

WDR Consultative Group #06

Tuesday 17 November 2020

WebEx only

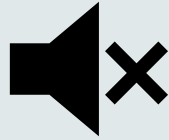
Please disconnect from your workplace VPN for WebEx call

**PLEASE NOTE THIS MEETING WILL BE RECORDED FOR THE
PURPOSE OF PREPARING MINUTES**

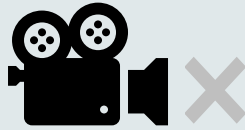
*We acknowledge the
Traditional Owners of country
throughout Australia and recognise
their continuing connection to
land, waters and culture.*

*We pay our respects to their
Elders past, present and emerging.*

Online forum housekeeping



1. Please mute your microphone, this helps with audio quality as background noises distract from the information being shared.



2. Video is optional, but having it turned off helps with webinar performance and minimises distractions.



3. We ask that you utilise the Chat function for any questions or comments you may have if you are unable to use audio.



4. If you have dialled in via phone, could you please email your name and organisation to WDR@aemo.com.au for our records.



5. Be respectful of all participants and the process.

AEMO Competition Law Meeting Protocol

AEMO is committed to complying with all applicable laws, including the Competition and Consumer Act 2010 (CCA). In any dealings with AEMO regarding proposed reforms or other initiatives, all participants agree to adhere to the CCA at all times and to comply with this Protocol. Participants must arrange for their representatives to be briefed on competition law risks and obligations.

Participants in AEMO discussions **must**:

1. Ensure that discussions are limited to the matters contemplated by the agenda for the discussion
2. Make independent and unilateral decisions about their commercial positions and approach in relation to the matters under discussion with AEMO
3. Immediately and clearly raise an objection with AEMO or the Chair of the meeting if a matter is discussed that the participant is concerned may give rise to competition law risks or a breach of this Protocol

Participants in AEMO meetings **must not** discuss or agree on the following topics:

1. Which customers they will supply or market to
2. The price or other terms at which Participants will supply
3. Bids or tenders, including the nature of a bid that a Participant intends to make or whether the Participant will participate in the bid
4. Which suppliers Participants will acquire from (or the price or other terms on which they acquire goods or services)
5. Refusing to supply a person or company access to any products, services or inputs they require

Under no circumstances must Participants share Competitively Sensitive Information. Competitively Sensitive Information means confidential information relating to a Participant which if disclosed to a competitor could affect its current or future commercial strategies, such as pricing information, customer terms and conditions, supply terms and conditions, sales, marketing or procurement strategies, product development, margins, costs, capacity or production planning.

Agenda

NO	TIME (AEDT)	AGENDA ITEM	RESPONSIBLE
1	10:00am – 10:05am	Welcome	Emily Brodie (Chair)
2	10:05am – 10:10am	Notes, actions and feedback from previous meeting	Emily Brodie
3	10:10am – 10:20am	Introduction to WDR settlement reports	Christine Kang
4	10:20am – 10:50am	Introduction to the Portfolio Management System	Kevin Gupta
5	10:50am – 11:10am	Approach to market testing	Priti Zacharopoulos
6	11:10am – 11:20am	Engagement on systems documentation	Armando Estrella
BREAK 11:20am – 11:30am			
7	11:30am – 12:20pm	WDR Compliance: • AER compliance overview • Post-event dispatch compliance • Baseline eligibility and compliance	• Rhiannon Davies (AER) • Madison Pigliardo (AEMO) • Katalin Foran (AEMO)
8	12:20pm – 12:25pm	Stakeholder engagement and forward meeting plan	Emily Brodie
9	12:25pm – 12:30pm	General questions and close	Emily Brodie
APPENDICES			
A	Indicative program schedule		
B	Procedure change timelines and consultation update		
C	Project and system document change timelines		

Notes, actions and feedback from previous meeting

Emily Brodie

Responses to WDR CG #5 meeting actions

#	Topic	Action	Response
05.04.01	5MS/WDR concurrent implementation	WDR CG to provide feedback on the proposed concurrent implementation of 5MS and WDR, particularly where there are any concerns or identified gaps.	No feedback received.
05.04.02	5MS/WDR concurrent implementation	AEMO to follow up on the extent to which the 5MS and WDR schedules have been stress tested.	Five minute settlement schedule The 5MS/global settlement (GS) schedule was agreed in discussion with industry and is also the subject of a detailed risk register, a contingency plan and regular readiness reporting. This is a reflection of 5MS and GS being mandatory and highly complex reforms. WDR schedule The WDR timeline is still being finalised. The indicative WDR schedule considers: • WDR regulatory requirements/dates • 5MS/GS and 'Customer switching' implementation timelines For the WDR release approach, AEMO has: • Conducted an impact assessment • Implemented standard project management controls for the release approach e.g. internal risk register. These controls are monitored on an ongoing basis.

Responses to WDR CG #5 meeting actions

#	Topic	Action	Response
05.05.01	Technical working group	WDR CG to suggest any other topics or issues for discussion at the next TWG to inform their submissions to the Issues Paper.	No feedback received.
05.05.02	Technical working group	AEMO to confirm the date of the next TWG (mid-November)	Indicatively Monday 23 November
05.06.01	Forward meeting plan	WDR CG to provide any further other factors/issues that should be considered for planning the WDR CG 2021 meetings.	No feedback received.
05.06.02	Forward meeting plan	AEMO to present on industry testing and post-event dispatch compliance at the November WDR CG meeting.	Both topics are being presented at this meeting (WDR CG #6)

Introduction to WDR settlement reports

Christine Kang

Team Lead – NEM Settlements

WDR settlement reports

1. Settlement invoice
2. Settlement report (SR)
3. WDR NMI report - **new**

1. Settlement Invoice

Wholesale Demand Response



Description	\$
Energy	NNN,NNN,NNN.NN
Ancillary Services	NNN,NNN,NNN.NN
Settlement Residue Auction	NNN,NNN,NNN.NN
Market Fees	NNN,NNN,NNN.NN
TNSP Residue	NNN,NNN,NNN.NN
Smelter-Reduction	NNN,NNN,NNN.NN
Security Deposits	NNN,NNN,NNN.NN
Reallocation	NNN,NNN,NNN.NN
Revision Adjustment	NNN,NNN,NNN.NN
Revision Interest	NNN,NNN,NNN.NN
Early Payment Interest	NNN,NNN,NNN.NN
Other	NNN,NNN,NNN.NN
GST	NNN,NNN,NNN.NN
Reassignment	NNN,NNN,NNN.NN
Total	NNN,NNN,NNN.NN

- **Trigger:** When prelim/final/revision 1/revision 2 are published and WDR activities were identified in that billing week
- **Delivery method:** Unchanged, via Settlements Direct portal

2. Settlement Report

Wholesale Demand Response (WDR) by Region and Quarter

Region	Quarter	DRSP	FRMP	WDR Reimbursement Rate (WDRRR)	WDR Settlement Quantity (WDRSQ)	WDR Trading Amount (\$)
NNN1	N	NNNNNN	NNNNNN	\$XX.XX	XX.XX	\$XX,XXX.XX
NNN1	N	NNNNNN	NNNNNN	\$XX.XX	XX.XX	\$XX,XXX.XX

- **Trigger:** When prelim/final/revision 1/revision 2 are published and WDR activities were identified in that billing week
- **Delivery method:** Unchanged, via Settlements Direct portal

3. WDR NMI report

- New report with NMI and other variables used for settlement reconciliation
- WDR settlement equations are stipulated in the NER 3.15.6B
- **Trigger:** When prelim/final/revision 1/revision 2 are published and WDR activities were identified in that billing week
- **Delivery method:** Same as SR, via Settlements Direct portal

WDR NMI report parameters

- **Settlement date**
- **TI** - Trading Interval
- **Region**
- **TNI** - Transmission Node Identifier
- **NMI** - National Metering Identifier
- **DRSP PID** - Demand Response Service Provider Participant ID
- **FRMP PID** - Financially Responsible Market Participant ID
- **MRC** - Maximum Responsive Component (MW)
- **MRCSQ** – Maximum Responsive Component Settlement Quantity (MWh)
- **UWDRSQ** - Uncapped Wholesale Demand Response Settlement Quantity (MWh)
- **CWDRSQ** - Capped Wholesale Demand Response Settlement Quantity (MWh)
- **ME*DLF** - Metered Energy * Distribution Loss Factor (MWh)
- **BSQ*DLF** - Baseline Settlement Quantity * DLF (MWh)
- **RRP TLF** - Regional Reference Price Transmission Loss Factor
- **RRP** (\$ / MWh)
- **WDRRR** (\$ / MWh) – Wholesale Demand Regional Reimbursement Rate
- **WDRTA** (\$) – WDR Trading Amount
- **Publication date time**

Next steps

- Please provide any initial feedback on these three reports by COB 27 November 2020 to help in the design process
- AEMO will advise if there are any major changes to its approach
- Email: wdr@aemo.com.au

Introduction to the Portfolio management system

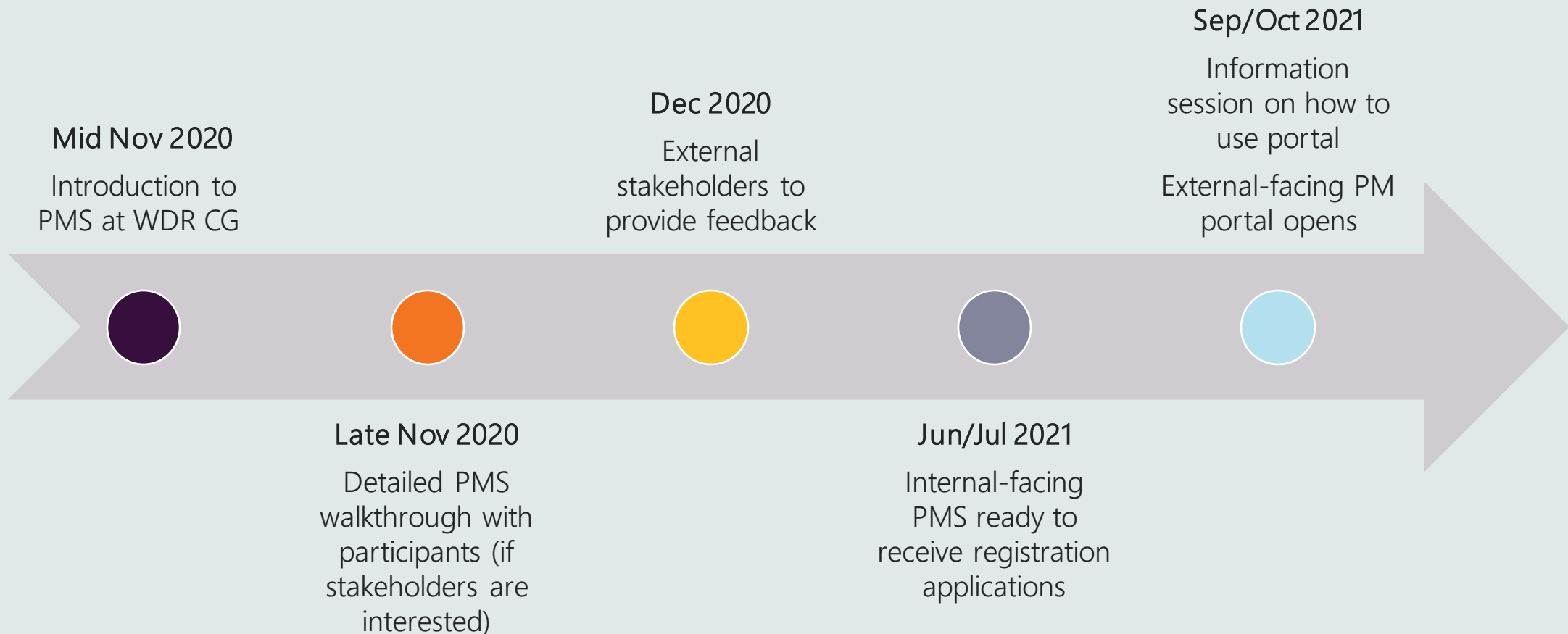
Kevin Gupta

Portfolio management system: Functionality

Participants will use the Portfolio Management system to:

1. View your portfolio of WDRUs & ASLs
2. Submit new application requests for AEMO's approval such as:
 - a) Classify new NMIs
 - b) Declassify existing NMIs
 - c) Aggregate
 - d) Disaggregate
 - e) Update baseline methodologies and parameters
 - f) Suspend NMIs or request to reinstate from suspension
3. Continue your application(s) from draft
4. View the status of your submitted requests
5. Request to withdraw your submitted requests
6. Self-assess your baselines associated to a NMI or by a Portfolio

Portfolio management system: Proposed timeline



PMS mock-up screens

- Mock-ups disclaimer:
 - All mock-ups are **draft** and are **subject to change** at any stage based on requirements
 - These mock-ups are created to visualise the functionalities needed and **not how the final screens will look**
 - Final screens will evolve incrementally as development progresses
- AEMO is seeking early feedback from participants on mock-up screens. This is to allow feedback to be discussed and, where appropriate, catered for in timelines, requirements and design.

