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Thursday, 10 July 2025

Ms Anna Collyer
Chair
Australian Energy Market Commission

Lodged online: www.aemc.gov.au

Project Ref: ERC0386

Dear Anna,

AEMC's IRSR arrangement for transmission loops

Transgrid welcomes the opportunity to respond to the Australian Energy Market Commission's (**AEMC**) directions paper on Inter-regional settlements residue (**IRSR**) arrangements for transmission loops. The AEMC's directions paper provides stakeholders with an opportunity to further engage with the AEMC and ensures that the best outcome is achieved for both consumers and market participants.

Transgrid understands that the directions paper has the following elements:

- Proposes a 'netting off' approach for allocating positive and negative IRSR in transmission loops
    - When loop IRSR is net positive, negative IRSR in a dispatch interval would be deducted from the positive IRSR that arises on the other arms, in proportion to the size of the positive IRSR on each arm. This netted IRSR would then be allocated to settlements residue distribution (**SRD**) unit holders.
    - When loop IRSR is net negative, any positive IRSR on any arm would be used to reduce negative IRSR in that dispatch interval.
- Any remaining net negative loop IRSR would be allocated to the Co-ordinating Network Service Providers (**CNSP**) for the looped regions, in proportion to regional demand. CNSPs would in turn recover it from consumers in Transmission Use of System (**TUOS**) prices.
- Settlements Residue Auction (**SRA**) proceeds (and any unsold SRD units) would continue to be allocated to the CNSP in the relevant importing region. CNSPs would then return this revenue to consumers in TUOS.

Transgrid strongly supports the approach outlined in the directions paper. We believe considerable improvements have been made from the draft decision that was published on 12 December 2024. We consider the draft decision would have imposed unreasonable costs on consumers and cashflow risks on primary CNSP. We estimate that consumer exposure to negative IRSR on the transmission loop will be

reduced by approximately 80% if the proposed 'netting off' approach is applied, compared to the draft decision. We believe this proposal is based on evidence and logic. This is an important step to ensure that consumer risks are addressed.

Benefits of 'netting off' positive and negative IRSR

Transgrid anticipates to complete construction and energise Project EnergyConnect (**PEC**) Stage 2 in late calendar year 2026. This interconnector will create the first transmission loop in the NEM, between NSW, South Australia and Victoria. Once the transmission loop is established, it is expected that counter-price flows will frequently occur as part of normal market operation.

Negative IRSR on one part of the loop will arise in support of greater positive IRSR on another part of the loop, known as the 'spring washer effect'. The quantum of negative IRSR that may accrue around the loop could be very large, volatile and unpredictable – even when the loop has a net positive residue overall (and the market is operating efficiently). Market modelling indicates that negative IRSR on the transmission loop could total around $50 million per year by 2030 under normal conditions. Crucially, these could escalate to tens- or hundreds- of millions of dollars under atypical market conditions (such as periods of system stress).

Transgrid supports the AEMC proposal to 'net off' negative IRSR from positive IRSR on the transmission loop during trading intervals where the loop has a net positive residue overall. This is because:

- It will reduce TUOS prices and therefore energy bills of energy consumers in NSW, South Australia and Victoria, compared to the approach in the draft determination which would have allocated all negative IRSR to CNSP (and ultimately consumers). We estimate that direct costs allocated to consumers would reduce by around $40 million in 2030 (approximately 80% reduction).
- It allocates risks and benefits of IRSR symmetrically to market participants. The draft determination would have seen consumers (via CNSP) become fully exposed to all negative IRSR that accrue from loop flows but only partially benefiting from positive IRSR (via the proceeds of SRA which are systematically lower than positive IRSR values actually realised in markets).
- We consider that market participants are best placed to manage negative IRSR on the transmission loop, given they will be inextricably linked to positive IRSR, and are a direct outturn of volatile wholesale market prices. We do not consider that CNSPs should be allocated costs associated with wholesale market outcomes as we have no financial or operational tools available to reduce or offset negative exposures (outside of recovering these additional costs from consumers via TUOS). These costs would therefore need to be passed on in full in TUOS (representing an unhedged negative market exposure for consumers). Conversely, market participants can access SRD units which represent an effective hedge to negative IRSR (i.e. when the loop has positive residues overall the positive IRSR will always be larger than the negative IRSR).
- Indicative market modelling commissioned by Transgrid suggests that negative IRSR that arise in the loop flows would generally be very small compared to the substantial positive IRSR that arise (typically less than 5%), which suggests that netting off will not materially reduce the value of SRD units or their value for inter-regional hedging.
- It will substantially reduce CNSP exposure to large and volatile cashflow risk compared to the draft determination. The introduction of unclamped loop flows within the NEM will increase the value and volatility of negative IRSR that may arise, and the related cashflows and week-to-week variability have

