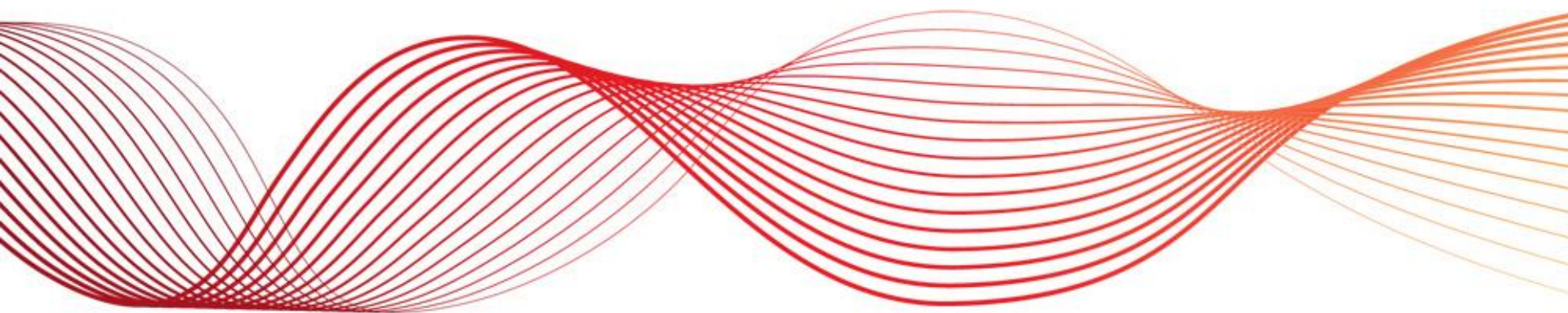# WA MARKET REFORM PROGRAM

RESERVE CAPACITY MECHANISM FORUM – MEETING 1

8 NOVEMBER 2016

AGENDA

1. Welcome and confirm agenda
2. Wholesale workstream and participant engagement
3. Recap on RCM rule changes
4. RCM3 project update
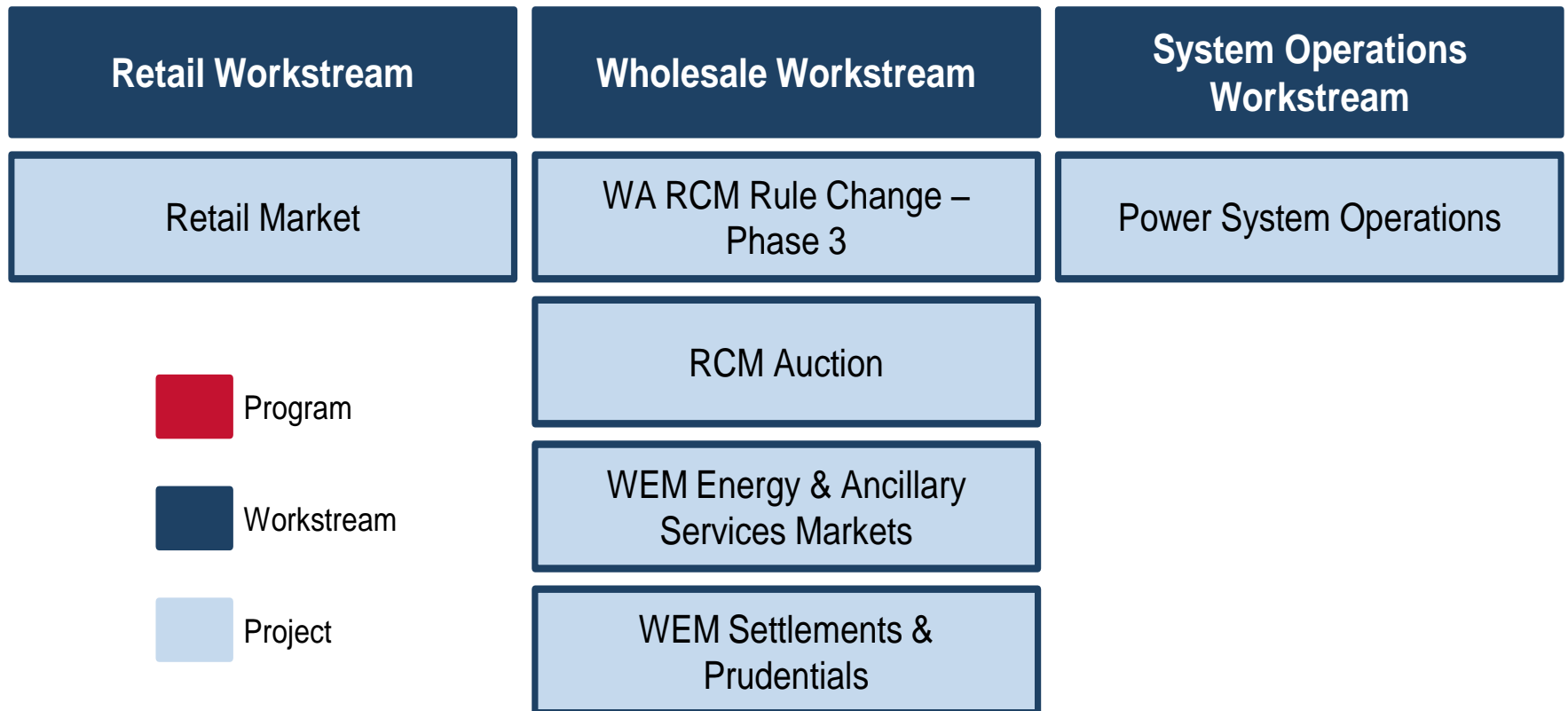5. RCM policy update
6. Next meeting and closing

