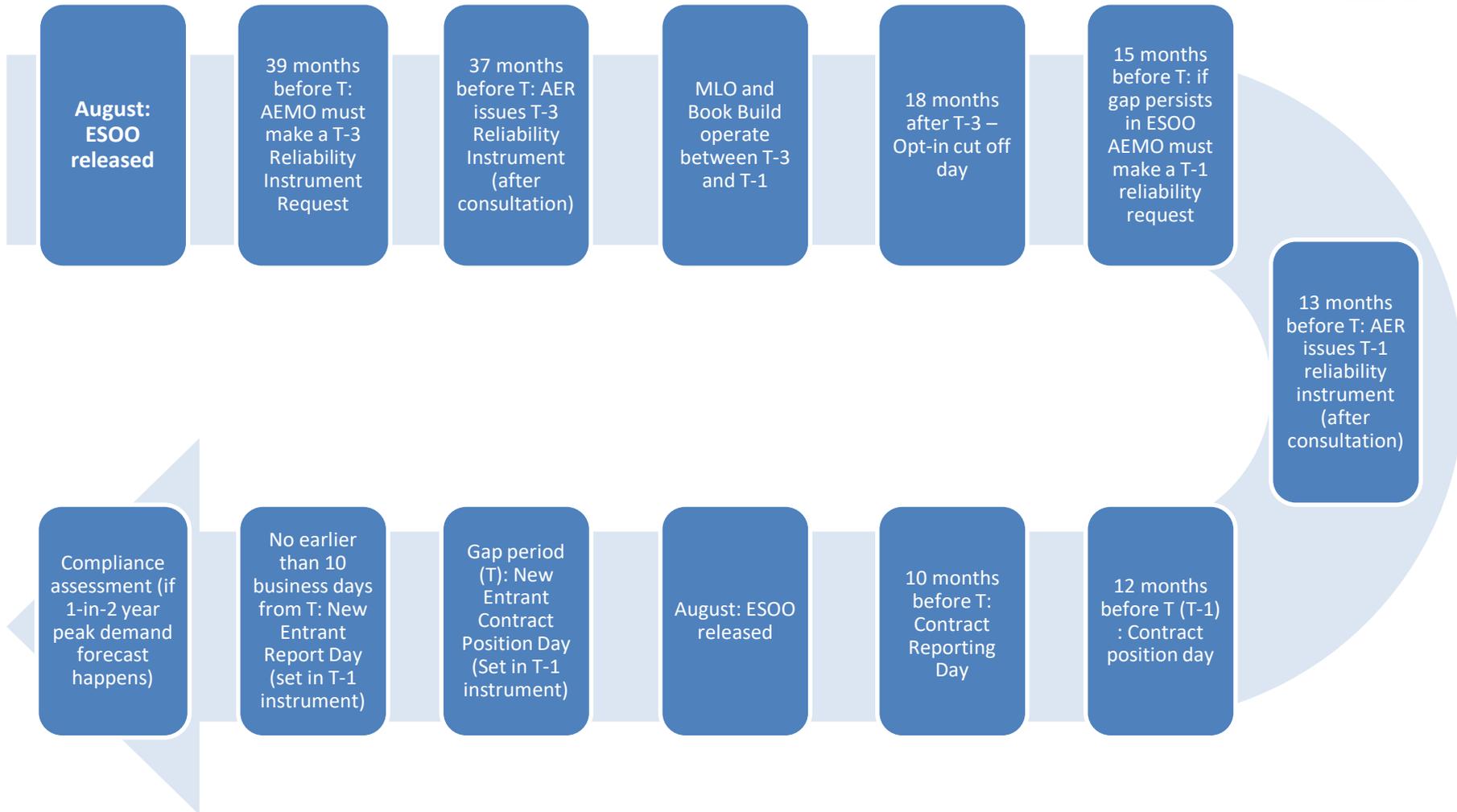




Retailer Reliability Obligation

- NEG Final Detailed Design document published August 2018
- RRO draft legislation was agreed to by COAG Energy Council December 2018
- Additional papers for consultation were published with submissions due in December 2018
- These additional papers included: material reliability gap definition and communication; Compliance/PoLR Cost Recovery; Firmness principles for qualifying contracts
- The draft Rules were published on 8 March 2019
- Submissions on the draft Rules closes on 5 April 2019

Retailer Reliability Obligation



Reliability forecasting and calculating demand

Nicola Falcon
ESB forum
March 2019

What is a reliability forecast?

- The reliability forecast is a subset of the Electricity Statement of Opportunities (ESOO)
- It identifies any potential reliability gaps in the coming five years
- A reliability gap will be considered **material** if regional annual expected unserved energy (USE) is above the reliability standard.

What's not changing?

- The framework for producing the ESOO, and calculating USE to assess against the reliability standard remains unchanged.
- The **Reliability Standard Implementation Guidelines** continue to set out how AEMO implements the reliability standard, and the approach and assumptions AEMO uses in relation to:

Demand for
electricity

Energy
constraints

Treatment of
extreme weather
events

Reliability of
generation

Intermittent
generation

Network
constraints

What's new?