PMS mock-up screens: Login page

****Current as of 01 Nov 20****

A Web Page

https://drspportal.com.au

DRAFT - This page can change at any stage based on requirements. These mock-ups are created to help realise what functionality is needed and not how the screen will look.

Portal

Welcome to the Demand Response portal powered by Australian Energy Market Operator (AEMO). As a DRSP you can:

1. View your portfolio
2. Submit new application requests for AEMO's approval such as:
 - a. Classify new NMIs
 - b. Declassify existing NMIs
 - c. Aggregate
 - d. Disaggregate
 - e. Update baseline methodologies and parameters
 - f. Suspend NMIs or request to reinstate from suspension
3. Continue your application(s) from draft
4. View the status of your submitted requests
6. Request to withdraw your submitted requests
7. Self-assess your baselines associated to a NMI or by a Portfolio

Username

Password ?

Callouts:

1. Participant's login credentials will be setup already by the IT Team during Registration Assessment.
2. Account is automatically locked after 6 incorrect login attempts in a period of 30 minutes.
3. DRSP must call AEMO external support team to have the account unlocked.

Tooltip:

1. Password must be:
 - a. minimum 8 characters long
 - b. must contain 3 of the 4 following classes
 - English upper case letters (e.g. A, B,...Z)
 - English lower case letters (e.g. a, b, ... z)
 - Digits (e.g. 0, 1, 2,...9)
 - c. must NOT:
 - contain a space ' ' or comma ','
 - contain username or any part of your full name
 - be a variation of last 12 passwords used
- Non-alpha numeric characters (or 'special characters') e.g. '@,+,)' etc).

DRSP landing page

****Current as of 01 Nov 20****

A Web Page

https://drspportal.com.au

DRAFT - This page can change at any stage based on requirements. These mock-ups are created to help realise what functionality is needed and not how the screen will look.

View notification history

View audit history

Welcome <<DRSP / Market Customer Name>>

Your portfolio

Account settings

Notification: 23 July 2020 - Application 12345 successfully received via API. Status In Assessment.

Notification: 22 July 2020 - NMI 123 was settlement suspended by AEMO for baseline non-compliance.

Classify / Aggregate

All columns can be sorted ascending/descending. By default DUID Status will be sorted in ascending order then by Region.

Classified Element

Element Name	Service	Region	DUID	Dispatch Status	Agg. Capacity	Operational Telemetry	Dispatch Conforming	Action
CG1	WDRU	QLD	WDR454298	Active	20MW	Yes	Yes	Remove
AB123456	ASL	VIC	AB123456	Inactive	20MW	Yes	Yes	Remove
AB123456		NSW	FTSD456762	N/A	20MW	Yes	No	Remove
		VIC	AB123456	Active	15MW	No	Yes	Remove
SHUMP		SA	WDR123456	Inactive	12MW	Yes	Yes	Remove
Ararat Wind Farm		TAS	WDR12342	Inactive	30MW	Yes	Yes	Remove

When hovering over a row

When 'red' it means something has gone wrong e.g. baseline compliance issue

All rows are clickable

View portfolio history

Remove / Withdraw only hides from the front-end. In the system for AEMO staff this information will still be available as 'cancelled / withdrawn'. If the removal/withdrawn request is NOT approved by AEMO this item will display back.

Alert

Are you sure you want to remove unit xxx?

[YES](#) [NO](#)

Current Applications

Reg I	Reg Type	Application Statu	Aggregatio	Aggregation Reg Statu	Servic	Regio	Agg/Class. MR	Op Telemetr	Action
00001	Aggregation	In Assessment	AB233415	Applicant	WDRU	QLD	15MW	Yes	View Withdra
00017	NMI Classif	Pending Withdrawal	None	N/A	WDR	QLD	1MW	Yes	View Withdra
04502	NMI Classif	More info required	AB123456	Registered	WDR	VIC	3MW	No	View Withdra
00009	Aggregation	Rejected	NSW North	Applicant	WDR	NSW	20MW	Yes	View Withdra
00034	Disaggregatio	In Assessment	AB23398	Registered	ASL	VIC	2MW	No	View Withdra
20497	NMI Classif	Draft	NSW 5672	Registered	WDRU	NSW	4MW	No	View Cancel

Alert

Are you sure you want to request to withdraw application 04502?

DRSP View

DRSP aggregation view

Current as of 01 Nov 20

DRSP View

A Web Page

https://drspportal.com.au

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Manage unit: NSW South

Account settings

Options:
1. DUID level only; or
2. DUID level status + pending application status

Only one will display
One, multiple or none will display

Dispatch Status - Active
Registration - xx
new NMIs approved

Dispatch Status - Inactive
Registration - xx NMIs In
Assessment
Registration - xx NMIs
rejected

Classify & Aggregate NMIs

Search based on:
1. NMI
2. Reg Status
3. DUID Type
4. MRC

Edit

View Information (select one or more)

☒ Registration Information (default selected)
☐ MRC Information
☐ Baseline Information
☐ NMI Information

Alert
Select reason for NMI suspension
Select reason
OK CANCEL

Alert
Select reason for NMI reinstatement
Select reason
OK CANCEL

Registration Information

Declassify Disaggregate Suspend Reinstate

Based on ticked NMIs (one or many)

Actio	Site Na	NMI	Classification Ty	MR	FRM	RER	Price Sensiti	Telemet	B. Eligibl	Disp conformi	Log reas	Rego. Status	Last Change Da
☐	ABC	334567890	WDR	10MW	ABC	N	N	Y	Y	Y		Temp suspended	1 Jul 2020 23:45:43
☐	DEF	334567890	WDR	5MW	ABC	N	N	Y	Y	Y		Classified	10 Jul 2020 13:05:34
☐	GHI	334567890	WDR	10MW	ABC	N	N	Y	Y	N	free text	Classified	1 Jul 2020 23:45:43
☒	JKL	334567890	WDR	5MW	ABC	N	N	Y	Y	Y		Pending Suspensi	10 Jul 2020 13:05:34
	UNIT		WDR	20MW	ABC	N	N	Y	Y	N	free text		

Export options in CSV format:
1. Complete list by DUID
2. Based on search results by DUID

Hover over to bring up commentary surrounding non-conformance notice

MRC Information

Action	Site Name	NMI	MRC	Plant	Control	DR Information 3	DR Information 4	DR Information 5
☐	ABC	3345678900	10MW	Electric Furnace	SCADA			
☐	DEF	3345678901	5MW	Text	Text			

DRSP baseline view

Current as of 01 Nov 20

A Web Page

← → × ↶

https://drspportal.com.au

Q

DRAFT - This page can change at any stage based on requirements. These mock-ups are created to help realise what functionality is needed and not how the screen will look.

←

NMI 3345678900

↓

Export selected BL data

Current Baseline

Action	Assessment Time	BI Methodology	BL Param1	BL Param2	BL Param3	BL Accuracy	BL Bias	NMI Accuracy	NMI Bias	BL Eligible
☐	1 Dec 2021 23:45:43	1	daily	9am - 5pm		40%	90%	70%	87%	Y

New Baseline

Assess Baseline

Action	Assessment Time	BI Methodology	BL Param1	BL Param2	BL Param3	BL Accuracy	BL Bias	NMI Accuracy	NMI Bias	BL Eligible
☐	15 Aug 2021 13:05:34	3	weekdays	3pm - 9pm		50%	14%	89%	76%	Y

Submit Baseline Changes

Cancel

DRSP disaggregation function **Current as of 01 Nov 20**

A Web Page

https://drspportal.com.au

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←

Disaggregation

Removal of 2 NMIs from Aggregation "NSW South"

Option 1: CSV upload ▾

Use CSV template to upload disaggregation request

[Download CSV template](#)

Download validation summary

NMI validation errors
(o) 1: NMI 123456 is not a NMI selected from table.

Alert

NMI 123456 was not selected from table. Do you want to disaggregate?

Yes NO

Alert

Invalid file format.

OK

(o)

Upload CSV file with a list of NMIs

Option 2: Disaggregate NMIs manually ▾

NMI 3345678900

NMI	Region	MRC	BL Methodology	BL Param1	BL Param2	BL Param3	BL Metric	NMI Metric	BL Eligible	NMI validations passed
3345678900	NSW	3				20%	18%	Y	Y	Y

What would you like to do? *

Select one
(o) Add NMI to an existing Aggregation
(x) Add NMI as a standalone WDRU
(o) Make NMI WDR dispatch inactive
(o) Declassify NMI

Create new DUID

NMI 3345678901

NMI	Region	MRC	BL Methodology	BL Param1	BL Param2	BL Param3	BL Metric	NMI Metric	BL Eligible	NMI validations passed
3345678901	NSW	3				20%	18%	Y	Y	Y

Select one
(x) Add NMI to an existing Aggregation
(o) Add NMI as a standalone WDRU
(o) Make NMI WDR dispatch inactive
(o) Declassify NMI

Select existing aggregation ▾

Add NMI from NSW South

Select NMI ▾

Every NMI must be unique

DRSP disaggregation view

Current as of 01 Nov 20

A Web Page

https://drspportal.com.au

DRAFT - This page can change at any stage based on requirements. These mock-ups are created to help realise what functionality is needed and not how the screen will look

Disaggregation

Return to Home Page

Removal of 2 NMIs from Aggregation "NSW South"
Aggregation of 1 NMI to Aggregation "Aggregation 1"
Creation of new WDRU "Solar"

search

Reg ID	Reg Type	WDRU Name	Application Status	Service	Action
00020	Disaggregation	NSW South	Draft	WDR	View Cancel
00021	Aggregation	Aggregation 2	Draft	WDR	View Cancel
00022	New WDRU	Solar	Draft	WDR	View Cancel

DRSP classify and aggregate function (subsequent applications)

A Web Page
https://drspportal.com.au

DRAFT - This page can change at any stage based on requirements. These mock-ups are created to help realise what functionality is needed and not how the screen will look.

Classify & Aggregate NMIs

User guide ?

