WDR Guidelines Technical Working Group #2

Monday 12th October 2020

WebEx only

Please disconnect from your workplace VPN for WebEx call

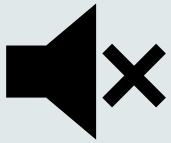
PLEASE NOTE THIS MEETING WILL BE RECORDED FOR THE PURPOSE OF PREPARING MINUTES

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.

AEMO
AUSTRALIAN ENERGY MARKET OPERATOR

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
AUSTRALIAN ENERGY MARKET OPERATOR

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.

AEMO
AUSTRALIAN ENERGY MARKET OPERATOR

Agenda

NO	TIME (AEDT)	AGENDA ITEM	RESPONSIBLE
1	1:00pm – 1:10pm	Welcome	Greg Ruthven (Chair)
2	1:10pm – 1:30pm	Notes, actions and feedback from previous meeting	Greg Ruthven
3	1:30pm – 1:45pm	Matters carried over from TWG #1	Greg Ruthven
4	1:45pm – 2:15pm	Telemetry and communications requirements	Ben Blake
BREAK 2:15pm – 2:25pm			
5	2:25pm – 2:55pm	Regional thresholds for increased visibility	Robert Manolache
6	2:55pm – 3:35pm	Baseline processes	Katalin Foran / Aurel Griesser
BREAK 3:35pm – 3:45pm			
7	3:45pm – 4:05pm	WDR data access and publication	Ruth Guest
8	4:05pm – 4:15pm	Next steps	Greg Ruthven
9	4:15pm – 4:20pm	General questions and close	Greg Ruthven

Notes, actions and feedback from previous meeting

Greg Ruthven

AEMO
AUSTRALIAN ENERGY MARKET OPERATOR

Summary of positions from TWG #1

Topic	Position
Scope of guidelines	~~In addition to mandatory content, WDR guidelines expected to also include information on baseline methodology (BLM) metrics and baseline compliance testing~~ (see slide 44)
Principles for guidelines	Principles that AEMO must consider when amending WDR guidelines to include: • Ensuring adequate power system operation, and the maintenance of power system security and reliability of supply • Recognition of the different ways that end users can provide wholesale demand response
Timeline for developing guidelines	AEMO to continue along proposed timeline, targeting Issues Paper in Oct 2020 and draft determination/draft guidelines in Dec 2020, to allow for final guidelines in Mar 2021
Baselines	Single BLM for start of WDR mechanism, to be developed using the RERT methodology (CAISO 10 of 10) as a starting point (pending independent advice and stakeholder input)
Assessing power system security impact of aggregation	5 MW default threshold to trigger assessment of power system security impact of WDR aggregation (noting that smaller aggregations may require assessment)
Telemetry & communications	SCADA (or alternative) to be required for sites with maximum responsive component (MRC) of 5 MW or greater at a connection point (may be required for smaller sites if located in a congested area of the power system) SCADA-lite expected to be included as a telemetry/comms option in the WDR guidelines
Maximum responsive component (MRC)	Plant will need to be commissioned prior to participation in WDR, such that observed load supports decision on MRC (also required to assess baseline compliance)

Responses to WDRG TWG #1 meeting actions (1/2)

#	Topic	Action	Response
01.02.01	Stakeholder information	AEMO to arrange for a comparison of WDR and RERT mechanisms to be discussed at an upcoming forum	This comparison was provided by the AEMC at WDR CG meeting #3, on 18 Aug 2020.
01.02.02	Stakeholder information	AEMO to consider developing end-to-end process information for large users	AEMO is progressively developing end-to-end WDR process information for DRSPs. This will variously be shared at the WDR CG or on the WDR website, and consolidated when appropriate. For example, see: • Bidding and dispatch information in WDR CG #2 pack • Dispatch compliance information in WDR CG #3 pack • Registration, classification and aggregation information in WDR CG #4 pack *Note that information provided by AEMO is general and may not be appropriate for any participant's particular situation or market activities. For more information please refer to AEMO's* privacy and legal notices.
01.02.03	WDR guidelines development	AEMO to consider another guidelines principle recognising different ways end users can provide service	AEMO will include this principle in its issues paper and seek stakeholder views as to its inclusion in the guidelines. (See previous slide.)
01.02.04	WDR guidelines development	AEMO to consider timing options for developing the baseline methodology separate to the guidelines	WDR guidelines must include information on baseline processes – included in agenda item #6. Development of the baseline itself is occurring in parallel (supported by independent advice and stakeholder feedback) and will be discussed at TWG #3.
01.02.05	Stakeholder information	AEMO to consider facilitating discussion on how participants with differing capabilities may be able to meet dispatch instructions	AEMO is progressively discussing this through the WDR CG. For example, see: • Bidding and dispatch information in WDR CG #2 pack • Dispatch compliance information in WDR CG #3 pack • Scenarios in WDR CG #4 pack • Further discussion on the dispatch compliance framework at a future WDR CG meeting.

Responses to WDRG TWG #1 meeting actions (2/2)

#	Topic	Action	Response
01.02.06	TWG administration	AEMO to publish the final TWG Terms of Reference	Done
01.02.07	WDR guidelines development	TWG to provide any further feedback on stakeholder questions	5 stakeholders have provided feedback on matters related to the last TWG (see next slide). AEMO welcomes further input at WDR@aemo.com.au.
01.03.01	Baselines	AEMO to consider segmenting load data by industry for the baseline analysis	For the baseline analysis the consultant is segmenting by load size first with the ability to drill deeper on some segments subsequently.
01.03.02	Baselines	AEMO to consider a facility for participants to assess baseline performance against the baseline methodology metrics prior to applying for classification of a load as a WDRU	AEMO plans to provide a way for participants to assess their baseline performance against the baseline metrics. Unsure at this stage if the solution will be an integrated or stand-alone one (i.e. Excel tool).
01.06.01	Telemetry and communications	AEMO to clarify whether the SCADA threshold would apply only to individual loads or also to aggregated WDRUs	Telemetry and communications requirements will be discussed in this meeting at agenda item #4.
01.08.01	Data publication	AEMO to clarify what information about WDRUs will be publicly available	This will be discussed in this meeting at agenda item #7.
01.09.01	Stakeholder information	AEMO to develop examples from suggested scenarios and consider the appropriate forum to present these (which may be the WDR Consultative Group)	Scenarios were discussed at WDR CG meeting #4, on 22 Sep 2020.
01.09.02	Stakeholder information	AEMO to provide examples of inflexible plant bidding	Inflexible plant bidding was described at WDR CG meeting #4, on 22 Sep 2020.

