

WDR Q&A session

Monday 8 February 2021

WebEx only

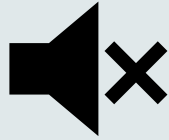
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**PLEASE NOTE THIS MEETING WILL BE RECORDED FOR THE
PURPOSE OF PREPARING MINUTES**

*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.

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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.

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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

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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
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5. Refusing to supply a person or company access to any products, services or inputs they require

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Agenda

NO	TIME (AEDT)	AGENDA ITEM	RESPONSIBLE
1	11:00am – 11:05am	Welcome	Ruth Guest (Chair)
2	11:05am – 11:10am	Recap: WDR Guidelines scope and schedule	Ruth Guest
3	11:10am – 11:40am	DNSP involvement in WDRM	Greg Ruthven
4	11:40am – 12:00pm	Telemetry requirements	Greg Ruthven
BREAK 12:00pm – 12:10pm			
5	12:10pm – 12:20pm	Other changes since Issues Paper	Greg Ruthven
6	12:20pm – 12:55pm	General questions and next steps	Ruth Guest
7	12:55pm – 1:00pm	Meeting close	Ruth Guest

Recap: WDR guidelines scope and schedule

Ruth Guest

Scope of WDR guidelines – clause 3.10.1(a)

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

	Description
(1)	Requirements for classification & aggregation of WDRUs
(2)	Telemetry and communications equipment requirements
(3)	Methodology for regional thresholds for increased visibility
(4)	Process for developing baseline methodologies, including new proposals
(5)	Process to apply baseline methodology and baseline settings to a WDRU
(6)	Process to change the maximum responsive component (MRC) of a WDRU
(7)	Arrangements for providing details applicable to a WDRU (baseline methodology/settings, maximum responsive component)
(8)	Any other WDR-related information determined by AEMO This includes: <ul style="list-style-type: none">- Assessment of power system security impacts of aggregation- Assessment of MRC- Provision of dispatch data

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
	Q&A session	23 Nov 20
	Submissions due on Issues Paper	27 Nov 20
2nd Round Consultation	Draft Report/Draft Guidelines published	21 Jan 21
	Q&A session	8 Feb 21
	Submissions due on Draft Report/Draft Guidelines	19 Feb 21
Final Report/Final Guidelines published		25 Mar 21

DNISP involvement in WDRM

Greg Ruthven

DNISP involvement

- DNISP concerns around system security were highlighted in Energy Queensland submission and in DNISP workshops and meetings
- AEMO considered 3 areas of potential DNISP involvement:

WDRU classification

- No new risk identified: action by individual load is within scope of existing connection agreement
- *Draft Guidelines: No DNISP role to review load classifications*