Do you have consumer consent at all connection points?*

☐ YES
☐ NO

Option 1 and 2 do not appear until yes box is ticked

Option 1: CSV upload ▾

If adding more than one NMI, use CSV template
[Download CSV template](#)

Download validation summary

NMI validation errors
(o) 1: NMI 123456 is a small customer
(o) 2: NMI 123456 exists for another DRSP

Alert
NMI 12333333 exists for another DRSP.
OK

Alert
Invalid file format.
OK

(o)

Upload CSV file with a list of NMIs

Option 2: Add NMIs manually ▾

Select Aggregation * New South Wales South ▾

Name Aggregation
If aggregation/unit is ne

What is the goal? *
Submit separate assessments for each goal

Select one
(o) Classification
(o) Aggregation
(o) Classification and Aggregation

Select Service *
Select one
(o) WDRU
(o) ASL

Add NMI *
Every NMI must be unique

MRC *

MRC Evidence *
Select one
(o) 1
(o) 2
(o) Other (provide response)

Operation Telemetry status Select status ▾

Auto selected. Other Aggregation or NEW can be selected from the dropdown list

Selection list might change. If select "new" aggregation in first section, might also pop-up with Aggregation Name creation

Download validation summary

NMI validation errors
(o) 1: NMI 123456 is a small customer
(o) 2: NMI 123456 exists for another DRSP

Alert
SCADA status is inconsistent with aggregation xxx. NMI must have SCADA.
OK

Alert
NMI 123434323 is a small

Displayed as NMI added.

This is a dropdown list to keep consistent

DRSP portfolio notification history view

****Current as of 01 Nov 20****

A Web Page

https://drspportal.com.au

DRAFT - This page is a mock-up. These mock-ups are created to help realise what functionality is needed and not how the screen will look.

Search based on:
1. NMI
2. Key words
3. Aggregation name

←

Q search

Notification History

Account settings

Date	Notification Type	Notification
10/11/21 12:10:09	Settlement suspension	NMI123 has been settlement suspended by AEMO for baseline non-compliance
9/11/21 11:09:12	Dispatch conformance	Aggregation NSW South has become dispatch non-conforming. AEMO request: "Please modify MRC to 12MW"
28/10/21 09:24:23	Registration	Aggregation AB3421 is successfully registered with AEMO
26/10/21 16:09:45	Baseline conformance	NMI123 is baseline non-compliant. Please review
25/10/21 13:10:45	Registration	Application 0097 has successfully been submitted and is In Assessment.

"0097" is relevant Rego ID. Selecting ID will allow DRSP to [view](#) application

<< < 1 2 3 4 5 6 7 8 9 10 > >>

DRSP audit history view

Current as of 01 Nov 20

A Web Page

X

https://drspportal.com.au

DRAFT - This page can change at any stage based on requirements. These mock-ups are created to help realise what functionality is needed and not how the screen will look.

←

By Type

Classification

From date To date By Application By NMI By DUID/Agg etc Updated by

Q search

Audit History

Download selected

↓

Action	Change Dat	User	Change Type	Associated Application I	Classification Typ	Aggregation Nam	NMI/s	Commentary
	8 Nov 2021 23:45:43	AEMO	NMI settlement suspended	N/A	WDRU	Agg2	33123457	DRSP did not respond to AEMO requests to modify MRC to 1 MW due to dispatch non-conformanc
	5 Nov 2021 23:45:43	AB98	Reinstatement request	N/A	WDRU	Agg1	33123456	
	2 Nov 2021 23:45:43	AEMO	Suspension request approve	N/A	WDRU	Agg1	33123456	
	1 Nov 2021 23:45:43	AB98	Suspension request	N/A	WDRU	Agg1	33123456	No longer BL eligible
☐	1 Jul 2021 23:45:43	AEMO	C&A	0086	WDRU	Agg1	33123456 3312345	

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Portfolio management system: Next steps

- **By COB Fri 20 Nov:** If interested, please nominate people from your organisation to attend the detailed PMS walkthrough via wdr@aemo.com.au
 - Suitable nominees will have experience in using AEMO's systems or systems similar to the Portfolio management system described.
 - Note: This meeting is to receive information from participants and not all feedback provided may be implemented due to time and effort restrictions.
- **Thu 26 Nov (TBC):** Detailed Portfolio Management System walkthrough and questionnaire with participants.
- **Tue 15 Dec:** Please provide feedback on Portfolio Management process or mock-up screens to wdr@aemo.com.au

Approach to market testing

Priti Zacharopoulos

WDR Test Manager

WDR testing: Objectives

- To validate whether the updates made to participants' market interfacing systems and AEMO's market systems comply with the relevant WDR rule and procedural arrangements
- To ensure WDR end-to-end processes implemented by AEMO meet requirements
- To ensure that there are no defects introduced from WDR changes (via regression testing).

Definitions: Types of market testing

MARKET TESTING

Industry testing

- Self-testing of functionality such as connectivity, and/or coordinated multiparty testing of functional scenarios
- Status quo

Invitation industry testing

- Coordinated testing of business process scenarios with a select number or subset of participants with systems ready for testing.

Market trial

- Coordinated multi-party end-to-end testing of business process scenarios

Increasing coordination and complexity

Proposed WDR testing: Considerations

In proposing the appropriate test type for WDR, AEMO considered:

- The ability to meet WDR testing objectives
- Affected participant types:
 - **DRSPs** that choose to participate (either from the commencement date or a later time)
 - **Retailers** (FRMPs) that are required to fund WDR at their NMIs, noting that WDR only applies to large electricity customers
 - **Distributors**
 - **Market Ancillary Service Providers.**
- Necessary testing scope/coverage
- Regulatory and project timeframes
- Proximity of 5MS/GS and “customer switching” implementations:
 - WDR implementation has been consciously planned to dovetail with 5MS implementation where feasible
 - AEMO assessed options for combining 5MS and WDR development and test activities, but this was not possible (see [WDR CG #5 discussion](#)). In order to meet WDR regulatory timeframes, participants will need to complete WDR Testing after the 5MS Market Trial.
- Resourcing (internal and external).

Proposed WDR testing type: Industry testing by invitation

	Pros	Cons	Recommendation
Market trial	Would meet the proposed WDR test objectives through an end-to-end trial involving all market participants – thoroughly tests all aspects, including regression.	- Time consuming and resource intensive - Involves all market participants type irrespective of whether they are affected by WDR (WDR is not a mandatory change).	Not recommended
Invitation industry testing	- Would meet the proposed WDR test objectives by testing end-to-end business scenarios with a select group of affected participants - Those unaffected by the change do not need to participate - Less time consuming and resource intensive than market trials.	- Not covering every regression scenario - Requires a level of coordination.	RECOMMENDED
Industry testing	- Minimal coordination required - Participants can run tests at their discretion.	Potentially would not meet WDR test objectives as possible insufficient test coverage in AEMO's pre-prod environment.	Will occur at participants' discretion

Proposed WDR testing approach

Element	Description
Timing	September 2021 (ahead of 24 October go-live)
Eligibility	Participants can take part in industry testing: • If they have been registered as a DRSP, <u>and</u> • Once their systems are ready and connected to AEMO's pre-production environment.
Environment	AEMO pre-production
Testing types	Invitation industry testing and industry testing
Test cases	Participants will be supplied with documentation which will enable them to create their own test cases. Guidance can be provided by the AEMO test team.
Test and defect management tool	PractiTest: Participants will be given the required level of access to this tool which has a web interface.
Non-functional testing	Non-functional testing (e.g. performance, security) will be done by AEMO before market testing starts

Proposed test scope

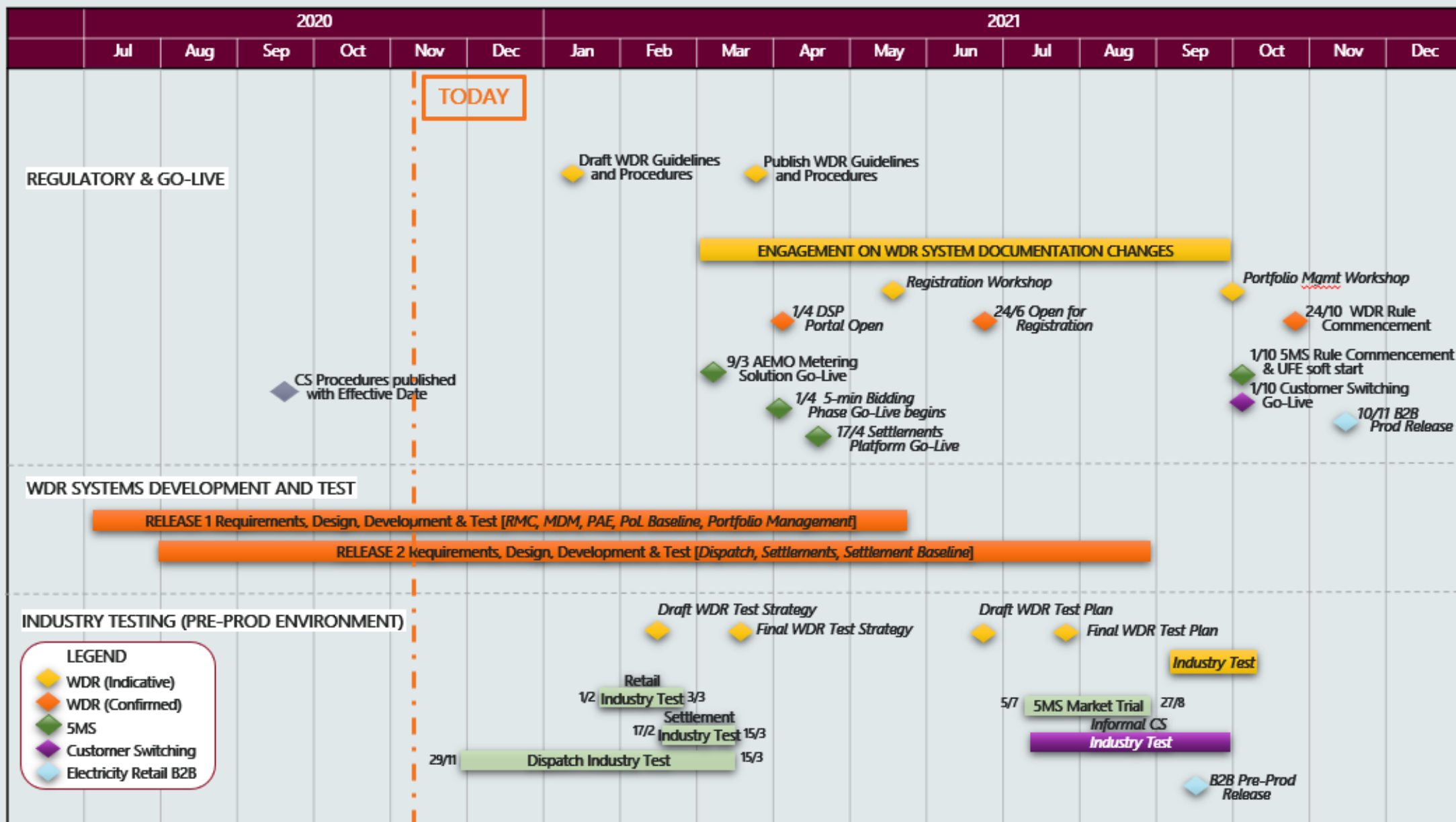
Participant type	Test Coverage
Demand Response Service Providers – new!	- Functional test scenarios: - Registration - Classification/Aggregation - De-registration - Trigger Baseline methodology calculations - Exercise Portfolio Management functionality/features - Bidding - Dispatch - Settlements - Receive reports - Receive invoices
Retailers	- Send/receive reports - NMI Discovery
Distribution Network Service Providers	Receive and process standing data updates with new participant category (DRSP)
Market Ancillary Service Providers who become DRSPs	Exercise Portfolio Management functionality/features

Proposed WDR Industry testing: Detailed timeline



Proposed WDR Industry testing: High-level timeline

Current as of 10 Nov 20



Resources

AEMO resources involved include:

- WDR Test Manager and Test Lead
- Business SMEs
- BA Lead
- Tech Lead
- Developer SMEs
- Environment and Release Manager

Industry/participant resources include:

- Test Managers
- Business SMEs

Next steps

- **Fri 18 Dec:** WDR CG to provide any initial feedback to wdr@aemo.com.au
- **Feb 2021:** AEMO to provide WDR CG with *draft* WDR Testing strategy

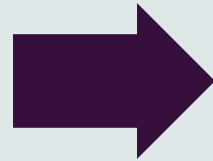
Engagement on systems documentation

Armando Estrella
WDR Technical Lead

Proposed engagement approach for WDR systems documentation changes

Publish early version of system document

- AEMO to release early version of document to WDR CG (and any other relevant forums) for comment
- Stakeholders have **10-15 business days** for comment



Publish updated system document

AEMO to:

- Consider stakeholder feedback and prepare updated document
- Publish updated document
- Provide debrief to WDR CG on the extent to which feedback was adopted.