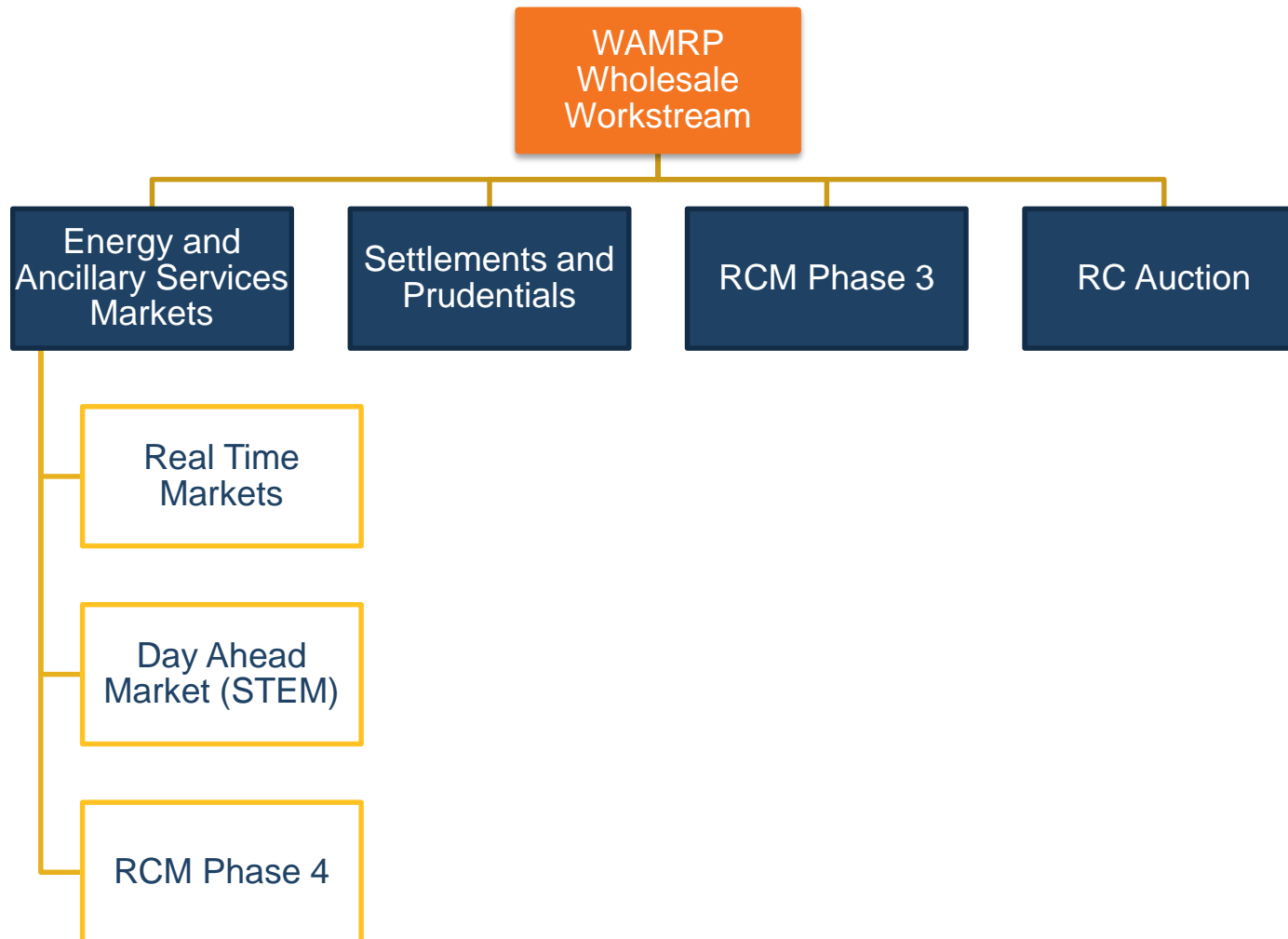# WHOLESALE WORKSTREAM AND PARTICIPANT ENGAGEMENT

WAMRP STRUCTURE

WA MARKET REFORM PROGRAM

Retail Workstream	Wholesale Workstream	System Operations Workstream
Retail Market	WA RCM Rule Change – Phase 3	Power System Operations
	RCM Auction	
	WEM Energy & Ancillary Services Markets	
	WEM Settlements & Prudentials	

