

NEOEN



NEOEN RESPONSE

CMM Project Initiation Paper

28 January 2022

Lodged via email: info@esb.com.au

Dear ESB,

Neoen welcomes the opportunity to respond to the ESB's initiation paper for CMM.

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 5 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), Numurkah Solar Farm, and Victorian Big Battery (combined 614 MW in VIC); and the Degrusa Hybrid Power System (10.6 MW in WA). Neoen is also the owner of Hornsdale Power Reserve (150 MW battery system) in SA, and Victorian Big Battery (300 MW) in Geelong.

Stakeholder Consultation Process

We are concerned that this initial process is a box-ticking exercise based on the short time frame to reflect on alternative structures, and the concrete timeline for the CMM work.

The AEMC and ESB have both produced strawman arguments against alternatives that no-one was asking for. This gives us even less confidence that an alternative will be genuinely considered.

The ESB has complained that States are taking matters into their own hands with transmission investment and access. The governing bodies should reflect on why this is occurring. The RIT-T is failing to produce the needed investment in strategic transmission assets and industry has roundly rejected LMP. We urge the AEMC and ESB to discard their insular views or risk the States breaking up the NEM.

The Wrong Principles

We do not agree with the prioritisation of the challenges as laid out by the ESB.

Challenges to be solved by CMM – the transmission access reform objectives

1. Better signals for generators to locate in areas where there is available generation capacity – including, but not limited to, in the REZs that are being delivered through the ISP and state government policies,
2. Better use of the network in operational timeframes, resulting in more efficient dispatch outcomes and lower costs for consumers,
3. Establishing a framework that rewards storage and demand side resources for locating where they are needed most and operating in ways that benefit the broader system, and
4. Measures to give investors confidence that their investments will not be undermined by inefficient subsequent connections

Locational Signals

Locational signals are already potent, and in fact exaggerated compared to the true electrical losses and congestion in the system. The majority of investors already make use of detailed modelling to forecast the impact of congestion on their development.

Creating a two-speed access regime as envisaged by ESB and NSW is harmful to the efficient operation of, and timely investment in the NEM. We need a holistic access scheme that does not create artificial boundaries that are not reflected in the physics of the network.

REZ access schemes do not maximise the supply potential of the transmission network and artificially block good projects that could more effectively serve consumers. These schemes are certain to increase costs to consumers, either through additional spending on transmission, or worse, insufficient supply causing high wholesale prices.

Efficient Dispatch

The dispatch has minimal inefficiencies and the “improvement” due to LMP is both very small, and split between increased and decreased costs to consumers, i.e., efficiency does not equal cheaper in all cases. The LMP advocates have grossly exaggerated the efficiency impacts of open access through synthetic models and diagrams that do not reflect reality.

There are inefficiencies in the way storage is dispatched in constraints, although these inefficiencies are miniscule. Nevertheless, this principle is worth further consideration as long as the cost of reform is low, and it does not undermine other market principles.

Rewarding Certain Technologies

This is a subset of the previous problem. It is both fanciful and inappropriate to create non-neutral rewards. Fanciful because storage is an inefficient investment to manage congestion, and because loads will never choose to locate in a weak area of the grid far from their potential customers, supply chains, and workers. This objective should be struck out.

Investor Confidence

This is the main item and should be the primary focus of the ESB/AEMC.

We should be clear that we are talking about providing existing and intending generators with a higher degree of incumbency than they currently have under Open Access.

So far investors have (unanimously) rejected the proposed changes from AEMC & ESB. We will learn nothing new by re-prosecuting the LMP fantasy. This is an opportunity for the ESB to reset the process, but only if they drop their dogmatism.

Out of touch on how the market works

LMP proponents are primarily economists, and economics is supposed to be a social science.

Unfortunately, the methods used by LMP proponents ignore both the behaviours of market participants and empirical data.

Neither the AEMC nor the ESB collected actual empirical data on the status of the NEM to confirm their bold claims about LMP. Instead, synthetic models were created which do not represent the physical and commercial realities of a commodity market.

- Renewable resources are uniform and non-diverse.
- Power plants are placed in bad areas to “prove” Open Access doesn’t work
- Cost of capital, and financing terms are uniform and ignore risk
- Return on capital is assumed
- Constraints are misrepresented as competition between fuel sources
- Constraints are localised and have uniform factors
- Units all bid at SRMC
- No strategic bidding occurs

These assumptions would be less of a problem if we had a benevolent, omniscient, vertically integrated, regulated monopoly utility. In this case LMP is not an issue because the utility can expect a guaranteed return on capital – operational revenue is only relevant to operating costs.

This is not how the NEM works – let us dispel the dream.

AEMC & ESB have ignored industry advice on the behavioural aspects of both trading and investment. In operational timeframes this includes transient market power and strategic bidding. LMP proponents simply pretend these issues will not arise. Over investment timeframes the difficulty in bilateral contracting and decrease in revenue certainty leads to lower debt and higher cost of capital (debt & equity). This cost is many orders of magnitude higher to Australian society than an immeasurably small improvement to dispatch efficiency.