High level impact assessment: Wholesale - EMMS

Document	Description	Summary of changes	Priority	Affected stakeholders
EMMS Technical Specification	Specification of changes to Participant databases' EMMS Data Model	Updates on some tables in the following schemas: - Registration - Dispatch, P5Min, PD, PASA - Settlements, Billing - Any PMS data to be published via DM (TBA) - e.g. NMI Baselines	High	All participants
EMMS Data Model (DM) Reports	Explains the packages, tables, and reports in the Electricity Data Model.	Updates to the DM report document	High	All participants
Data Interchange (DI) online help	A set of applications to replicate, manage, and monitor data between AEMO's Wholesale Energy Market Systems and participants' local DBMS conforming to the Electricity or Gas Data Models.	Updates to the online help based for the new Data Model version.	Medium	All participants
Guide to Portfolio Management System (PMS)	User guide on how Participants will navigate the new Portfolio management web page.	New user guide	High	FRMPs DRSPs
Markets Portal online help (PMS updates)	Online help with context-sensitive help helping participants navigate the EMMS Markets Portal.	Updates to the online help based on the new Portfolio Management UI.	Medium	FRMPs DRSPs
Portfolio Management API Technical Specification	API specification in submitting DRSP participants' portfolio data.	New API specification	Medium	FRMPs DRSPs
Portfolio Management API Guide	API guide providing context information on Portfolio Management APIs	New API guide	Medium	FRMPs DRSPs

High level impact assessment: Retail – MSATS/eMDM

Document	Description	Summary of changes	Priority	Affected stakeholders
MSATS Technical Specification	Describes the technical changes required to participant's systems for the WDR Metering Datastream	• New data, ie "Role", through existing channel • Others TBA	High	Retailers/FRMPs DRSPs
Updated MSATS guides New eMDM guide	Creates/updates guides based on changes to the Retail System for WDR.	• Updates on Reconciliation Reports • Others TBA	High	Retailers/FRMPs DRSPs

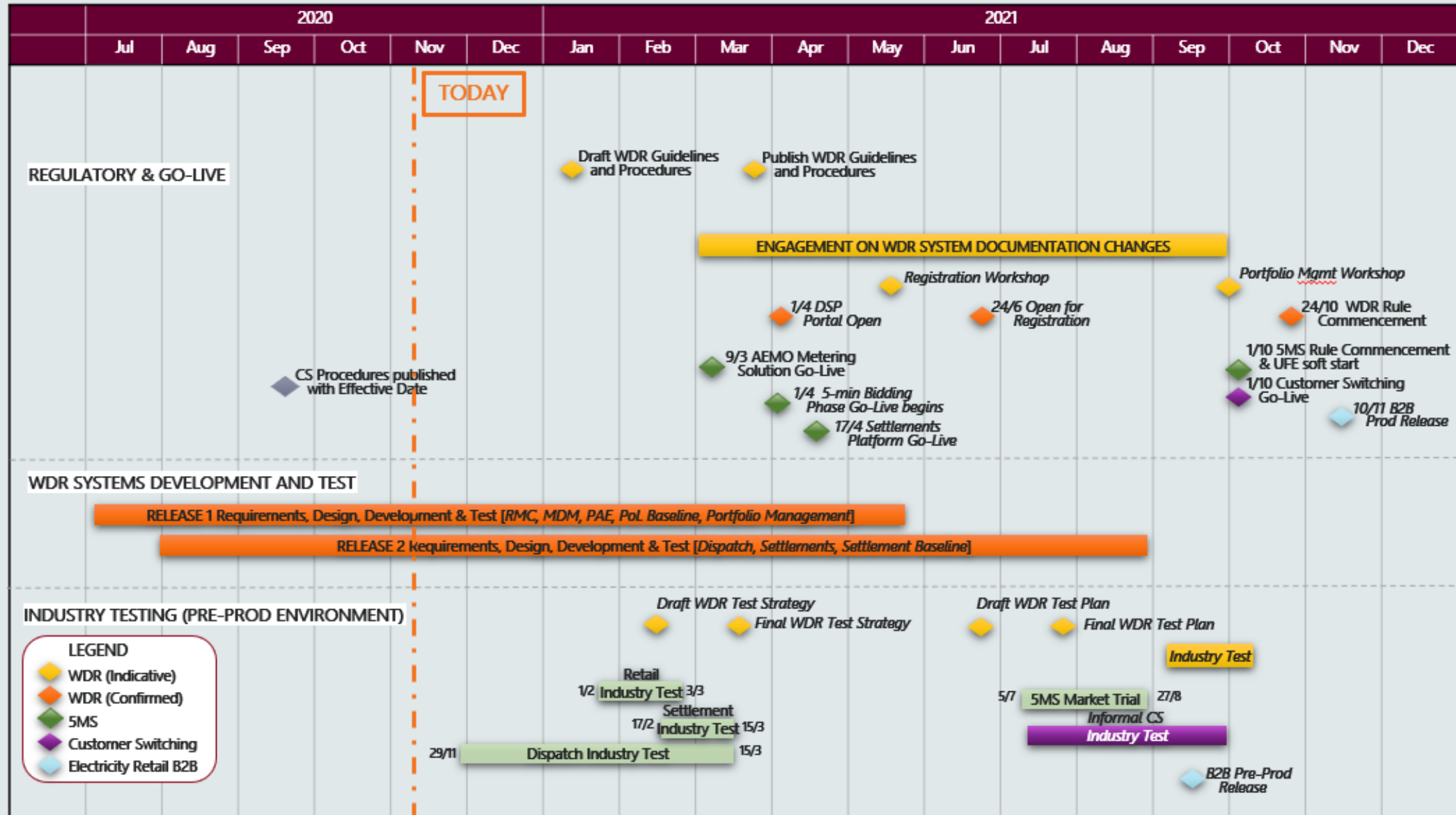
Indicative 2021 engagement timetable

Document	Early version released	Comments due	Updated version published
Guide to Portfolio Management System (PMS)	April	April	May
Markets Portal online help (PMS updates)	April	April	May
MSATS Technical Specification	April	April	May
EMMS Technical Specification	March	April	April

Document	Early version released	Comments due	Updated version published
EMMS Data Model Report	August	September	End of September
Data Interchange (DI) online help	August	NA	September
Portfolio Management API Technical Specification	July	August	September
Portfolio Management API Guide*	July	August	September
Update MSATS/eMDM guides	June	July	September

Indicative timeline

Current as of 10 Nov 20



BREAK



WDR compliance

WDR compliance agenda

	Item	Responsible
1	AER overview	Rhiannon Davies (AER)
2	Post-event dispatch compliance	Madison Pigliardo
3	Baseline eligibility and compliance	Katalin Foran



AUSTRALIAN
ENERGY
REGULATOR

Introduction to the role of the AER

Rhiannon Davies, Senior Analyst, Compliance and
Enforcement Branch

17 November 2020

aer.gov.au

About the AER

- The AER protects the interests of household and small business consumers by enforcing the Retail Law. Our retail energy market functions cover NSW, SA, Tasmania, the ACT and Queensland.
- We enforce the laws for the National Electricity Market and spot gas markets in southern and eastern Australia. We monitor and report on the conduct of market participants and the effectiveness of competition.
- We also regulate electricity networks and covered gas pipelines, in all jurisdictions except WA. We set the amount of revenue that network businesses can recover from customers for using these networks.
- The AER's objectives, that is the steps we will take to achieve the outcomes, are:
 - protect vulnerable consumers while enabling consumers to participate in energy markets,
 - effectively regulate competitive markets through monitoring and reporting, enforcement and compliance,
 - deliver efficient regulation of monopoly infrastructure while incentivising networks to become platforms for energy services
 - use our expertise to inform debate about Australia's energy future and support the energy transition

The AER's approach to compliance and enforcement

- The AER's approach to compliance and enforcement is underpinned by the objectives of the national energy laws, that is: *to promote efficient investment in and efficient operation and use of energy services for the long term interests of consumers with respect to price, quality, safety, reliability and security of supply of energy.*
- The national energy laws and rules set out a range of obligations on businesses participating in the energy markets.
- It is the responsibility of businesses to be aware of all their obligations under the national energy laws and rules and to ensure they have the proper policies, systems and procedures in place to ensure they are complying with those obligations.
- We will assist businesses to understand the general nature of their obligations under the national energy laws and rules. However we expect businesses to seek independent legal advice as they consider appropriate in order to understand their own compliance obligations.
- We expect businesses to have comprehensive and effective compliance programs and systems in place to manage their obligations.
- We expect businesses to self-report and cooperate with us when compliance issues arise.
- We are committed to driving a high level of compliance within the energy industry and will use the most appropriate compliance tools available to achieve our compliance objectives.

