



FACT SHEET – WEM REFORM IMPLEMENTATION PLAN

Fast Facts

OCT 2023	2	11	50	37
The revised Go Live date for WEM Reform is 1 October 2023	The timeline allows two years from core rule gazettal for procedure and system development and consultation, plus a robust market trial	AEMO’s implementation plan consists of 11 implementation projects covering 26 work packages	Fifty WEM Procedures will be newly created or updated	80% of AEMO’s IT systems will change, with 37 systems to be developed, rebuilt, or repurposed

De-risking Delivery

The proposed implementation plan is designed to de-risk delivery and consists of 26 work packages grouped into 11 implementation projects. Each of the implementation projects will involve:

- Development of WEM Procedures relating to the required Market changes.
- System enhancements and integration, including associated requirements analysis, design, build and testing activities.
- User acceptance testing (UAT) and Market Trials.
- Business process change relating to required market and system changes.
- Market Participant engagement and training

The implementation plan is based on a 1 October 2023 go live for major reforms including Security Constrained Economic Dispatch (SCED) and Essential System Services (ESS). This start date aligns with the annual Reserve Capacity year start to avoid the additional complexity of

transitional arrangements, with the reserve capacity market also having major reforms implemented over a number of stages.

Around 85% of WEM Reform regulatory scope will be delivered by the go live date, with AEMO’s IT systems released in stages to de-risk delivery, enable individual application testing, and manage resource demands.

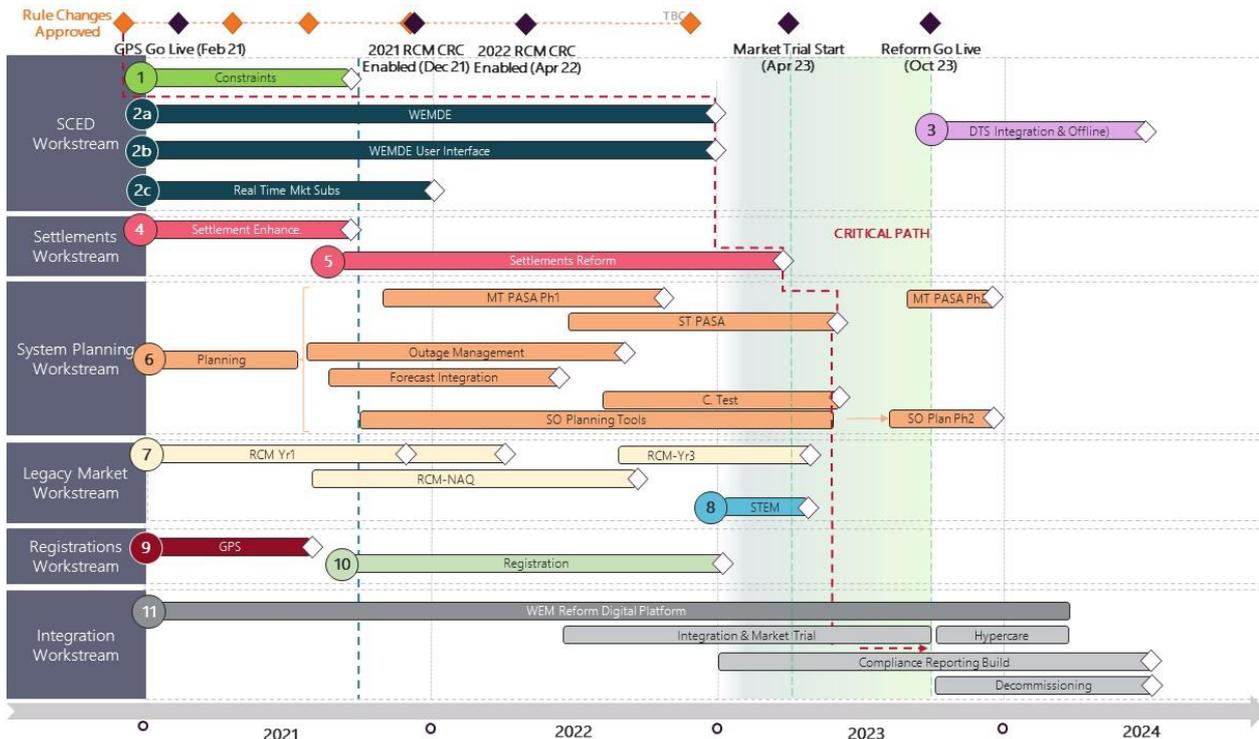
All SCED minimum viable product will be delivered on 1 October 2023, with some post go live system enhancement activity which will have minimal impact on Market Participants.