the potential to become very large relative to CNSP revenues. This would impact the affected CNSP's cashflows, credit metrics and financeability. We consider this inherent volatility to be inconsistent with the stable and predictable cashflows required by a regulated network business.

Transgrid also supports the principle of netting off positive and negative IRSR during periods when the transmission loop has a net negative residue overall. This will further reduce consumer exposure to downside risk and minimise CNSP cashflow variability.

Feedback on detailed proposal in AEMC directions paper

Transgrid's feedback on the detailed approach outlined in the directions paper are as follows:

- **Method of 'netting off':** Transgrid considers that negative IRSR could be netted off around the loop either in proportion to the positive IRSR (AEMC's preferred option) or based on net trade. We do not have a strongly held preference, and both options have merit. In principle, we would support the option that maximises the value to consumers of SRA (e.g. maximise proceeds from SRA and result in the least distortion of SRD units as a tool for inter-regional hedging).
- **Allocation of unsold and unoffered SRD units:** Transgrid supports the proposal to allocate the SRA proceeds and unsold SRD units to the importing region (i.e. the current approach) as opposed to an allocation based on the proportional demand across the regions in the loop. We consider that it is sensible to align the allocation of unsold/unoffered units with the alternate receipt of cashflows if the units had been sold.
- **Allocation of net negative IRSR:** Transgrid understands that the AEMC is proposing that net-negative IRSR arising on the transmission loop should be shared amongst CNSP in relation to regional demand, which will help to reduce risks that any one CNSP will be acutely exposed to negative IRSR. Transgrid notes that NSW would be allocated approximately 55% of these costs, and that net-negative residues still have the potential to be large and unpredictable (although much less so than *gross* negative IRSR). We also consider that it is very difficult to forecast how and when net-negative IRSR will arise once the transmission loop is established, and which region will ultimately benefit. It is possible that the current arrangements for radial interconnectors (where negative IRSR are allocated to the importing region) may best align costs and benefits in these situations. Given the inherent uncertainty, Transgrid considers that the proposed AEMC approach is reasonable in the first instance, but that this may warrant review once operational if it becomes clear it produces inequitable consumer outcomes between jurisdictions. AEMC proposes calculating demand based on a rolling annual average; We recommend instead using a fixed annual period (e.g. the previous calendar year) which would be more administratively simple and forwardly visible.
- **AEMO clamping:** Transgrid supports AEMO applying clamping when the transmission loop has net negative residues overall. We consider that this will be very important in mitigating net negative IRSR exposures, and particularly the risk of extreme net negatives. We would welcome formalising the role of clamping on the transmission loop in rule drafting as well as AEMO procedures. Further discussion of these issues can be found in Transgrid's submission to AEMO in response to its *Consultation on automation of negative residue management for the implementation of transmission loops*.
- **Alternative options to 'netting off':** Transgrid supports the principle of netting off positive and negative IRSR in the transmission loop, as outlined in the directions paper. We do not support other options considered, including:

- Recovering negative IRSR from market customers: Transgrid agrees that this option would allocate an unhedged market exposure to all market customers, including those with no interest in inter-regional trade.
- Scaling the amount of SRD units sold: While allocating some proportion of SRD units to CNSP could have the effect of offsetting some (or all) negative IRSR exposure under normal market conditions, there would be misalignment of IRSR exposures and SRD revenues. CNSP cashflows would potentially become more volatile and unpredictable, and very large costs (and cashflow risks) could accrue to CNSP (and consumers) under extreme market conditions.
- Clamping in net positive cases: Transgrid does not support AEMO clamping loop flows when overall residues are net positive. Negative IRSR will be a normal part of efficient market operation once the transmission loop is established, and clamping flows under these circumstances will result in an underutilisation of interconnection infrastructure, and a reduction in the market (and consumer) benefits ultimately realised.
- Micro-slice implementation of PEC: Transgrid considers that AEMO's dispatch engine (NEMDE) should represent PEC as a connection between NSW and SA, which will match the physical network topography (a loop). This will also provide for NSW-SA SRD units to be auctioned, which will support inter-regional hedging between the two regions (which would only be indirectly possible via Victoria using the micro-slice configuration).