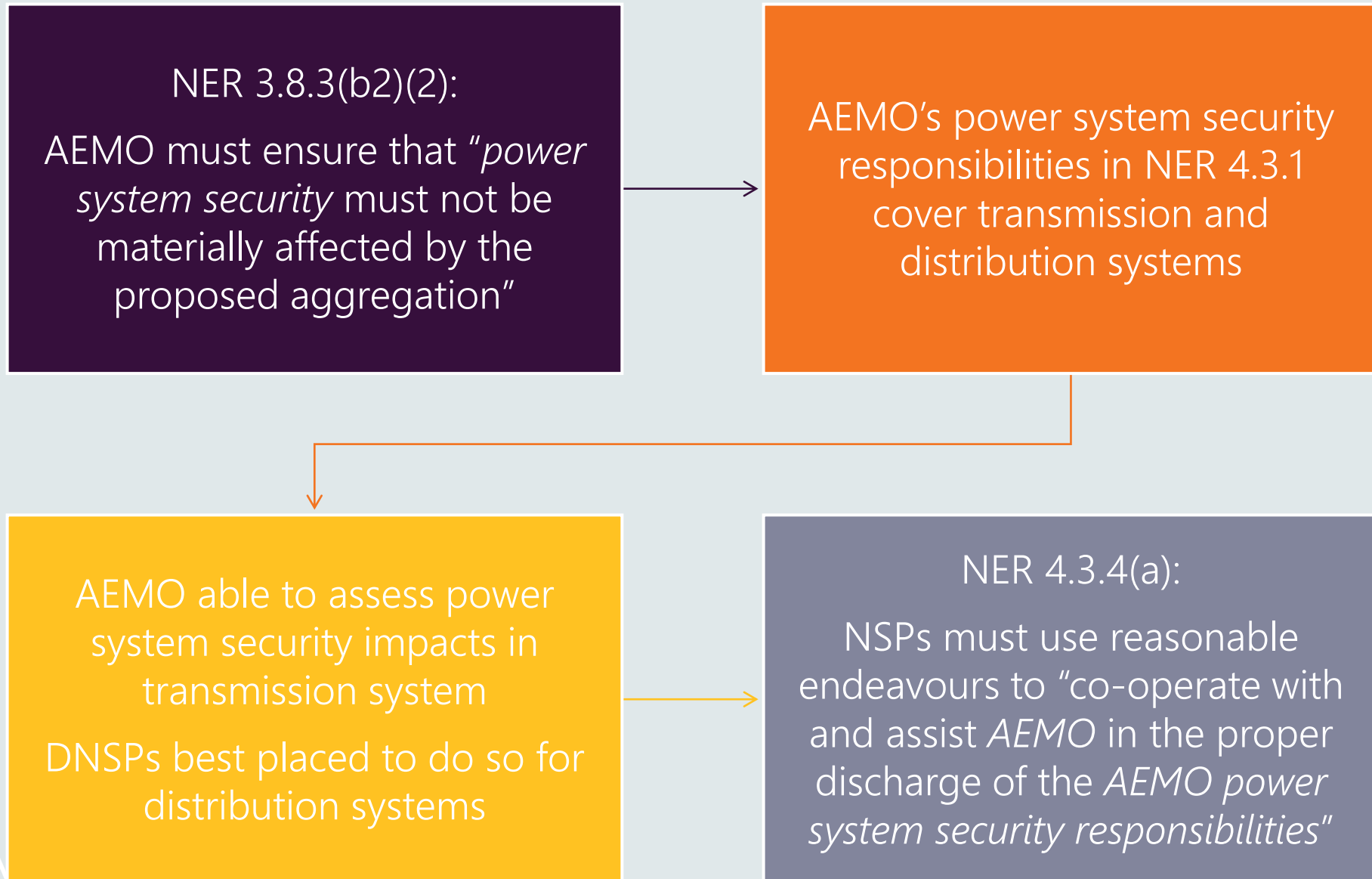
WDRU aggregation

- Risk of voltage issues due to synchronised, aggregated response of multiple WDRUs in a localised area
- *Draft Guidelines: Role for DNISP in reviewing proposed WDRU aggregations*

Access to WDRU data

- Risk of breaching equipment thermal limits during outages/switching if unaware of WDR
- *Draft Guidelines: Sharing of data on WDRU classification and aggregation with DNISPs*

Aggregation: Basis for DNSP endorsement



Aggregation: What the DNSP endorsement will/won't achieve

- Central dispatch of WDRUs should reflect network limitations in order to manage risks in an equitable manner across all providers
 - Applies equally to transmission and distribution

When DNSP assessment required

- One or more WDRUs would be added to an aggregation; and
- $\sum \text{NMI-Level MRC} \geq 5$ MW at/behind single TNI