Matters raised since TWG #1

- 5 stakeholders have provided feedback on matters related to TWG #1

Topic	Response
Dispatch compliance	Discussed at WDR CG #3, further discussion to be held at WDR CG when appropriate
Guideline development process	AEMO proceeding to finalise WDR guidelines as soon as possible (target March 2020). Some additional scope (e.g. dispatch compliance) may be excluded from initial WDR guidelines as a result.
Baseline methodology	Additional TWG meeting to be scheduled in November to discuss
Telemetry and communications	Follow-up discussion in this meeting at agenda item #4. (Note that FCAS requirements will be addressed separately through a review of the MASS.)
Registration forms	AEMO will look to design application forms to combine classification and aggregation, and WDRUs and ASLs
Bidding and settlement	These processes are not changing specifically as a result of WDR.

- Further suggestions or feedback welcome at WDR@aemo.com.au

Matters carried over from TWG #1

Greg Ruthven

AEMO
AUSTRALIAN ENERGY MARKET OPERATOR

Conditions for classification of load as WDRU

- Clause 2.3.6(e) lists conditions for classification of a load as a WDRU
  - Includes "each other requirement in the *wholesale demand response guidelines* for classification as a *wholesale demand response unit*"
- AEMO proposes to include the following additional requirements in the WDR guidelines:

Requirement	Rationale
5-minute metering data	To facilitate settlement and dispatch conformance monitoring
A connection point that a DRSP wishes to classify for WDR may not be classified for ancillary service load by a different DRSP or market customer.	NER: 2.3.4(d), 2.3.5(e1), 2.3.6(f)
A load is not represented by more than one NMI	NER: 2.3.6(m)(i)
Load is not participating in RERT	NER: 3.20.3(g)
Load is not spot price exposed	NER: 2.3.6(e)(2), 3.8.2A(d)

Conditions for aggregation of WDRUs for central dispatch

- Clause 3.8.3(b2) lists conditions for aggregation of WDRUs for central dispatch
  - Includes "each other requirement in the *wholesale demand response guidelines*"
  - AEMO has not identified any additional requirements
- A condition for aggregation is that "*power system security* must not be materially affected by the proposed aggregation"
  - AEMO proposes to provide details on this assessment in the guidelines
  - Guidelines to describe how AEMO will inform stakeholders about weaker areas of the power system
- Clause 3.8.3(b3) allows AEMO to impose terms and conditions when approving aggregation, which may include the circumstances in which AEMO may require aggregated WDRUs to be disaggregated
  - Changes to power system conditions such that power system security may be materially affected
  - Persistent dispatch non-conformance

Conditions for aggregation of WDRUs for central dispatch

Stakeholder questions:

- Do stakeholders consider that any further requirements for classification or aggregation need to be stipulated in the WDR guidelines?
- What information would stakeholders like to see about power system conditions that may limit the ability to aggregate WDR?

Maximum Responsive Component (MRC)

The maximum quantity (in MW) of wholesale demand response that a wholesale demand response unit is able to provide in accordance with the Rules.
For wholesale demand response units aggregated in accordance with clause 3.8.3, the maximum responsive component specified by AEMO as a condition of aggregation under clause 3.8.3(b3) (if any) or otherwise, the aggregate maximum responsive component of the aggregated wholesale demand response units.

- What is the role of the MRC?
  - The DRSP must specify the proposed MRC when applying to classify a load as a WDRU
  - Caps the quantity that may be offered in dispatch
    - Sum of the MW quantities in each price band for each trading interval must not exceed the MRC of the WDRU
  - Used in settlement to cap the quantity of WDR at each NMI
  - May be adjusted following settlement/review of dispatch conformance at the NMI

Information to support MRC

Application to classify WDRU must specify the proposed **maximum responsive component** for that WDRU

DRSP	captured in rego data
Address details for providing response	captured in rego data
NMI	will have that as primary key for WDRU data
Counterparty	company doing the DR
Type of Site	industrial/commercial/agricultural [drop down list]
Plant (types)	could have multiple plant - need to be able to choose more than one [drop down list]
Plant - size	MW or MVA and PF
Plant - storage	Free text eg air in kl or MWh for battery
Plant - Mode/ number	if applicable - brand, model - Free text
Plant - means of control	telemetry, SMS etc
MRC (Firm MVA x PF)	MW
Response Time	if > 2 mins need extra info on how to meet dispatch timeframes

Following stakeholder feedback –
These data fields shown in TWG 1 will not be required. AEMO notes that the plant would be commissioned prior to classification of the WDRU and therefore metering data can be used to demonstrate actual load. AEMO will use metering data to validate the proposed MRC during WDRU classification and to validate subsequent change requests.