The AER's approach to compliance

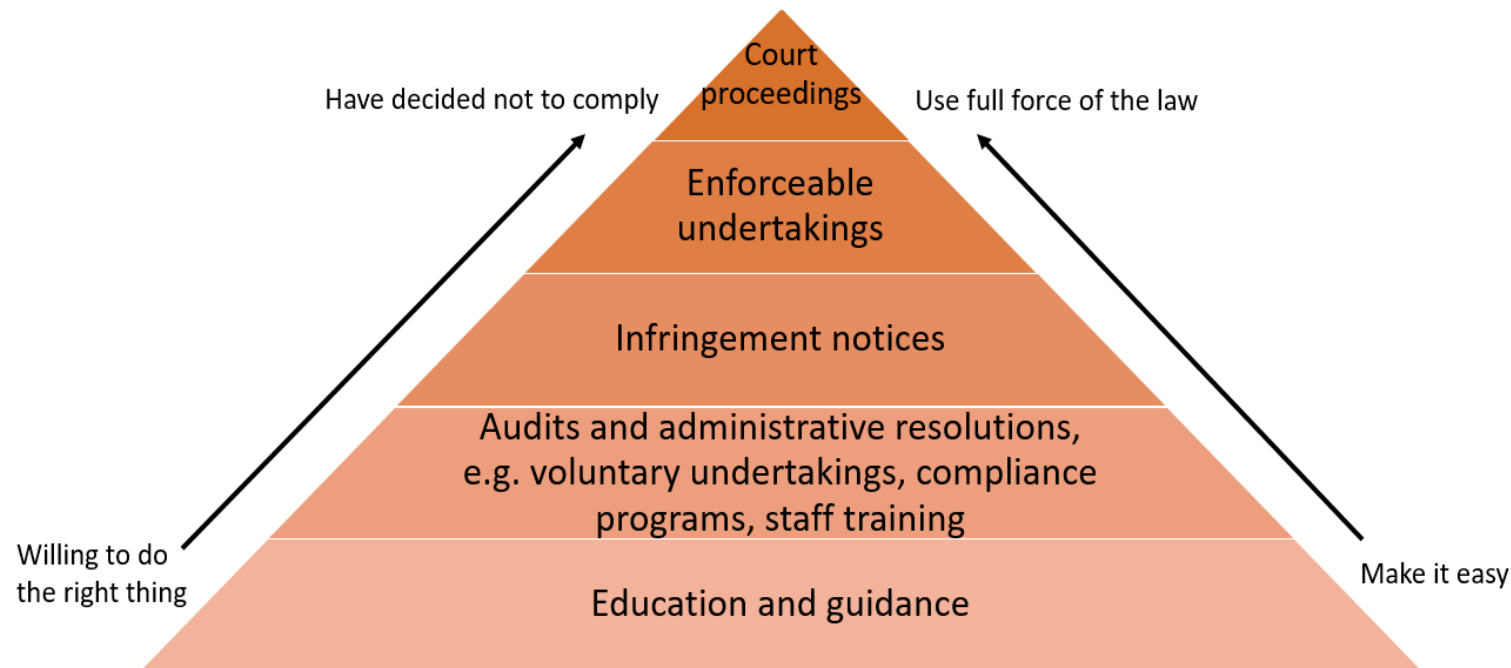
- The AER uses a wide range of information sources and monitoring tools to assess levels of compliance and identify potential breaches of the national energy laws and rules, including:
 - Stakeholder intelligence
 - Information requests via voluntary and compulsory notices
 - Market surveillance
 - Business reporting
 - Audits
 - Targeted compliance reviews and projects.
- The AER's approach to compliance focusses on preventing and addressing consumer harm and ensuring the effective operation of the energy markets and the efficient operation of networks.

The AER's enforcement powers

- The AER has the power to take enforcement action in relation to serious breaches of the national energy laws and rules.
- Our enforcement options include infringement notices (current maximum penalty of \$20,000 per breach) and the institution of court proceedings in relation to civil penalty provisions (current maximum penalty of \$100,000 per breach).
- New penalties for breaches of civil penalty provisions are expected to come into force in 2021, with a new maximum penalty of \$10,000,000.
- When taking enforcement action, the AER seeks to:
 - stop the unlawful conduct of the business in question
 - deter offending conduct both in the specific business and in the industry more generally
 - ensure future compliance with the law
 - encourage the effective use of compliance programs
 - penalise offenders, where warranted.
- The factors the AER considers when deciding what, if any, enforcement action is warranted is set out in our [Compliance & Enforcement Policy](#)

The AER's approach to compliance

- The AER has a range of tools available to achieve compliance
- The use of these tools informed by range of factors (such harm and attitude to compliance) and are proportionate
- Education and guidance are foundational
- AER compliance pyramid:



Approximate timeframes for the AER's WDR participant guideline consultation

- March 2021 – Notice of consultation/issues paper published on AER website
- 25 business days' consultation for written submissions
- 20 business days' consultation via meetings (upon request)
- July 2021 – Draft participant guide published on AER website
- 10 business days' consultation
- October 2021 – Final participant guideline published on AER website

Contact us

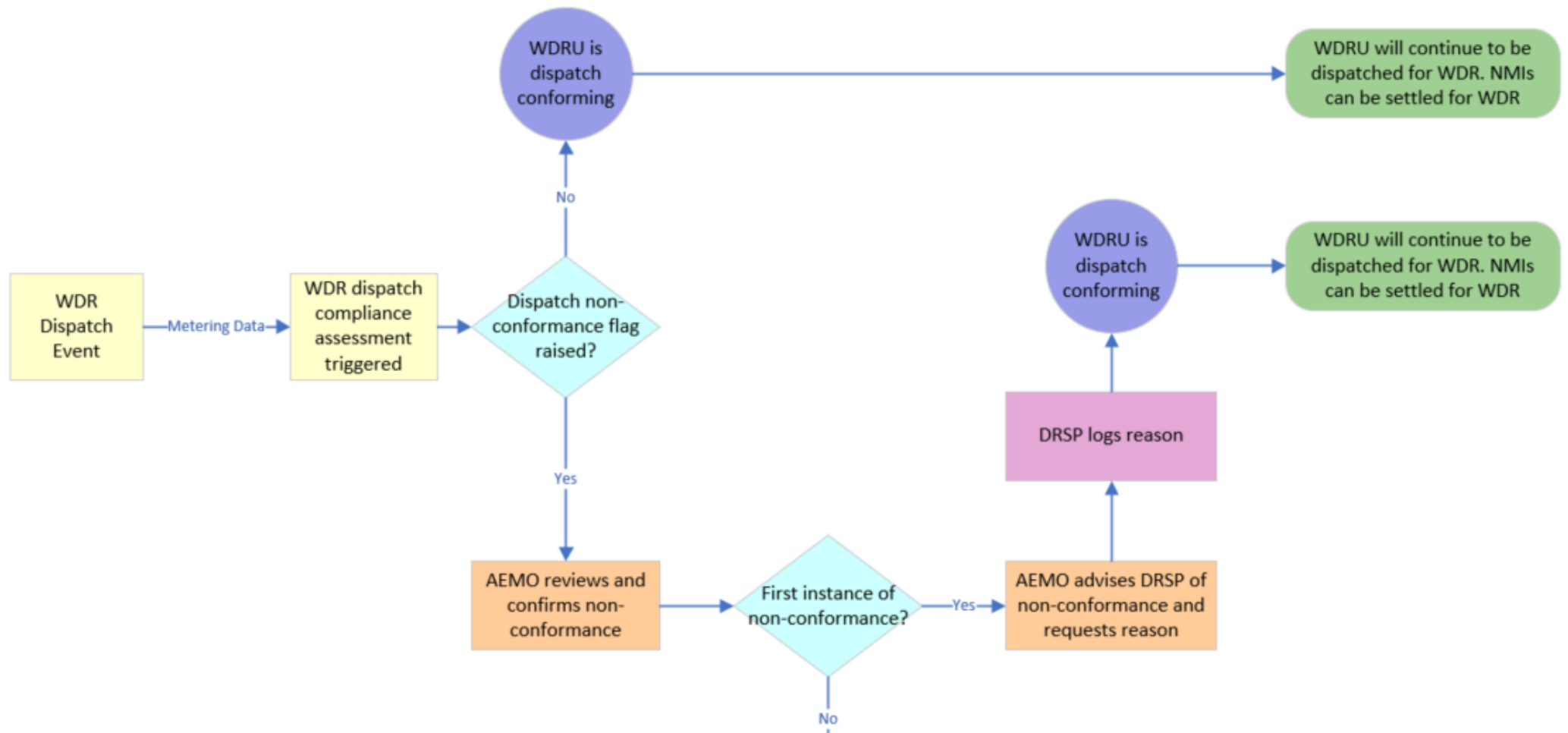
- AERCompliance@aer.gov.au
- www.aer.gov.au

WDR compliance:

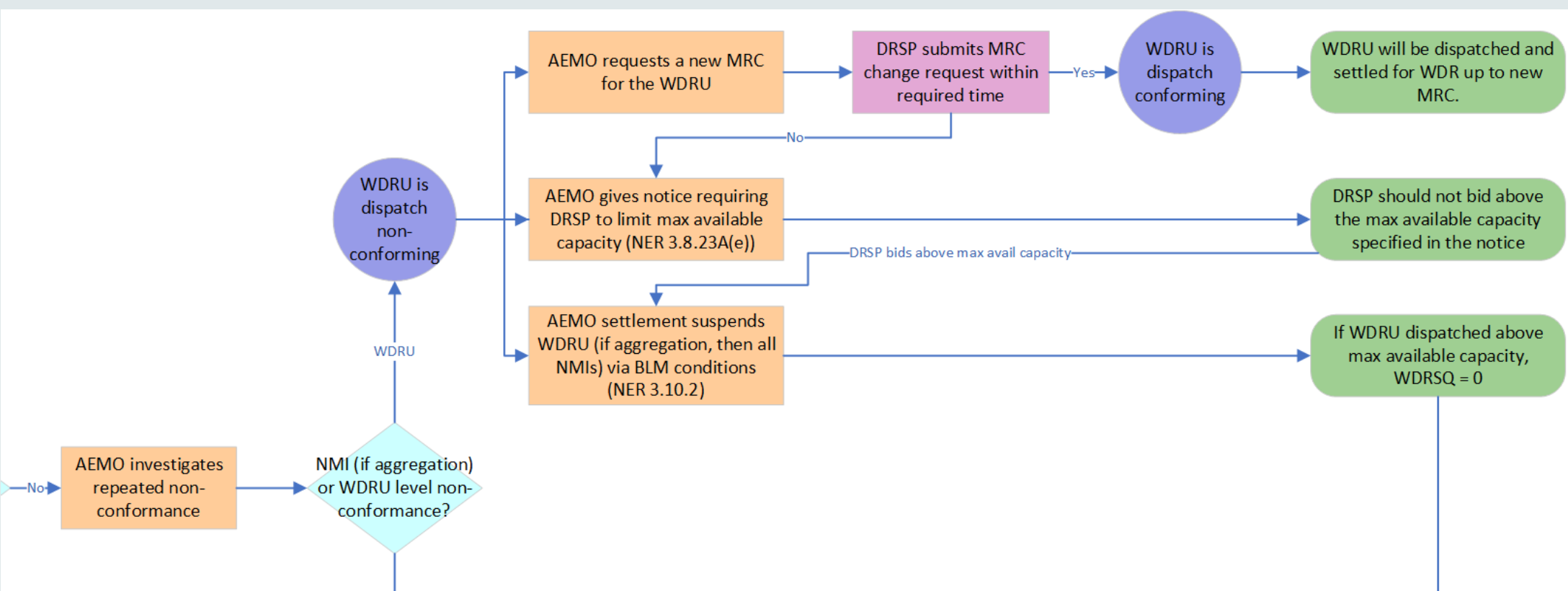
2. Post-event dispatch compliance process flow