THE PROPOSED IMPLEMENTATION PLAN WILL SUFFICIENTLY DE-RISK DELIVERY AND HELP BUILD A MARKET AND POWER SYSTEM THAT WILL SUPPORT A BETTER ENERGY FUTURE FOR WESTERN AUSTRALIA.



WEM Reform Implementation Plan



Implementation Projects

Constraint Management

This project will deliver the required business process and system changes to manage constraints as part of the new SCED market. This will include the Congestion Information Resource, which will provide information in a cost-effective and timely manner to Market Participants to enable them to understand patterns of network congestion and their market impact.



WEMDE

The current WEM Balancing Market and Load Following Ancillary Service (LFAS) markets are being replaced by the new Real-Time Market (RTM) which will co-optimize Energy and Essential System Services (ESS). To support this SCED market, AEMO will develop the WEM Dispatch Engine (WEMDE) to co-optimize energy with ESS in accordance with the RTM design.

In addition to providing real-time dispatch capability, the WEM Dispatch Engine will also be critical in the implementation of the new co-optimized ESS framework

Determination of the Dispatch Algorithm, the various constraints it needs to cater for, and the associated violation penalties will be a key part of developing the WEMDE solution.



RTMS

The Real Time Market Submission (RTMS) project will transform the way Market Participants make Submissions in the new Real-Time Market. The current submission structures for the Balancing and LFAS Markets are fundamentally different to what is required to support the new SCED Market design. The RTMS project will develop a new submission mechanism for both Energy and ESS (Regulation Raise/Lower, Contingency Raise/Lower, and Rate of Change of Frequency (RoCoF) bids and offers).

Submissions made by Market Participants will be validated and, if valid, sent to the Dispatch Engine for use in determining the lowest overall cost of Dispatch to the Market. The new system will feature a new more user-friendly Market Participant User Interface, and new API endpoints will be created and made available to Market Participants to facilitate sending submissions and querying data.

System Planning

The System Planning project will redevelop AEMO's current WEM System Planning platforms, processes and procedures to ensure they are fit-for-purpose for the new market design. This implementation project consists of six work packages:

1. Outage Management

The current outage management mechanism sits on a legacy application. This project will deliver a new outage management interface for Market Participants which will standardise the look and feel and accommodate the changes to outage submissions.

2. Forecast Integration

While the current load forecasting capabilities are largely fit-for-purpose for the new market design, this project will deliver increased efficiency in forecast production and improved forecast accuracy, visibility, and reporting.

3. ST PASA

The current system for Short-Term Projected Assessment of System Adequacy (ST PASA) was designed when there was very little renewable energy or rooftop solar in the generation mix. A new system will be developed to cater for the volatility of intermittent renewable energy and to work with network congestion in a SCED Market.

4. MT PASA

Like the ST PASA system, the current system for Medium Term Projected Assessment of System Adequacy (MT PASA) does not cater for the growth in renewable and rooftop generation or the new SCED market, and a new system will be developed to enable a more accurate assessment of system adequacy considering market changes.

5. Commissioning Tests

This project will implement new processes and WEM Procedures for Commissioning Tests supported by a Commissioning Testing platform.

6. System Operations Planning

This project will deliver updates to the dispatch and security analysis toolsets to reflect the evolving power system technology landscape and develop a new interface for submitting and managing Market Participants' commissioning plans.





Settlements Enhancements

In preparation for Settlements Reform, a new WEM Prudential and Settlement Service (WEM PaSS) was successfully deployed to the WEMS Production environment on 29 July 2021.