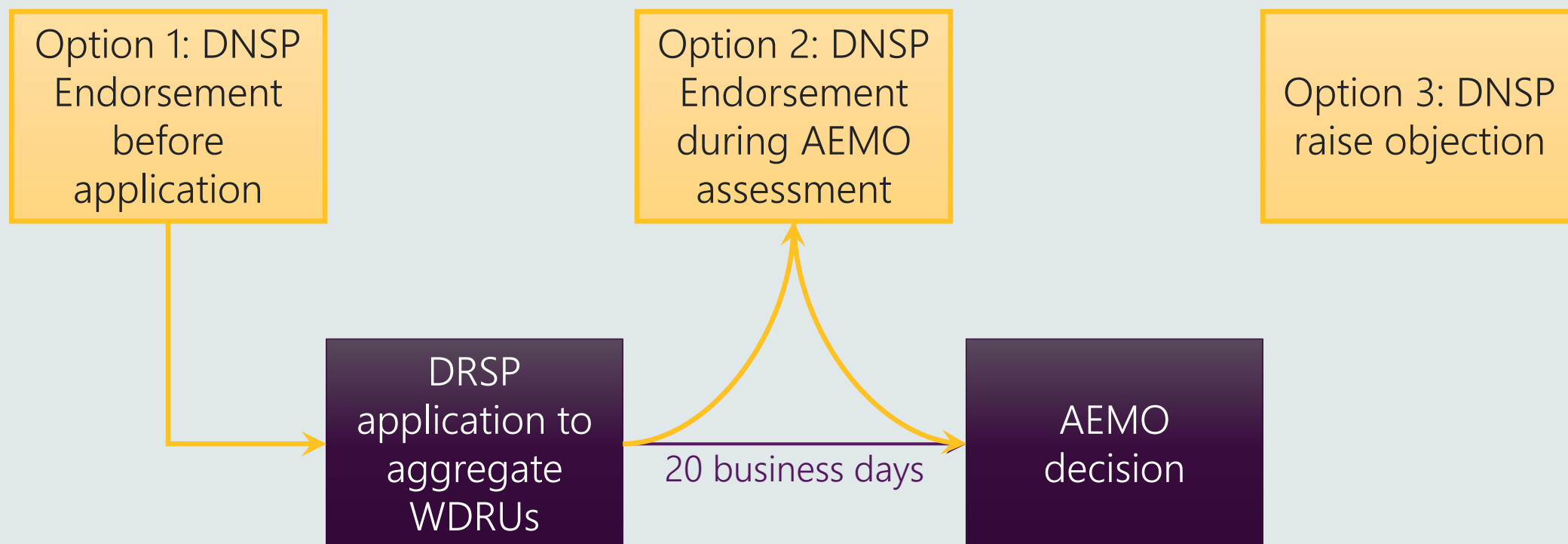
What DNSP assessment will achieve

- Identify where the WDRUs in a proposed aggregation must be represented as two or more DUIDs in constraints
- DNSP would also advise AEMO of any constraints that must be applied

What DNSP assessment won't achieve

- Won't prevent voltage issues – WDRUs may act in synchronised manner regardless of aggregation status

Aggregation: When should DNSP endorsement occur?



Aggregation: DNSP questions re DNSP endorsement

DNSP questions:

- Question 4.1: When would an aggregation of WDRUs need to be rejected due to security risks in distribution networks?
- Question 4.2: What further outputs would be provided from a DNSP's assessment of a proposed aggregation?
- Question 4.3: Could DNSPs commit to assessing an aggregation within a specific period of time? If so, how long?
- Question 4.4: How do DNSPs consider that they could provide transparency around their assessment?
- Question 4.5: Is the proposed threshold of an aggregate NMI-Level MRC of 5 MW or greater appropriate? If not, please provide justification for an alternative threshold.

Aggregation: Stakeholder questions re DNSP endorsement

Stakeholder questions:

- Question 4.6: Do stakeholders have particular concerns regarding the DNSP assessment? If so, what mitigation measures or alternative approaches may address these concerns?
- Question 4.7: What do stakeholders consider to be a reasonable timeframe for a DNSP assessment process, after which the requirement to provide the DNSP Endorsement with an application may be waived?

Data access: what do the NEL and NER say?

NEL

- **Section 54G(1):** AEMO is authorised to disclose protected information if the disclosure is necessary for:
 - the safety, reliability or security of the supply of electricity or the national electricity system
 - the proper operation of the NEM

NER

- Explicit on access to baseline data for DRSPs and retailers
- No provision for baseline data to be shared with DNSPs
- NER 7.15.6(a): "Baseline data is confidential and must be treated as confidential information in accordance with the Rules"

WDR Guidelines

- For transparency, AEMO has described provision of confidential information to DNSPs in the Guidelines

Data access: DNSP needs and gap analysis

- DNSPs need localised WDRU information to:
 - Proactively manage voltages
 - Avoid unintended consequences from switching operations
- Public data:
 - Bid and offer validation data for DUID: DRSP, DUID, region, MRC
 - Real-time data: total WDR in region (pre-dispatch forecasts and real-time dispatch quantities)
 - Dispatch data for DUID: bids, dispatch instructions, availabilities (day D+1)
- B2B data: DNSP also receives information on WDRU classification – NMI and DRSP (but not DUID)
- DNSPs require additional information to link available data sources

Data access: DNSP to receive some confidential information

For each WDRU connected to a DNSP's distribution network

- Details of WDRU classification (NMI, DRSP, mapping to DUID)
- NMI-Level MRC

For each DUID with one or more WDRUs connected to a DNSP's distribution network

- Mapping of WDRUs/NMIs to DUID
- DUID-Level MRC
- Maximum ramp rate

Telemetry requirements

Greg Ruthven

Telemetry requirements: Assessing the need from first principles

Real-time power system operation requires a combination of real-time measurements and estimates

AEMO should reasonably require real-time data to be provided where:

- a. It is expected to be more accurate or provide greater operational awareness than the available estimate, and this improvement is of critical importance for power system operation; or
- b. There is no available estimate.

