

Elizabeth Bowron
Australian Energy Markets Commission
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CoGaTI Implementation – Access and Charging: Consultation Response

Dear Ms Bowron,

Lighthouse Infrastructure Management Limited (**Lighthouse Infrastructure**) welcomes this opportunity to respond to the Australian Energy Markets Commission (**AEMC**) consultation *CoGaTI Implementation - Access and Charging* issued 1 March 2019 (**Consultation Paper**). In doing so we refer to the supplementary information paper issued 4 April 2019 (**Supplementary Paper**).

Overarching feedback

Lighthouse Infrastructure provides financial capital to Australian infrastructure assets, on behalf of institutional investors such as superannuation funds. Lighthouse Infrastructure has facilitated investment into renewable energy generation over several years, and is presently the manager of the Lighthouse Solar Fund which holds equity interests in operational utility-scale solar PV generators.

Our activities are well aligned with the National Electricity Objective, in that we seek to promote efficient investment in the infrastructure required by the electricity system in the transition that is underway. Despite the increased development activity of recent years, we perceive that for generation developments to continue to attract capital the ability to secure firm transmission access and firm (or at least predictable) marginal loss factors (**MLFs**) is critical. From our perspective the Consultation Paper (section two) identifies aspects of the current market framework that are critical barriers to timely and efficient replacement of the generation fleet. We therefore support the reform objectives of the CoGaTI program.

However, we also stress that where reform could be to the detriment of existing market participants it must be part of a long term pathway that clearly transcends political or bureaucratic cycles – and understood as such – so that it builds rather than erodes the confidence of the investment community at large.

Firm transmission access for generators

Lighthouse Infrastructure supports introducing the ability for generators to secure firm transmission access, in exchange for funding the efficient cost of such access.

We observe a theme of new generation projects causing significant negative externalities that they are not obliged to account for in their development decisions. For example, that they may cause an existing nearby generator to suffer congestion constraints or reduced MLF. These unaccounted externalities are leading to less than optimal selection of projects from a system perspective, and the

erosion of investor confidence. The ability to secure firm transmission access is one way to address this, though there may be other additional or alternate solutions.

We anticipate that the option of securing firm access would become part of the existing connection application and approval process between proponents and TNSPs. In making its early inquiries and final applications proponents would indicate whether they are seeking firm access, and possibly nominate a duration for that access, and in response TNSPs would indicate the cost of doing so. We anticipate that some connection proponents may not choose to seek firm access or will consider it uneconomic, for example a peaking generator or battery storage device.

It is acknowledged that firm access exacerbates the existing challenge faced by TNSPs in coordinating large numbers of concurrent and competing connection applications, and that as explored in 3.3.3 of the Supplementary Paper it is difficult for a TNSP to respond to firm access requests with larger network upgrades designed to meet future requests in the most cost efficient manner. We anticipate that in the context of the significant transition of our electricity system on the horizon, a greater level of central coordination of connections may be appropriate and necessary to address these challenges.

In the remainder of this section we provide responses to specific questions posed in the Consultation Paper and Supplementary Paper.

Effect on contracting

We agree with section 3.1.2 of the Supplementary Paper that, broadly speaking, firm access makes contracting a more powerful tool of risk mitigation for both generators and off-takers. The present inability of either contract party to accurately predict or manage the risk of congestion-derived generation volume constraint is a barrier to efficient contracting, especially of the long tenor required to support greenfield investment.

We add that, despite the material number of recent developments being committed without contracting in place, new generation capacity can be provided at a significantly lower cost of capital if it can be well contracted than if it cannot be. Consumers therefore benefit from the ability for generators to mitigate revenue risk through contracting.

Capture of both thermal and non-thermal constraints

From our perspective the system can achieve the lowest cost supply of new generation capacity by being able to provide network access that is as firm as possible, and for this reason we encourage the effort to capture both thermal and non-thermal constraints as contemplated in 3.2.2 of the Supplementary Paper.

We do acknowledge that this adds considerable complexity to the firm access regime. However, we also consider that the difficult task of forecasting system security issues and the cost to mitigate them and then mitigating those issues and costs, is more capably undertaken by TNSPs than individual generators.

Firm marginal loss factors

We see significant value in allowing generators to acquire firm MLFs as part of transmission access, as suggested in 2.1.4 of the Supplementary Paper.

The MLF regime is intended to prompt a generator to take account of its effect on system losses when deciding the price at which it is prepared to generate. In this sense we consider the regime is presently failing, specifically with respect to new generators with low or zero marginal cost such as wind and solar PV. Such a generator does not respond to price signals once built. Instead the system needs

prospective wind and solar generators to internalise marginal system losses when deciding whether or not to proceed into construction, by identifying an MLF as part of the connection approval process that will be applied for a majority of the project's technical operating life. It may be argued that a firm lifetime MLF lacks precision, however we perceive that the status quo is even less precise; generation developers are evidently making commitment decisions with grossly inaccurate understanding of the MLFs that will be assigned a short time later, and then those MLFs are applied not just to the new generator but also to other previously committed nearby generators at the next annual reset. These issues are both economically inefficient and damaging to investor confidence.