Program

Workstream

Project

WHOLESALE WORKSTREAM OVERVIEW

WORKSTREAM OBJECTIVES

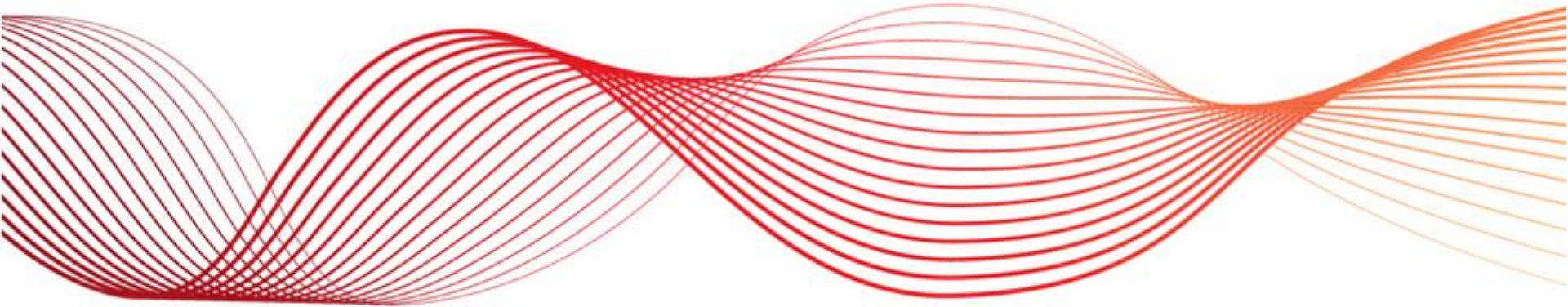| Project	Objective
Real time markets	Introduce energy and ancillary services real time markets with 5 minute dispatch and pricing subject network security constraints
Day ahead market	Implement system changes to allow STEM to be integrated with new real time markets
RCM Phase 3	Implement changes associated with transitional arrangements for RCM to become effective 1 October 2017
RCM Phase 4	Implement changes to RCM associated with the transition to real time market and settlement arrangements on 1 July 2018
RC Auction	Establish an auction process for the procurement of reserve capacity
Settlement and Prudentials	Implement new settlement and prudential processes for WA markets which leverage NEM systems and processes

