

Frequency Performance Payments Project (PFR Incentives Rule Change)

Pre-consultation Workshop

3:00pm-5:00pm AEST

19 Sep 2022



1. Welcome

Welcome & Introductions

- AEMO is seeking input from workshop participants prior to initiating the formal consultation for the Frequency Contribution Factors Procedure (FCFP) which will replace the existing Contribution Factors Procedure. This meeting will not be minuted and a summary of the workshop will not be published.
- To support discussion during this forum, we ask all attendees to please raise their hand when they intend to speak and be respectful to others speaking.
- Please introduce yourself (name & organisation) before you speak.

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

We pay respect to their Elders past, present and emerging.

Agenda

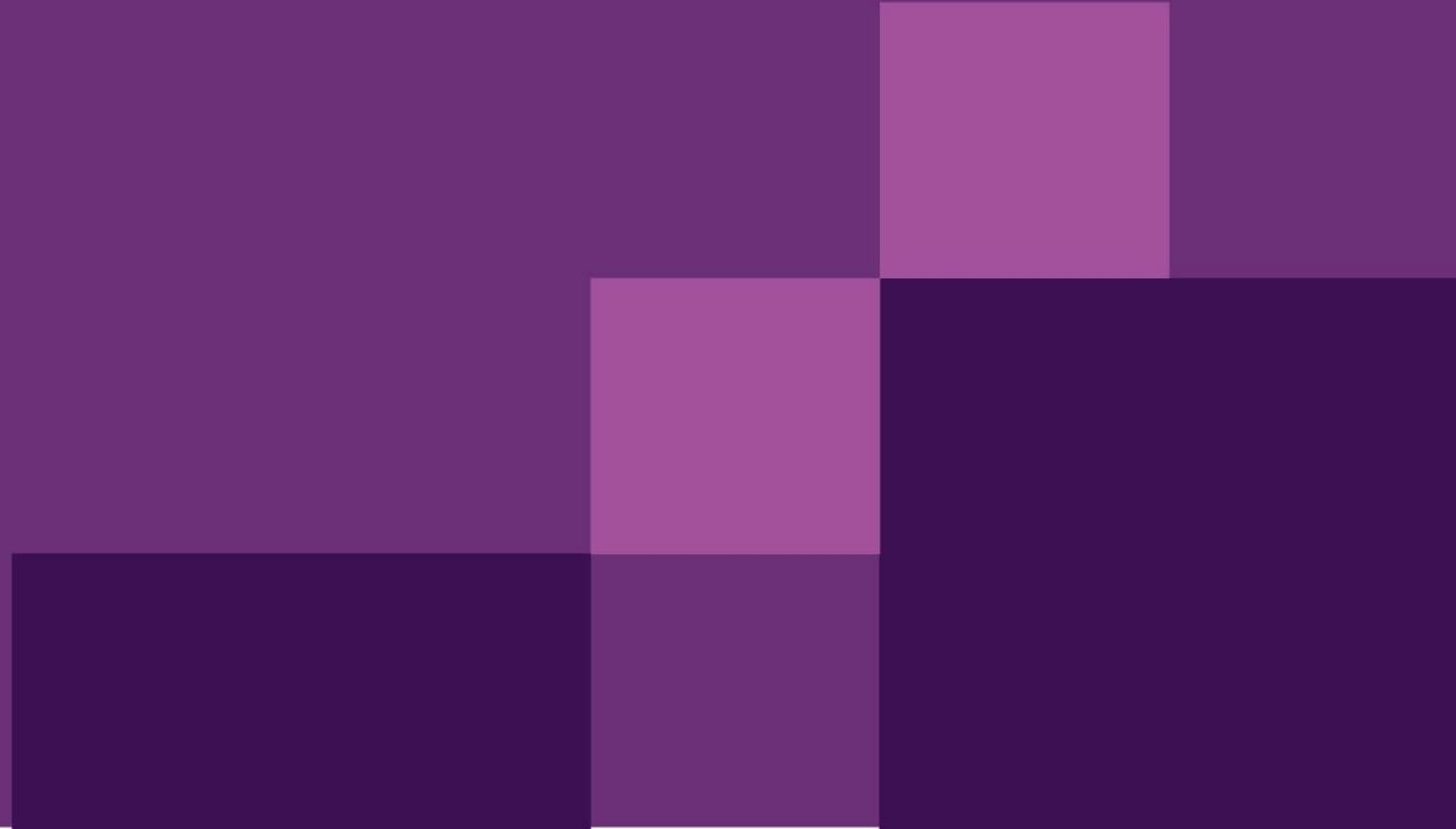
#	Time	Topic	Presenter(s)
1	10 min	Welcome & Introductions	Chris Muffett
2	15 min	PFR Incentive Rule Change <ul style="list-style-type: none">- Overview of the rule- Scope of FCFP- Key dates and timeline- PFRR consultation	David Scott/Hugh Ridgway
3	45 min	Key issues for the consultation <ul style="list-style-type: none">- Frequency measure- RCR- Usage- Default CFs- Residual calculation	Hugh Ridgway
4	45 min	Feedback and Questions	
5	5 min	Thanks and close	Chris Muffett



