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Lodged via AEMC portal

Re Integrating Storage Draft Determination ERC0280

Dear Joel,

Neoen welcomes the opportunity to respond to the AEMC's draft determination regarding energy storage.

About Neoen

Neoen is the leading French, and one of the world's leading independent producers of renewable energy. Neoen is a responsible company with a long-term vision that translates into a strategy seeking strong, sustainable growth. We have 2 GW of projects globally in operation and under construction, including in the NEM: Hornsdale Wind Farm (309 MW in SA); Parkes, Griffith, Dubbo, and Coleambally Solar Farms (combined 255 MW in NSW); Bulgana Green Power Hub (hybrid wind/battery system) and Numurkah Solar Farm (combined 314 MW in VIC); and the Degrossa Hybrid Power System (10.6 MW in WA). Neoen is also the owner of Hornsdale Power Reserve (150 MW battery system) in SA.

Industry Engagement

This rule change has been significantly altered from its original state. It is quite late in the process to be introducing new objectives that now impact participants.

Despite initial superficial agreement from industry that this rule change is worthwhile (misleading AEMC & AEMO), the lack of serious engagement suggests that it is not a core interest for anyone. The AEMC should consider this as a sign to close down the workstream.

Given the draft rule is disconnected with the issues consulted on it is not appropriate for the AEMC to progress all of the proposed changes.

Summary

Non-energy cost recovery: **continue**

The fixes to FCAS settlement need to be acted upon given they were already delayed from the Infigen rule change proposal on FCAS settlement. More should be done to align FCAS settlement with the “causer pays” spirit of the NER – currently this is not the case, and the proposed changes are a good start but incomplete.

New participant category: **discontinue**

The new participant category does not have any demonstrated benefits, and indeed has demonstrated harms to storage facilities. Unless substantial benefits can be quantified with legitimate business cases resulting in greater market efficiency this part of the rule change should not proceed.

Storage TUOS/RRO: **discontinue**

Charging storage for consumer costs is not a zero sum calculation, and the inefficiency of this proposal will inevitably increase costs to consumers in both the short and long run.

Storage does not have consumer rights and should not be charged for TUOS or RRO. The rules need a definition that clarifies the difference between *final consumption* and *accumulation* as subsets of *load*.

Non-energy cost recovery

Removal of payment for non-service is an immediate priority and the most valuable outcome for this rule change stream. Change has already been delayed and should not be delayed again.

However, we should not leave non-energy cost recovery here – to do so would not meet the national energy objectives. The rules are supposed to recover costs on a causer pays basis, and the current use of net metering nullifies this objective.

Consider any one consumer and any one generator. Their deviations from expected behaviour cause a change in frequency, and these deviations are not related to each other. Aggregating these two elements does not improve frequency, but in the current environment it allows the aggregation to avoid paying their fair share of FCAS costs by reducing both the gross generation and gross consumption to a netted figure.

Conversely, if we allow the aggregation of generation and load at the connection point, it follows that we can use aggregation across the NEM between any generator and load. Doing so would extinguish all cost recovery as supply matches demand. Therefore, if we cannot aggregate in general, we cannot aggregate at any level without creating issues.

This aggregation issue is already causing unintended wealth transfers between participants. When rooftop solar is large compared to demand the costs of Lower Contingency fall primarily on industrial consumers even though they are a minority of gross demand. This has already caused huge price shocks in the past, and it incentivises industrial loads to exit the market at the very moment when more demand is needed.

This is a critical issue as it could bankrupt Australian businesses without warning.

The sustainable long term solution is to separately meter generation and consumption at the connection point for the allocation of cost recovery. Most modern meters are already capable of this, and are required for new installations of DER. This means the measurement of the consumers of interest is possible.

In the short term, if proper metering is not preferred, an estimation of behind the connection point generation could be added to net load get the gross consumption figures.

In conclusion: not progressing this topic further would mean abandoning the spirit of causer pays cost recovery. This is not in keeping with the NEO.

New Participant category

Neoen questions the objectives for this workstream. None of them are important to us, and indeed many are counterproductive. The new category is so broad as to encompass all possible configurations – what is the point of classifying roles at all?

The topics are generally grouped below.

Single unit for storage

This is not an issue that needs solving and makes it harder to operate batteries effectively.

Storage has two distinct roles – charge and discharge. They operate under completely different strategies. The combined unit proposal is simply pushing together two separately bid roles with no improvement to registration or dispatch.