STAKEHOLDER ENGAGEMENT APPROACH
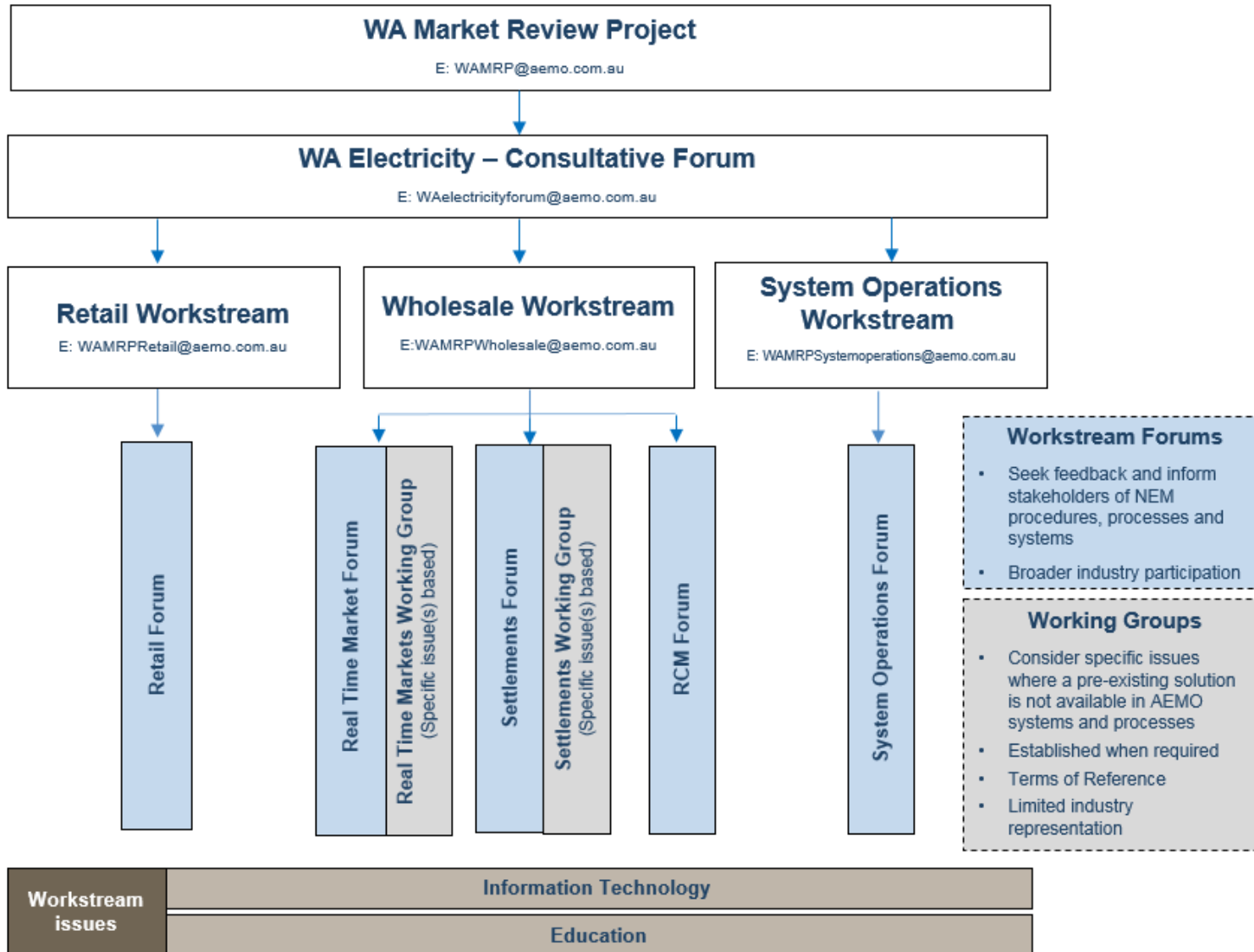
PURPOSE OF THE FORUM

- Share AEMO's thoughts on approach and design, to assist participants in developing their work program

- Provide updates on AEMO's RCM project status

- Assist participants in providing input to the policy design being undertaken by the PUO

- Meeting schedule:
  - 8 November
  - January/February 2017
  - Further schedule for 2017 to be discussed

MORE INFORMATION

- Website: http://www.aemo.com.au/Stakeholder-Consultation/Industry-forums-and-working-groups/WA-Forums/WAMRP-Reserve-Capacity-Mechanism-Forum

- Email: WAMRPWholesale@aemo.com.au

- Phone:
  - Martin Maticka   (08) 9254 4340
  - Chris Muffett   (02) 8884 5317
  - Neetika Kapani   (08) 9254 4303
  - Andrew Thornbury   (08) 9254 4317

RECAP ON RCM RULE CHANGES

SUMMARY OF CHANGES – COMPLETED

Market Rule/ Changes anticipated	Effective date	AEMO readiness
Availability Classes	2015 Reserve Capacity Cycle onwards – *effective 1 June2016*	Completed. Published new requirement in 2015 WA ESOO.
Certification of Reserve Capacity • DSP requirements – *ramp rates, hours etc* • Outage rate limits – *outage rate table* • Fuel requirements for generators – *combined 14 hours* • DSP trade declaration – *DSPs required to be in availability class 2*	2015 Reserve Capacity Cycle onwards – *effective 1 June 2016*	Completed. 2015 CRC process conducted included the new requirements.
Removal of Long Term Special Price Arrangements	1 July 2016	Completed. 2015 CRC process removed the old requirements.

SUMMARY OF CHANGES – COMPLETED

Market Rule/ Changes anticipated	Effective date	AEMO readiness
Name change from MRCP to BRCP	1 July 2016	Completed. Website updated. Upcoming report to be named BRCP.
Changes to load associations for DSPs	1 October 2016	Completed in WEMS. Additional validations prevent load transfers between DSPs after loads in a DSP have been tested. Migration to RCM system to take place as part of the EMR project.
DSP standing data – telemetry etc	1 October 2016	Completed. WEMS standing data updated to include new field requirements. Migration to RCM system to take place as part of the EMR project.

SUMMARY OF CHANGES – IN PROGRESS

| Market Rule/ Changes anticipated	Effective date	AEMO readiness
Removal of Transmission Use Of System (TUOS) charges to BRCP calculation	Aligned with the removal of generator TUOS charges from network price list, scheduled 1 July 2018	Recent and future BRCP publications (2016 onwards) models and reports the changes in price.
Generation Reserve Capacity Price (BRCP adjusted for excess capacity)	2015 Reserve Capacity Cycle onwards – *effective 1 October 2017*	In progress. RCM system to implement settlement calculations commencing 1 October 2017.
DSM Reserve Capacity Price (New price solely for DSP facilities)	2015 Reserve Capacity Cycle onwards – *effective 1 October 2017*	AEMO is in the process of developing a Market Procedure to calculate the Expected DSM Dispatch Quantity and the DSM Activation Price
Performance monitoring	*2015 Reserve Capacity Cycle onwards – effective 1 October 2017*	Changes will be ready for the operation of the RCM processes commencing 1 October 2017. Implementation in RCM system to take place as part of the EMR project.

