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MT PASA rule change proposal

A report for the AEMC

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Contents

Figures

Tables

1. Introduction

This report has been prepared for the Australian Energy Market Commission (AEMC) and relates to one of the proposals in a recent rule change request from ERM Power regarding improving transparency and extending the duration of the medium-term projected assessment of system adequacy (MT PASA).[1]

The focus of our report is the proposal that information regarding generator availability is published at the level of individual scheduled generating units, rather than aggregated at a regional level.[2]

The Australian Energy Regulator (AER) has said that there is a potential for less competitive outcomes as a result of this proposal, which may outweigh the possible benefits of greater transparency.[3] It further said that:[4]

> The NEM already has a high degree of transparency with a significant amount of information published on the market. We are concerned that publishing individual generator information in MT PASA (which starts one week out, but seamlessly transitions to ST PASA and pre-dispatch) would increase this further, creating or enhancing the opportunities for coordinated behaviours.
>
> …
>
> …further transparency over future price sensitivities may reduce competition and increase the risk of coordinated exercise of market power.

It is in this context that we have been asked two questions relating to the potential effects of this proposal, ie:

- what is the relationship between the public provision of information and collusion; and
- what are the benefits of providing MT PASA information for individual scheduled generating units to the market?

The remainder of our report is set out as follows:

- in section two, we provide some background regarding what information is currently available from the MT PASA, and the change that is proposed;
- in section three, we explain what collusion is and under what conditions the provision of more information may increase the risk of collusion taking place; and
- in section four, we describe some of the potential benefits from providing generator availability information at a more disaggregated level.

[1] See: ERM, *Medium Term Projected Assessment of Adequacy Transparency and Accuracy Amendments Rule Change Request*, March 2019 for more information on the proposed rule change.

[2] AEMC, *Consultation paper – National electricity amendment* (*Improving transparency and extending duration of MT PASA) Rule 2019*, July 2019, p 3.

[3] AER, *Rule change submission: Improving transparency and extending duration of MT PASA*, August 2019, p 1.

[4] AER, *Rule change submission: Improving transparency and extending duration of MT PASA*, August 2019, pp 1-2.

2. Background

In this section, we set out:

- a summary of the projected assessment of system adequacy (PASA) program;
- a brief description of the MT and ST PASA; and
- the relevant rule change request.

2.1 The PASA program

MT PASA is part of a PASA program involving the collection, analysis, and disclosure of medium and short-term power system security and reliability information for the National Electricity Market (NEM).[5] The PASA program was established with the introduction of the NEM and has the broad objective of ensuring registered participants in the NEM are properly informed to enable them to make decisions about supply, demand and outages of transmission networks in respect of periods up to two years in advance.[6]

The outputs from the PASA process have several uses, depending on the stakeholder, ie:

- the Australian Energy Market Operator (AEMO) identifies periods of low reserve conditions to provide a basis to intervene in the market to ensure power system security;
- generators monitor generation capacity information to inform maintenance decisions and provide continuous disclosure of market sensitive information that assists with insider trading compliance obligations;
- retailers assess the futures market and manage their positions in the spot market accordingly; and
- investors obtain signals for supply and demand-side investment.

The inputs for both the MT and ST PASA processes are sourced from market participants and AEMO. For market participants, data is required to be submitted on the availabilities of generating units at a unit level, and on planned network outages known by network service providers. For generators, data is provided through their bids, which are uploaded to AEMO. This allows market participants to alter their submissions as their circumstances change over time.

2.2 MT and ST PASA

The National Electricity Rules (NER) provides for two PASA processes distinguished by their timeframes, ie:

- the MT PASA covers the 24-month period starting from the first Sunday after publication. It is updated and published weekly to a daily resolution; and
- the ST PASA covers the six trading days starting from the end of the trading day covered by the most recently published pre-dispatch schedule. It is updated and published every two hours to a trading interval resolution.

In broad terms, MT and ST PASA both currently provide data on load forecasts, network constraints, and availability of generation **at a regional level**. From a system security and reliability perspective, both the MT and ST PASA identify and quantify projected violations of power system security and failure to meet reliability standards.

[5] The other PASA process is ST PASA. The distinction between the MT and ST PASA processes is discussed below.