The combined DUID does not allow for conditional FCAS bids where concurrent dispatch only occurs under a combination of conditions. For example, RREG & Load concurrently and not independently.

The unavailability of each role may be different depending on the circumstances. If the storage is full the Load role is unavailable, but the Gen role is available. Being able to distinguish between roles is

necessary, and if we modify the single DUID to do so we simply end up with an agglomeration of the status quo. Having twenty bid bands and two MaxAvail parameters is an expensive duplication of what we already have.

Neoen requires the of two DUIDs for storage to be maintained, and we have no interest in a costly overhaul of our bidding systems to accommodate an inferior copy of the status quo.

We note that the proposed requirements for storage to specify future energy availability in the new draft subclauses 3.7.3(e)(5), 3.8.4(c)(3A) and 3.8.6(g2) represent a circular reference and an unsolvable or heavily obstructed dispatch process.

Storage facilities cannot know for sure what dispatch outcomes will occur. The best information they have is the predispach outcomes from AEMO. To the extent that a storage facility is overcommitted in wholesale markets it can economically withdraw to stay within state of charge bounds. Bidding unavailable would only decrease dispatch efficiency as a battery could not be called on in markets it is truly available for if market conditions change. Being pre-emptively available is beneficial to the NEM, although it requires constant iteration by storage participants.

Aggregating hybrids

Hybrids¹ are by definition already aggregated. Rather than a complex new category, hybrids would benefit from flexibility at the boundaries of the current categories. For example, a small battery integrated into the control system of another much larger solar farm could be used to meet PFR requirements and improve dispatch outcomes. This potential hybrid is disincentivised by the requirement for battery systems above 5 MW to be scheduled, including the larger solar farm when integrated under a single control system.

To be clear, what would be better would be an exemption framework for hybrids, rather than a new category.

General aggregations

Aggregations of non-integrated activities do not create value for the NEM or society. Providing optionality for consumers or retailers to shirk their responsibilities is not value.

The only circumstance where we should be netting activities is in the calculation of local maximum demand – this provides the correct incentive to manage maximum demand behind the connection point.

All other netting is generally creating perverse incentives. Even in wholesale energy netting is not required as wholesale activity is settled at the same pool price. Settling all generation at the pool price as set out in the NER is the correct method to use.

Network costs should not be recovered through volumetric charges as these do not represent the cost structures of networks. Recovering network costs solely through maximum demand charges and fixed charges is the only sustainable long term method.

Take for example, a consumer with rooftop solar. There is no physical difference to the NEM if their generation is separately metered or not. There is simply a generation activity and a consumption activity. Wherever aggregations reduce specific consumer costs without reducing total system cost there is an inequitable wealth transfer.

The AEMC has said equitable outcomes are not its first priority, but this is the same excuse used to delay strategic transmission investment - “an intergenerational wealth transfer”. Given the payment avoidance strategies granted by net metering are only exploitable by property owners this is also an intergenerational wealth transfer from young renters to old landowners.

¹ By hybrid we mean multiple plant that are both co-located and have an integrated control system.

Storage TUOS/RRO

AEMO's advice is that storage shouldn't pay TUOS, and the current situation is that this is the starting point for a developer seeking to connect storage. The AEMC's proposal reverses this situation, requiring a developer to negotiate out of paying TUOS. This creates greater uncertainty about project viability and is setting the wrong standard condition.

In general, consumer charges intended for *final consumption* should not apply to *accumulation*. This includes STCs, LGCs, network costs, and reliability charges. The error in perspective comes from the imprecise nature of the English language resulting in the conflation of *load* and *consumption*.

No consumer rights

Utility storage does not have the right to charge or discharge. When network constraints bind, storage may be forced to operate suboptimally with respect to its own revenues.

This is distinct to the rights that consumers have. If consumption is forecast to be constrained in future NSPs must build out network capacity to guarantee consumer rights to access electricity services.

Reduced net system benefits

Charging storage for consumer costs does not simply smear cost around – it impacts the supply and operation of storage in ways that inevitably increase net costs to consumers.

Less participation from storage

Additional operating costs increase the spread in price required for a storage facility to remain viable. This impacts marginal prices during peak periods through storage either setting price at higher levels, or not being dispatched and not being able to reduce peak prices.