- New **separate section** of the ESOO for the reliability forecast.
- New powers to source **additional information**.
 - Eg outage information and auxiliary supply information
- New oversight to improve **transparency** and **accuracy**
 - AER Best Practice Guidelines
 - Reliability Forecast Guidelines
 - Forecast Accuracy Report extended to include demand and supply, and key input drivers
 - Supplementary Materials (eg methodology reports, databases etc)
- New requirement to express the **reliability gap in MW**
 - only affects the POLR cost recovery mechanism.
- New requirement for a **one in two year demand forecast**.
- New metric of **actual demand** to determine trading intervals (TI's) subject to compliance
- New metric of **adjusted actual demand** for final compliance

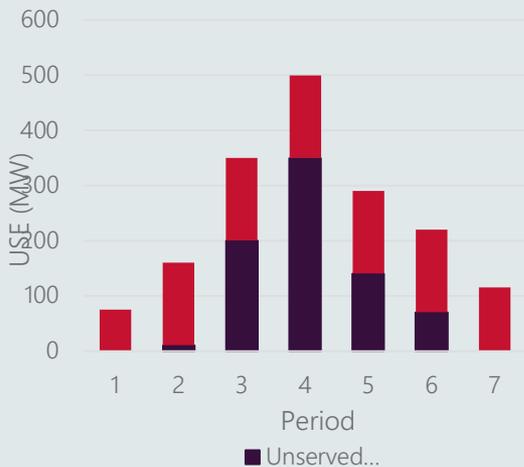
What is included in the reliability forecast?

- AEMO's forecast of unserved energy (USE) for the reliability forecast gap period;
- The size of the gap, expressed in MW
- The forecast reliability gap period (start and end date)
- The likely time of occurrence of the shortfall, specified as trading intervals

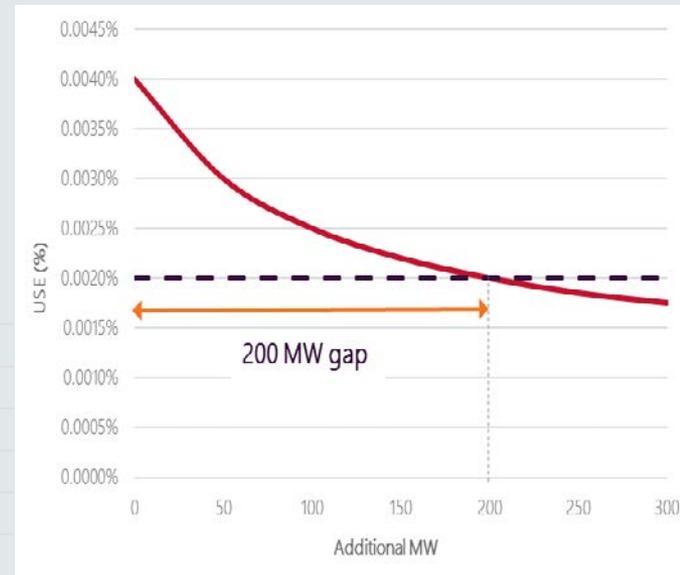
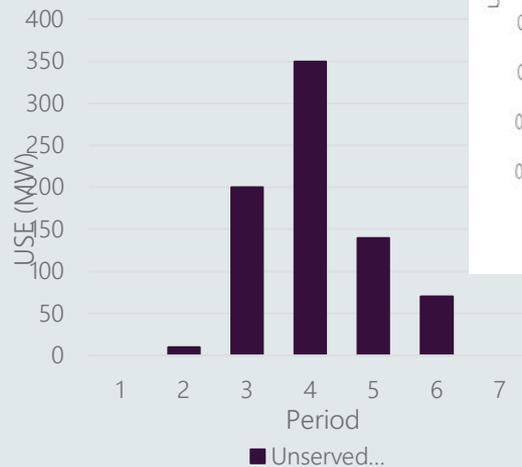
eg: The trading intervals between 13:05 – 22:00 (ending) each weekday during the forecast reliability gap period

Calculating the size of the gap (in MW)

- Based on additional firm capacity required to reduce USE to the level of the reliability standard..
- Will be determined for each region separately, based on effect of additional capacity in reliability gap period on USE in each interval in each Monte Carlo iteration:



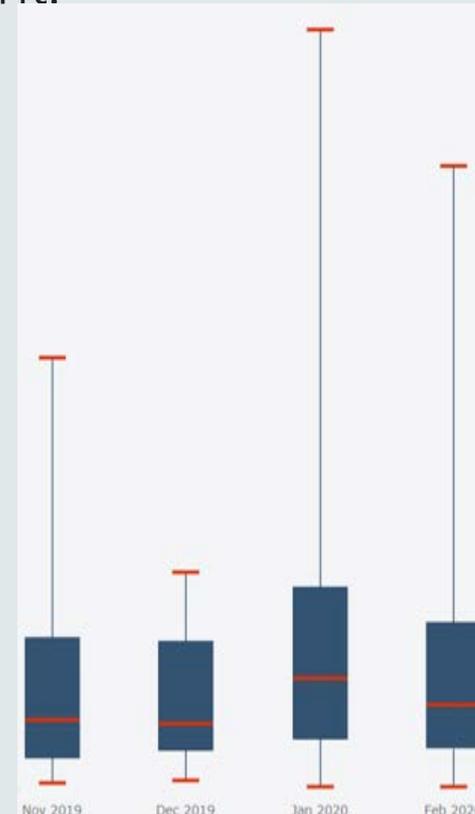
Effect of additional MW



Reliability gap period and trading intervals

A method for determining the start and end date of the Reliability gap period, and relevant trading intervals, will be consulted on, and may take into account:

- Months and periods when USE is forecast to occur based on Monte Carlo simulations
- The typical periods of coverage of standard contracts (such as Q1 caps);
 - Maximises the use of standard contracts and qualifying contracts
 - Minimises need for bespoke contracts to cover share of system peak demand at time of the reliability gap



Demand forecasting

One in two year demand definition

One in two year demand is the peak demand forecast in accordance with the Rules:

- to occur for a region during the period; and
- where the likelihood is that the forecast amount will be exceeded in any two-year period.

(Section 14C of the *National Electricity Law*)

Draft Rules: the one in two year demand forecast for a region is:

- the forecast made in accordance with the Reliability Forecast Guidelines; and
- specified in a reliability forecast to be that forecast for that region for that financial year

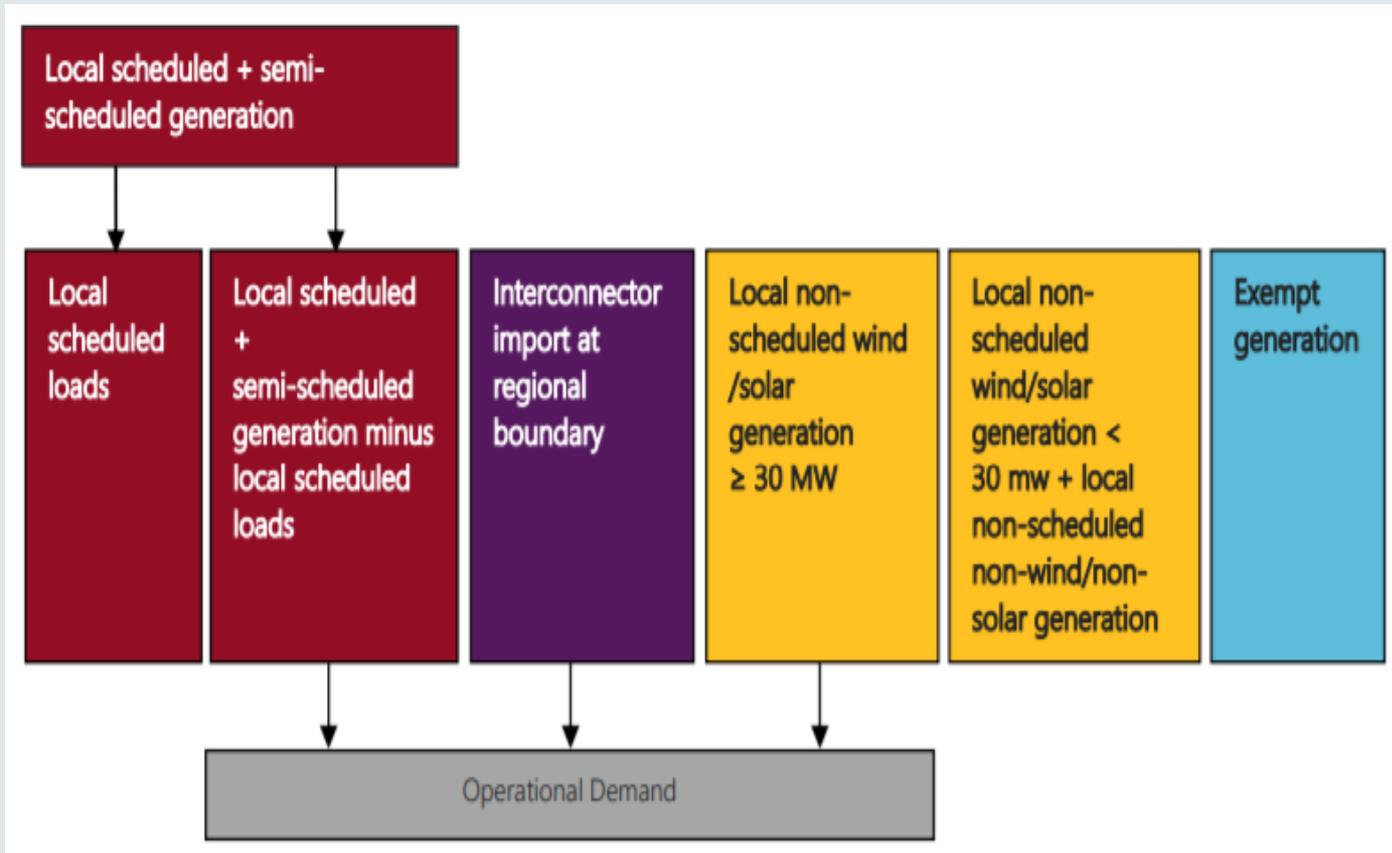
AEMO proposal (to be consulted on in developing *Reliability Forecast Guidelines*) is:

- to use 50% probability of exceedance (POE) operational maximum demand forecast (as generated) reported in the Electricity Statement of Opportunities.