[6] NER, clause 3.7.1(b).

Whilst they provide similar data to market participants, the MT and ST PASA reports are used differently. MT PASA gives market participants a view of the next 24-month period so they can respond to opportunities presented by projected shortfalls in supply, and in doing so would mitigate the risk of supply shortfall.

In contrast, the ST PASA emphasises more immediate risks of supply shortfalls and allows market participants to organise short term measures and market positions to mitigate that risk. Further, the ST PASA process provides AEMO with a benchmark to undertake market interventions through the reserve trading provisions of the NER, with reference to reliability standards.

A summary of the key properties of the MT and ST PASA is provided in table 2.1 below.

Table 2.1 Summary of MT PASA and ST PASA

Properties	MT PASA	ST PASA
Objective	Provide information that gives a regional breakdown of the supply situation over a two-year horizon so that registered participants are enabled to make decisions about supply, demand and outages of transmission networks. Provide a process to identify and quantify any projected failure to meet the reliability standard.	Provide information to market participants on the expected level of short-term capacity reserve and hence the likelihood of interruptions due to a shortage of power. Provide a benchmark for AEMO to intervene in the market through the reserve trading provisions of the NER, and then commit extra capacity into the spot market.
Timeframe covered	Next 24 months[7]	Next six trading days[8]
Resolution of data	Daily	Half hourly
Frequency of publication	Weekly	Two-hourly
Outputs[9]	• Load forecasts • Projected breaches of power system security or failure to meet reliability standards • Network constraint information • Aggregate availability and PASA availability for each region	• Load forecasts • Projected breaches of power system security or failure to meet reliability standards • Network constraint information • Aggregate availability and PASA availability for each region • ST PASA interconnector limits and transfer capabilities
Inputs	Provided by market participants	Provided by market participants on the basis of current intentions and best estimates

Market participants have an obligation under the NER to provide data to AEMO based on their current intentions and best estimates for the purposes of the ST PASA.[10] However, the requirement to provide AEMO with data on the basis of current intentions and best estimates is absent for the purposes of the MT PASA.

However, providing false or misleading information to AEMO could expose market participants to civil penalties for both the MT and ST PASA.[11]

Both MT and ST PASA currently provide generator availability aggregated up to the regional level. MT PASA provides this data at a daily resolution, while ST PASA provides this at a half hourly resolution. Once

[7] The 24-month period starts from the first Sunday after the MT PASA's publication.

[8] The next six trading days starts following the most recently published pre-dispatch.

[9] Outputs presented here are generalised. For a detailed list of outputs from the MT and ST PASA processes, refer to the NER clause 3.7.2(f) and clause 3.7.3(h).

[10] NER, clause 3.7.3(e). MT PASA does not come under the current intentions and best estimates obligation.

[11] Civil penalties include fines of $2,000 for natural persons and $10,000 for body corporates. See National Electricity (South Australia) Act 1996, s.53E.