Madison Pigliardo, AEMO

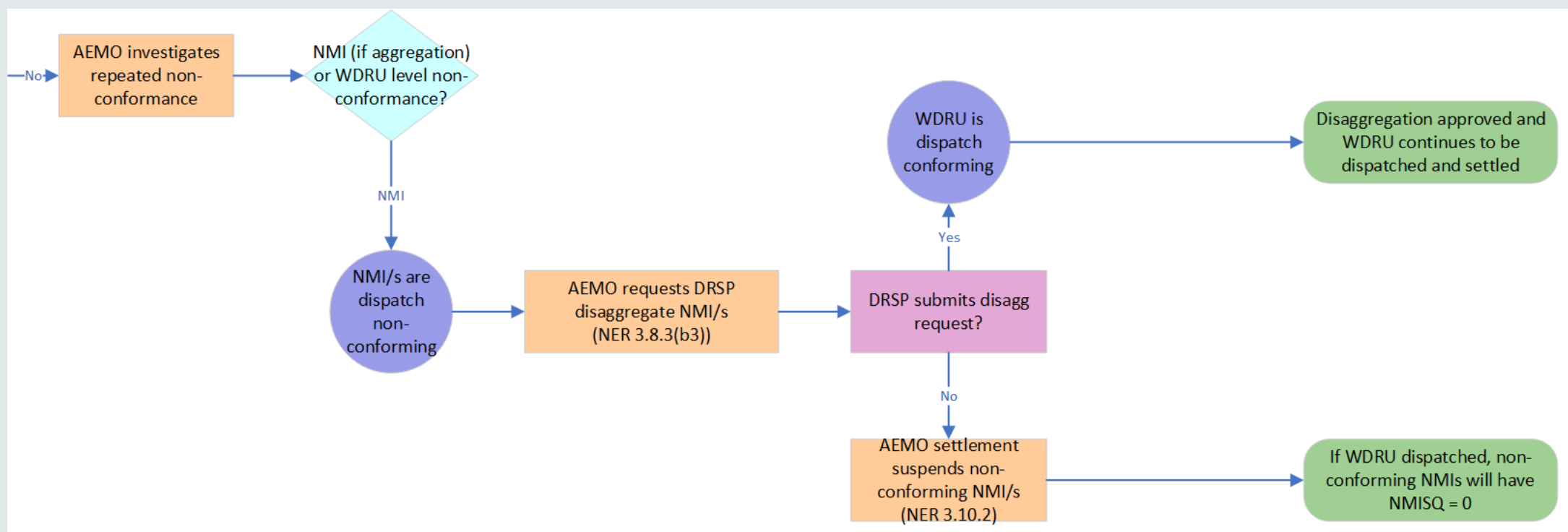
Post-event dispatch compliance: Process start



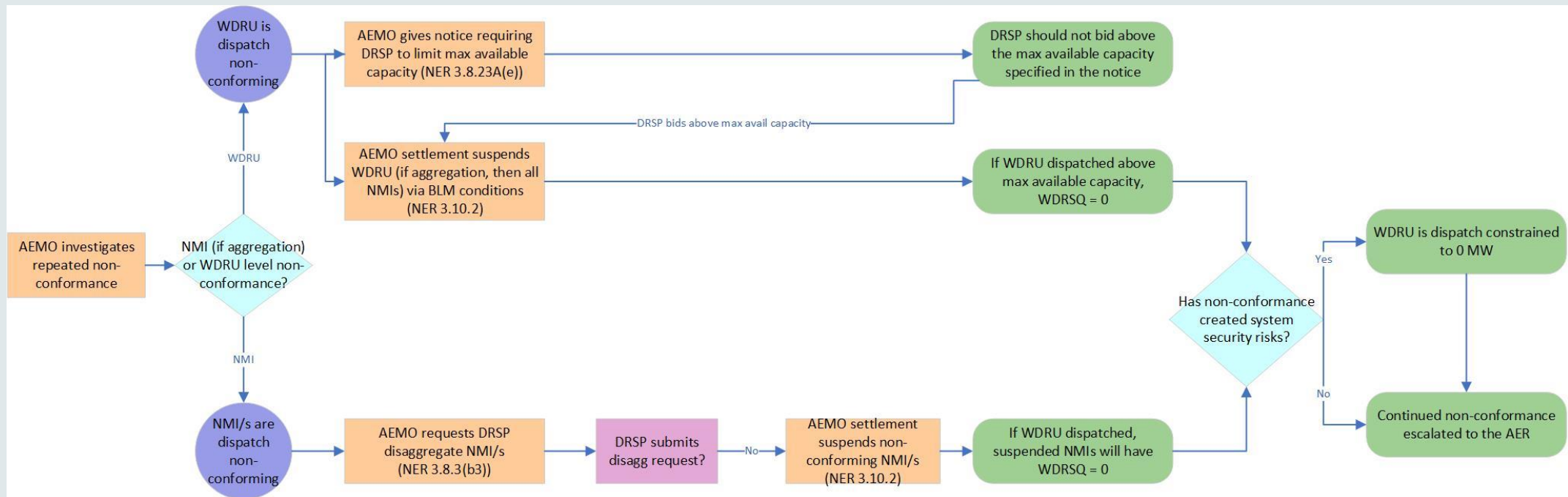
WDRU non-conformance



NMI non-conformance



Repeated non-conformance



2. Proposed Error Triggers

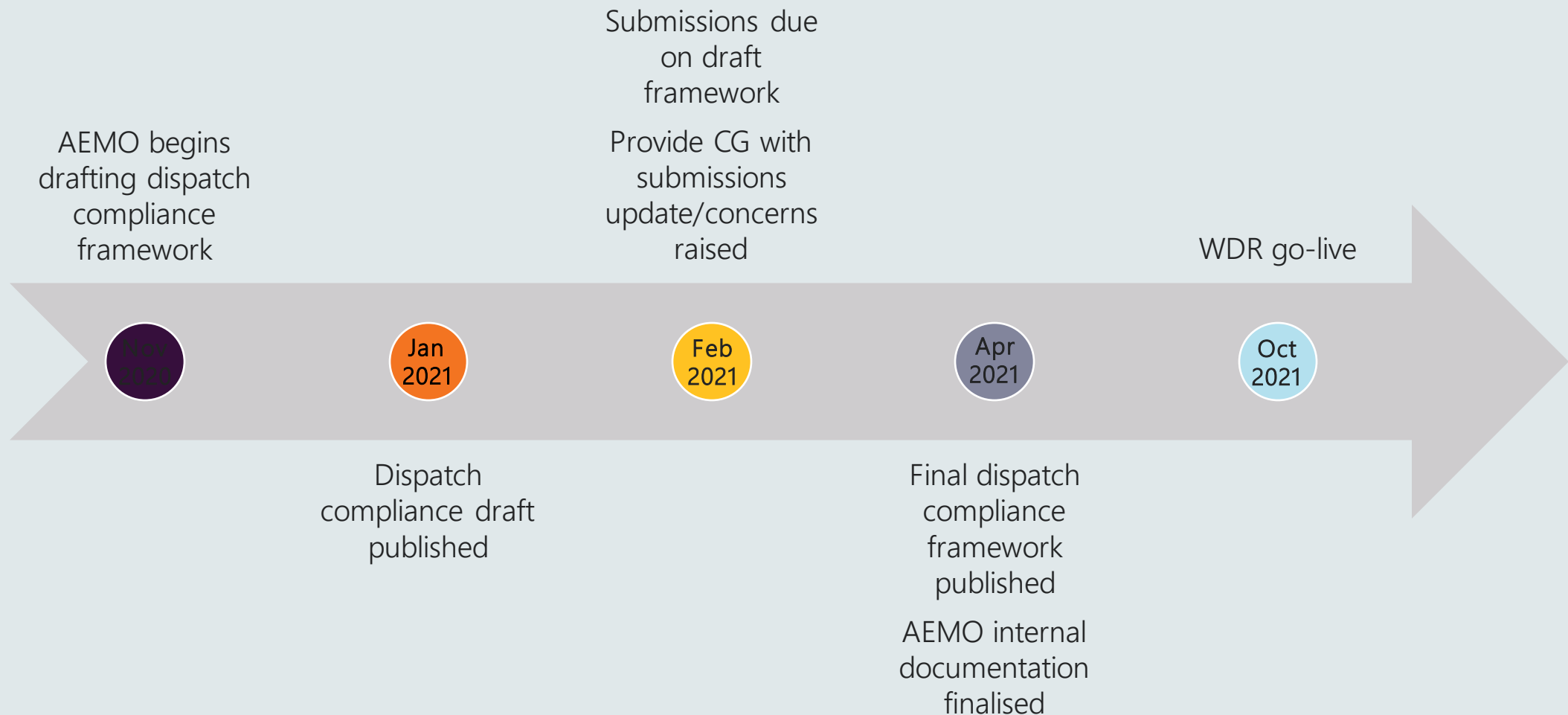
MRC	Small Error		Large Error		Gross Error	
	Trigger	Intervals	Trigger	Intervals	Trigger	Intervals
$MRC \geq 30$	$\text{MAX}(6, \text{MIN}[3\% \text{ MWO}, 2 \cdot \text{ROC}])$	6	$\text{MAX}(6, \text{MIN}[5\% \text{ MWO}, 4 \cdot \text{ROC}])$	3	(50% MWO)	1
$5 < MRC < 30$	$\text{MAX}(1, \text{MIN}[3\% \text{ MWO}, 2 \cdot \text{ROC}])$	6	$\text{MAX}(1, \text{MIN}[5\% \text{ MWO}, 4 \cdot \text{ROC}])$	3	(50% MWO)	1
$MRC \leq 5$	-		-		(50% MWO)	1

Considerations:

- Uncertainty threshold will be added to each error trigger to account for potential baseline inaccuracy
- Gross error trigger only applies to intervals which are not the first interval of a dispatch event

Abbreviation	Meaning
MWO	Bid unit availability (MW)
ROC	Ramp rate (MW/min)

Proposed timeline: Post-event dispatch compliance framework



WDR compliance

3. Baseline eligibility and compliance

Katalin Foran, AEMO

Background

- In order to participate in WDR, energy usage of a NMI must be relatively predictable.
 - A 'baseline' is the expected amount of energy used (or exported) at a connection point in normal operations.
 - Baselines are usually calculated based on meter readings from the same time of day over recent days or weeks.
- Under the Rules, AEMO must develop:
 - One or more baseline methodologies (BMs): the method used to calculate a baseline
 - Related baseline settings - parameters that allow for 'tuning' the BM, specific to a NMI
 - Baseline methodology metrics – scores for accuracy and bias which are used to check that a NMI's consumption is relatively predictable (for eligibility and compliance).

For more detail on baselines, please see [WDR Technical Working Group #1 meeting pack](#)