NMI MRC	MW
NMI MRC explanatory	Free text
Aggregate/ DUID MRC	MW, <= to sum(NMI MRCs)
Aggregate/ DUID MRC explanatory	Free text

MRC change process (1/2)

- At the time of classifying WDRU, assessment of MRC will occur within existing timeframes for classification decision
- For subsequent MRC change requests (made via Portfolio Manager):
  - AEMO to determine if further information required (5 business days)
  - AEMO to approve/reject request within 15 business days from initial request/provision of additional information, and communicate outcome to DRSP
- MRC also subject to annual review of bid and offer validation data by DRSP (Schedule 3.1)

MRC change process (2/2)

- AEMO will have regard to meter data and previous dispatch performance and may request further information to support MRC change request
- If the WDRU is part of an aggregation, the DUID MRC will be modified by the change in NMI-level MRC, unless specified by the DRSP
- DRSP may need to resubmit existing bids if they conflict with updated MRC

Stakeholder questions:

- Can stakeholders envisage circumstances where an updated MRC should take effect earlier than proposed process?
- Do stakeholders consider that an alternative approach to adjusting the DUID-level MRC may be appropriate?

Telemetry and communications requirements

Ben Blake

AEMO
AUSTRALIAN ENERGY MARKET OPERATOR

Indicative SCADA requirements (1/3)

- SCADA (or equivalent) visibility supports:
  - Operational forecasting
  - Constraint management
  - Diagnosis and remedial action in the event of power quality issues
- To meet these needs, SCADA data (where required) to include value of demand response being provided
  - Note that this requires the DRSP to have an estimate of the counterfactual (or baseline) against which to assess the reduction in demand
- Where applicable, consistency of requirements with generation
  - E.g. 5 MW of aggregated WDR at a single TNI is similar to 5 MW generator
- Some flexibility of requirements needed for weaker areas of the power system

Indicative SCADA requirements (2/3)

- SCADA (or equivalent) to be required:
  - Any individual WDRU or aggregation ≥ 5 MW
  - Total WDR classified by DRSP of ≥ 5 MW behind a TNI
- Process to consider exemptions from requirement
- Where power system conditions require, SCADA (or equivalent) requirements may be applied:
  - Below 5 MW in weaker areas of the power system, or where WDR of multiple DRSPs in that area require increased monitoring
  - For neighbouring groups of TNIs
- SCADA (or equivalent) also required for any new WDRU in a region once the regional threshold (3.10.1(c)) is reached

Stakeholder question:

- Can stakeholders advise why they may not choose to aggregate WDR at a single TNI?

Indicative SCADA requirements (3/3)

- Stakeholder questions:
  - Source of data measurement come from: Gate/revenue meter? Asset-level or FCAS meter?
  - Time resolution/latency
  - For an aggregated DUID, are individual NMI data streams required or a single aggregated data stream?
  - Why would reactive power be required?
  - If a DRSP has multiple DUIDs, can it use the same gateway for all DUIDs?
  - Is specific SCADA hardware required?
  - Does AEMO charge to onboard a SCADA system?
- Starting point is the Power System Data Communications Standard (available here)

BREAK

AEMO
AUSTRALIAN ENERGY MARKET OPERATOR

Regional thresholds for increased visibility

Robert Manolache

AEMO
AUSTRALIAN ENERGY MARKET OPERATOR

Background

- Smaller WDRUs will typically not have to provide real-time telemetry
  - If maximum DR is below 5 MW **and** no system security concerns
  - To incentivise participation by smaller C&I loads

- Resulting lack of real-time dispatch visibility for exempt WDRUs
  - Though each individual WDRU is relatively small, there could be an aggregate material impact on the system due to lack of visibility
  - Therefore, for each region, it is important to set a threshold that limits the total registered MW amount of WDR without real-time telemetry

Forecast accuracy impact: simplified example

Start of dispatch interval	MW
Scheduled demand forecast	4,100
WDR dispatch target	100
Scheduled/semi-scheduled dispatch	4,000

End of dispatch interval	MW
Actual demand	4,100
WDR delivered	50
Scheduled/semi-scheduled output	4,050

- We can observe the scheduled/semi-scheduled output
- **In the absence of real-time telemetry**, we assume all WDR was delivered to reconstitute demand

End of dispatch interval	MW
Reconstituted demand	4,150
WDR **assumed** delivered	100
Scheduled/semi-scheduled output	4,050

- The reconstituted demand differs from the actual demand by 50 MW
- This error feeds into subsequent forecasts i.e. via auto-regressive terms in the forecasting model – which impacts AEMO's ability to accurately forecast demand

Implications

- Reduced operational forecasting accuracy affects AEMO's ability to balance supply and demand in the NEM, which can:
  - Increase need for regulation and contingency FCAS
  - Impact pre-dispatch and short-term PASA processes
  - Affect constraint implementation
  - Increase operational uncertainty

- Affects external stakeholders that rely on AEMO's forecasts and real-time telemetry data, e.g.:
  - NEM participants
  - Network service providers

Setting the thresholds: general approach

- To manage risk, initially set conservative values
  - Have frequent periodic revisions
  - Proportional to regional demand levels
  - Allow time to gather data on dispatch performance, develop understanding of the impact and implement required measures to mitigate risks
  - Provide the scope to include more participants over time

- Basis for threshold revisions
  - Outcomes from dispatch conformance assessment
  - How often does WDR (without real-time telemetry) impact forecast deviations?
    - Are the contributions to forecast deviations material?
  - Develop metrics to quantify the incremental risk and the impact of residuals

Initial setting (indicative numbers only)

- Roughly 1% of regional 3-year historical maximum (scheduled) demand in dispatch intervals **with prices above $300 / MWh**

State	NSW	QLD	SA	TAS	VIC
Threshold	140	100	32	17	95
Max demand	13,814	9,862	3,125	1,684	9,613
Min demand (Threshold %)	6,129 (2.3)	5,145 (1.9)	596 (5.4)	766 (2.2)	3,591 (2.6)

- Rationale
  - Manage dependence on dispatch sources without real-time telemetry during high demand intervals and – to some extent – low demand intervals