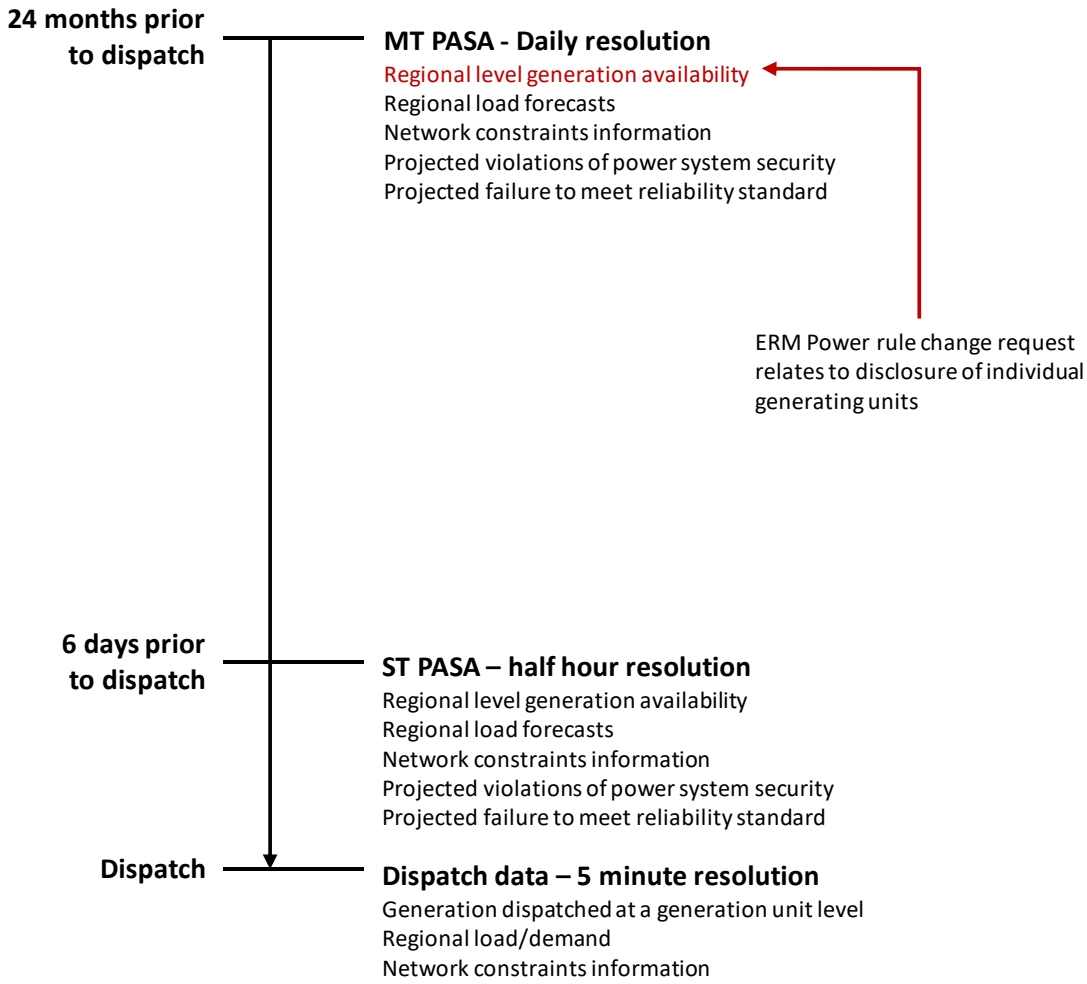
dispatch occurs, generation dispatch data is available for each individual generation unit at a five-minute resolution.

2.3 Rule change request

The relevant part of the rule change request for the purpose of our report relates to the data on how much generating capacity is available in the MT PASA. The rule change request from ERM Power proposes that this information is made available on both an aggregated and individual scheduled generating unit basis in the MT PASA. This would allow all participants to understand how much each unit is expected to be able to produce in each day covered by the MT PASA.

This would increase the amount of information available, as set out in figure 2.1, where the proposed change is highlighted in red.

Figure 2.1: Timeframes and the current PASA process



It should be noted that the rule change request does not affect ST PASA and therefore if accepted, the rule change would result in MT PASA disclosing generating unit level availability while ST PASA would still be disclosing generation availability only at the regional level.

3. Information provision and collusion

In this section, we set out the conditions required for collusion and how the public provision of information can affect the risk that collusion may occur.

We show that the public provision of information does not necessarily lead to an increased risk of collusion. It only does so when each of the three conditions necessary for collusion hold after the information is made public, and one of the conditions is more likely to hold.

An assessment of whether collusion is made more likely by some additional information, and whether collusion would be possible requires a detailed analysis that can only be undertaken with a particular form of collusion and market in mind. Such an assessment is beyond the scope of this report, but we are able to make some preliminary observations.

A form of agreement that may be *easier to reach* with the more detailed MT PASA information available involves firms tacitly agreeing to withhold certain units of capacity at particular points in time. The information on availability at an individual scheduled generating unit level would allow firms to indicate to each other exactly what they are withdrawing, which could make a tacit agreement of the type described above easier to reach. This would only have an effect if the large generators could not already determine the necessary information.

It does not seem likely that the provision of the more detailed information could make collusion *more internally stable* because detailed information on how much each generator produced is available after dispatch. This would allow monitoring of any tacit agreement involving the withdrawal of capacity without the proposed additional information.

