



This fact sheet summarises the Project Energy Connect (PEC) Market Integration - Directions Paper published by AEMO for stakeholder consultation. The Directions Paper discusses the impacts of PEC on transmission loop flows and recommended approaches for the management and allocation of negative interregional settlements residue (IRSR).

AEMO has published the Directions Paper for stakeholder consultation on proposed approaches for the management and reallocation of negative IRSR arising from the implementation of PEC.

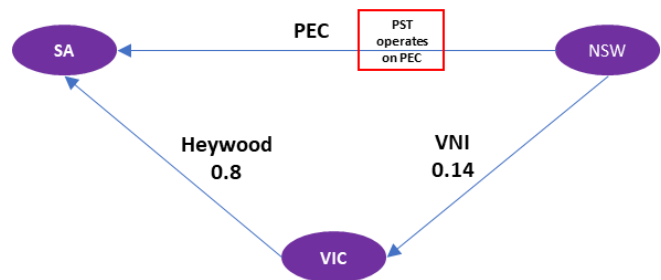
PEC will establish a transmission loop across regulated interconnectors between VIC, NSW, and SA. In a transmission loop, power flow on one circuit is affected by the others. Overlay economic dispatch and pricing, and a loop can regularly result in flow on one circuit being counter to price, supporting greater flow on the others in the direction of ascending price. PEC will increase counter-price flows and negative IRSRs.

AEMO is seeking stakeholder feedback on the proposed amendments to current Negative Residue Management (NRM) processes and to the distribution and allocation of negative IRSR. The approaches seek to account for changed power flows between regions, maximise economic dispatch, and improve settlement outcomes across regional boundaries.

PEC Market Integration

PEC will be implemented into NEMDE via a flow constraint that governs power flow between three regions, and models sharing between AC components of interconnectors. The flow constraint is an equality constraint that continuously binds in dispatch.

PEC network topology and loop flow constraint coefficients



Management and allocation negative IRSR current practice

In the NEM today, Negative IRSR is managed through the automated real time application of constraints to 'clamp' the counter-price flow and limit the costs of negative IRSR to the market. The clamp is applied on a per directional interconnector if negative IRSR is forecast to exceed -\$100,000.

The costs of negative IRSR are allocated and recovered from the TNSP in the importing region in accordance with NER 3.6.5 (4).

Modelling the settlement outcomes of PEC

AEMO engaged ACIL Allen to model the integration of PEC via the loop flow constraint and advise on dispatch and settlement outcomes.

Key findings	Implications
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Negative IRSR may become a common part of dispatch	Expected as a part of transmission loop dynamics and efficient dispatch
Negative IRSR typically occur when aggregate IRSR around is the loop is positive	Demonstrates the natural balancing effect of loop flow topology. Implies a requirement to reallocate negative IRSR around the loop
Net negative IRSR in aggregate around the loop occurs but, in the minority	Implies a requirement to retain some form of negative residue management where settlement is in deficit

Approach for stakeholder consultation

Negative residue management

The current design of NRM is designed for the radial interconnections of the NEM and is impractical for loop flows.

- *Proposed approach* – retain NRM clamping only when aggregate settlement around the loop is in deficit. This approach would allow negative IRSR to accrue when aggregate loop IRSR is positive, acknowledging the loop surplus is in part, driven by the occurrence of negative IRSR on a subset of interconnectors.

Reallocation of negative IRSR

AEMO considers a methodology for reallocation of negative IRSR around the loop is required to spread the negative IRSR to interconnections (the importing regions) that can afford to pay for it, by having positive IRSR.

- *Proposed approach* – For each directional interconnector, in each trading interval, reallocate negative IRSR, in proportion to the positive IRSR.

Payment for negative IRSRs

AEMO has included for stakeholder feedback, whether reallocated negative IRSR should be charged to consumers in the importing region (as is the current practice) or whether it should be first deducted from unit holders by reducing IRSR payouts of units purchased in the Settlement Residue Auction (SRA).

Impact on Settlement Residue Auction

The integration of PEC and changes to the reallocation and management of negative IRSR may have implications for the value and purchase of SRA units if negative residues are deducted from unit holders. While units are financially speculative, the Directions Paper discusses the treatment of potentially impacted units.

Consultation Process

AEMO is seeking stakeholder feedback and responses to the consultation questions in the Directions Paper. Following this, AEMO intends to finalise recommendations and initiate relevant NER and procedure change processes as required beginning Q 1 2024. Written submissions are requested by email to NEMReform@aemo.com.au.

Please see the Directions Paper for further information. Key consultation timings are as follows:

- Industry briefing – 14 November
- Submissions due – 1 December
- Final Decision from Directions Paper published – December 2024