SUMMARY OF CHANGES – IN PROGRESS

Market Rule/ Changes anticipated	Effective date	AEMO readiness
Settlement changes including dynamic refunds, capacity rebates and IRCR	2015 Reserve Capacity Cycle onwards – *effective 1 October 2017*	In progress. RCM system to implement settlement calculations commencing 1 October 2017.
Relevant Demand calculation for DSPs	*2015 Reserve Capacity Cycle onwards – effective 1 October 2017*	In progress. RCM system to implement settlement calculations commencing 1 October 2017.
Constrained capacity certification	Rules will need to be in place before the opening of the certification window for the 2016 and 2017 Reserve Capacity Cycles	Options are currently being considered with PUO establishing a working group. No rule formalisation as of yet.

Disclaimer: Please note that the previous tables may not be an all encompassing list. The Market Rules should be consulted in the first instance.

RCM3 PROJECT UPDATE
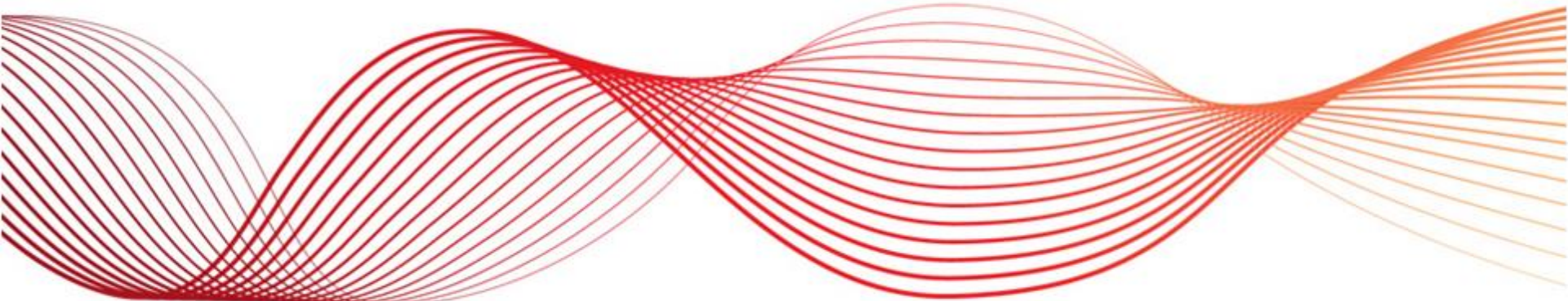
SESSION OBJECTIVES

1. Current State

2. High Level Organisation

3. Approach

4. Project Team

5. Current Activities

6. Timeline

7. Key Dates for Participants

8. Application Programming Interface API

RESERVE CAPACITY WITHIN WAMRP

RCM3 – 2016/17

Implement new reserve capacity rules within current Market Systems.
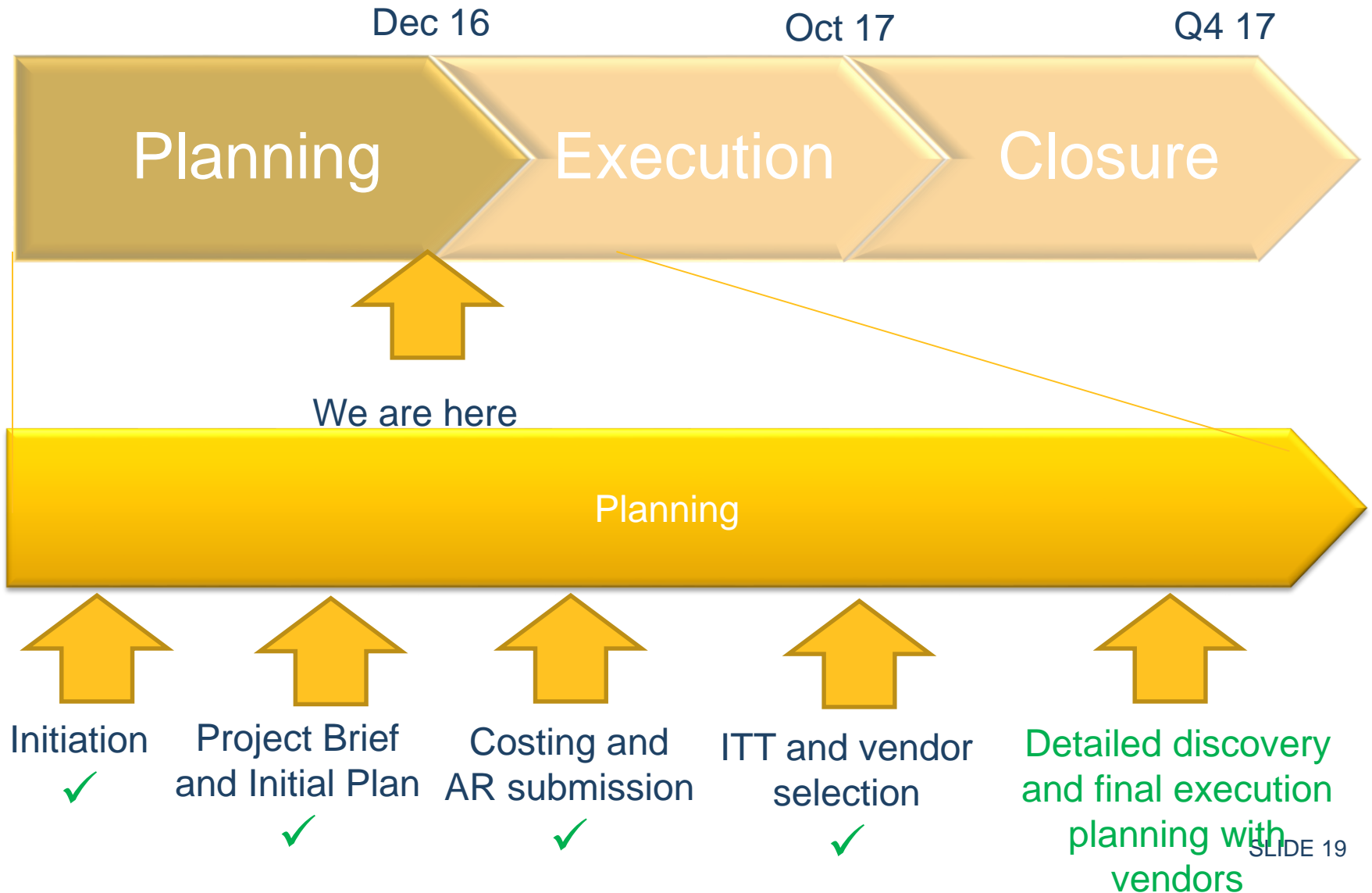
Our scope