The more detailed MT PASA information is likely to make a collusive agreement *less externally stable* and so harder to achieve because it would be easier for firms that are not part of an agreement to increase their availability at exactly the time when the colluding firms were withdrawing theirs.

3.1 Conditions required for collusion

Collusion occurs when two or more firms act together to use their collective market power to increase their profits, for example, by raising prices or withdrawing capacity.

Collusion can be explicit, ie, with an explicit agreement between firms, or it may be tacit, ie, the agreement is implicit. In this context, an agreement refers to a pattern of conduct that both parties jointly understand, rather than an agreement in the legal sense of the word.

Collusion can only take place if:[12]

- the firms can reach a collusive agreement;
- the firms that are part of the agreement are individually better off adhering to it, rather than deviating from it – this requires at least that:
  - firms can monitor whether their rivals are adhering to an agreement; and
  - those firms that do not adhere to the agreement face an expected cost, eg, lower prices for a period, that is greater than the benefit from not adhering from the agreement; and
- the firms from outside the agreement are not able to undermine it by supplying in competition with firms that are part of the agreement.

[12] Davies C and Wainscoat L, *Not quite a cartel: Applying the new concerted practices prohibition*, 2017, 25 Competition & Consumer Law Journal 173, p 203.

There are many factors that may be relevant to whether each of these conditions hold that have nothing to do with information, including the concentration of the market, how often price decisions are made, the extent of barriers to entry, what the strategic variables are, demand growth, cost asymmetry and the level of innovation in the market.[13]

One simple way of assessing whether collusion is likely in a market is to examine whether it has happened in the same or similar markets before. The more common it has been in the past, the more likely that it will happen again, holding all else equal.

We note that it has been claimed on occasion that there has been some form of collusion in the NEM,[14] but this has never been proven, as far as we are aware.

3.2 How the public provision of information affects collusion

First, the provision of information that is either unreliable or already exists in the public domain would not affect the risk of collusion occurring because:

- information that is unreliable would not be used by firms as a basis for their decisions; and
- providing information that is already in the public domain does not change the situation that firms are already in.

We understand that the information that would be provided under the new proposed MT PASA is generally reliable, although the information is subject to change, so it is by no means guaranteed.

We also understand that market participants have some information on the availability of each generating unit already. In particular generators know their own availability, and can estimate the availability of others. ERM Power has said that large generators have better information on availability on a unit level, as compared to other participants,[15] and this is undoubtedly the case in relation to the larger generators' own units.

For the rest of this section, we assume that the information in MT PASA is reliable, and at least some firms in the market do not already have information on individually scheduled generator's availability.

The public provision of information increases the risk of collusion when:[16]

- all of the three conditions set out in section 3.1 hold when the information is made public, in which case collusion is possible; and
- at least one of the conditions is more likely to hold when the information is made public, as compared to the information not being publicly provided.

A corollary is that the provision of information can reduce the risk of collusion when any of the conditions required for collusion are made less likely to hold.

We consider each of the three necessary conditions below and how they could relate to the additional information on individual scheduled generating unit's availability to be provided under the proposed changes to MT PASA.

[13] See, for example, Ivaldi M et al, *The Economics of Tacit Collusion, Final Report for DG Competition, European Commission*, March 2003.

[14] Biggar D, *The theory and practice of the exercise of market power in the Australian NEM*, April 2011.

[15] ERM, *Medium Term Projected Assessment of Adequacy Transparency and Accuracy Amendments Rule Change Request*, March 2019, pp 2-3.

[16] Davies C and Wainscoat L, *Not quite a cartel: Applying the new concerted practices prohibition*, 2017, 25 Competition & Consumer Law Journal 173, p 203.

3.2.1 Reaching an agreement

There are numerous different possible collusive strategies for each aspect of a firm's business. This can make it difficult for firms to agree on one particular collusive strategy. The availability of information can help firms to reach a collusive agreement by giving them a focal point for coordination.[17] For example, one firm could publish its own price to signal a proposed collusive price.

Drawing upon the framework set out above, the relevant questions are:

- whether the provision of individual scheduled generating unit availability information could help generators to reach a collusive agreement; and
- whether generators can reach a collusive agreement after the proposed new information is provided.