Transitional arrangements

Transgrid understands that the proposed transitional arrangements will effectively retain current IRSR arrangements on radial interconnectors until the 'PEC operational date' when AEMO cuts over from the 'micro-slice' model to the 'interconnector dispatch integration model' in NEMDE. We expect that PEC Stage 2 will be energised in late 2026 but will then undergo an extended period of inter-network testing (up to 12 months) to progressively release its full capacity to market. We welcome clarification in the transitional rules about whether the PEC operational date is intended to align with the energisation date, the achievement of a certain hold-point test, or some other measure – and how IRSR accruing from flows on PEC should be managed before this date. Transgrid considers that the PEC operational date should be set as a specific fixed date and should not necessarily be tied to any project milestone for PEC Stage 2 (as even the existing PEC Stage 1 could be operated as a transmission loop rather than a radial interconnector via the micro-slice). This will provide certainty. Transgrid notes that if the micro-slice configuration is retained for a significant period that NSW consumers may miss out on revenues associated with power flows on PEC into NSW.

Transgrid considers that there is the potential for the implementation of this rule change to have significant cash flow implications for CNSP and therefore transitional arrangements must be carefully considered. There will be limited time between the Final Determination (anticipated in September 2025) and the publication by CNSP of TUOS pricing for FY27 in March 2026. SRA proceeds represent a significant share of Transgrid's annual revenue (around 20%), and we therefore require forecasts of this revenue to be as firm as possible when preparing TUOS pricing, to avoid material variances between forecasts and actual revenues during the year. Cash flow variability is very difficult for CNSP to manage (as has been extensively explored in this rule change to date) and can negatively impact credit metrics and financeability, and the costs of managing volatility would ultimately need to be recovered from consumers. The subsequent recovery or return of material over- and under- recoveries also leads to swings in TUOS pricing

year-to-year which is difficult for our customers to predict and manage. It is therefore desirable for all stakeholders that CNSP revenues and TUOS prices are stable and predictable.

We recommend transitional arrangements for this rule change address and minimise the impact of uncertainty in relation to:

- **Anticipated revenue for VIC-NSW SRD units:** A significant share (50%) of relevant FY27 units have already been sold (i.e. for Q4 2026, Q1 2027 and Q2 2027) and as mentioned in the directions paper, Clause 16 of the Auction Participation Agreement may allow auction participants to terminate their SRD agreement as a result of this rule change, given that bid prices would not have accounted for the netting off of positive and negative IRSR on the transmission loop. The termination of a material share of these units would create significant uncertainty for CNSP when forecasting TUOS. Typically, CNSP can rely on completed auction results to reliably forecast around 80% of SRA revenues, but this may be much lower in FY27 – depending on the timeframes when units may be terminated and the scheduling of any re-auctions.
- **Revenues for new SA-NSW SRD units:** Transgrid anticipates these units will take effect from the PEC operational date. While SRD units are normally sold up to three years in advance, no SRD units have yet been sold for the new SA-NSW interconnector. We understand that AEMO is still considering the SRA timetable for these SRD units, including potentially deferring all auctions until there is greater certainty about the PEC energisation date (and PEC operational date). This may mean that no auction results for future SRD units are available by March 2026 when FY27 TUOS prices are finalised. This lack of results and precedent data, along with uncertainty about how auction participants will value SRD units when the timing and volume of interconnection capacity is also uncertain (due to inter-network testing) will make it very challenging for CNSP to forecast related SRA revenues in FY27 (and likely FY28).This would be compounded if SRA do not take place until after the PEC operational date, which may result in some (highly variable) IRSR being directly allocated to importing CNSP for a period of time (rather than the associated SRD units being auctioned and CNSP being allocated the auction proceeds).