RCM4 - 2017/18

Integrate the new RCM module to the July 2018 Market Systems.

RCM Auction - 2018/19

Implement additional functionality to support the planned auction of reserve capacity.

- RCM functions are currently implemented as part of the existing WEMS system

- Settlement of the RCM is conducted using POMAX EDM and POMAX Settlement

- The majority of the calculations that support the RCM are changing for October 2017; none of the above is reusable.

- Therefore, we are completely rewriting the core RCM engine and then integrating it into the WEM systems.

- The core engine will be reused with the new market systems for July 2018 (RCM4).

Dec 16   Oct 17   Q4 17

Planning → Execution → Closure

We are here

Planning

Initiation	Project Brief and Initial Plan	Costing and AR submission	ITT and vendor selection	Detailed discovery and final execution planning with vendors
✓	✓	✓	✓	

HIGH LEVEL PROJECT APPROACH

- Delivery in 2 week iterations with progressive deployment to test environment.

- Early delivery of API design.

- Number of iterations and priority determined in the discovery phase.
  - This is our current major activity.

- Each iteration consists of :
  - Design
  - Build
  - Test
  - Certify

- Once all modules integrated:
  - Final test run
  - Final certification
  - Penetration testing
  - Market trial

HIGH LEVEL PROJECT ORGANISATION

Project Management
AEMO

Solution Architecture, Security
AEMO

Integration, Test Management
AEMO

Core Settlement and IRCR Calculations, Data Migration
AEMO

User Interface, Capacity Certification etc.
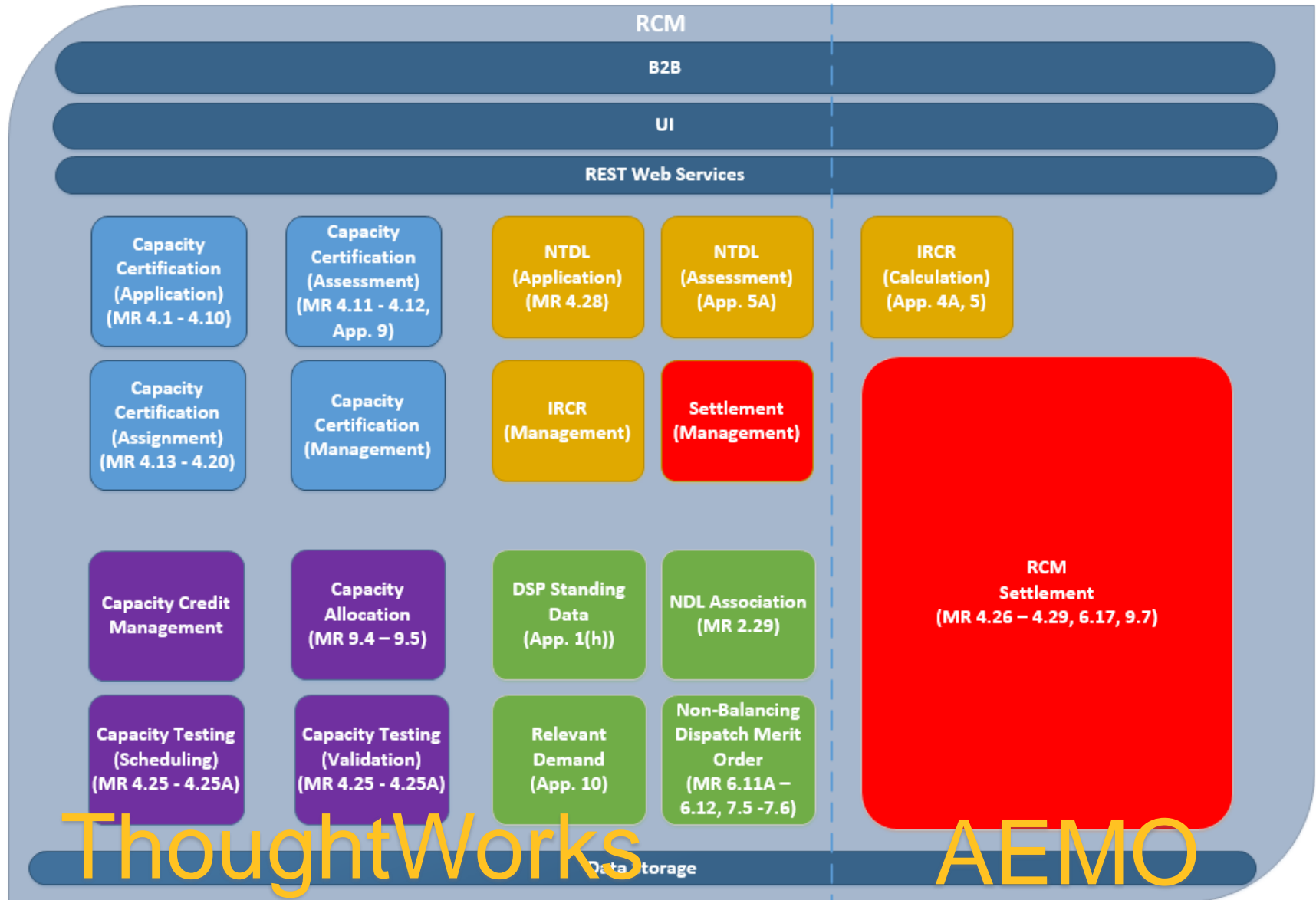ThoughtWorks