First, in order for reaching a collusive agreement to be more likely, the agreement would have to involve individual scheduled generating unit's availability. For example, a tacit agreement between two generators might be for them to both withdraw half of their units on a particular day. The more detailed information in the proposed MT PASA could help generators to signal what they would like the tacit agreement to be, ie, how much to withdraw and when.

Second, whether or not a collusive agreement can be reached at all depends on the form of collusion and the market circumstances, which is beyond the scope of this report.

3.2.2 Internal stability of agreement

Firms can usually earn higher profits in the short term by not adhering to a collusive agreement. For example, if two firms have agreed to reduce their availability on a particular day, each of the firms would be better off on that particular day by ignoring the agreement. Cheating on an agreement like this has been found to be the most common cause of the breakdown of international cartels (apart from the effect of the second world war).[18]

A collusive agreement is internally stable if the participants are better off adhering to the agreement than otherwise, which depends on many factors, including:[19]

- the structure of the market;[20]
- the preferences of firms and their managers, in particular their discount rate;[21] and
- the information held by participants.

The public provision of information can make a collusive agreement more stable by:[22]

- helping firms to monitor adherence to the agreement – collusion is more stable if firms can more quickly and accurately detect cheating on an agreement. Successful explicit collusion often involves sophisticated monitoring strategies; and
- helping firms to target their punishments more accurately – better monitoring may help to identify the firms that should be punished if there is cheating, which would increase the stability of collusion.

[17] OECD, *Information Exchanges Between Competitors under Competition Law*, 2010, p 29.

[18] Levenstein M and Suslow V, *What determines cartel success?*, Journal of Economic Literature Vol. 44 No. 1, p 10.

[19] Davies C and Wainscoat L, *Not quite a cartel: Applying the new concerted practices prohibition*, 2017, 25 Competition & Consumer Law Journal 173, p 204.

[20] Ivaldi M et al, *The Economics of Tacit Collusion, Final Report for DG Competition, European Commission,* March 2003, pp 12-15.

[21] Ivaldi M et al, *The Economics of Tacit Collusion, Final Report for DG Competition, European Commission,* March 2003, p 8.

[22] Davies C and Wainscoat L, *Not quite a cartel: Applying the new concerted practices prohibition*, 2017, 25 Competition & Consumer Law Journal 173, p 204.

The relevant questions are therefore:

- whether the provision of individual scheduled generating unit availability information could help generators to adhere to a collusive agreement; and
- whether generators can adhere to a collusive agreement after the information is provided.

First, the additional information proposed for the MT PASA could help monitor and punish firms only if there was a form of collusion that involved specifying how much generation capacity a firm was going to have available on any one day. However, it is not likely that the new additional information could significantly increase the risk of this form of collusion because:

- the information in MT PASA can be changed; and
- the quantity produced becomes available after dispatch, and so can be used to verify whether firms adhered to an agreement to withhold capacity.

Second, whether or not collusion would be internally stable requires a detailed assessment of the market in question and is beyond the scope of this report. For example, it would be necessary to examine the potential benefits from the collusive strategy and from cheating on such a strategy.

3.2.3 External stability of agreement

A collusive agreement can be expected to encourage entry because the firms involved should increase their profits. An agreement is externally stable if there is limited or no entry or expansion from firms outside of the collusive agreement, despite the high profit levels.[23] Too much entry and/or expansion from other firms would undermine the profitability of the agreement, and it would break down. It follows that the agreement must cover a sufficiently large proportion of the market and/or entry and expansion must be sufficiently difficult for the agreement to be stable.

The public provision of information could promote external stability if it allowed the firms in the agreement to monitor where and when other companies were attempting to enter the market or expand their operations.[24] This would allow the firms in the agreement to target those firms, and perhaps prevent them from being able to enter or expand profitably.

The relevant questions in this case are:

- whether the provision of individual scheduled generating unit availability information could help prevent entry and expansion from outside of any agreement; and
- whether entry and expansion can be prevented to a sufficient degree that collusion is stable, after the information is provided.

