Thursday, 30 April 2015

Mr John Pierce
Chairman
Australian Energy Market Commission
Level 6, 201 Elizabeth Street Sydney
NSW, 2000
By electronic lodgement

Dear Mr Pierce,

RE: Draft Report – Optional Firm Access Design and Testing (REF EPR0039)

GDF SUEZ Australian Energy (GDFSAE) appreciates the opportunity to comment on the Australian Energy Market Commission (AEMC) Optional Firm Access Design and Testing Draft Report (Draft Report).

As noted in the Draft Report, the interactions between competitive generation investment and regulated transmission investment have been the subject of numerous investigations, reports and debates since the commencement of the National Electricity Market (NEM). GDFSAE believes that the Transmissions Frameworks Review and Optional Firm Access Review together represent a detailed examination of the issues and how they could be addressed.

The question before the AEMC is: are the benefits of Optional Firm Access (OFA) sufficient to justify the costs and risks associated with its introduction. This consideration needs to take account of the development path that the electricity industry is navigating, and a likely future where transmission as well as generation investment are subject to competitive drivers.

The OFA proposal that has been developed by the AEMC is a comprehensive model which strives to take account of a wide range of intricacies associated with the NEM. This comprehensive design leads to the conclusion that its implementation would be relatively costly and would be likely to introduce new risks.

The Draft Report makes the point that regulatory intervention is unlikely to be warranted in situations where the materiality of the issue at hand is small and the duration is likely to be temporary[1]. GDFSAE agrees with this observation. Nevertheless, GDFSAE would also make the point that the introduction of OFA would more accurately be described as a form of market liberalisation rather than regulatory intervention, in the sense that it would provide market participants with the ability to determine their level of access based on their own commercial assessments.

GDFSAE recognises that given the current oversupply of generation in the NEM, and the uncertainty regarding the degree to which large centralised generation investment will be required into the future (and the resultant uncertainty to which large scale transmission investment will be warranted), the decision to not proceed with OFA at this time is on balance, a prudent decision.

[1] See AEMC Draft Report executive summary page ii, paragraph one.

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Monitoring

The AEMC have asked for comment on its draft recommendation to introduce an adjunct to its existing annual Last Resort Planning Power functions to monitor the conditions of the NEM, and assess whether the likely benefits of OFA increase to the point that its implementation would be justified.

The AEMC draft report notes that OFA could help the market adapt in an environment of major changes in the capital stock requiring significant investment and characterised by high levels of uncertainty with respect to relative costs, technologies and locational decisions. The Ernst & Young report[2] backs up this view.

Ernst & Young examined the impact of OFA, which included modelling of a NEM base case and ten scenarios. The Ernst & Young report concludes that of the eleven different modelling scenarios examined, the lowest benefit from OFA was for the reduced Renewable Energy Target (RET) case, where the benefit was $51M. The next lowest identified benefit was $78M for the moderate penetration of electric vehicles, followed by $86M for the base case. The remaining eight scenarios examined all suggest benefits in excess of $100M, with five scenarios in excess of $200M.

This suggests to GDFSAE that there is substantial potential for the benefits of implementing OFA to increase beyond the base case cost of $90M. The scenarios identified by Ernst & Young that yielded the higher potential benefits include:

- high distributed generation;
- increased electric vehicles;
- high growth;
- aluminium smelter retirement;
- changes to emissions reduction target;
- transmission degradation; and
- forecasting error.

These scenarios appear to be consistent with the broader points made in the AEMC draft report, which notes that indicators that would lead to increases in investment can be linked to changes in generation costs, emission costs or the level of demand.

Given that the key indicators of potential benefits arising from OFA are the likelihood of increased investment in either networks or generation, it would seem appropriate that the OFA benefits monitoring be focussed on these parameters.

In consideration of network investment, the Transmission Network Service Providers (TNSPs) currently publish Annual Planning Reports (APRs), in which the TNSPs provide detailed analysis and recommendations on the need for any network upgrade or replacement. One option for the AEMC monitoring process would be to examine the APRs each year, and to consolidate the forecasts into an overall NEM wide assessment of the likely need and cost of upcoming network investment. A threshold cost could be determined which could be used to trigger that network investment is becoming sufficient to warrant a re-consideration of OFA.

