



Settlement under low operational demand

Submissions invited on rule change request

The Australian Energy Market Commission (AEMC) has published a consultation paper on a rule change proposal from Infigen Energy (Infigen), that seeks to amend rule 3.15 of the National Electricity Rules (NER) by changing the non-energy cost recovery formulas in order to enable the national electricity market (NEM) to continue to settle and maintain equitable non-energy cost recovery during low operational demand.

Overview of the rule change request

On 15 February 2021, the Commission received a rule change request from Infigen that outlines the issues that could arise from the current non-energy cost recovery formulas during periods of low operational demand. These formulas rely on numerators and denominators that include adjusted gross energy (AGE), which is a customer's net flow of electricity at a connection point.

Under low regional net demand, some market customers are likely to be net generators (negative AGE values) which under the current formulas would receive a payment for non-energy costs incurred. The remaining market customers, which are net loads (positive AGE values), would be forced to pay a higher share of non-energy costs to cover this payment. Infigen notes that if operational demand was to fall to zero the current cost recovery formulas would fail from a divide by zero error, preventing settlement across the NEM.

To address this issue, Infigen proposes to introduce a 'flooring' solution where any negative AGE values are set at zero in the non-energy costing formulas, which would go some way towards maintaining an equitable non-energy cost recovery from market customers. Specifically, this change would prevent a market customer that is a net generator from receiving payment for non-energy costs incurred, but not liable for any non-energy cost recovery while they are a net producer.

In addition, by adopting this flooring mechanism the total regional demand would no longer fall below zero and result in a NEM settlement issue, as market customers that have a negative AGE would have their value 'floored' to zero.

Context

Operational demand, which is a measure of wholesale electricity demand, has been falling since distributed energy resources (DER) entered the NEM. However, the risk of low operational demand was considered too remote to be of concern.

Recently, South Australian minimum demand has continued to fall faster than forecast, occurring during mild spring weather conditions. This is due to conditions, particularly on weekends, when there's mild sunny weather, loads tend to be smaller, while large volumes of rooftop solar are still being produced and exported.

This fall in South Australian minimum demand prompted new modelling from the Australian Energy Market Operator (AEMO) and has estimated that there could be periods of zero or negative demand as early as spring 2021.

When the NER was established, it was assumed that market customers would be net consumers of energy, this assumption could no longer hold true. The result of this is that non-energy cost recovery formulas produce outcomes that are not consistent with the original intent of the NER.

The changes are designed to be a temporary solution until *Integrating energy storage systems into the NEM* rule change take effect.

Issues for consultation

The AEMC requests stakeholder feedback on the following issues identified within the consultation paper:

- the assessment framework for the rule change
- the risks posed by low operational demand
- Infigen's proposed solution
- implementation constraints around the issue
- alternative solutions for the issues identified
- expected costs, benefits and impacts of the proposed changes.

Implementation constraints and related rule change request

The AEMC is aware that AEMO is facing constraints for any additional system implementations before summer 2021 and is unlikely to be able to implement Infigen's proposed solution before mid-2022.

By this time AEMO will be working on implementing the system changes for the *Integrating energy storage systems into the NEM* rule change. Which is likely to allocate costs based on gross energy flows, rather than net energy flows, providing a long-term solution for the recovery of non-energy costs.

The AEMC has also released a separate consultation paper on a rule change request from AEMO, which is related to the non-energy cost recovery formulas. However, AEMO's request focuses only on the issue of settling the NEM when operational demand falls below 1 MWh. AEMO has proposed a solution where, if the regional demand falls below 1 MWh, market customers average usage from the previous four billing periods are substituted into the relevant cost allocation equations. This rule change is currently subject to the expedited rule making process.

Infigen has proposed a number of alternative solutions, one of these being to modify the solution proposed by AEMO in its rule change request. This modification would set the threshold at which the AEMO's proposed solution is triggered to 150 MWh instead of the originally proposed 1 MWh. According to Infigen, this solution addresses AEMO's concerns of NEM settlement and limits the downside risks identified by Infigen.

The AEMC is aware that this solution would be able to be implemented by spring 2021 as it would not be a material change to the work already completed by AEMO. If there is substantial consensus between stakeholders on a threshold value the AEMC is open to addressing the issue within AEMO's rule change request.

Consultation process

The consultation paper and the rule change request are available on the AEMC website. Stakeholders are invited to make a submission by **20 May 2021**.

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