Please note that this forum will be recorded for the purposes of assisting AEMO accurately capturing feedback.



Frequency Performance Payments (FPP) Project

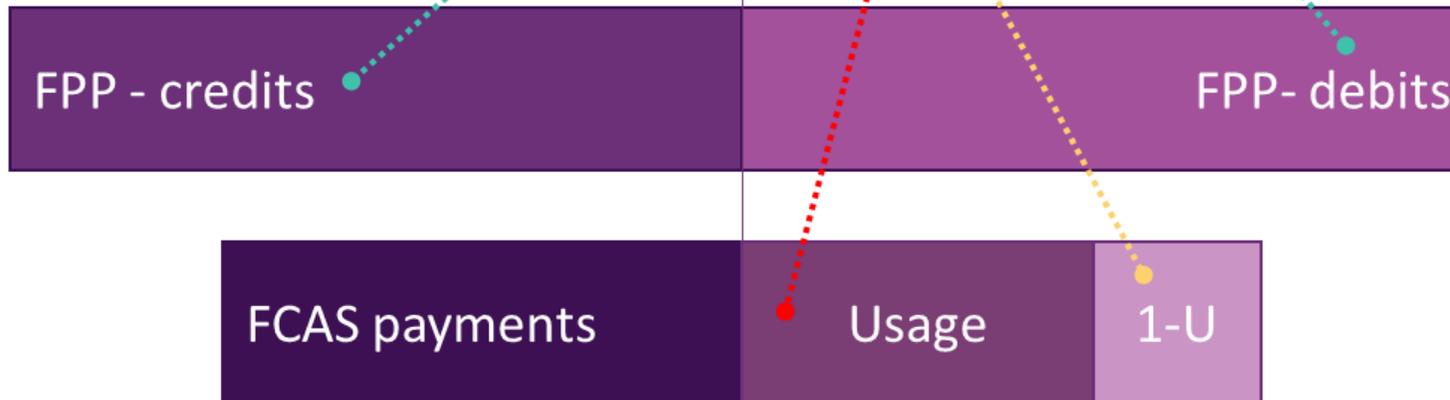


Overview of the Rule

- Confirmation that the mandatory primary frequency response (PFR) arrangements will endure beyond 4 June 2023
- Introduction of a new double-sided frequency performance payments process
- Change to existing 'causer pays' provisions for allocation of Regulation FCAS costs
- New reporting obligations for AEMO and the AER

Overview of the Rule

Trading Amounts	Eligible unit	Residual deviation
Frequency Performance Payments – 3.15.6AA (b)	3.15.6AA (b)(1)	3.15.6AA (b)(2)
	$TA = CF \times \frac{P_{regulation}}{12} \times RCR$	$TA = RCF \times \frac{P_{regulation}}{12} \times RCR \times \frac{TE}{ATE}$
Recovery of Regulation FCAS that is “used”- 3.15.6AA (c)	3.15.6AA (c)(1)	3.15.6AA (c)(2)
	$TA = TSFCAS \times U \times NCF$	$TA = TSFCAS \times U \times NRCF \times \frac{TE}{ATE}$
Recovery of Regulation FCAS that is “unused” - 3.15.6AA (d)	3.15.6AA (d)(1)	3.15.6AA (d)(2)
	$TA = TSFCAS \times (1 - U) \times DCF$	$TA = TSFCAS \times (1 - U) \times DRCF \times \frac{TE}{ATE}$