Operational demand definition

Operational demand:

"the electricity used by residential, commercial and large industrial consumers, as supplied by scheduled, semi-scheduled, and significant non-scheduled generating units with aggregate capacity ≥ 30 MW"



Exception: some local non-scheduled wind/solar generation < 30 MW is included if, due to power system security reasons, AEMO is required to model in network constraints.

Actual demand (for assessing if Obligation applies)

Actual demand:

"what demand would have been if not for AEMO intervention"

Actual and forecast published by AEMO near real-time

Check if actual demand in TI is higher than forecast

Balances accuracy and timeliness

Actual demand is NOT adjusted due to these factors

Operational As generated

50% POE forecast

Aux load

Operational Sent-out

50% POE forecast

Losses

Customer load

50% POE forecast

Metered actual

- Directed load shedding

- RERT

- Directed non-sch. generation

- Demand response

- Voluntary reduction

- Mandatory restrictions

- USE from Network outages

Adjusted actual demand (for assessing liability)

In determining “liable load”, a further adjustment is required for qualifying demand response (DR) contracts that are activated by liable entities:

Liable entity’s trading interval liable load:

- Settled demand is adjusted to reflect the actual volume of activated DR qualifying contracts

Highest adjusted peak demand for the region:

- Where actual regional demand exceeded one-in-two year forecast:
 - Adjust actual demand to reflect the sum of actual DR for all liable entities under qualifying contracts
 - Highest adjusted peak demand = highest demand calculated over these TI’s

Next steps

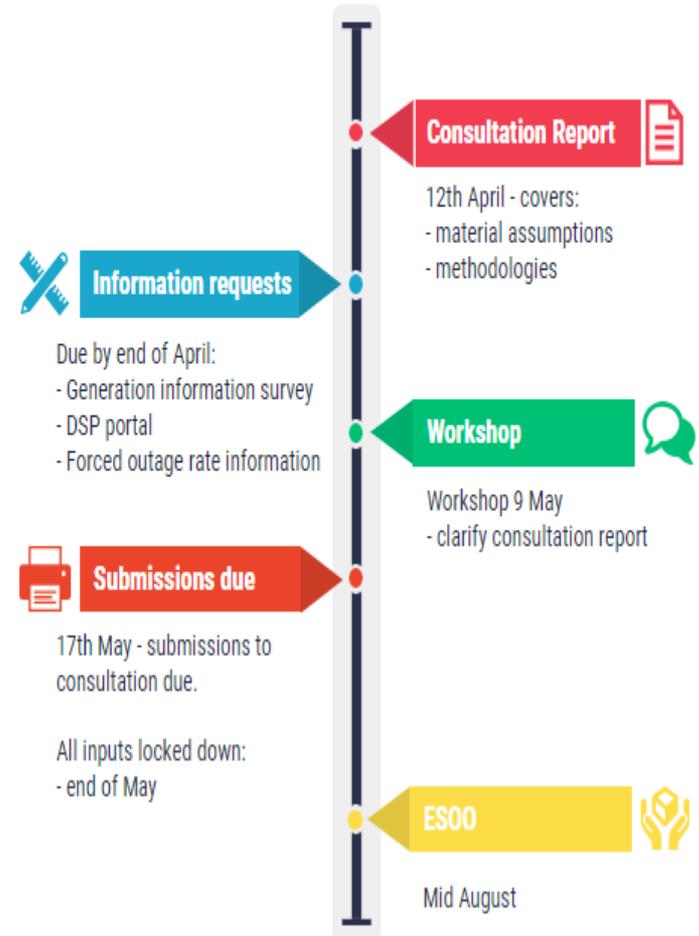
Reliability Forecasting consultation

Transparent information flows & process ensures credible results.

- 2019 reliability forecast prepared before Guidelines in place
- Robust, inclusive consultation process proposed
- 2019 Forecasting and Planning Inputs and Assumptions consultation already commenced

Reliability Forecast

2019 ES00 timeline





Retailer Reliability Obligation – AER Guidelines

Richard Khoe

March 2019

AER Role

- AER has an ongoing role in many of the components of the RRO.
- How the AER will undertake these roles is only partly set out in the rules.
- To create certainty, more detail of the AER's roles will be set out in guidelines.
- AER has been working closely with the rules drafting team so that guidelines work can begin as early as possible.

