any stage throughout the day.</p>	No

Change Request Reference	Summary	Business Case for Change	Interfacing Impact?
		<p>The primary function of the MISTL_DLY_PUSH process is to push across the input data required to produce the Indicative and Initial Market Run Types. The data pushed across by this process falls under the following criteria:</p> <ul style="list-style-type: none"> • Data with a created Date, Time which is greater than Date, Time of the last push MISTL_DLY_PUSH event • Data with a Trade Date of the last 40 days. <p>The Input data required for the M+4, M+13 or ad-hoc Billcases falls outside of this 40-day window. A separate data push process (ad-hoc MISTL_DLY_PUSH with OVERRIDE_SETTLEMENT_PUSH flag set to ON) must be used to push this data across to the Settlement System. This process must be run each time data is received (E.G – Meter Data) or generated (E.G Instruction Profile data) for an M+4, M+13, ad-hoc Billcase Trade Date. Currently this process is being manually run multiple times each day.</p> <p>This change will provide a new Event which automates the Manual MISTL_DLY_PUSH in the OUI > Market Information > MI Administration > Event Manager > Events screen</p> <p>The new Event will be configured as follows:</p> <ol style="list-style-type: none"> 1. Event should run automatically each day at specified time – a number of backend processes run outside of normal business hours (09:00 to 17:00) therefore specific time to be agreed after discussions with ABB and the EirGrid Database Team 2. It should be possible to run this new event manually if required 3. This new Automated Manual Push should be configured to push across the following data: 	

Change Request Reference	Summary	Business Case for Change	Interfacing Impact?
		<p>A. All records for the Data Sets within the following table which have been received within the last 24 hours where the Trade Date is 40 days or older than the current Operational Date</p> <p>B. Instruction Profile Output Data for all IP Re-Settlement runs published between the execution time of the event and time of the last successful completion of this event</p>	
CR-253	Payment for Energy Consumption in SEM for non-energy Services Dispatch	<p>The Payment for Energy Consumption in SEM for non-energy Services Dispatch proposal (MOD_13_19) states that a number of important system services are procured through the Delivery of Secure, Sustainable Electricity System (DS3) Services Regulated Arrangements. These include reserves across varying timeframes, inertial response, ramping services and reactive power. Such services help the TSOs to maintain a secure and reliable power system, particularly as the level of installed renewable generation on the power system increases.</p> <p>While payment for system services is handled through the DS3 System Services Arrangements, there are occasions when the TSOs will need to dispatch on a generator (or other unit) to provide non-energy services. For example, a generator with the capability of operating in synchronous compensation mode or a wind farm capable of providing reactive power at 0MW will consume energy when operating in those modes. However, such modes of operation are not currently accounted for in SEM. The TSOs propose that such modes of operation should be modelled in SEM, that non-energy dispatch instructions should be profiled and accounted for in imperfections.</p> <p>Amendments have been made to the following calculations to accommodate the DS3 System Service Provider Flag:</p> <ol style="list-style-type: none"> 1. Imbalance Component Payment or Charge for each Supplier Unit 2. Imperfections Charge for each Trading Site Supplier Unit 3. Capacity Charge for each Supplier Unit which is a Trading Site Supplier Unit 	Yes

Change Request Reference	Summary	Business Case for Change	Interfacing Impact?
		<p>4. Difference Payment Socialisation Charge for each Supplier Unit which is a Trading Site Supplier Unit</p> <p>5. Imbalance Difference Quantity for each Trading Site Supplier Unit</p> <p>Note: These changes do not apply to a Trading Site Supplier Unit which is on a Trading Site where a DSU or Auto producer is also registered on the site.</p> <p>As a result of these changes, Settlement Report (REPT_044) will be updated to include a new determinant/value called DS3_SSPF.</p>	
CR-239	CSB Resettlement - Pre-Calculations or Report Publication Process Improvements	<p>This change will provide the following process improvements:</p> <ol style="list-style-type: none"> 1. Data Exchange – Pre-Calcs <p>Prior to running a Billcase for a specific Run Type (Indicative, Initial, M+4, M+13, ad-hoc) several Pre-Calculation (Pre-Calcs) processes must be run manually. Although the Indicative and Initial Billcases are run on an individual basis for each Settlement Day, the M+4, M+13 or ad-hoc Billcases are run in weekly batches. Currently the Controller must run the Pre-Calc processes individually for each Settlement Date within the corresponding M+4, M+13 or ad-hoc Billcase Billing Week. This change will allow the Controller to select a date range (full billing week – Sat to Sun) and run the specified Pre-Calc for that Billing week within the same process. This functionality will be enabled for the following Pre-Calculations:</p> <ul style="list-style-type: none"> • ISEM Calc: Ranked QBOA • ISEM Calc: TSSU Effective QMLF • ISEM Calc: RO Scaling Factor FSQC • ISEM Calc: CSLLA, CSLLB 	No

Change Request Reference	Summary	Business Case for Change	Interfacing Impact?
		<ul style="list-style-type: none"> • ISEM Calc: QCOB, FCADERATE • ISEM Calc: Post Value Import <p>2. Data Exchange – Publication of CSB Settlement Reports</p> <p>Currently through Data Exchange Function, if a user specifies a date range and CSB Settlement Report, the Billcases section will return a list of all Billcases that have been processed for the specified Date Range. However, it is only possible to select one Billcase at a time. For M+4, M+13 or ad-hoc Billcases it will be possible for the User to select all M+4, M+13 or ad-hoc Billcases within a Billing Week and publish the specified CSB Settlement Report for that full Billing Week.</p>	

3 TECHNICAL SCOPE FOR THE NOVEMBER 2022 RELEASE – SEM RELEASE J

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

Change Request Reference	Summary	Change description	Interfacing Impact?
CR-196	CSB DB separation	<p>The CSB and MMS databases are currently residing on the same Oracle 12 database server as separate database instances.</p> <p>This change will result in the CSB database residing on its own dedicated database server and also upgraded to Oracle 19.</p>	No
CR-262	MMS DB upgrade	<p>The Market Management System (MMS) database and the Clearing, Settlement and Billing (CSB) database are currently running on the same Oracle Database with the same Oracle Data Base software, version 12.1.0.2. This software is being supported and maintained by the Oracle vendor under an Extended Support agreement which is due to expire this year. It is therefore essential that the database software is upgraded to a suitable version level to ensure the assured successful running of the ISEM market.</p> <p>This MMS DB upgrade will provide:</p> <ul style="list-style-type: none"> • an upgrade of the MMS Database software to Oracle version 19c • an upgrade of the Oracle Database Client Connectors on the application servers to Oracle version 19c • new Hardware for the MMS Database cluster <p>The upgrade of the MMS Database to Oracle version 19c will ensure a supported and maintained version of the software is being used in production and will allow MMS to avail of any in-built performance enhancements that are inherent in that version, where applicable.</p>	No