Baseline processes

Katalin Foran

AEMO
AUSTRALIAN ENERGY MARKET OPERATOR

Baseline development process (1/3)

- WDR guidelines must describe the process for development of BLMs, including how proposals for new BLMs may be made.
- WDRM will start with a single 'RERT-like' BLM:
  - Based on the '10 of 10' CAISO method
  - Likely to have some sort of adjustment methodology
  - Will have all days, weekdays and weekends+public holidays options (*AEMO still deciding whether this is 3 different BLMs in our system, or just 1 BLM with settings of either all days, weekday or weekends+PH).
  - This will allow a DRSP to bid in for any of the 24 hr periods for either all days, weekdays or weekends+PH
  - Single* BLM to start with to minimise cost and time to market
- Process for development of new BLMs must recognise that addition of a new BLM will involve IT implementation of varying complexity – time and cost will have to be part of AEMO's consideration.
- Any proposal for a new BLM will likely need to include:
  - Detailed outline of BLM calculation and baseline settings (for baseline calculation and accuracy and bias metrics assessment).
  - Evidence of benefits that may be realised through introduction of the proposed BLM, e.g. evidence to demonstrate improved baseline compliance and/or increased WDR participation (benefits to be quantified where feasible).

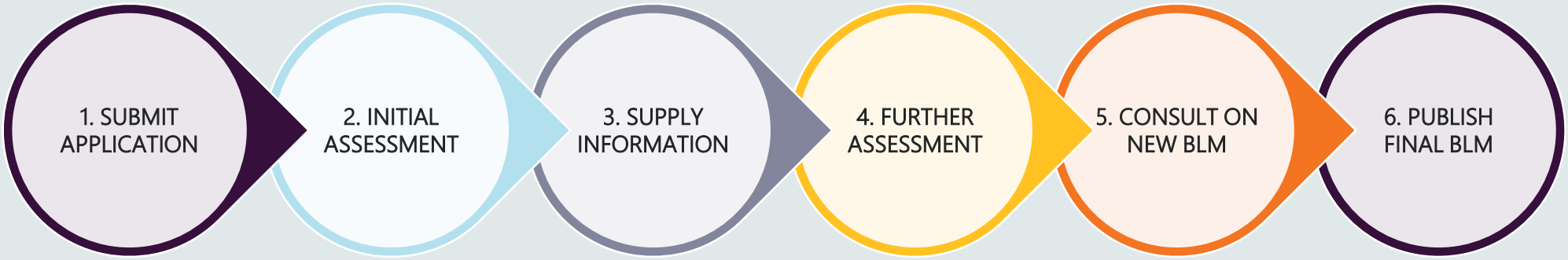
Baseline development process (2/3)

- Due to the tight implementation timeframes AEMO will not be able to consider new BLMs until after April 2022.

Stakeholder question:

- What are the likely options you would like to see in any future BLMs?
  - Allow for different number of days in BL calculation (i.e. 8 of 8 etc.)
  - Allow for different adjustment methodologies (additive, multiplicative, capped, etc.)
  - Allow for choosing specific days or TIs (i.e. only Wednesdays-Friday)
  - Allow a totally different baseline methodology (i.e. not RERT like)
  - Any other?

Baseline development process (3/3)



- **Proponent** submits new BLM proposal to AEMO using form provided.

Within **10 business days**, **AEMO**:

- Performs initial completeness check
- Requests further information if needed.

- If requested, **proponent** supplies further information or clarification to **AEMO.**

- **AEMO** analyses complete proposal within **20 business days** of receiving requested information or clarifications.

- **AEMO** publishes market notice advising that new BLM has been proposed, AEMO's draft position and proposed implementation cost/schedule
- Submissions period of **20 business days** for **Participants** to provide feedback on BLM proposal.

AEMO publishes final decision on:

- BLM
- any baseline settings
- implementation schedule

within **20 business days** of submissions closing.

- AEMO may also initiate BLM proposals (starting at step #5)
- AEMO BLM decisions must have regard to the relative costs and benefits of developing the new BLM.