Background to Guidelines process

- The content of the guidelines is driven by what is in the rules, and what is not set out in the rules.
- But we won't have final rules for several months.
- The guidelines processes will need to be different from a normal AER guidelines process:
 - Timeframes for getting guidelines in place are very tight
 - Start work on guidelines before rules are finalised
 - Need to use interim guidelines
 - For interim guidelines only one stage of consultation

Background to Guidelines Process

- Interim guidelines:
 - AER will seek to be as consultative as possible in the time available
 - Experiences under the interim guidelines will help inform the final guidelines
 - Interim guidelines in force till full guidelines are complete in 2020
- Separate SA process
 - AER is working with SA govt to understand their law/rules
 - But we are unlikely to be able to produce our guidelines any faster

Interim guideline process

- Drafting interim guidelines now
- Single consultation period of ~4 weeks per guideline
- TBC - Workshops as needed during consultation periods, in Melbourne
- Close working with AEMC, ESB, AEMO

Interim Guideline consultation plans

Draft, interim	Consultation	Workshop	Publish
Reliability Instrument Guideline	April	TBC June	31 July 2019
Market Liquidity Obligation (MLO) Guideline	Mid April to mid May	May	31 August 2019
Contracts and Firmness Guideline	Mid May to June	May	31 August 2019
Forecasting Best Practice Guideline	June	June	30 September 2019

Final Guidelines

Guideline	Date
Opt-In Guideline	30 June 2020
Reliability Instrument Guideline	31 July 2020
Forecasting Best Practice Guideline	30 November 2020
Contracts and Firmness Guideline	31 December 2020
Reliability Compliance Procedures and Guideline	31 December 2020
Market Liquidity Obligation Guideline	31 December 2020

Content of Guidelines

- We are still working on the guidelines.
- At this stage only able to identify issues, rather than solutions.
- Seeking input from stakeholders on:
 - Key issues for the guidelines
 - Detail that should be included in the guidelines

Reliability Instrument guideline

- Describes how the AER will assess a T-3 or T-1 request for a reliability instrument from AEMO:
 - Process
 - Assessment criteria
- AER can only reject on narrow grounds – the AER will not be redoing AEMO's forecast
- Key issues:
 - Inaccurate assumptions that are material
 - Material errors (arithmetic/calculation only)

Forecasting best practice guideline

- Rules require accuracy, transparency, open processes
- Guideline sets out best practice principles that guide AEMO's forecasting process
- Does not provide mechanistic requirements
- AEMO will develop its Reliability Forecasting Guideline on basis of these guidelines

Forecasting best practice guideline

- Likely components of guideline:
 - Consultation – Two stage consultation processes preferred
 - Methodology – Component-based methodology
 - Key parameters – Sample outputs of key parameters should be disclosed
 - Scenarios – Published information on construction of scenarios/sensitivities
 - Confidential data – how this should be used

Market liquidity obligation guideline

- Process issues:
 - Changes to obligated parties
 - MLO Register
 - MLO Exchange
 - MLO products
 - Possible exemptions
- MLO Compliance
 - What we will monitor and how we will gather information
- Interim guideline content depends in part on whether deeming of obligated parties happens

Contracts and firmness guideline

- Key areas addressed:
 - Contracts
 - Firmness including firmness methodology and treatment of bespoke methodologies
 - Permitted adjustments
 - Net contract position report
- Key issues:
 - Demand response
 - SRAs/interconnectors
 - Internal hedges

Contact the AER RRO team

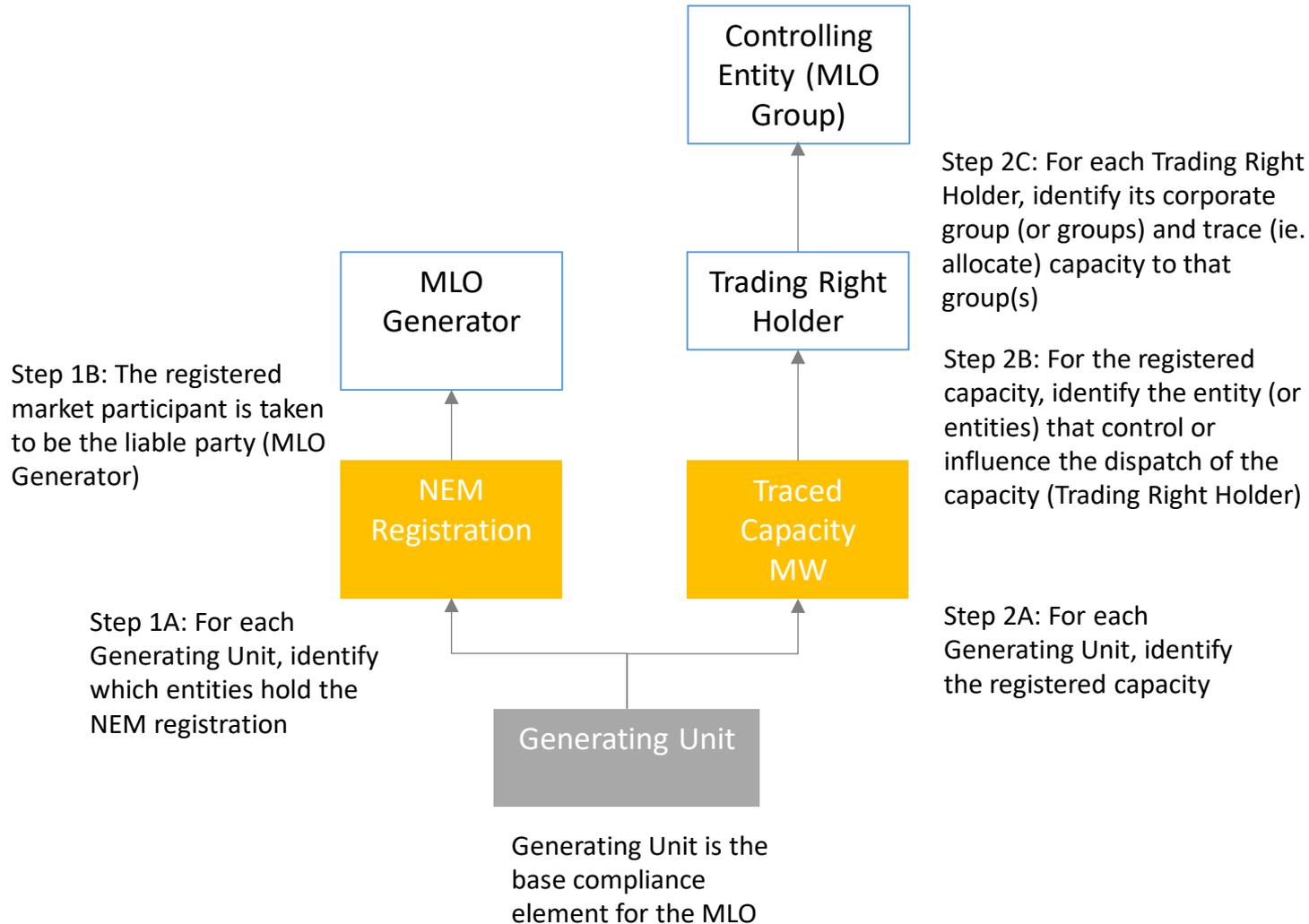
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- Email [rro@aer.gov.au](mailto:rro@ aer.gov.au)