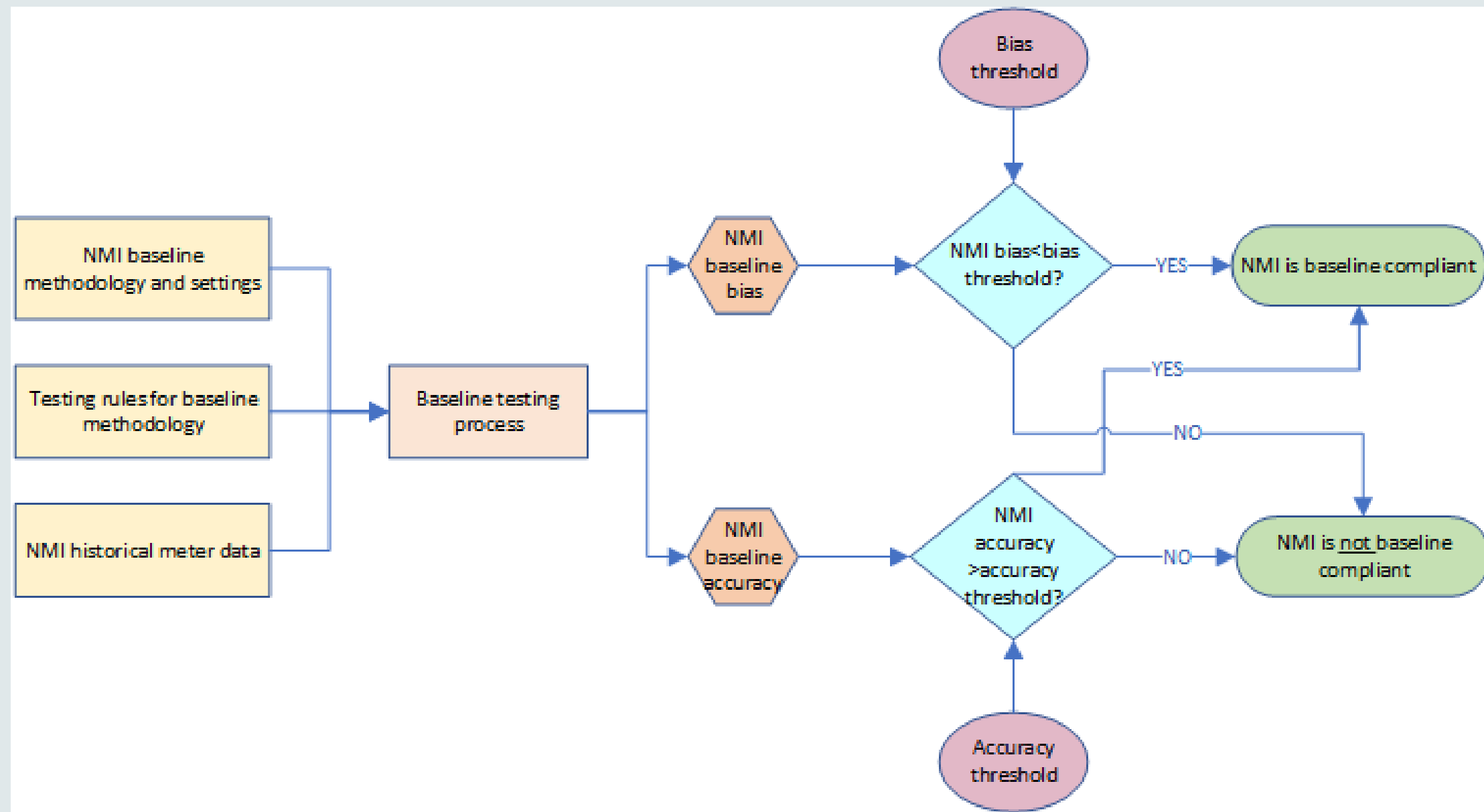
Update: Initial consultancy findings

Oakley Greenwood were engaged by AEMO to:

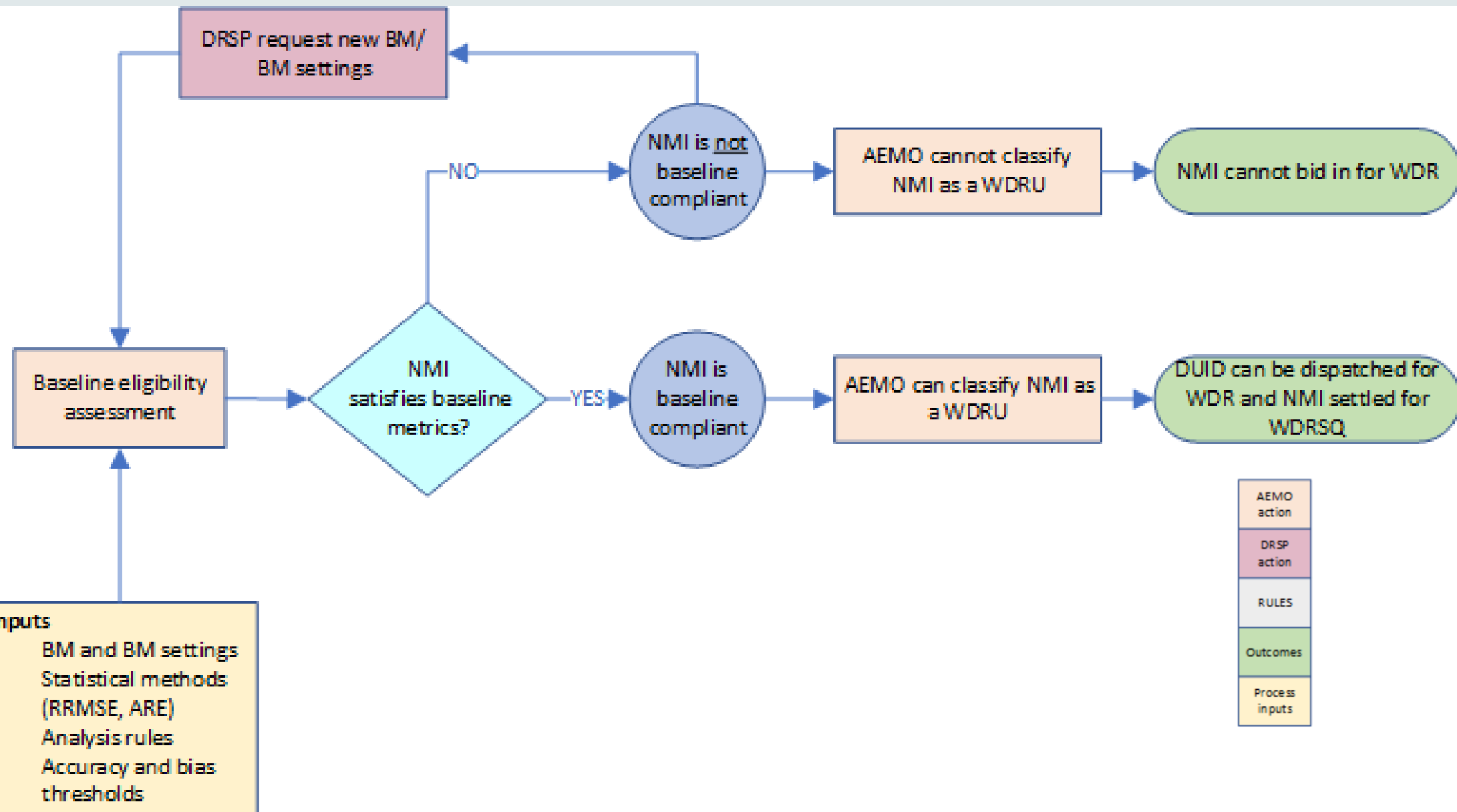
1. Test the efficacy of a variety of “RERT-like” BMs with commonly accepted adjustment approaches. Initial findings are that:
 - RERT-like baseline methodology is suitable for WDR
 - There is a degree of confidence that there will be enough NMs that can meet metric thresholds to participate in WDR (should they choose to)
2. Provide information which AEMO requires to specify the accuracy and bias threshold.
3. Provide input into the operationalisation of the baseline function.

This work is in progress and will be discussed further in the WDR compliance section.