If LMP proponents refuse to assess empirical data their process is not scientific, and if they refuse to assess behaviour their process is not social. This can only be described as charlatanism.

Problems with CMM

CMM weakens locational signals due to complexity creating modelling noise.

CMM fractures the NEM. Pockets where an efficient investment could take place will be cauterised by the lack of rebates. Access rules must be consistent across the market.

Rebates do not fairly allocate congestion to the inefficient investment. This incentivises inefficient investment where the developer knows they can share congestion with others.

The Congestion Management Model doesn’t manage the majority of congestion: i.e. MLF and all constraint types. It is just an alternative dispatch model.

CMM does nothing to integrate transmission investment decisions. The AEMC has been told that transmission capacity is scarce yet continues to do nothing to increase supply.

CMM does not apply LMP to loads. This is considered the most economically efficient option, so clearly the AEMC is able to balance robustness for efficiency.

CMM destroys the ability to transact over long time periods. The certainty of future revenues and the ability to physically hedge a position is greatly diminished. This directly affects cost of capital and dwarfs the miniscule gains in dispatch efficiency.

We are moving to a world where zero marginal cost means LMP is meaningless, and where cost of capital is more important than operating cost.

The spectre of LMP is already creating challenges for Neoen in contracting new assets. We are already experiencing difficulty in agreeing on terms with clients to preserve the integrity of a contract if LMP comes into effect. **Therefore, the CMM process is already undermining new supply and will have some upward impact on NEM prices.**

Actual Problems to Assess

There are two problems that can be independently solved.

1. Naïve investors can ignore locational signals
 - Open access doesn't stop it
 - CMM doesn't fix it
 - Closed access is inefficient (e.g. WA or FTRs)
 - ✓ We need a way to deny inefficient investments the right to connect. Balancing reasonable levels of congestion with efficient utilisation of transmission.
2. Dispatch isn't perfectly efficient
 - Battery dispatch in constraints is inconvenient. A small problem compared to the first one.
 - However, AEMO maximises consumer value very effectively. The theoretical inefficiencies are *grossly exaggerated* compared to reality.
 - LMP creates market power issues and is certain to be gamed. This will undermine consumer's confidence in the NEM.
 - ✓ We need a way to settle side markets

Principles

As an industry we should first agree on the issues and goals:

1. Enhance incumbency of existing generators and future generators enabled by REZ infrastructure.
2. Incrementally improve constraint dispatch without undermining commodity market principles.

Note that generators enabled by REZ infrastructure may exist outside arbitrary geographical boundaries and may not be connecting to the infrastructure directly. We need a more general solution to measure headroom improvement created by REZ infrastructure across the entire NEM. This will naturally be most potent when connecting onto or adjacent to new lines.

For example, a piece of Victorian REZ infrastructure is a 10 metre long busbar and a transformer. The geographical and physical reach of the upgrade is tiny, but the ability of this augmentation to increase constraint headroom has far reaching impacts across Victoria and into SA and NSW.

The displacement of a generator "inside" a REZ with one "outside" the REZ is not an issue if the end generation solution still provides the same benefits to consumers.

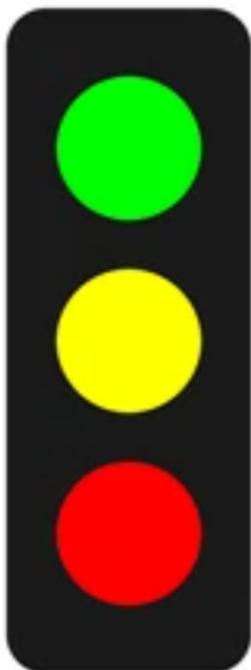
The metric we are interested in for access is *net congestion*, and we are seeking to cap this at an efficient level to provide more certainty to generators. CMM does not measure the correct metric so we will not be able to reach an optimal solution with it.

Potential Solutions

Investment timeframe

1. Additional information to discourage naïve investment
2. Blocking mechanism to preserve some degree of incumbency for current generators and future REZ generators
3. Ability for generators to mitigate congestion with other means

We could use a traffic light system to guide generator investments



Green light:

More information about the hosting capacity of the network is provided.

Yellow light:

A proposed project is warned that their project will cause inefficient levels of new congestion. They will have to solve this by reducing the project size, contributing to transmission augmentation, or using storage to mitigate the impacts.

Red light:

The project is still too harmful and they are not allowed to connect. This should be a last resort, used sparingly.

Operating timeframe

- Reconfigure constraint equations to group units so that a battery can directly improve congestion on a particular generator
- Introduce a side market to redispatch curtailed energy – for example the Edify model.

We need to maintain commodity market principles for the product that is not affected by congestion.

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

Yours sincerely,

Handwritten signature of Tom Geiser.

Tom Geiser,
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