In consideration of generation investment, the AEMO Electricity Statement of Opportunities (ESOO) provides an annual assessment of the supply reliability in all regions, which in turn acts as a signal to potential investors of when new generation sources may be needed. This could be used by the AEMC as an input into its monitoring process.

A further indicator of interest is increases in investment due to new regulatory requirements, for example in response to climate policy. AEMO carry out monitoring as part of their ESOO process, and include information on committed and proposed new generation projects in the ESOO as well as their quarterly

[2] Modelling the impact of Optional Firm Access in the NEM – Final report to the Australian Energy Market Commission; 9 January 2015

updates. Rather than the AEMC setting up a separate monitoring process, it would seem more efficient for the AEMC to utilise the work already carried out by AEMO. If it becomes apparent that the AEMO ESOO monitoring and reporting process is somehow deficient, the AEMC could request AEMO to make suitable inclusions to their process.

Simplified OFA – Firm Planning Access

As noted in our submission to the AEMC's Request for Comment, GDFSAE is mindful of the widely held view amongst industry stakeholders that the existing OFA design is overly complex and is not justified by the current levels of congestion and investment. In response to this, GDFSAE have proposed that consideration be given to a simplified approach to OFA, which focuses more on the planning obligations of TNSPs.

GDFSAE recognises that such an approach will not be without its challenges, and will require some further consideration in order to overcome implementation issues. GDFSAE is not in a position to offer a detailed proposal, but suggests the following high-level points for consideration.

Generators at a transmission node that are seeking firmer access arrangements could negotiate with the TNSP for an agreed level of network access from their node to the reference node. The generators would pay an amount for this service taking into account the need to upgrade or maintain the existing network, and the extent to which the TNSP already needed to upgrade the relevant network elements for reliability purposes.

As planning activities are carried out typically over longer timeframes, the duration of any firm planning access agreement would need to be a substantial period of time. GDFSAE would suggest that the default duration of a firm planning access arrangement be linked to the technical life of the generation assets.

Without a measure to ensure dispatch honours all firm access agreements, all generators at the node would need to be included in the agreement to avoid free rider issues. The cost of providing the agreed level of firm planning access to the node would be shared by all generators at that node, based on their expected utilisation of the network. The node would therefore become subject to a firm planning access agreement between the generators at that node and the relevant TNSP.

The TNSP would not guarantee that the network would not become congested at the particular node, and there would be no settlements adjustments. The TNSP would be obliged to preserve the firm planning access capacity from the node in its subsequent planning processes. The generators would accept that despite having a planning process that maintains their firm planning access capability, there will be occasions where due to unexpected events, their firm capacity may not be available in dispatch.

Having established an agreement for generators at a particular node, any subsequent generator wishing to locate at that node would need to agree to pay any additional network costs to maintain the firm access for all generators at that node. The new generator would therefore be subject to a locational signal that would allow it to weigh up the costs and benefits of connecting at a node that is under a firm planning access agreement, compared to connecting at a node that has not been declared to be a firm access node.

Where generators at a node are unable to agree on the utility of firm access, then the TNSP will be unable to negotiate a firm planning access agreement at that node, as it would introduce free riders.

If a firm planning access approach were to be pursued, GDFSAE would propose that similar to what was proposed under OFA, there be a transitional arrangement whereby existing generators would be allocated an amount of firm planning access to reflect their previous investment decisions and entitlements.

Simplified OFA – Firm Dispatch Access

The firm planning access approach discussed above would be relatively simple to implement, but suffers from the disadvantage that all generators at a node need to agree to be firm to avoid the free rider issue. There is also a question of to what extent generators would value such a service, and whether they would be willing to pay for this type of service.

The shortfalls of the firm planning access approach could be overcome by ensuring that the NEM dispatch process adheres to the agreed levels of firm access for all generators at a node.