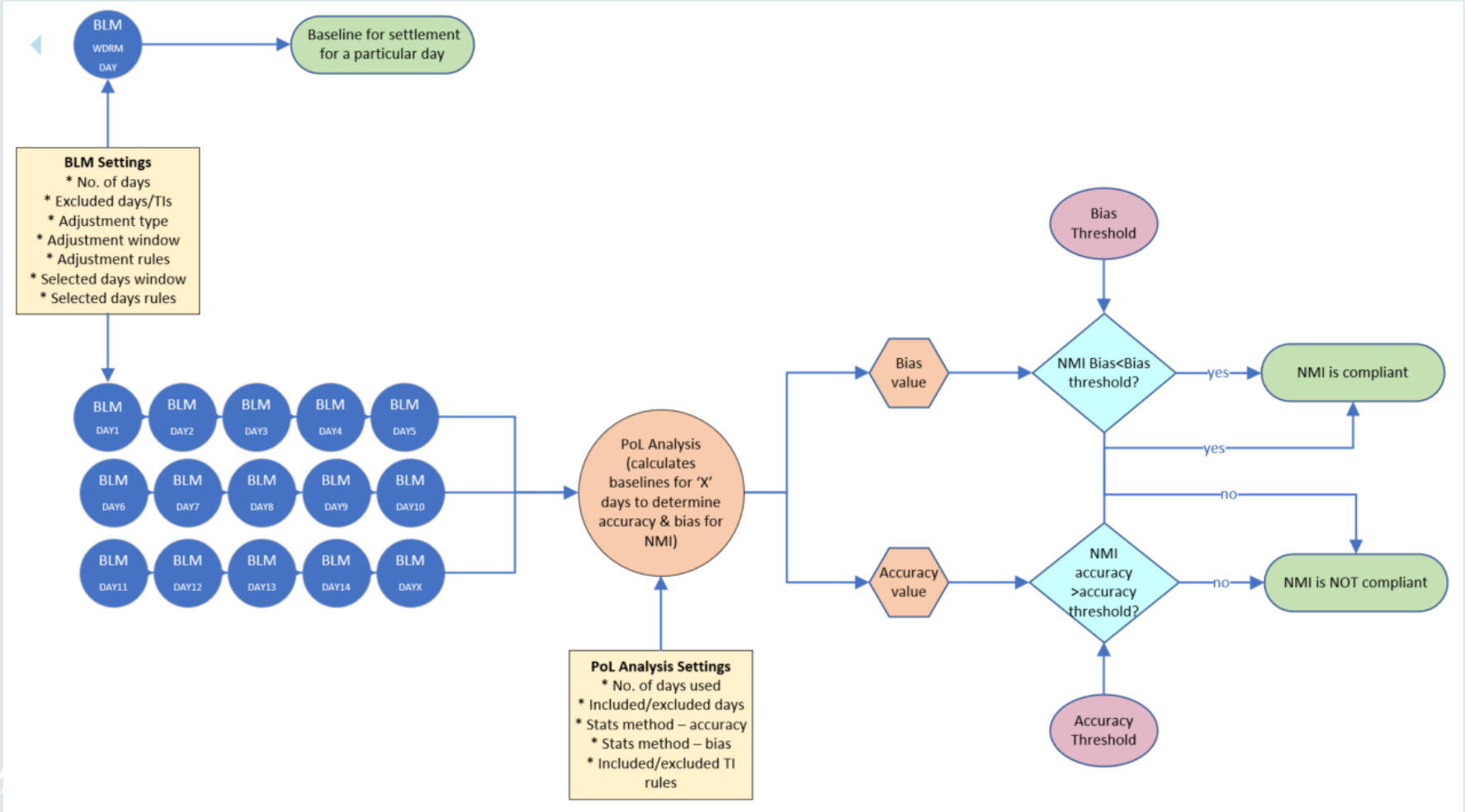
Applying BLM to WDRU

- WDR guidelines must describe the process for applying a BLM and baseline settings to a WDRU.
- For first WDRU classification: application form will include space to nominate BLM from the available BLMs on the register (initially choice between "all days", “weekdays” and “weekend and PHs”).
- For subsequent WDRU classifications: applications may be made through Portfolio Manager system.
- To change BLM/settings for existing WDRUs: DRSP may apply to change BLM/settings through Portfolio Manager system (note that the ability to change settings will initially be limited to all days/weekdays/weekends+PHs).
- If the WDRU meets the thresholds set by AEMO for accuracy and bias they will be approved for that BLM/settings.

Baselines - settlement and compliance

Baseline methodology (BLM) used for two distinct purposes:

1. Settlement (single baseline calculation)
2. Compliance (multiple baseline calculations used for statistical analysis of accuracy/bias (PoL analysis)



Baselines for settlement - discussion

Stakeholder questions:

- Any general comments on RERT-like methodologies:
  - baseline adjustment types
  - adjustment window rules
  - minimum number of days required for BL calculation
  - any other?
- Excluded days (i.e. RERT excludes previous RERT days).
  - Should whole days of previous WDR activity be excluded from the BL calculation ? (means baseline may be based on data further in the past)
  - Should only TIs with previous WDR activity be excluded from the BL calculation? (means baseline for each TI may be based on a different set of days, making it more complex)

Baseline compliance

- There are two metrics that we will be looking at for BL compliance:
  - Accuracy – how closely a baseline methodology predicts actual loads in the sample.
  - Bias – the systematic tendency of a baseline methodology to over- or under-predict actual loads.
  - Together we refer to this as Predictability of Load (PoL) analysis.

- AEMO will be responsible for:
  - Setting the threshold values for accuracy and bias.
  - Developing the methodology for calculating accuracy and bias.

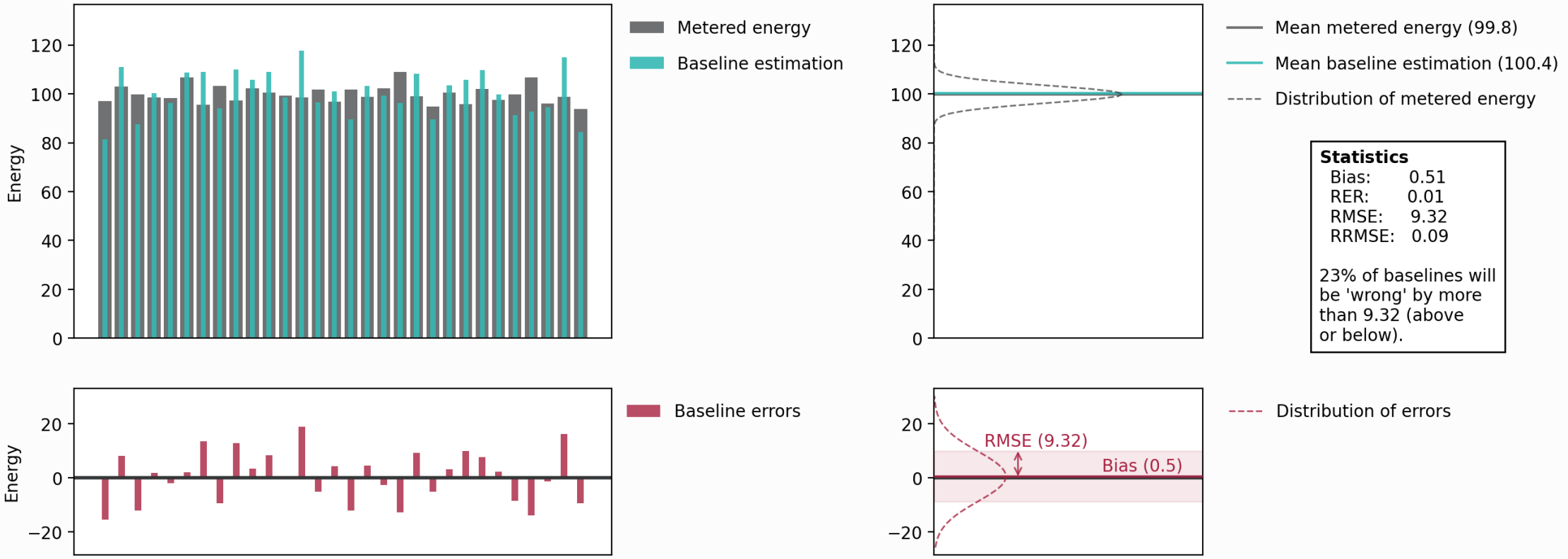
- Setting the accuracy/bias threshold values
  - Will be informed by OGW consultants' work
  - AEMC in its final determination has stipulated that the accuracy threshold should be below 10% on an aggregated level (no directive on bias).
  - It's a balancing act between ensuring participants can partake in WDRM while ensuring baselines meet reasonable predictability standards.