There is a counteracting effect where storage also charges less allowing for lower offpeak prices. This effect is weaker because demand is lower at these times, and storage has more time to charge making it less impactful on marginal price outcomes. Furthermore, bids stacks are broader outside peak periods.

The cost impact to consumers dwarfs the benefit received from smearing cost recovery across more participants because the marginal price is multiplied by peak demand. The wholesale volume paid by consumers is many multiples of the storage liability volume, and the price impact is non-linear during peak periods i.e., prices could rise by more than the marginal cost of the storage liability.

The reduction in participation is more pronounced for pumped hydro as their round trip efficiency is lower than batteries. There is already evidence that existing pumped hydro facilities reduce their participation in response to consumer cost liabilities.

Fewer storage systems commit

The economics of storage are already challenging. Further loading up costs merely discourages storage systems to commit. Consumers are left with more volatile wholesale outcomes and miss out on the reliability and security benefits of storage.

RRO

Neoen notes that the threshold for batteries to pay RRO, and the carve out for pumped hydro means that the only facilities liable will be Neoen's assets; the expanded Hornsdale Power Reserve & the Victorian Big Battery. This arbitrary and unfair definition is clearly unacceptable. A rule should apply equally to everyone, or no one at all.

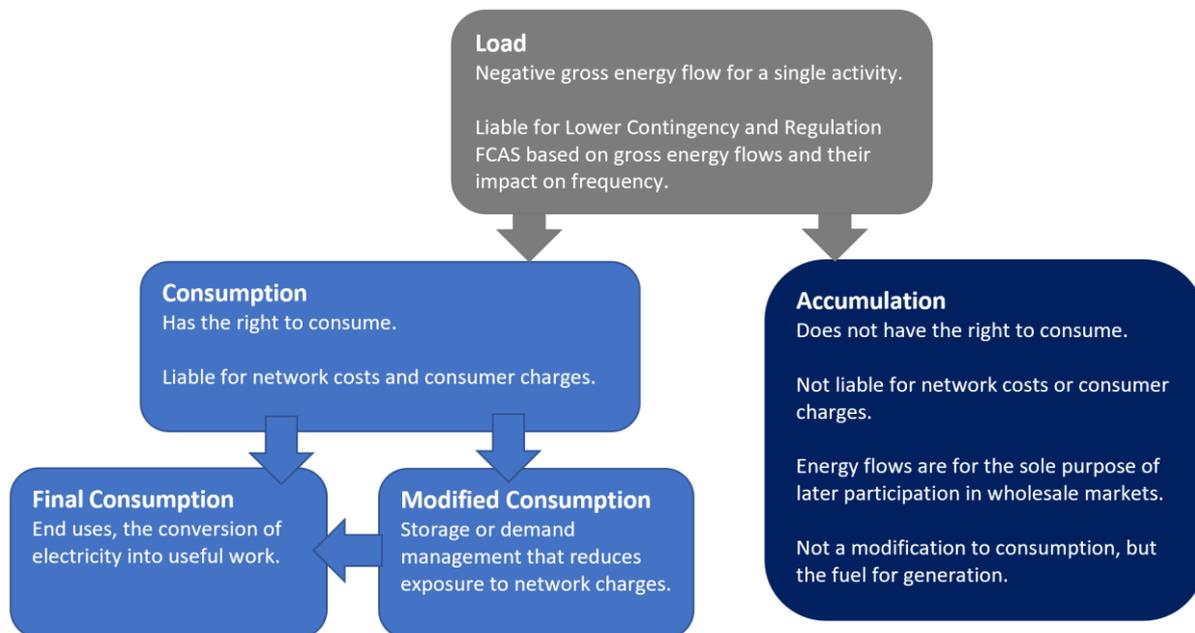
As mentioned above utility batteries do not have the right to consume and so should not be liable for charges intended for *final consumption*.

It is not enough to simply say “don’t charge during certain periods”, Neoen is obliged to respond to over-frequency events with no exceptions for price or market conditions. We have already paid exceptionally high prices when over-frequency events coincide with Energy at the market price cap. This is enough “punishment” for charging during low reserve conditions.

Even if we intended to charge during low reserve conditions, we are not granted the right to import. AEMO would not dispatch us if it would impact reliability.

Definitions of Load

Revisiting the English language problem; below is a diagram outlining how we think the different subsets and responsibilities of loads should be defined.



Neoen is available at your convenience to discuss these topic further.

Yours sincerely,

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Neoen Australia