		Relevant FCAS service	
		Regulating Raise	Regulating Lower
4-second performance measure	Positive	Applicable	Not applicable
	Negative	Not applicable	Applicable

Scope of Frequency Contribution Factors Procedure (FCFP)

The FCFP must deal with the following matters:

- Criteria for metering
- Formulation of frequency measure (how to determine whether deviations are good or bad)
- Determination of contribution factors
- Determination of default contribution factors
- Formulation of requirement for corrective response
- Determination of 'usage' for regulation fcas
- Reference trajectory definition

Key Dates

Date	
8 September 2022	Publication of final rule and commencement of obligation for AEMO to report on aggregate frequency responsiveness on a quarterly basis
8 May 2023	AEMO to consult on and publish the <i>Primary frequency response requirements</i> .
8 June 2023	AEMO to consult on and publish the <i>Frequency contribution factor procedure</i> .
November 2024 – June 2025	Commence period of Non-Financial Operation
8 June 2025	Commencement of the new frequency performance payments process and the obligation for the AER to report on the costs of frequency performance payments.

FCFP Consultation Indicative timeline

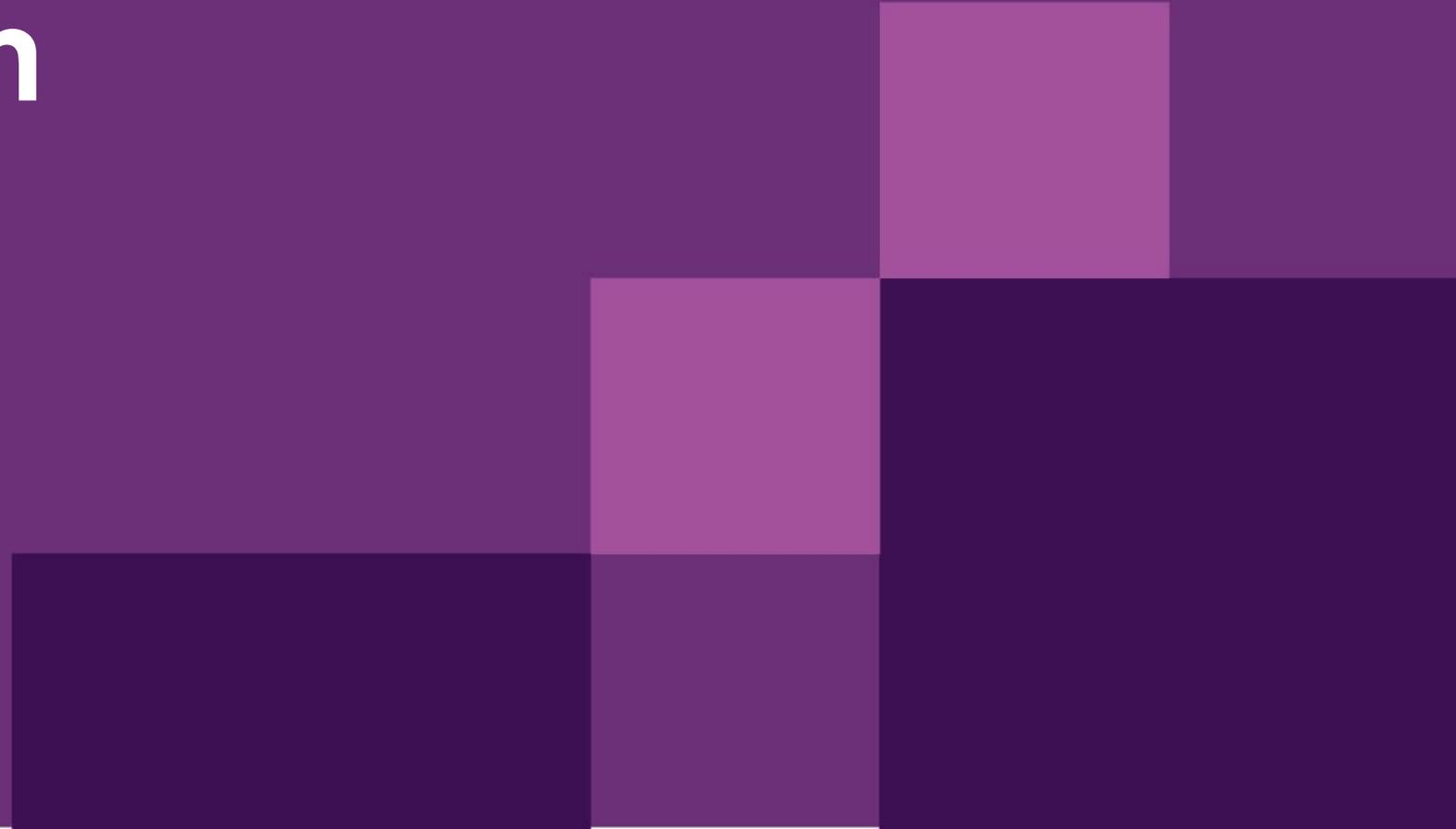


Note: we will be consulting separately on Frequency Response Requirements

Primary Frequency Response Requirements

- AEMO is required to update the primary frequency response requirements in parallel with the development of the FCFP (due 8th May 2023)
- This will be done as part of a separate parallel consultation

Key issues for the consultation



Issue 1 – Frequency Measure

- AEMO is required to formulate a measure that will indicate the need to raise or lower system frequency. This will be used to determine whether deviations are ‘good’ or ‘bad’ and also possibly scale them into a performance metric (MWHz).
 - IES have done a substantial amount of analysis on this during the AEMC rule consultation.
 - Rule 3.15.6AA(g)(2) - must be based on frequency

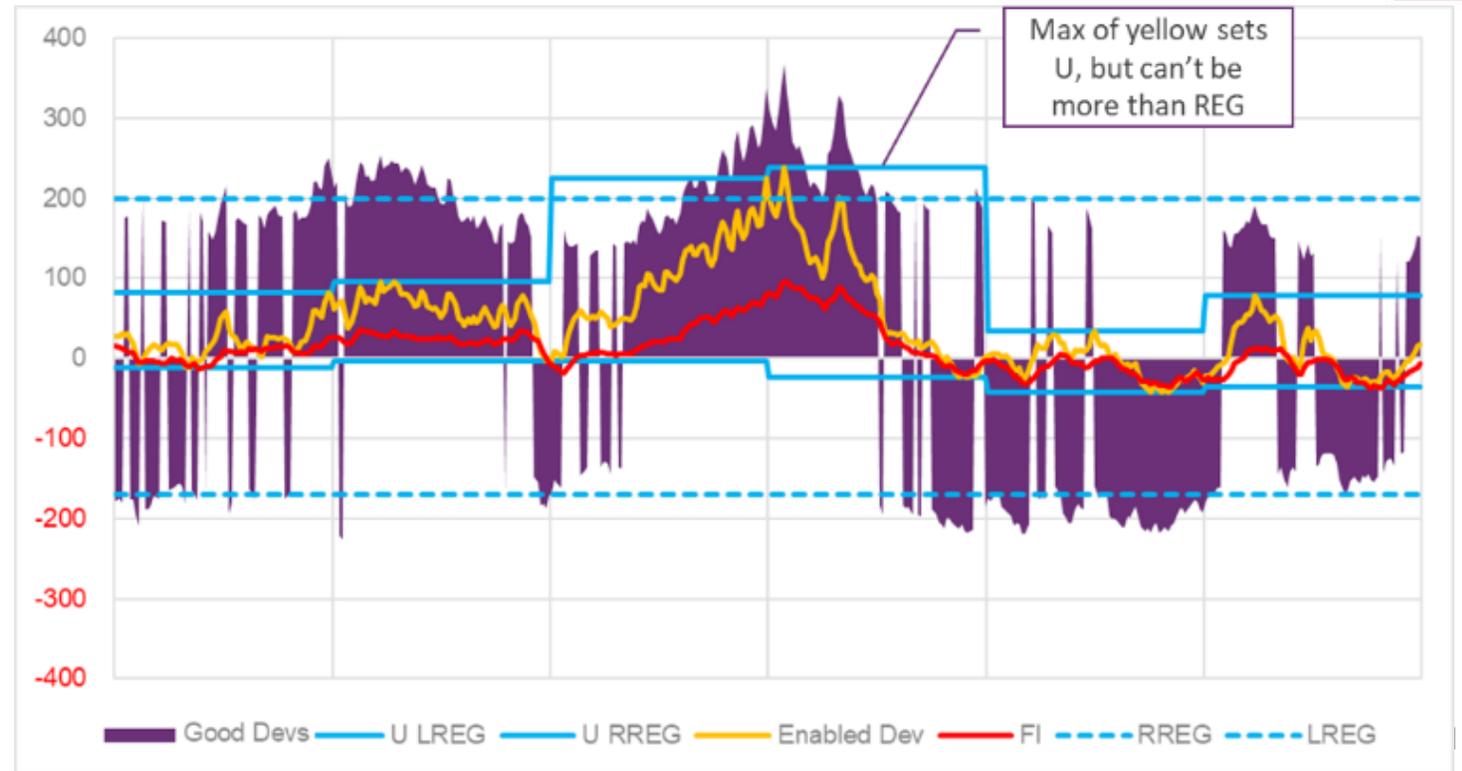
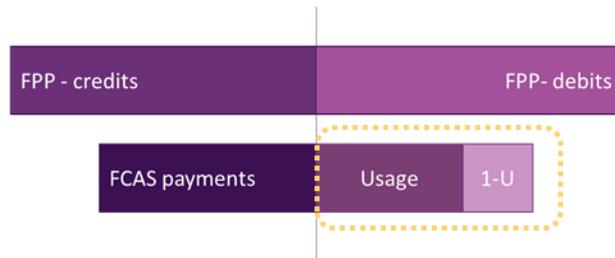
Issue 2 – Requirement for Corrective Response