For WDR:

- **Real-time data:** DRSP's estimate of the quantity of curtailment relative to the baseline or pre-event consumption level
- **Available estimate:** Dispatch instruction

Telemetry requirements: Case for regional thresholds



Accuracy benefit

- Likely to identify large dispatch errors
- For smaller dispatch errors, may be a diversity benefit when telemetered data are aggregated to regional level



Criticality for power system operation

- Undetected WDR dispatch error can bias the reconstitution of underlying demand, which is a critical input for demand forecasts for subsequent dispatch intervals (risk increases as quantity of non-telemetered WDR grows)
- Undetected WDR dispatch error would affect ability to match supply & demand, potential for market distortion/inefficiency, increased FCAS requirements

Telemetry requirements: Individual WDRUs & localised aggregations ≥ 5 MW



Accuracy benefit

- Likely to identify large dispatch errors
- Unlikely to be more accurate for smaller dispatch errors (lacks diversity effect from previous slide, but may improve for larger aggregations)



Criticality for power system operation

- In congested areas, assumption that WDRUs/localised aggregations ≥ 5 MW will be represented in constraints
- Undetected WDR dispatch error may result in constraint being inadvertently breached, or require conservative limits

Telemetry requirements: Dispersed aggregations ≥ 5 MW



Accuracy benefit

- Likely to identify large dispatch errors
- Unlikely to be more accurate for smaller dispatch errors (lacks diversity effect from previous slide, but may improve for larger aggregations)



Criticality for power system operation

- Dispersed aggregation not represented in constraints (except regional energy balance constraint)
- Undetected WDR dispatch error may result in constraint being inadvertently breached, or require conservative limits

Telemetry requirements: Summary

- Narrowed scope from Issues Paper
 - Focus on localised concentration ≥ 5 MW
 - Removed requirement for dispersed aggregations
 - Regional threshold for non-telemetered WDR
- This revision:
 - Acknowledges difference between WDRU aggregations and generation
 - Reduces potential perverse incentive to limit aggregations < 5 MW
- 5 MW threshold explained in draft determination
- Retained exemption process
- Guidelines describe data channels
- Power System Data Communications Standard describes technical requirements (review pending)

BREAK



Other changes since Issues Paper

Greg Ruthven

Other changes since Issues Paper (1)

Principles for developing/amending Guidelines

- Included one additional principle
- Assessment for inclusion of additional principles based on:
 - Consistency with NEO
 - Avoiding duplication between principles

Spot price exposure

- Removed the prohibition on participation of spot price exposed loads at classification stage
- Instead, applicants must declare that they will bid as unavailable if the load will be, or is likely to be, spot price exposed

Other changes since Issues Paper (2)

Requirements for aggregation

- To improve transparency/predictability, stipulated 2 relevant power system security criteria that can be specified precisely
 - All loads in proposed aggregation must be within a single load forecasting area
 - DNSP endorsement (where applicable)

Detail of regional threshold methodology

- Methodology as indicated in Issues Paper – conservative initial thresholds with process for revision based on observed dispatch performance
- Provided formula for the regional threshold revision methodology in draft Guidelines

Other changes since Issues Paper (3)

Baseline development process

- Capped time from AEMO draft decision to publication of consultation materials at 40 business days
- This ensures a total cap of 110 business days from submission of a complete application to AEMO final decision on whether to implement

Dispatch data to FRMPs

- Existing publication mechanism for all dispatch instructions on day D+1
- Separate email notification to FRMP would duplicate an existing publication, deemed unnecessary
- Aim to avoid duplication and ensure cost-effective implementation

General questions

Ruth Guest

Next steps

Stage	Timing
Q&A session notes distributed	Fri 12 Feb 21
Submissions due on Draft Report/Draft Guidelines to wdr@aemo.com.au	Fri 19 Feb 21
Final Report/Final Guidelines published	Thu 25 Mar 21