Baseline accuracy and bias

- How will NMI baseline accuracy be determined?
  - Likely to use the Relative Root Mean Square Error (RRMSE) statistical method that compares the forecast baseline to the actual load.
  - RRMSE expresses the baseline's average 5-min accuracy as a fraction of average 5-min load.
  - RRMSE of 0.1, for example, means that the customer's estimated baseline is typically within 10 percent of the actual load.
  - The RRMSE is based on squared prediction errors. This technique in essence weights large errors much more heavily than small or midsized errors.

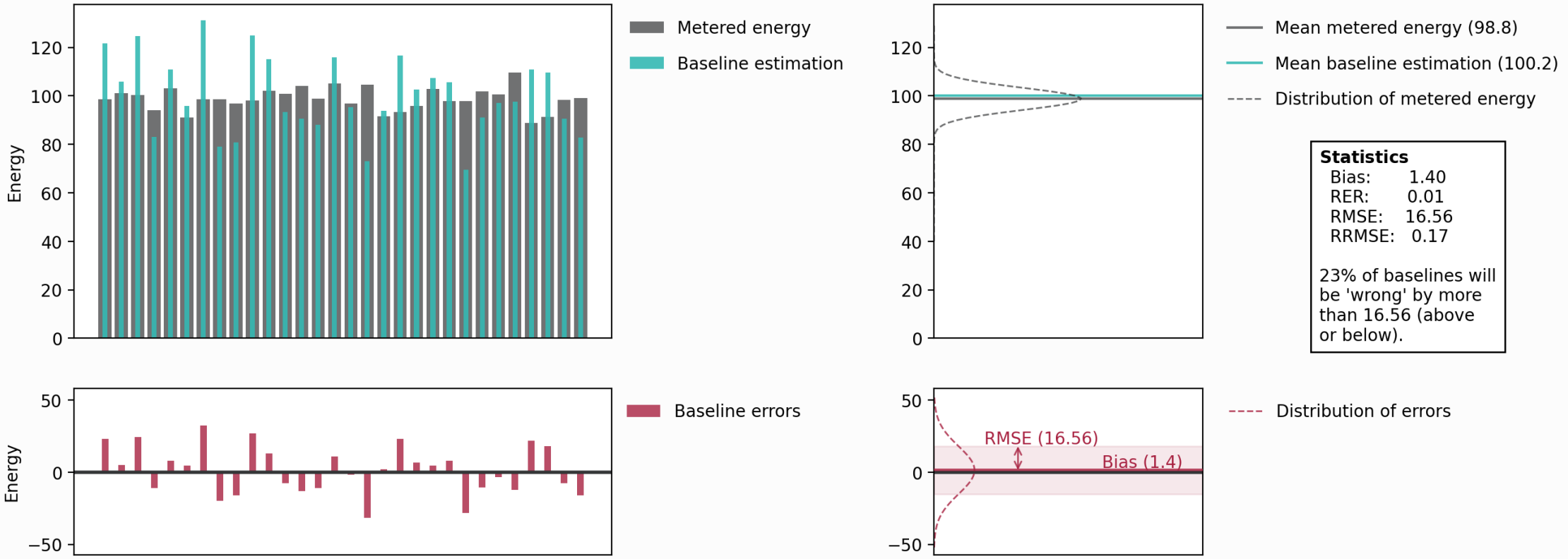
- How will NMI baseline bias be determined?
  - Likely to use the baseline's average relative error (ARE).
  - This statistic, for a given NMI, is the average 5-min baseline less the average 5-min actual load, expressed as a fraction of actual 5-min load.
  - A median ARE value of zero would indicate that sample had no systematic tendency to over- or under-predict loads using that baseline, whereas a positive (negative) value would indicate a tendency to over- (under-) predict loads.