System Certification

PA Consulting

Changes to Billing and Invoicing
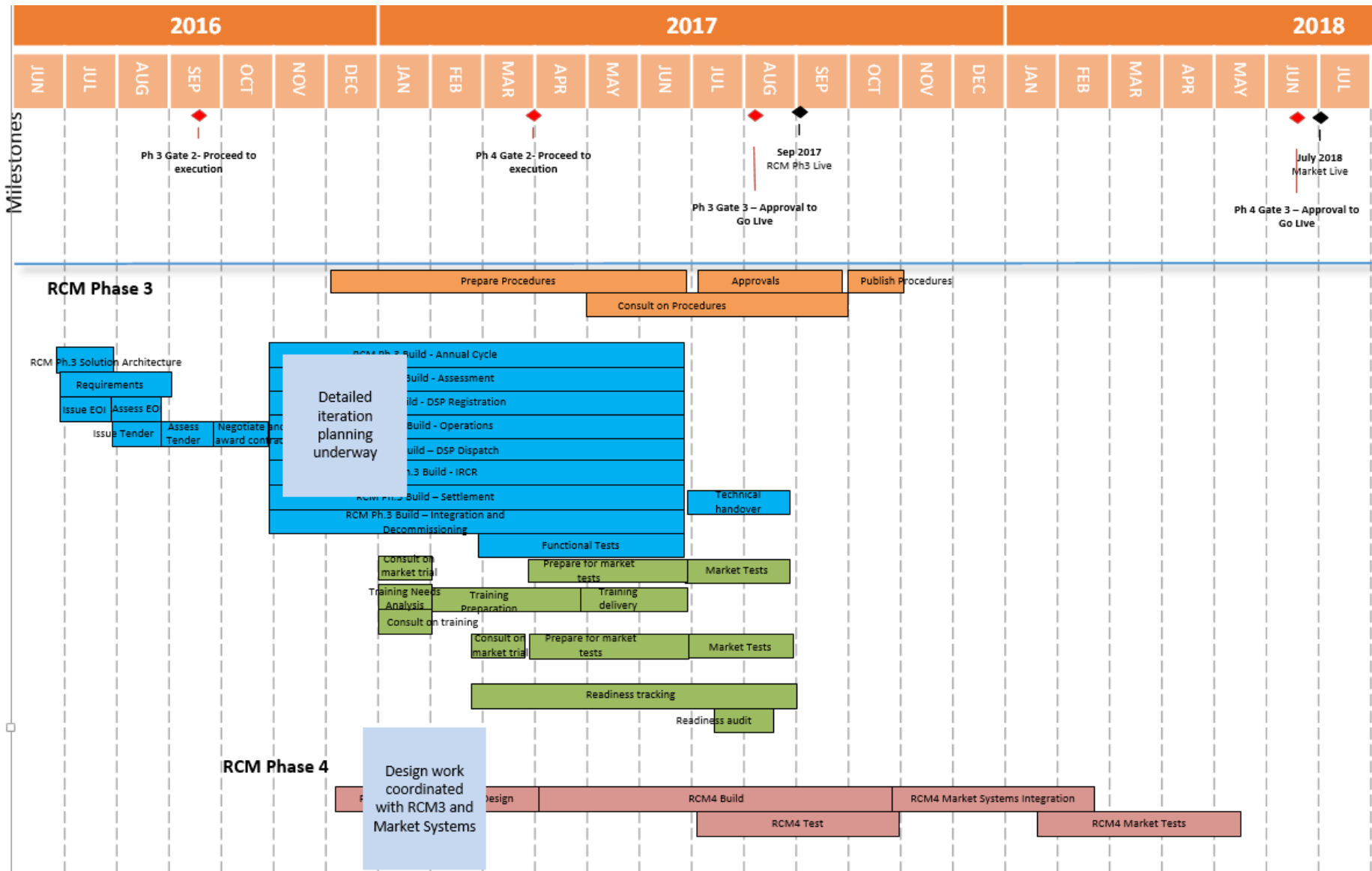
Brady & AEMO