First, we cannot see a way in which the revised MT PASA information would increase external stability. It is more likely that the additional information would reduce external stability because it would help smaller generators to know when to supply more, undermining any (hypothetical) collusion between the larger generators.

Second, it is beyond the scope of this report to examine whether there is a collusive strategy between generators that is externally stable. However, we note that the new MT PASA information would help to undermine any collusion on availability of generators, unless entry or expansion by firms outside of the agreement was very difficult or slow.

[23] Davies C and Wainscoat L, *Not quite a cartel: Applying the new concerted practices prohibition*, 2017, 25 Competition & Consumer Law Journal 173, p 204.

[24] Davies C and Wainscoat L, *Not quite a cartel: Applying the new concerted practices prohibition*, 2017, 25 Competition & Consumer Law Journal 173, p 205.

4. Benefits of the provision of unit level MT PASA information

The provision of information has a number of effects which can positively affect the operation of markets and the efficiency of market outcomes. In this section, we set out the range of potential benefits associated with the provision of individual scheduled generating unit availability information.

The principal benefits relate to the increased efficiency of the scheduling of outages of generating units, the efficiency of new entrant decisions and reductions in costs, both in absolute terms and in relative terms between large and small market participants. The proposed change may also reduce the stability of collusion between large participants.

We also consider the potential implications for outcomes from the Coordination of Generation and Transmission Investment (COGATI) review and the proposed introduction of dynamic regional pricing (DRP) for the benefits described in this section. In addition to resolving information asymmetries between market participants, the proposed rule change may provide useful inputs for the introduction and implementation of DRP, a point that was raised in the AEMC's Directions Paper on COGATI. Generator availability information at a unit level is likely to assist with DRP because it would provide locational information about generating unit availabilities that would feed into estimating prices under DRP.

In the context of the electricity market, unit level information provides market participants with a more accurate picture of how their rival's actions may affect their operation. Unit level availability information contained in the MT PASA would enable market participants to project future market outcomes in light of the expected availability of their rivals. This information could have a number of effects on the operation and decisions of market participants, including:

- interaction with transmission constraints – knowledge of which generators would be unavailable at a point in time enables those participants that may be subject to the same transmission constraints to understand the implications of an outage for any transmission limitations; and
- implications for demand for generator output – knowledge of the type of generator that would be unavailable will enable a better understanding of the reduction in electricity production that would be associated with the unavailability, and so the potential implications for the output requirements from their plant. This has potential implications for fuel supply agreements and electricity contracting.

In the remainder of this section we consider the benefits from competition resulting from the proposed rule change, and the benefits arising from the alignment of unit level MT PASA information with the introduction of COGATI.

4.1 Benefits from competition

Competing firms regularly share information with each other. Such conduct is generally not restricted outright, because it can have positive, neutral or negative effects on consumer welfare. The challenge is to distinguish those exchanges of information which have a neutral or beneficial effect, from those which seriously threaten the competitive process.[25]

Information exchange is a common feature of many competitive markets and may generate efficiency gains – for example, solving problems of information asymmetries, facilitating performance benchmarking and

[25] Swedish Competition Authority, *The Pros and Cons of Information Sharing,* November 2006, p 21.

cost-saving measures.[26] Public price announcements may allow customers to benefit from reduced search costs and improved choice.

Introducing the availability of data on individual generating units through the MT PASA would improve the awareness of market participants of supply and demand conditions at any one time. We identify five potential benefits for competition that can arise from providing generating availability at the unit level through the MT PASA.

4.1.1 Reduction in information asymmetries and disparities in 'analyst costs'

Under current MT PASA arrangements, participants with large generation portfolios have additional information relative to participants with smaller portfolios. This is because participants with large portfolios have perfect information on the availability of their own generation fleet, which can comprise a substantial portion of the market. Combined with information currently provided under the MT PASA and other sources, their large generation portfolios give them an advantage in 'back calculating' the expected future availability status of some or all generating units owned by other market participants.

Larger market participants therefore have an information advantage in making medium-term decisions relating to their participation in the market. The information asymmetry between large and small market participants means that smaller participants must either:

- incur costs to acquire information of equivalent quality to that held by larger participants; or
- compete in the market at a disadvantage.