Accuracy and bias



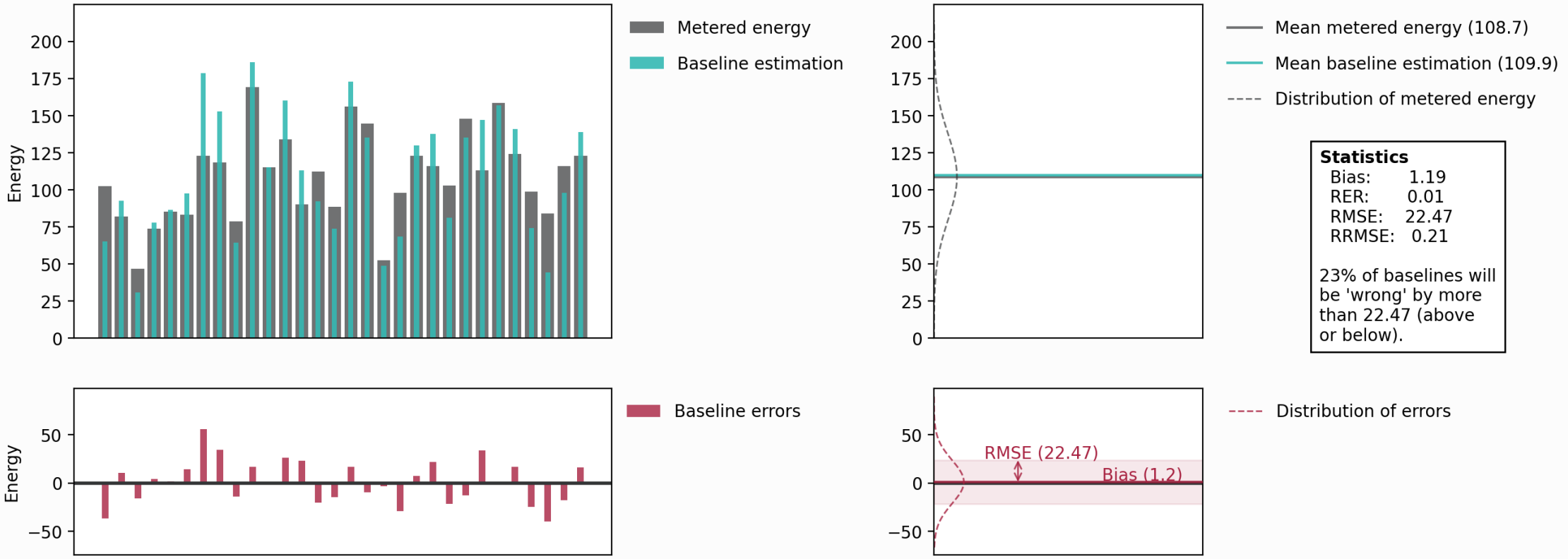
Low bias (RER), acceptable accuracy (RRMSE < 0.1)

Accuracy and bias



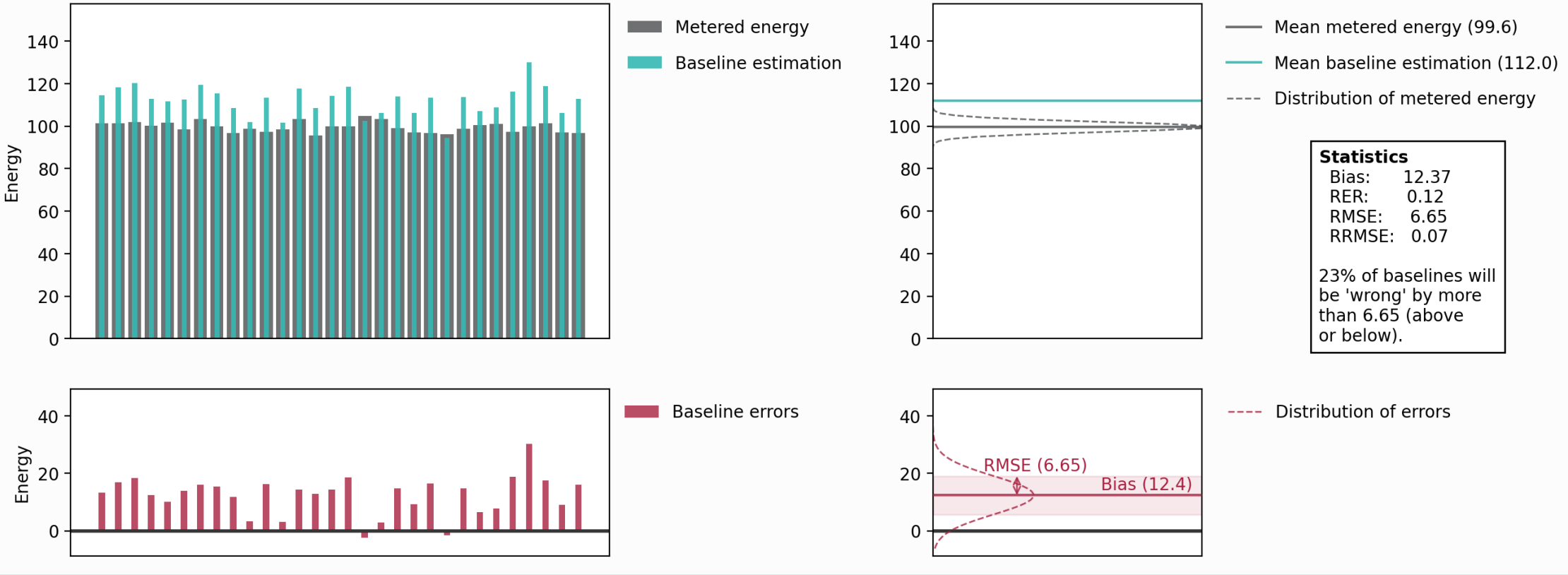
Low bias (RER), poor accuracy (RRMSE > 0.1)

Accuracy and bias



Variable load, low bias, low accuracy (RRMSE > 0.1)

Accuracy and bias



Large bias (RER; baseline consistently over-estimates), but acceptable accuracy

Determining accuracy/bias

- Will use statistical methods (likely RRMSE/ARE) to determine NMI accuracy/bias values.
- Would look back at a set number of days (i.e. 45 ? and certain TIs (2-8pm ?) – to come up with an accuracy/bias values for a NMI.
- Compare that accuracy/bias value to the accuracy/bias thresholds to determine whether NMI is compliant.