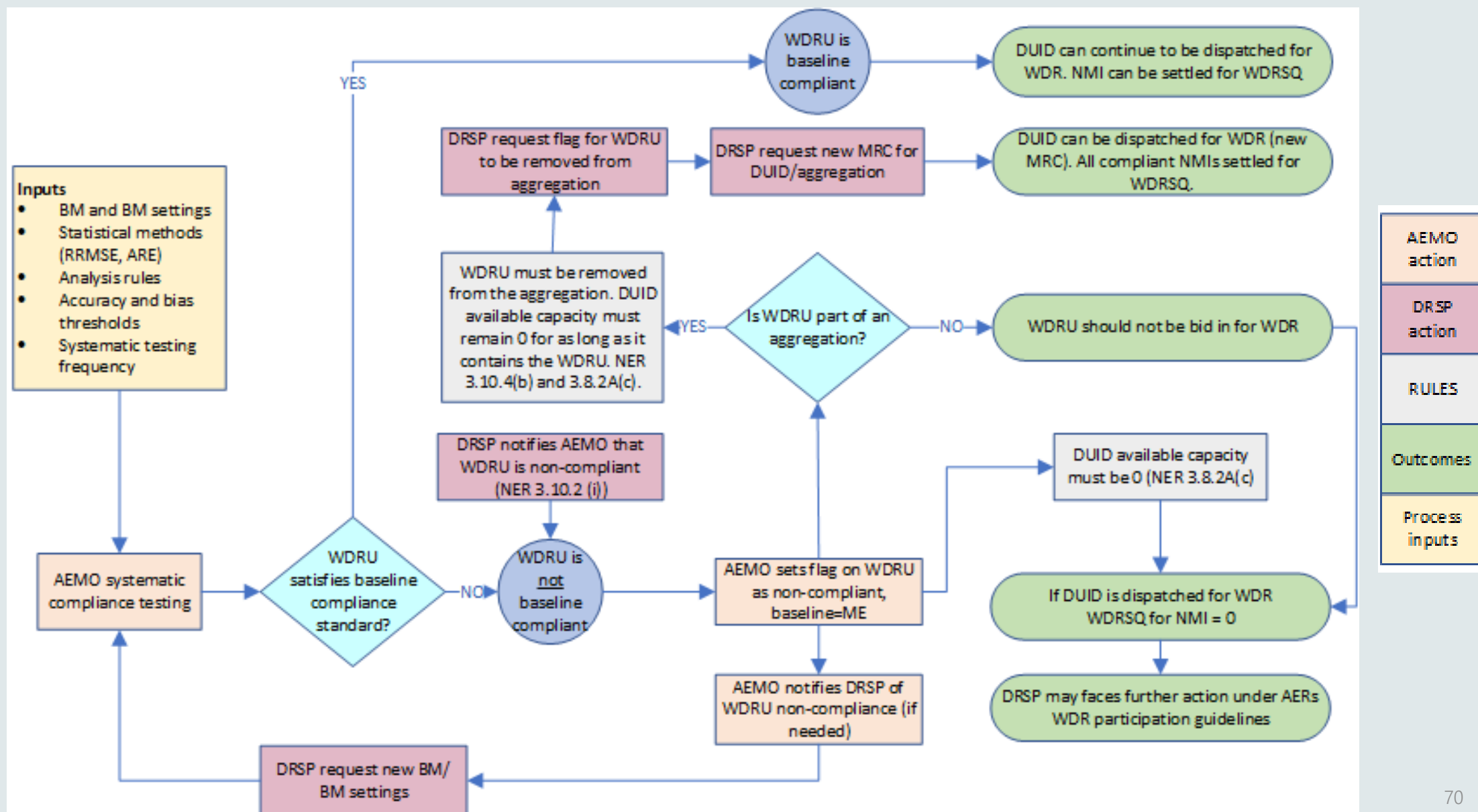
Baseline testing – generic process



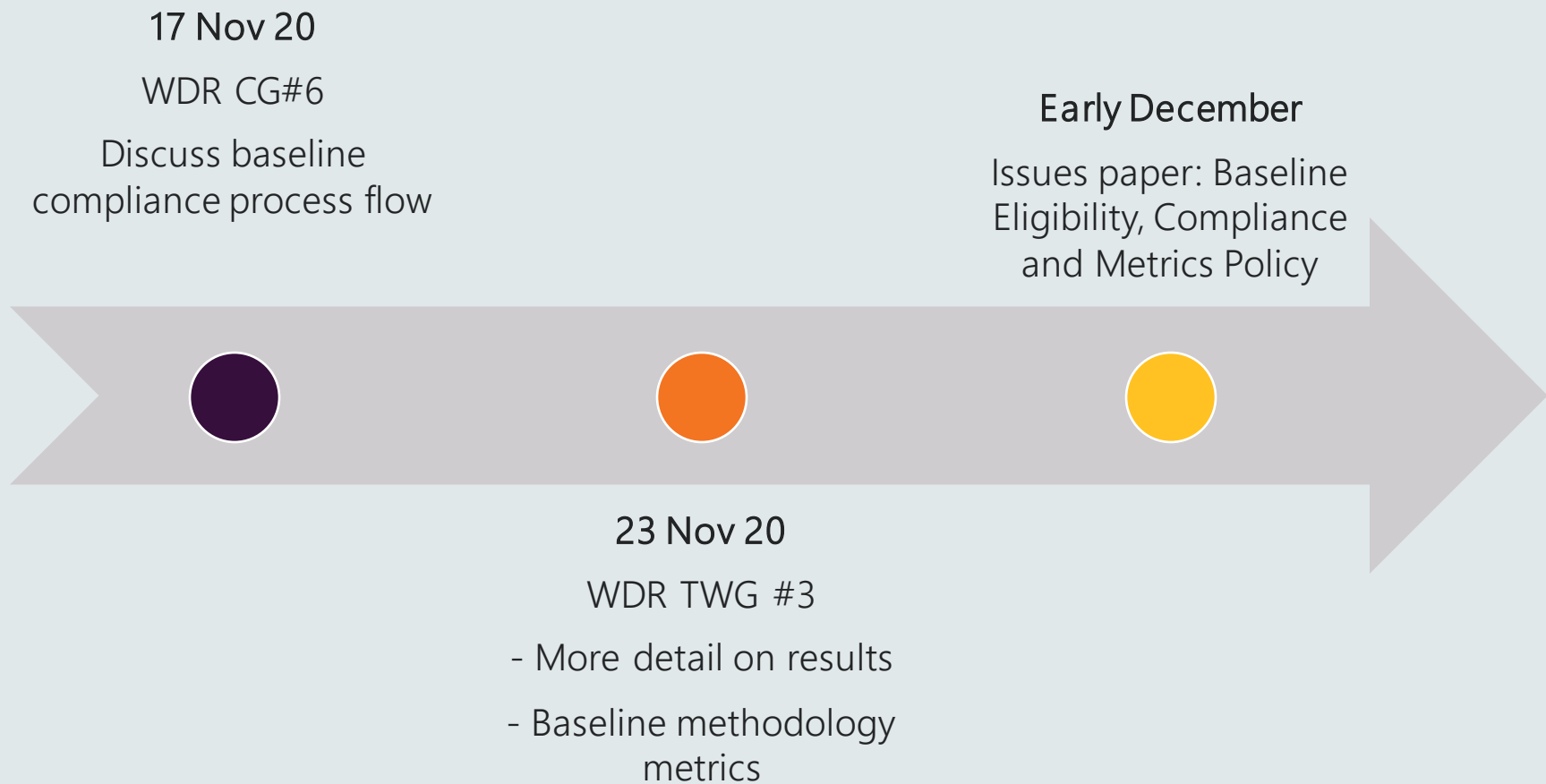
Baseline eligibility assessment process flow - WDRU classification



Baseline compliance testing process flow - systematic testing



Next steps



Consultation: Baseline Eligibility, Compliance and Metrics Policy

Stage	Indicative dates
Consultation paper	Early December 2020
Round #1 consultation	January 2021
Draft policy	February 2021
Round #2 consultation	March 2021
Final policy	April 2021

Stakeholder engagement and forward agenda

Emily Brodie

Upcoming WDR meetings

Meeting	Meeting Date
WDR Guidelines TWG #3	Mon 23 Nov
Portfolio Management System walkthrough	Thu 26 Nov
WDR/DNSP forum	Fri 11 Dec
WDR CG #7	Tue 15 Dec

Indicative agenda for December WDR CG meeting:

- Administrative matters
- Procedure consultation updates
- What to expect in the *DRAFT* WDR Guidelines
- Approach to WDR industry readiness



Please provide agenda suggestions at any time to WDR@aemo.com.au

Upcoming WDR meetings

- **WDR technical working group**

- **Timing:** 10:30am – 12:30pm AEDT, Mon 23 November
- **Purpose:** Discussion on WDR baselines and WDR guidelines issues paper

- **WDR Portfolio Management System walkthrough**

- **Timing:** 2:30pm – 4:30pm AEDT, Thu 26 November
- **Purpose:** Detailed Portfolio Management System walkthrough and questionnaire with participants.
- **Nominations:** to wdr@aemo.com.au by Fri 20 Nov

- **DNSP forum**

- **Timing:** 10:30am – 12:30pm AEDT, Fri 11 December
- **Purpose:** Forum for sharing information on and discussing potential WDR impacts on distribution networks.

WDR contact and information



Mailbox

wdr@aemo.com.au



WDR program information

<https://aemo.com.au/initiatives/trials-and-initiatives/wholesale-demand-response-mechanism>



WDR stakeholder engagement options

<https://aemo.com.au/consultations/industry-forums-and-working-groups/list-of-industry-forums-and-working-groups/wdr>

General questions

Emily Brodie

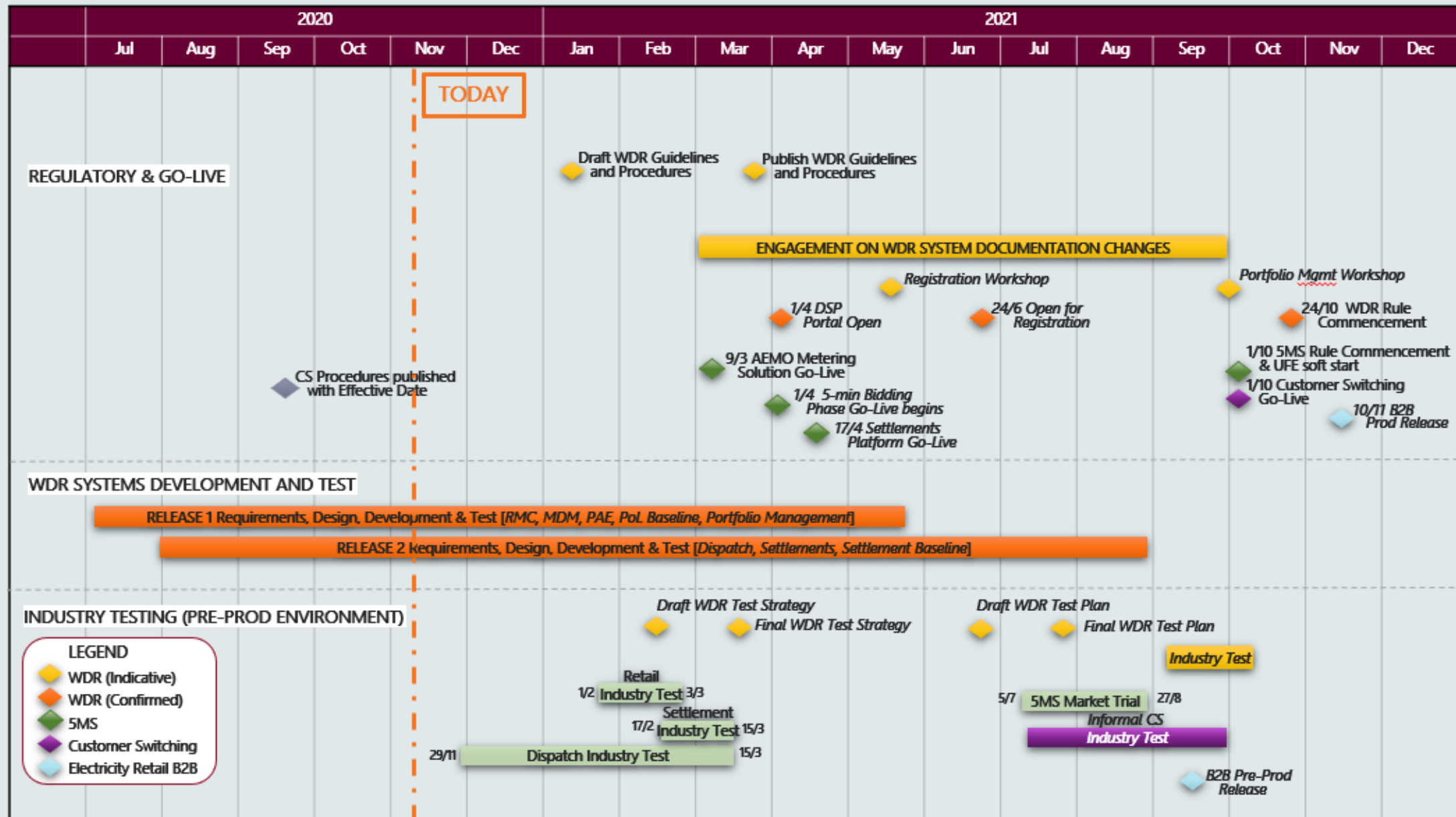
Thank you for your
participation!

APPENDIX A

Indicative program schedule

Indicative program schedule

Current as of 10 Nov 20



APPENDIX B

Procedure changes

WDR procedure consultation update

Work package	Status	Next milestone	Date
WDR guidelines	Issues paper out for consultation	Submissions due	Fri 27 Nov
Settlements and prudentials: • Credit Limit Procedures	Preparing draft determination	AEMO to publish draft determination	Fri 13 Nov
Settlements and prudentials: • NEM Settlement Estimates Policy	Issues paper out for consultation	Submissions due	Fri 18 Dec
Retail and B2B	Issues paper out for consultation	Submissions due	Tue 17 Nov
Market and system operations	Issues paper out for consultation	Submissions due	Tue 17 Nov
Demand-side participation information guidelines	Draft determination and draft guidelines out for consultation	Submissions due	Wed 25 Nov

Procedure change timelines

Procedure package	Consultation Paper	Round 1 Consultation	Draft	Round 2 Consultation	Final
WDR Guidelines	Thu 22 Oct 2020	Fri 27 Nov 2020	Thu 14 Jan 2021	Fri 12 Feb 2021	Thu 25 Mar 2021
Settlements and Prudentials procedure – CLP	Fri 04 Sep 2020	Fri 16 Oct 2020	Thu 12 Nov 2020	Fri 04 Dec 2020	Fri 15 Jan 2021
Settlements and Prudentials procedure - Estimations	Thu 05 Nov 2020	Fri 18 Dec 2020	Fri 15 Jan 2021	Thu 04 Feb 2021	Thu 04 Mar 2021
Retail procedures & B2B guide	Mon 12 Oct 2020	Tue 17 Nov 2020	Tue 15 Dec 2020	Tue 02 Feb 2021	Tue 16 Mar 2021
Market & System Operations procedures	Fri 09 Oct 2020	Tue 17 Nov 2020	Fri 11 Dec 2020	Fri 29 Jan 2021	Fri 12 Mar 2021
Demand-side participation information guidelines	Wed 26 Aug 2020	Wed 30 Sep 2020	Wed 11 Nov 2020	Wed 25 Nov 2020	Fri 18 Dec 2020
Baseline Eligibility, Compliance and Metrics Policy	Early Dec 2020	Jan 2021	Feb 2021	Mar 2021	Apr 2021

APPENDIX C

Project and system document changes

Project and system document change timelines

Area	Document	Early version released	Comments due	Updated version published
DISPATCH COMPLIANCE	Post-event dispatch compliance framework	Jan 2021	Feb 2021	Apr 2021
TESTING	WDR Test Strategy	Feb 2021	Mar 2021	Mar 2021
	WDR Test Plan	Jun 2021	Jul 2021	Jul 2021
WHOLESALE – EMMS	EMMS Technical Specification	Mar 2021	Apr 2021	Apr 2021
	EMMS Data Model (DM) Report	Aug 2021	Sep 2021	Sep 2021
	Data Interchange (DI) online help	Aug 2021	n/a	Sep 2021
	Guide to Portfolio Management System (PMS)	Apr 2021	Apr 2021	May 2021
	Markets Portal online help (PMS updates)	Apr 2021	Apr 2021	May 2021
	Portfolio Management API Technical Specification*	Jul 2021	Aug 2021	Sep 2021
	Portfolio Management API Guide*	Jul 2021	Aug 2021	Sep 2021
RETAIL – MSATS/eMDM	MSATS Technical Specification	Apr 2021	Apr 2021	May 2021
	New/Updated MSATS/eMDM guides	Jun 2021	Jul 2021	Sep 2021