Changes to Dispatch

Western Power

HIGH LEVEL TIMELINE

KEY DATES FOR PARTICIPANTS

Activity	Planned Date
Consult on Market Trial and Training Approach	Jan/Feb 17
API Design	Late Q1 17
Training Delivery	Late Q2/ Early Q3 17
Market Trial	Q3 17

Ongoing capacity certification and accreditation process in mid 2017 – unlikely to use the new systems and will execute in parallel to the trial.

If constraints rules are delayed, may consider implementing a transitional rule that will enable AEMO to manage constraints in the RCM accreditation process.

APPLICATION PROGRAMMING INTERFACE (API)

- Late Q1 we will be publishing the Application Programming Interface.
- The API will be the key document for your IT staff to integrate your systems into the RCM engine.
- It will allow you to have a choice in how you interact with the system for frequently used operations:
  - Manually, using the web interface, or,
  - Automatically, letting your systems talk to the RCM engine behind the scenes using the API.
- Some annual/occasionally executed functions may just be supported via the web screens.
- We cannot provide details yet, but we can state some high level principles.

APPLICATION PROGRAMMING INTERFACE (API)

Principle	Business Implication
• Web service API will be new.	• Any existing interfaces will need to be rewritten.
• Web services will be RESTful style, but payload has not yet been settled on – may be CSV, XML, and/or JSON.	• Technical details that need to be settled before the interfaces can be rewritten.
• Submission format via web page will be the same as submission format via web service. • The same web service API will be consumed by the web pages (which will likely use the JSON format payload).	• Processing and data is the same regardless of whether you use the web or the API. • We are agnostic on how you "talk" to us going forward.
• In short term no change to security and accounts. Security mechanism for 2018 is yet to be determined, but is likely to be different to the WEM due to the new MarketNet context and the new authentication source (NEM User Rights Management system).	• RCM 3, for October 2017, will continue to use existing user accounts (it will NOT need new user accounts) and will be available via WEMS over the public internet. The details around authentication of web services has not yet been established. Access via MPI will continue to use RSA tokens; it will likely continue to use client certificates for web service submissions. • RCM 4, for July 2018, will need new user accounts, will be accessible via MarketNet, and will authenticate against the NEM User Rights Management system. It will likely use a mechanism that replaces client certificates.

RCM POLICY UPDATE

NEXT MEETING AND CLOSING
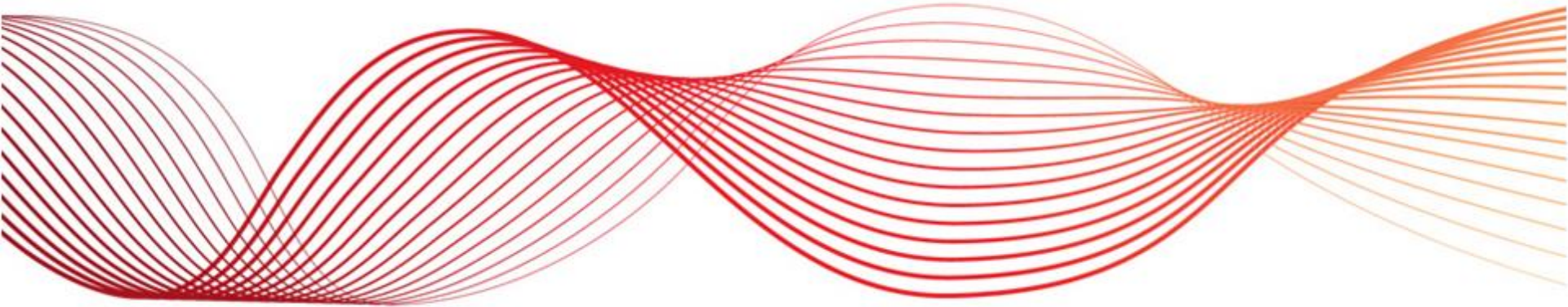
NEXT STEPS

- Next meeting: January/February 2017
- Suggested topics:
  - o RCM3 project update
  - o RCM4 planning
  - o Constrained certification
- Any other suggestions or comments?