This inaugural release included changes required to replace AEMO's previous settlement solution. The new settlement solution extends the prudential calculation engine developed and certified under the Reduction of Prudential Exposure project to deliver prudential and settlement functionality and services to interface with the existing invoicing and billing systems, and undertake WEM settlement.

Settlements Reform

As part of the introduction of the changes under the WEM Reform, there will be significant changes to the settlement calculations defined in the WEM Rules and a transition to weekly settlement for all market segments. Accordingly, the settlement systems and processes must be updated to reflect new settlement formulas and timelines. This project will also consider an archival strategy for historic settlement data and will cater for the settlement adjustments for the current market rules for the first 12 months post go live.

RCM Reform

The primary objective of the Reserve Capacity Mechanism reform is to assess the capacity contribution of facilities in a constrained market context and allow new technologies, including energy storage, to fully participate.

This project spans multiple years, broken down into three phases aligned to the 2021 and 2022 Reserve Capacity Cycles as follows:

- **Phase 1 (2021)** includes changes to the Registration framework and participation of Electric Storage Resources. Changes are required to the CRC Application Page and Trade Declaration Tab of the RCM Portal. This phase affect the 2021 Reserve Capacity Cycle.

- **Phase 2 (2022)** includes the introduction of the Network Access Quantities Framework for the 2022 Reserve Capacity Cycle.
- **Phase 3 (2023)** includes changes to Reserve Capacity Testing and Reserve Capacity Obligation Quantities to reflect the introduction of components in the 2021 Reserve Capacity Cycle.



STEM

The Short-Term Energy Market (STEM) remains structurally similar to the current design through Reform, however minor system changes will be required to accommodate changes to the STEM Submission timetable and STEM submission data requirements introduced through the new WEM Rules.

GPS

The new Generator Performance Standard (GPS) System went live on 29 July 2021 following a successful market trial. The new system supports the management of new WEM requirements for Generator Performance Standards, Generator Monitoring Plans, Non-Compliances, and Rectification Plans.

Registration

WEM Reform introduces changes to the Participant and Facility registration processes and classes.



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Accordingly, the Registration systems and processes must be updated to reflect processes and Participant and Facility classes.

The Registration project will make the necessary changes to support the new Registration taxonomy including but not limited to the Registration portal, Registration form management functionality and processes, Standing Data, and reporting functionality.

The project scope will include Participant and Facility registration (Registration Classes, application forms, workflow, and reporting), Standing data management, and Portal integration with other reform systems.

Digital Platform

The Digital Platform is an internal AEMO technology integration project that aims to design and guide the implementation of technology capabilities that will be enablers for the business-facing systems in WEM Reform. This includes utilising modern cloud platforms, deploying common application services, and leveraging components of AEMO's enterprise Digital Strategy.

The project delivers a standard framework for managing system environments and deployment frameworks, a standard integration methodology of WEM applications into a new portal for Market Participants, and the approach, tools, and framework for data storage, data management, integration, and data visualisation.



NEED MORE INFORMATION?

AEMO is committed to open and transparent consultation with Market Participants on the changes taking place through WEM Reform. There are many consultative forums available to Market Participants that address different aspects of WEM Reform changes. These include:



WEM Reform Implementation Group (WRIG)

The WRIG is chaired by Energy Policy WA (EPWA) and provides updates on WEM Reform implementation status and procedure development. Meetings are held monthly on a Thursday. For more information, please contact energytransformation@energy.wa.gov.au.



WRIG-IT

WRIG-IT is chaired by AEMO and provides a forum to update and consult stakeholders on the design, development, and deployment of IT systems and interfaces required to implement the WEM Reform Program. WRIG-IT presentations typically target technical and IT staff. Meetings are convened frequently as required and typically occur on a Thursday. For more information, please contact wa.ets@aemo.com.au.



WA Electricity Consultative Forum (WAEFCF)

The WAEFCF is run by AEMO and provides a forum for interested and affected parties to consult and consider issues relating to the operation and design of the WEM. For more information, please contact WAelectricityforum@aemo.com.au.

More information on WEM Reform can also be found on our website at www.aemo.com.au.