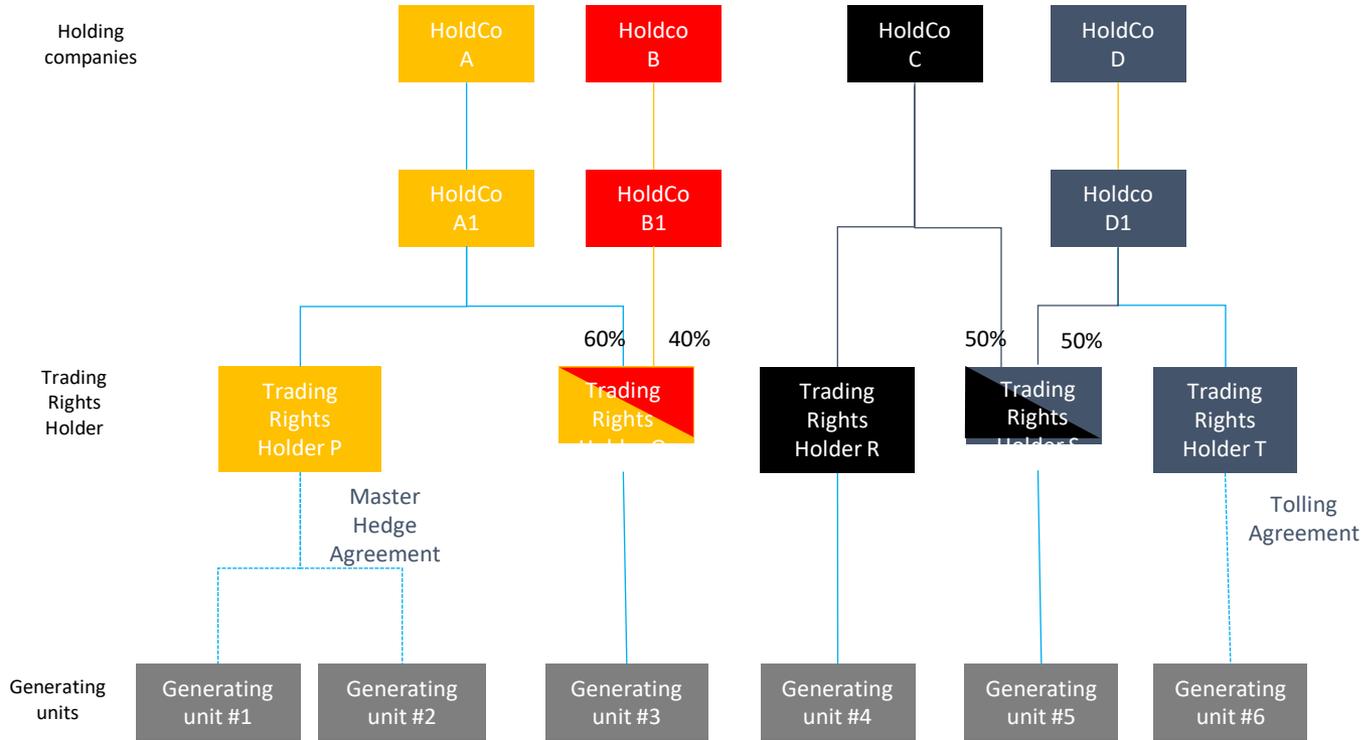
Determining Obligated Parties for the MLO