We estimate that the combined value of Transgrid SRA (and related) revenues that are subject to considerable uncertainty could exceed $100m in FY27. Jurisdictional CNSP in Victoria and SA would have equivalent exposures. We consider that transitional arrangements for this rule change should seek to maximise the forward visibility of SRA revenues for CNSP as they relate to FY27 TUOS forecasts to minimise the impacts of this uncertainty. This could include:

- Applying a deadline for existing unit holders to terminate SRD agreements and a requirement for any cancelled SRD units to be re-auctioned in December 2025, so that CNSP can include new auction results in FY27 TUOS prices. Any units that are auctioned after the Final Determination should be explicitly excluded from termination provisions in Clause 16 of the Auction Participant Agreement.
- Mandating that SRA of units relating to the new SA-NSW interconnector for FY27 be accelerated so that as many as possible (e.g. ~80%) are auctioned by December 2025 to ensure CNSP have a reasonable basis for calculating FY27 TUOS pricing.

Collectively, these measures would enable TNSP to forecast revenues for the purpose of TUOS pricing with the level of certainty that is reasonable and has historically been possible.

Transgrid would also support alternative transitional arrangements, so long as they did not result in additional cashflow risks for CNSP. In the event that there is not clarity at the time of setting FY27 TUOS prices about the volume of existing SRD units that will be terminated, re-auction prices, and/or if large numbers of SA-NSW SRD units have not yet been offered in SRA, Transgrid considers that transitional arrangements will be needed to manage CNSP cashflow variability and uncertainty.

This could involve a temporary facility managed by AEMO to reduce or spread variances arising in FY27 (and maybe FY28) over several years and smooth TUOS pricing impacts. This facility could receive IRSR distributions relating to units for which SRD agreements are terminated (or have not been auctioned), allocate fixed payments to CNSP equivalent to their anticipated SRA proceeds, auction or re-auction any remaining units at a time that best meets the needs of market participants (and consumers), and allocate any residual revenues (overs or unders) to relevant CNSP to factor into TUOS prices the following year.

In addition to the above mentioned measures, a complementary measure could be the temporary removal of interest adjustments from any overcollections which result from the inherent uncertainty faced by CNSP during transitional arrangements. NER 6A.23.3 (f)(3) states that an overcollection needs to be *grossed up on the basis of the allowed rate of return*[1]. However, we consider that this may be unfair because:

1. TNSPs are unable to accurately forecast transitional revenues (as discussed above),
2. The current interest rates available in the market are lower than the regulated rate of return.

CNSP may therefore be unduly impacted by the requirement to gross-up relevant over-collections by the allowed rate of return and it may be reasonable to waive it in relation to specific revenues for FY27 and FY28 (for the avoidance of doubt, over-collections *would* be returned in subsequent TUOS years). We note that this measure alone would not resolve cashflow volatility challenges for CNSP, but it could work well in conjunction with other solutions (such as those discussed above).

We would welcome the opportunity to explore options for transitional measures with AEMO and the AEMC to mitigate volatility and negative consumer bill impacts.

[1] See NER 6A.23.3 (f)(3) - NER - v232 - Chapter 6A.pdf

Future review of IRSR arrangements

We believe there are still areas of improvements as we do not believe the SRA framework is working as effectively as it could in the long-term interests of consumers. We welcome a review that looks at further matters relating to IRSR arrangements at a future date, which we were unable to examine in this rule change. A future review could examine broader issues that cannot be addressed in this rule change. This may include:

- Reviewing the nature and volume of IRSR that arise as the energy transition progresses, the share of renewable generation increases, the location of generation shifts, and network topography evolves
- Reviewing the operation of this rule once the transmission loop is operational and the market has had the chance to adjust
- Reviewing the allocation of all negative IRSR (including on radial interconnectors)
- Reviewing the allocation of intra-regional settlement residues
- Re-examining the allocation method for SRA proceeds and unsold SRD units
- Considering the role of SRD units and other financial instruments in a future NEM
- Considering the merits of establishing an AEMO holding fund to manage intra-year (or multi-year) cash flow volatility, if CNSP allocations become unmanageably large and volatile.
- Broader market design issues relevant to IRSR (e.g. nodal pricing, use of clamping)

We look forward to working with the AEMC to finalise the final rule. If you or your staff require any further information or clarification on this submission, please contact Zainab Dirani, Policy and Advocacy Manager at zainab.dirani@transgrid.com.au.

Yours faithfully

Monika Moutos
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