Australian Energy Markets Commission

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AEC Submission to AEMC Inter-regional settlements residue arrangements for transmission loops Draft rule determination

The Australian Energy Council (AEC) welcomes the opportunity to make a submission in response to the AEMC Inter-regional settlements residue arrangements for transmission loops Draft rule determination.

The Australian Energy Council is the peak industry body for electricity and downstream natural gas businesses operating in the competitive wholesale and retail energy markets. AEC members generate and sell energy to over 10 million homes and businesses and are major investors in renewable energy generation. The AEC supports reaching net-zero by 2050 as well as a 55 per cent emissions reduction target by 2035 and is committed to delivering the energy transition for the benefit of consumers.

Settlement residue auctions

The AEC supports the AEMC's decision to adopt AEMO's approach to allocating positive residues and to continue separating positive and negative resides. Settlement Residue Auction (SRA) units are a key financial instrument in the suite of tools for hedging interregional price risk and supporting liquidity in these markets. This is especially critical for the NEM's most illiquid mainland region, South Australia.

We acknowledge, however, that the problems created by Project Energy Connect (PEC) are difficult to resolve and economically pure solutions are probably not possible. However, the AEMC's decision to allocate negative SRs to all three regions pro rata based on their respective demands in the previous year may create cross subsidies.

The AEC is unconvinced by the arguments presented on pages 21-23 of the Draft. Within the NEM TNSPs have the lowest risk and highest credit worthiness when compared to DNSPs, generators, retailers and consumers. Certain TNSPs have persistently tried to extract higher rates of return from consumers on the grounds of so called 'financeability' issues and we have consistently challenged these claims and noted that if 'financeability' is an issue it is the choices certain TNSP owners have made with regard to their capital structures.[1] Our preference is for AER's processes be employed to address any TNSP concerns. The AER could also investigate how often TNSP decisions on maintenance and asset location may have contributed to negative SR events.

2025-26 SRA arrangements review

In our previous submission we suggested that because of the complexity of PEC and the uncertainty surrounding how it will operate, we thought it would be prudent for the AEMC to undertake a desktop review no later than after two years of full PEC operation. Depending on the outcome of this review, further refinements may need to be considered. According to the Draft, PEC is expected to be operating at partial capacity in Q4 2026 and fully operational by late 2027. However, the AEMC is proposing a review of SR

[1] https://www.aemc.gov.au/sites/default/files/2023-08/aec_0.pdf

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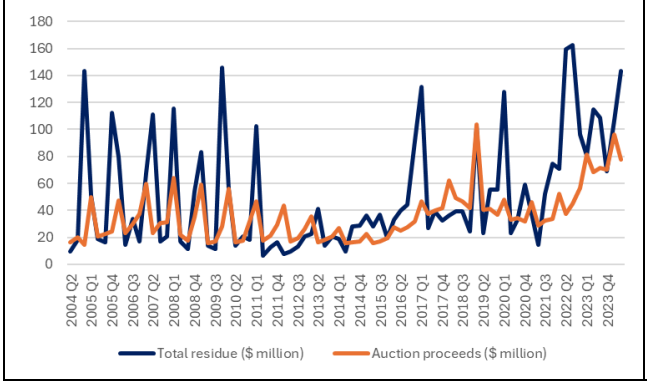
arrangements as early as 2025-26 when the market will not have enough empirical data to ascertain how PEC is functioning, which should be the key focus of any review. Furthermore, market participants have been heavily involved engaging with AEMO on PEC SRs since November 2022 and the process is still continuing with the AEMC and any review this financial year would be premature and an unnecessary burden on participants and market bodies in an environment where there is no shortage of far more important issues that require review.

We also question the justification for a review presented in the Draft. Figure 4.1 in the Draft appears to be employed by the AEMC to justify a review. However, it is a crude metric given it is in absolute nominal dollar terms. Participants in SRAs (ie, financial derivative products) trade based on expected returns and volatility. These SRA units are not firm unlike an interregional swap (IRS) and their payouts are subject to numerous unpredictable outcomes, (ie, uncertainty). Furthermore, the data presented is the aggregate for all interconnectors (ie, all six legs that are auctioned such as NSWQLD, QLDNSW, etc) which provides no information on specific auction results.

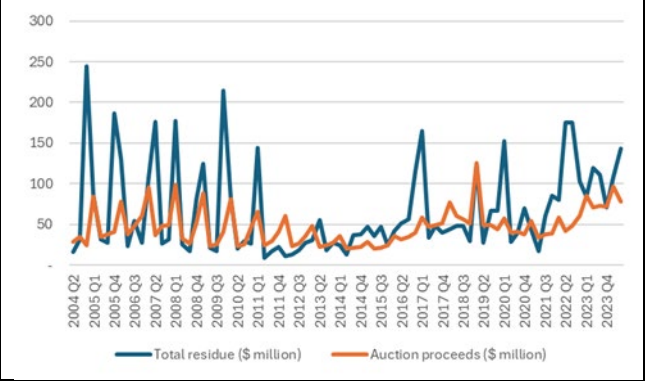
To try and ascertain how the auctions are functioning, the AEC has conducted analysis of the data presented in Chapter 4 of the Draft. Figure 1 is what is in the draft and Figure 2 is the same data in real June 2024 dollars. As can be seen the use of real dollars tempers the more recent observations compared with the early data.

Figure 1: Nominal SRA proceeds vs. positive settlement residues



Source AER

Figure 2: Real $June 2024 SRA proceeds vs. positive settlement residues



Source AER, ABS and AEC analysis

Table 1 presents some basic statistics for the data presented in the charts above. There appears to be a possible structural change from 2010Q1 onwards.