MLO Groupings

For each Generating Unit in a MLO Region, both the registered market participant and the trading right holder are relevant to the analysis



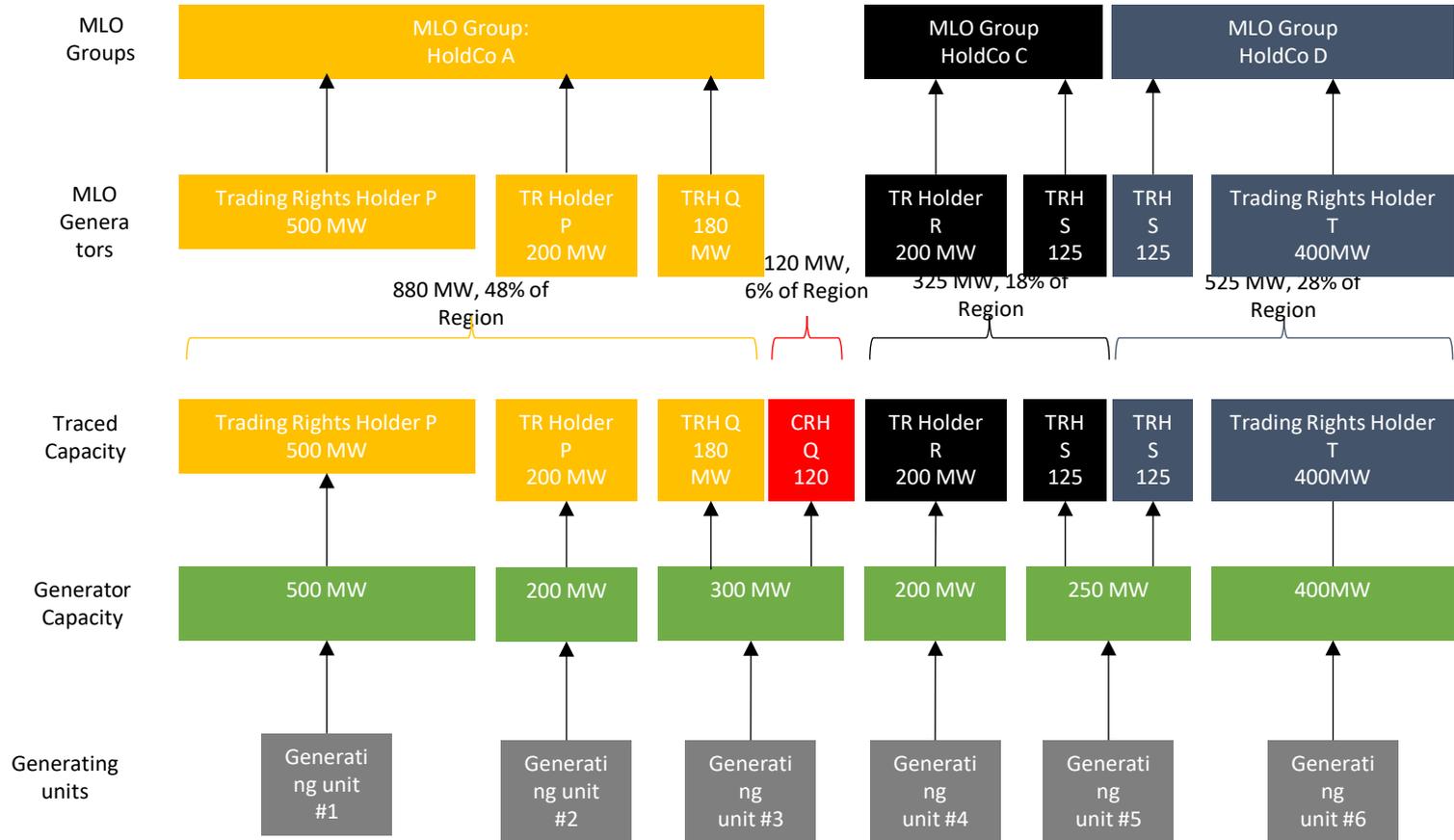
MLO Groupings



Note:

- All interests are 100% unless otherwise marked
- We anticipate that most Trading Rights Holders will be the registered Market Participants, e.g. Q, R and S.
- It is possible for a Trading Rights Holder to belong to multiple groups. For example, Trading Rights Holder Q belongs to both of Holdco A Group and Holdco B Group