Stakeholder questions:

- What is a reasonable number of days to use for the PoL analysis?
- What TIs should be assessed?
- Should days or TIs of previous WDRM be excluded from PoL analysis?

Baseline compliance monitoring

- A NMI would have to be compliant (meet accuracy/bias thresholds) before it can participate in WDRM.
- AEMO would need to reassess baseline compliance at set intervals. This would likely be an automated process.
- Participants may also have the ability to have their compliance reassessed at their request.
- Under NER Clause 3.10.2 (i) DRSPs have the responsibility of notifying AEMO if they know a WDRU is not baseline compliant.

Stakeholder questions:

- What is a reasonable frequency for compliance testing?

Consultation - metrics and compliance

- The BLM metrics and compliance framework (Metrics and Compliance Policy) does not have to be included on the WDR Guidelines.

- Likely to consult on them separately to give us flexibility to work out technical aspects without compromising the WDR Guidelines consultation timeline.

- Metrics and Compliance Policy
  - Will use outcomes of the OGW consultancy analysis.
  - Currently working the operationalisation aspects for both the metrics and compliance framework which will impact the Policy.
  - Will be updating TWG on these aspects as they progress.
  - Likely to start first round consultation in November and follow the standard two round Rules consultation process (finalisation of Policy would be ~March 21).

BREAK

AEMO
AUSTRALIAN ENERGY MARKET OPERATOR

WDR data access and publication

Ruth Guest

AEMO
AUSTRALIAN ENERGY MARKET OPERATOR

Access to baseline data

- Clause 7.15.6 provides for *baseline data* to be provided to DRSPs and FRMP / retailers
  - Baseline methodology (BLM) and settings
  - Maximum Responsive Component (MRC)
  - Dispatch periods of demand response
  - Quantities of demand response

System	Data	Process
Portfolio Manager	NMI WDRU classification NMI mapping to DUIDs BLM settings MRC	DRSP via external facing UI • view current NMI/WDRU by DUID • submit classification and aggregation applications • make/request changes • View full history FRMP to receive reports on NMIs classified as WDRU • Based on event – classification/declassification • Regular schedule
EMMS	Bids Dispatch instructions	DRSP receive dispatch instructions FRMP to receive notification of dispatch instruction • Proposing D+1

Access to meter data

- MSATS will include new DRSP role
  - Note that FRMP will receive notification of the NMI being classified by a DRSP
- DRSP role in MSATS facilitates access to meter data
  - Metering Data Provider obligated to provide meter data to DRSP in the same manner as current obligations for provision to FRMP and LNSP
- Prior to classifying load, potential DRSP will need to access meter data via the customer
  - In future, Consumer Data Right in energy may facilitate access

Information availability and confidentiality

- MRC and dispatch quantities exist at both the individual NMI level and the aggregated DUID level
  - These will be confidential at the individual NMI level
    - Ref clause 7.15.6(a): baseline data is confidential
  - These will be public at the DUID level
    - Ref clause 3.13.3(a): bid and offer validation data (includes DUID-level MRC) must be published
    - Ref clause 3.13.4(p) and (q): dispatch offers/bids, availabilities, details of dispatch data must be published on day D+1
- Bid and offer validation data will be publicly available in NEM Registration and Exemption List
  - AEMO anticipates including the Y/N aggregation flag as per existing facilities in the NEM Registration and Exemption List

Wholesale demand response unit data:

Data	Units of Measurement
***Wholesale demand response unit* information:**	
Wholesale demand response unit name	
Dispatchable unit identifier	
Maximum responsive component of the *wholesale demand response unit*	MW
Maximum *ramp rate*	MW/minute

Arrangements for provision of WDRU-specific data

Stakeholder questions:

- Do stakeholders envisage any issues with dispatch data being provided to the FRMP on day D+1?
  - Note that dispatch data will be at the aggregated DUID level (where applicable) and will not indicate how the DRSP apportions the dispatch instruction to the constituent WDRUs (which may be with different FRMPs)
- Can stakeholders foresee any confidentiality issues with the proposed approach to provision of WDRU-specific data?

Next steps

Greg Ruthven

Scope of WDR guidelines – clause 3.10.1(a)

WDR guidelines must be made by no later than 24 June 2021

	Description	Discussion
(1)	Requirements for classification & aggregation of WDRUs	TWG #1, item #4
(2)	Telemetry and communications equipment requirements	TWG #1, item #6
(3)	Methodology for regional thresholds for increased visibility	TWG #2, item #5
(4)	Process for developing baseline methodologies, including new proposals	TWG #2, item #6
(5)	Process to apply baseline methodology and baseline settings to a WDRU	TWG #2, item #6
(6)	Process to change the maximum responsive component of a WDRU	TWG #1, item #8
(7)	Arrangements for providing details applicable to a WDRU (baseline methodology/settings, maximum responsive component)	TWG #2, item #7
(8)	Any other WDR-related information determined by AEMO	-

Indicative WDR guidelines timing

Stage		Indicative dates
TWG #1		11 Aug 20
TWG #2		12 Oct 20
1st Round Consultation	Issues paper published	*22 Oct 20*
	TWG #3	*Mid Nov 20*
	Submissions due on Issues Paper	*27 Nov 20*
2nd Round Consultation	Draft Report/Draft Guidelines published	Late Dec 20
	Submissions due on Draft Report/Draft Guidelines	Feb 21
Final Report/Final Guidelines published		Mar 21

TWG Meeting 3

- Mid-November
- Agenda to include:
  - Baseline methodology
  - Overview of Issues Paper

Stakeholder questions:

- What other topics or issues do members wish to discuss at the next TWG to inform their submissions to the Issues Paper?

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

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

AEMO
AUSTRALIAN ENERGY MARKET OPERATOR

General questions

Greg Ruthven


AEMO
AUSTRALIAN ENERGY MARKET OPERATOR