- It will be used to scale FPPs
- RCR is the measure of the total volume in MW that contributed to reducing the deviation in frequency of the power system
- RCR could often be zero if frequency measure is always one side of 50Hz for the DI
- What factors need to be considered in the calculation of RCR? (cap?)
- What data sample is robust?
- Are there any causes of deviations that should be excluded from the calculation of RCR? (non-conformance?)
- Consider impact of certain events such as contingency events.



Issue 3 - Usage

- Usage will determine what proportions of Reg FCAS costs will be allocated on the basis of 'real-time' contribution factors vs default contribution factors. What should AEMO consider as part of this formulation?

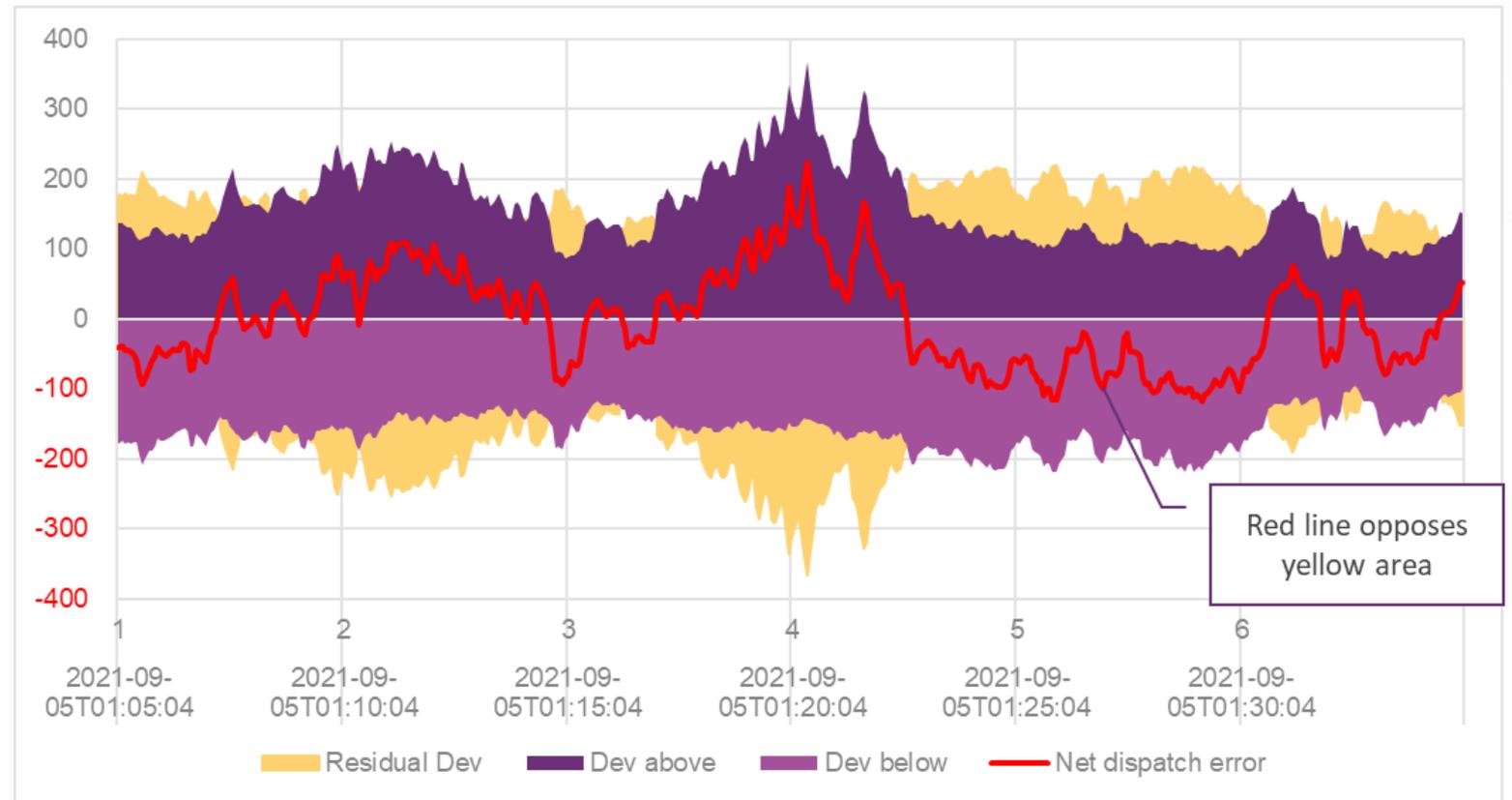


Issue 4 – Default Contribution Factors

- Default factors are based on historical performance and determine the allocation of unused Reg FCAS costs as well as substituting for contribution factors in the calculation of FPPs when contribution factors (based on actual performance) cannot be calculated for the trading interval. Only used for determining liability.
- What are the considerations relevant to how default contribution factors are calculated? Should they be calculated on the basis of all performance or just negative performance?
- What circumstances would lead to the calculation of a contribution factor for a trading interval being ‘impractical’ and therefore requiring AEMO to apply a default contribution factor for a unit in the calculation of FPPs (and used Reg FCAS costs)? Minimum thresholds of valid 4 sec intervals during the trading interval etc?
- Should a default factor be applied for a unit that is off-line? How would AEMO determine a unit to be off-line?

Issue 5 – Residual Calculation

- What should AEMO consider in the calculation of the residual?
- Residual can be calculated under an energy balance approach – opposing the net of the metered elements.
- For local requirements residual may be positive



Issue 5 – cont'd

- AEMO currently separates out interconnector from the residual - however, to balance payments within a local region, AEMO may either need to allow the residual to include interconnector deviations OR scale deviations on one side of FPPs to ensure that settlement balances.
 - Only important where a local requirement applies within a larger interconnected area.
 - Ignoring the interconnector would lose the energy balance.

Feedback & Questions

Close



AEMO anticipate that the formal consultation process will commence in late Oct/early Nov.

Thank you for your participation in this workshop.



For more information visit

aemo.com.au

<https://aemo.com.au/initiatives/major-programs/frequency-performance-payments-project>