The OFA model introduced access settlement to ensure that firm generators were provided with financial compensation whenever they were constrained ahead of non-firm generators. The approach discussed here provides an alternative which seeks to ensure that the dispatch outcomes are consistent with the firm planning access agreements where not all generators wish to be firm, and does not require any adjustment to the settlement process.

The idea is that if there are two generators at a node and only one chooses to be firm (under a planning standard approach as discussed above), then the other non-firm generator would be first to be constrained whenever the flow path becomes congested.

This could be achieved by AEMO including an additional constraint equation that constrains the non-firm generator in advance of the firm generator.

For example, suppose there are two generators A and B at a node, and generator A is firm, whereas generator B is non-firm. If the network capacity from the node is N, the basic constraint equation would be:

$$A + B < N$$

However, this form of constraint equation constrains both generators A and B equally, and therefore does not give priority to the firm generator A. If the firm generator term is moved to the right hand side of the constraint, the equation becomes:

$$B < N - A$$

This form of constraint would only constrain the non-firm generator B, and gives the firm generator A priority in dispatch.

This concept could be extended for multiple generators at a node, with all non-firm generators being represented on the left hand side of the constraint equation, and the firm generators on the right hand side.

In cases where all generators at a node have chosen to be firm, the network should be planned and maintained to meet the combined needs of all generators and in general, there should not be any need to constrain the generators for network congestion. However, to ensure that AEMO is able to maintain a secure network at all times, it would need to have a constraint equation ready which included all firm generators on the left hand side. In this case, no one generator should be given priority over the others, since they are all firm, and the standard form of constraint equation could be used.

Under firm dispatch access new connections would have the option of either joining in with an existing firm access agreement at a node, or deciding to remain non-firm. If they choose to be non-firm, then they would be subject to being constrained during periods of congestion.

GDFSAE recognises that the above discussion is a simplistic example, and there are likely to be a number of details that would need to be considered such as more complex constraint formulations with many generator terms, and ensuring sufficient capability for AEMO to maintain system security. However, GDFSAE believes that there may be merit in investigating this approach further.

Interconnectors

GDFSAE has considered the question posed by the AEMC in their draft report about generators having an incentive to locate on an interconnector flow path in order to take advantage of the large capacity available. If a generator locates on an interconnector flow path, it will reduce the capacity of the interconnector available to other generators within the adjoining regions.

This raises the question of whether generators should be able to choose to locate on an interconnector without having to take account of the effect of reducing the ability for inter-regional competition to occur.

A relevant consideration here is that ultimately, a generator connecting anywhere within a region will have some impact on interconnector capabilities to neighbouring regions. However, there will be some locations that will have a far greater impact on interconnector capability than others.

The TNSP and AEMO should be able to identify which connection points would have a significant impact on interconnector flows and/or capability. It should therefore be feasible to identify all connection points within a region for which the direct impact on the adjoining interconnectors is small, and these connection points could be described as being intra-regional connection points.

Similarly, it would be feasible to identify all connection points within a region which the direct impact on interconnectors is significant. These connection points could be described as inter-regional connection points. Whether these points change at the margins over time would be irrelevant, the issue is whether at the time of connection the point is classified as an intra-regional or inter-regional connection point.

By distinguishing between intra and inter-regional connection points at the time of connection, it might then be possible to have different rules of access for new generators. Where a new generator wishes to connect to an intra-regional connection point, then the usual access arrangements would apply. However, if a new generator wishes to connect to an inter-regional connection point, then alternative arrangements could require the generator to contribute to the costs associated with the TNSP maintaining the inter-regional capability.

The generator would have the choice of connecting at the intra-regional connection point, and subject to the standard access arrangements, or choose to connect at an inter-regional connection point which would require a higher cost of access. Given the importance of interconnectors to the competitive market and hedging arrangements, this distinction is considered appropriate.

GDFSAE trusts that the comments provided in this response are of assistance to the AEMC in its deliberations. Should you wish to discuss any aspects of this submission, please do not hesitate to contact me on, telephone, 03 9617 8331.

Yours sincerely,

Chris Deague
Wholesale Regulations Manager