MLO Groupings

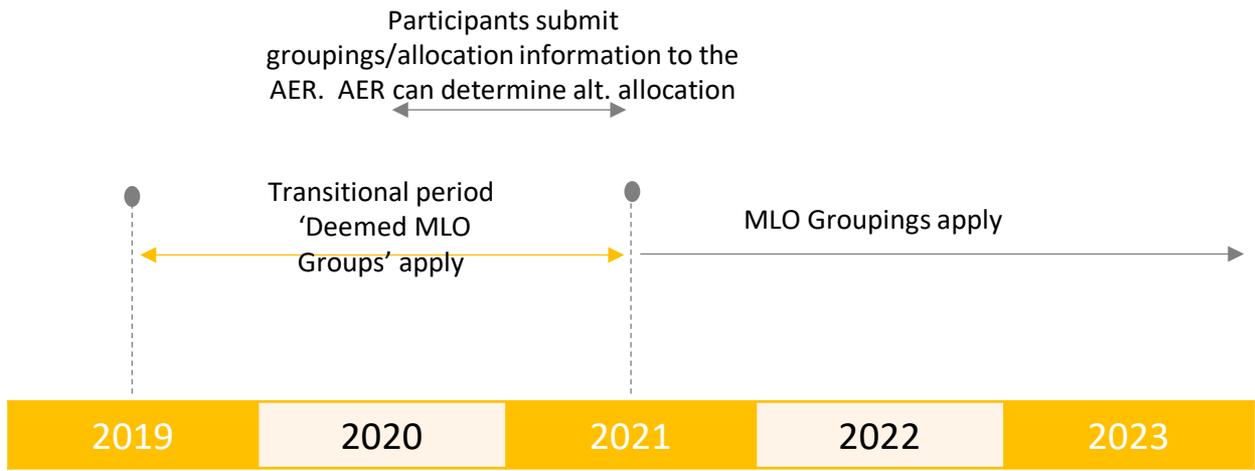


Note:

- Where a Trading Rights Holder belongs to more than one group, its capacity is allocated between the groups based on proportionate influence and control
- Group B is not a MLO Group because it has less than 15% of Traced Capacity in the region

MLO Groupings – ‘deeming’ approach

Under the deeming approach, the Rules will establish a transitional ‘deemed’ list of MLO Generators and Groups, ahead of the MLO Grouping provisions taking effect.



MLO Groupings – ‘deeming’ approach

Preparing ‘deemed’ list

(Prior to 1 July 2019)

- ESB makes initial assessment of deemed MLO Generators
- Market Participants invited to comment on proposed list and provide supporting information
- ESB to publish final list for inclusion in transitional Rules

Transitional arrangements

(2 years)

- MLO imposed on MLO Generators
- MLO Generators defined as market generators (scheduled only) that are specified in Transitional List
- MLO Groups defined as the corporate groups specified in the Transitional List
- Transitional List based on AEMO participant list
- Transitional List will specify Trading Right Holder (or Holders) and parcels of capacity for each relevant MLO Generator
- Transitional List will specify the MLO Group to which each relevant parcel of a MLO Generator’s capacity is allocated

MLO Grouping rules

(1 July 2021 -)

MLO imposed on MLO Generators, which are defined as market generators (scheduled only), by generating unit, that meet the MLO test:

- a parcel of traced capacity of that generator is controlled by an entity that is part of a corporate group (MLO Group); and
- the MLO Group as a whole has aggregate generation capacity above 15% in that NEM region.

Transitional List

The MLO Generator list will comprise a table based on the current participant list maintained by AEMO, and would include the MLO information for each generating unit

Item	Comment
Participant	This is the registered participant in the AEMO participant register
Station Name	As per AEMO Participant Register
Region	As per AEMO Participant Register
Physical Unit Number	As per AEMO Participant Register
DUID	As per AEMO Participant Register
MLO Status	Either 'MLO Generator' or 'Not MLO Generator'
Registered Capacity	Expressed in MW; This is used to determine the MLO Group Capacity
Trading Right Holder	The draft Transitional List will assume the registered participant is the Trading Right Holder. However, participants may request that the AER list another entity if that entity controls the dispatch of the generating unit.
Trading Right held	Expressed in MW; in some cases this may be a portion of the Registered Capacity
MLO Group	In the transition period, each MLO Generator's designated Trading Right Holder is deemed to belong to a particular MLO Group
MLO Group Capacity	Sum of all relevant Trading Rights allocated to that group; applies region by region

#407

Worked example – deemed MLO groups (Victoria)

Region	Corporate group	Regional capacity share (scheduled)	Registered Capacity (scheduled) MW	Participant	Registered Capacity MW
Victoria	AGL	32.5%	3020	AGL Hydro Partnership	810
				AGL Loy Yang Marketing Pty Ltd	2210
	Energy Australia	26.6%	2473	Ecogen Energy Pty Ltd	932
				EnergyAustralia Pty Ltd*	61
				EnergyAustralia Yallourn Pty Ltd	1480
	Snowy Hydro	22.7%	2114	Snowy Hydro Limited	2114
	Alinta	11.8%	1094	AETV Pty Ltd	94
				Alinta Energy Retail Sales Pty Ltd	1000
	Origin	6.1%	566	Origin Energy Electricity Limited	566
	Meridian Energy	0.3%	29	GSP Energy Pty Ltd	29
	Total	100%	9296		9296

Initial potential MLO Groups

Region	Potential MLO group	Regional capacity share (scheduled)
Victoria	AGL	32.5%
	Energy Australia	26.6%
	Snowy Hydro	22.7%
New South Wales	AGL	31.7%
	Origin	25.6%
	Snowy Hydro	20.1%
South Australia	AGL	42.3%
	Engie	27.8%
	Origin	15.8%
Queensland	CS Energy	36.6%
	Stanwell	31.7%



Retailer Reliability Obligation

Question Period