Through eliminating information asymmetries, the provision of generating unit level MT PASA data may:

- reduce disparities in costs between larger and smaller market participants associated with undertaking analysis to derive the information; and/or
- allow for smaller participants to make decisions based on the same information as larger participants.

Both of these scenarios would likely lead to more efficient market outcomes because smaller generators would be a stronger competitive constraint if their costs and/or information available was closer to that of the larger generators.

4.1.2 Scheduling outages more efficiently

Generating units must receive routine maintenance to ensure continued safe and reliable operation. Such maintenance often requires generating units to be taken out of operation to allow such work to be undertaken.

Knowledge of the outage plans of other generators allows firms to make more informed outage planning decisions. This would give rise to two principal potential scenarios:

- market participants may coordinate to schedule their outage at different times to take advantage of low availability, high price periods by having their full capacity available during scheduled outages of other generating units; or
- market participants may collude to schedule outages, eg, by scheduling outages at the same time to create a period of low availability – such a strategy would be most viable for those with large generation portfolios with substantial capacity still operational during this period that would receive this higher price.

[26] European Commission, *Guidelines on the applicability of Article 101 of the Treaty on the Functioning of the European Union to horizontal co-operation agreements*, January 2011, para 57. Also see American Bar Association Section of Antitrust Law and Section of International Law, *Joint Comments on the Australian Competition Policy Review Issues Paper*, June 2014, p 11, and US Federal Trade Commission, *Staff submission to the Competition Policy Review*, July 2014, p 3.

The first scenario would lead to more efficient market outcomes through the distribution of outages across time and the associated lower average supply costs that are likely to arise under these conditions. The provision of unit level information would help facilitate this coordination by allowing market participants to understand the location of the outage and respond accordingly. Knowledge of the location of an outage enables other participants to understand the implications of the outage for transmission constraints that may influence their own dispatch and so adjust their decisions in response.

The second scenario would give rise to less preferable market outcomes as the pattern of dispatch would be less statically efficient, and the prices charged by market participants would be higher than the competitive level.

The optimal decision for market participants out of the above two cases is very sensitive to prevailing market conditions – see section 3.1 for a further discussion of this. In particular, collusion on outage schedules would only be sustainable if other parties cannot enter or rearrange their own outage schedule to increase their supply in response to the outages of parties seeking to collude.

In the circumstance where large firms already possess information regarding the outage schedule of other large participants and smaller firms do not, the provision of this information would not increase the likelihood of collusion on the basis of outage scheduling. The only effect would be to increase the ability for smaller firms to reduce the stability of such collusion.

4.1.3 Improved efficiency of new entry and plant refurbishment

MT PASA has a role in providing signals to potential new entrants through indicating the likely extent of new capacity required over the next two years. MT PASA can indicate that there is a shortage of supply and that additional capacity, either through new entry or plant refurbishment, may be required.

Information on the location of available generation capacity would improve the ability for entrant generators or energy storage to make decisions about timing and location of entry. We expect that this would benefit the market through reducing uncertainty with regards to the future operation of new or expanded plants, and so lower the cost of capital for such plants.

To have a material impact on the incentives for new entry, the timeframe for MT PASA must be sufficient for a new entrant project to be commenced and commissioned. If the information is not available with sufficient notice, then new entrants must make entry decisions prior to having MT PASA information, and so the information has limited impact on such decisions. We understand that the AEMC is considering an extension to the timeframe for MT PASA to three years to better align with the commissioning horizon for new entrant plants.

4.1.4 Improved efficiency of contracting decisions

Wholesale market participants make significant decisions regarding their wholesale market and fuel supply contracting positions over the term of the MT PASA. The information available through the MT PASA has the potential to influence these decisions through changing expectations with regards to future capacity requirements.

Knowledge of the specific generators that are scheduled for outage improves the ability for market participants to make contracting decisions that better reflect future output requirements and pricing outcomes.

The inclusion of unit level availability data would likely improve the efficiency of wholesale electricity and fuel contracting decisions and risk allocation through improved knowledge of future market outcomes. We expect that the result of this improved certainty would be a reduction in hedging costs and the cost of capital for these plants.