Providing firm MLFs to certain new generators as part of the connection process would in our view more effectively support the core objectives of the MLF regime than other MLF reforms under consideration.

Transitional arrangements

We support the suggestion that generators existing at the time of this reform are also assigned firm access, or where this cannot be granted then a preferential opportunity to acquire that firm access. As indicated by the Consultation Paper, failure to do this would undermine investor confidence in the regulatory framework on an ongoing basis. To help inform the tenor of such rights, we point out as an example that recent solar PV developments have typically been based on 30 year operational lives, which is reflected in land rights, development approvals, grid connection agreements, plant engineering, and tenor of debt financing.

An argument against such grandfathering is that existing generators were developed knowing that they did not have an explicit right to firm access. However, it is clear that most development was undertaken with the genuine expectation of near-firm access in the long term, based on the information available at the time. Until very recently new generators did not suffer high levels of network congestion early in their operational lives, and the developers of existing assets expected that future developments in generation would be sensibly coordinated with transmission planning – as CoGaTI seeks to do – so as not to strand existing assets. Investment decisions were taken without an awareness of the scale of market transformation underway and that is the cause of new network constraints; by way of illustration the renewable energy target was met and exceeded earlier than anticipated and a major political party now proposes a far stronger decarbonisation agenda for the 2020s.

However, in granting firm access to existing generators it may be important to distinguish between those existing now and those that become committed between now and the time the reform takes effect. If the market expected that generators existing when the reform took effect would enjoy better treatment than if they committed after the reform, it could lead to developers rushing through projects with higher congestion risk than they would have in the past at a cost to the system.

Dynamic regional pricing

We welcome that the AEMC has identified that constraint-driven disorderly bidding could become increasingly prevalent and has proposed dynamic regional pricing (**DRP**) as a mitigating change to market operations.

DRP appears to deliver a better system outcome than disorderly bidding under the status quo with disorderly bidding. However we feel it is important to establish DRP in such a way that each generator is left in no worse an economic position than under the status quo, particularly a generator toward the bottom of its sub-regional cost stack and therefore not driving the disorderly behaviour. If generators that already suffer loss from disorderly bidding were to find themselves in an even worse position under DRP it would significantly erode investor confidence in the regulatory system.

Settlement residue allocation

Our analysis suggests that the way in which intra-regional settlement residues are reallocated is key to ensuring that generators are left no worse off under DRP than the status quo. Specifically, reallocating on the basis of nameplate capacity, as suggested in the Consultation Paper, can lead to unfair outcomes particularly where the constrained subregion contains generators with very disparate marginal cost positions, such as a solar PV plant and a gas peaking plant. From our perspective as owners of zero marginal cost generation, it is inequitable to share residues with high marginal cost generators at times when those other generators were too expensive to make a contribution to supply under any market mechanism.

Allocating residue in proportion to electricity generated in the prior year may strike a better balance between equity and simplicity.

Contract market effect

Some market participants may perceive that DRP erodes the ability to contract effectively, by disconnecting generator revenues from the regional reference price against which contracts can be struck. This could be of particular concern to renewables investors and developers who rely heavily on long term power purchase agreements. However, we perceive that disorderly bidding is of equal detriment to contracting structures, even though it manifests in reduced generator volume rather than price.

Classification of storage devices

The Consultation Paper asks whether storage devices should charge at the regional reference price in the same way as other loads, or at the constrained sub-regional price. We observe that for a storage device to contribute most efficiently to a constrained sub-region it should charge at the sub-regional price, providing an incentive to alleviate the constraint to the greatest efficient extent. However, we note that this policy might prompt certain other non-storage loads to request the same classification, for example an industrial load may argue that if exposed to the (lower) sub-regional price it would use more electricity and help alleviate the constraint in the same way as a storage facility.

Firm access and dynamic regional pricing as alternatives

The Consultation Paper suggests that firm access and DRP may be considered as independent initiatives. In our view firm access is a potentially transformational market reform, and it likely makes sense to incorporate DRP as part of the same program. However DRP itself does not address the most critical issues that have prompted CoGaTI reform and therefore may not be worthwhile in isolation.

Ongoing consultation and technical working group participation

Lighthouse Infrastructure would welcome further discussion with the AEMC and other market participants regarding the proposed CoGaTI reforms, including through technical working groups in which the perspectives of capital providers may be relevant.

Yours sincerely



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