Table 1: Nominal (blue shading) and real (green shading) statistics for full sample, 2004Q2-2009Q4 and 2010Q1-2024Q2 periods

	2004Q2 – 2024Q2	2004Q2 – 2009Q4	2010 Q1 -2024 Q2	2004Q2 – 2024Q2	2004 Q2 – 2009 Q4	2010 Q1 -2024 Q2
Proceeds - Residues	(1,194)	(472)	(722)	(1,559)	(752)	(807)
Observations	81	23	58	81	23	58
Mean	(15)	(21)	(12)	(19)	(33)	(14)
Standard deviation	36	44	32	49	70	37

As mentioned above, when trading in a financial product your key concern is expected returns. The data presented in Figures 3 and 4 illustrates the aggregated historical rates of return for SRA auction participants. This data clearly reveals the structural change from 2010Q1.

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Figure 3: SRA unit rates of return segmented to periods ending 2009Q4 and those from 2010Q1

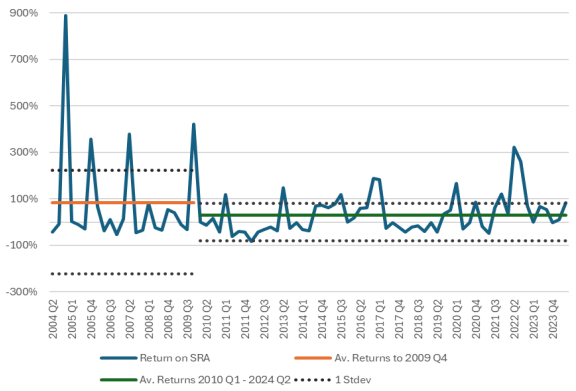
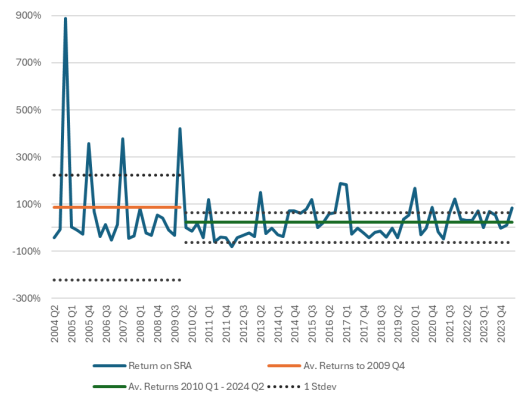


Figure 4: SRA unit rates of return segmented to periods ending 2009Q4 and those from 2010Q1 with two outlier quarters substituted with average values.



Source: AER and AEC analysis

Table 2 sets out statistics for the charts above.

Table 2: : SRA unit rates of return (blue shading) and SRA unit rates of return with two outliers in Q2 and Q3 2022 replaced with mean values (green shading).

	2004 Q2 – 2024 Q2	2004 Q2 – 2009 Q4	2010 Q1 - 2024 Q2	2004 Q2 – 2024 Q2	2004 Q2 – 2009 Q4	2010 Q1 - 2024 Q2
Mean	46%	85%	31%	40%	85%	22%
Standard deviation	138%	224%	81%	132%	224%	64%

For the 23 quarters to 2009 Q4, the standard deviation is 224 per cent and the mean rate of return is 85 per cent. We do not know the probability distribution for these returns but if we employ Chebyshev's inequality which is independent of distribution we can see that this series appears to behave in this manner in that six per cent of observations are four standard deviations or higher (ie, 888 per cent return out of 23 observations) and 75 per cent are two standard deviations or higher.[2]

For the 58 observations from 2010 Q1 to 2024 Q2, the standard deviation drops to 81 per cent and the mean to 31 per cent. There are two observations of 322 and 262 per cent returns, 2022 Q2 and Q3, respectively 3.6 and two 2.8 standard deviations from the mean. These occurred during the unprecedented events in June 2022 and the return to stable markets in the next quarter. Under Chebyshev's inequality this would imply these results are approximately 6-21 per cent of possible observations. In contrast if the results are normally distributed they are less than one per cent of possible observations. Observationally the post 2009 Q4 data appears to be most likely normally distributed. If we remove the two less than one per cent probability observations (ie, outliers) the results are as set out in Figure 4. These two observations are replaced with the average rate of return for the data set commencing 2010Q1 ie, 31 per cent. The result is a lower average return of 22 per cent and standard deviation of 64 per cent.

Both Figures 3 and 4 are clear illustrations that an efficient market has evolved since 2009. The standard deviation for returns has narrowed dramatically and the realised returns have largely behaved within its bounds. Initially, investors were cautious and that is reflected in the bias towards higher average returns in the early years but subsequent to those it appears that market forces have resolved these issues.

Conclusion

In summary the AEC:

[2] https://en.wikipedia.org/wiki/Chebyshev%27s_inequality

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- Supports the AEMC's decision to maintain SRA integrity;
- Rejects TNSP cash flow risk arguments and believes the AER is the appropriate market body to consider TNSP claims;
- Recommends a review of PEC and the associated SR issues after two years of full operation; and
- Rejects the proposition that participants in SRAs are making outsized returns that are not commensurate with the inherent risk of the financial product.
- Recommends a review after PEC has been operating fully for at least 18 months.

Any questions about this submission should be addressed to peter.brook@energycouncil.com.au or by telephone on (03) 9205 3116.

Yours sincerely,

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