The provision of unit level availability data may increase the extent to which firms have knowledge regarding the contract market requirements of other firms. We do not expect this to lead to substantial adverse effects on contracting prices because:

- sellers will likely be able to infer the level of demand for contracts from the requests they receive, which is available without the proposed rule change;
- with the additional information from the proposed MT PASA, providers of hedging contracts may find out that demand is higher or lower than they expected, leading to prices increasing or decreasing, respectively; and
- the economic theory regarding the effect of sharing information between firms focuses on collusion and there is no significant strand of literature showing that firms would unilaterally raise prices if they have better information on demand or supply.[27]

4.1.5 Reducing the stability of collusion

The provision of individual generating unit availabilities in MT PASA may reduce the stability of collusive behaviour. As described in section 3.2, the provision of unit level availability data has the potential to reduce the external stability of collusive agreements between generators.

Collusive outcomes may occur where large market participants use the information that they can currently infer from MT PASA information, their own portfolio position and other market information to engage in tacit collusion. The result of this behaviour would be less efficient market outcomes and prices that are not reflective of competitive levels.

Reducing information asymmetries and providing the same information to all market participants may increase the ability for other participants to compete away the benefits from any tacit collusion being engaged in, and so reduce the likelihood of such outcomes occurring.

4.2 Alignment of unit-level MT PASA information with the introduction of COGATI

The principal change arising from COGATI that is relevant to consider in the context of making generating unit level availability information available is the proposed introduction of DRP. This would mean that prices, ie, dynamic regional prices (DRPs), would be established on either side of transmission constraints, enabling the valuing of the impact of individual constraints on market outcomes and exposing generators to prices that are directly influenced by localised transmission constraints.

The key benefits arising from the provision of unit-level MT PASA information in the presence of DRPs are described below.

4.2.1 Improved accuracy of projections of dynamic regional prices

In the presence of DRP, the price that an individual generator receives is more sensitive to localised supply and demand conditions. It follows that projecting the price that a generator is likely to receive requires an understanding of the operation of other generators that may influence or be subject to the same transmission constraints.

The provision of individual scheduled generating unit availability information would improve the ability for market participants (who do not currently have access to the information) to project DRPs over the horizon of MT PASA through providing a clearer picture of localised supply and demand conditions. The ability for market participants to project market prices would reduce uncertainty, which in turn reduces hedging costs and the cost of capital to which participants are exposed.

[27] Davies C and Wainscoat L, *Not quite a cartel: Applying the new concerted practices prohibition*, 2017, 25 Competition & Consumer Law Journal 173, pp 206-208.

The structural differences in the relative ability for market participant to project DRPs would continue to exist where market participants have different levels or accuracy of information. Where large market participants can more readily determine the future availability of plants located in the same sub-NEM region area of the network, this would exaggerate the positive revenue impacts for large participants that would occur in the absence of DRP.

4.2.2 Reducing incremental analyst costs associated with inferring information from MT PASA

Under DRP, the benefits from inferring information from the current MT PASA would likely increase owing to the tighter relationships between unit level supply and demand information and the prices received by individual generators.

It follows that market participants may increase the resources they dedicate to their efforts to extract information from the current MT PASA information and receive the full benefits of DRP. Where small participants must incur additional costs to acquire equivalent quality of information, the introduction of DRP would disproportionately increase these analyst costs to small participants relative to larger ones.

The introduction of the proposed rule would eliminate any additional asymmetry in costs that may arise under DRP.

4.2.3 Improved incentives for new entrants

A key positive attribute of DRP is the locational signals that the pricing regime provides for potential new entrants. Locational pricing provides a direct price signal for where additional generation (or transmission) capacity is most required to meet demand by taking into account transmission constraints.

Potential new entrants have two key sources of information relating to prices to guide their decision making, ie:

- past pricing information; and
- expectations regarding future pricing.

In the absence of unit-level MT PASA information, new entrants must rely on past pricing information and the expectations regarding future pricing based on aggregate availability information from the current MT PASA. With the introduction of unit-level MT PASA information, new entrants would be able to more accurately project the locational prices they are likely to receive over the MT PASA period. This in turn would reduce uncertainty for these proponents and so reduce the costs of capital to which they are exposed.

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