



2 December 2016

Mr James Lindley
Manager Systems Performance and Commercial
Australian Energy Market Operator
GPO Box 200
Melbourne VIC 3001

Dear Mr Lindley

RE: Causer Pays Procedure – Factors for Asynchronous Operation Consultation October 2016

ERM Power Limited (ERM Power) welcomes the opportunity to respond to the Australian Energy Market Operator's Issues Paper for the Causer Pays Procedure – Factors for Asynchronous Operation Consultation published in October 2016.

About ERM Power Limited

ERM Power is an Australian energy company operating electricity sales, generation and energy solutions businesses. The Company has grown to become the second largest electricity provider to commercial businesses and industrials in Australia by load¹ with operations in every state and the Australian Capital Territory. A growing range of energy solutions products and services are being delivered, including lighting and energy efficiency software and data analytics, to the Company's existing and new customer base. ERM Power also sells electricity in several markets in the United States. The Company operates 497 megawatts of low emission, gas-fired peaking power stations in Western Australia and Queensland.

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General comment

The current causer pays methodology for asynchronous operation, which uses distant historical data, fails to allow basic risk mitigation solutions by participants and prevents economically efficient cost recovery based on a participant's conduct at the time local Frequency Control Ancillary Services (FCAS) regulating requirements are invoked by the Market Operator. We believe that this fails to meet the requirements of the NER and the original intent of the 2007 rule change with regard to recovery of local FCAS regulating services requirements costs.

ERM Power supports the use of Option 2 as this best complies with the Rules and the guiding principles and intent of the original rule change.

Background

In September 2006 the National Generators Forum (NGF) lodged a Rule Change request to amend the recovery of local FCAS regulation services on a regional basis whenever local requirements arose for any reason, including but not limited to a region becoming electrically islanded from the remainder of the National Electricity Market (NEM).

¹ Based on ERM Power analysis of latest published financial information.

At the time the intent was to mirror the existing recovery methodology for local FCAS contingency services. The recovery of local FCAS regulation services were at that time based on global recovery across all regions, which was resulting in inefficient Market outcomes.

During the consultation process, the National Electricity Market Management Company (NEMMCo) who was the Market Operator at the time, fully supported the intent of this rule change but noted that:

NEMMCo has formed the view that it is not practical to determine the factors for sets of regions in advance, because there are so many possible combinations of regions, many of which are unlikely to be required. It is far more practical to determine the regional contributions as and when required during the settlement calculation process. The Rules should reflect that any required regional contribution factors are calculated using current trading interval values of customer energy.¹

Further to this, in meetings with the Australian Energy Market Commission (AEMC) and the NGF, as the rule change proponent, NEMMCo indicated that it was their current view that localised FCAS regulating services would only be required whenever a region(s) was islanded from the remainder of the NEM, or Basslink, which entered service in late December 2006, was unable to transfer FCAS services from the mainland to Tasmania. At that time, NEMMCo considered that local FCAS regulating services would not be required for any other purpose.

The NGF as the rule change proponent agreed to adopt NEMMCo's proposal to determine the regional contributions *as and when required* during the settlement calculation process with the calculation based on the trading interval values that applied at the time of a local FCAS regulation services requirement being implemented by NEMMCo for any reason, in any region or combination of regions.

Currently however, as observed in South Australia, as the generation mix alters within a region(s) to a lower proportion of synchronous generation, it can be expected that local FCAS regulating services requirements may be imposed by AEMO at any time, including when a region(s) remains electrically synchronised to the remainder of the NEM.

It is clear that the current AEMO methodology for the recovery of local FCAS regulating services requires significant review in light of this change in AEMO's policy for the implementation of local FCAS regulating services for other than a region being electrically islanded or Basslink being unable to transfer FCAS from the mainland. This is to ensure that the methodology meets the intent of the original rule change to determine cost recovery based on a participant's conduct at the time a local regulating FCAS requirement is invoked and to calculate the regional contributions *as and when required* during the settlement calculation process with the contribution factors calculated using current trading interval values.

Requirements of Clause 3.15.6 (j)(2)

It is also worth considering why the rule change included the requirements of Clause 3.15.6 (j)(2) of the National Electricity Rules (NER) and why the word *asynchronous* was included in that Clause. At the time of the original rule change, the existing participant derogation for the regional recovery of FCAS regulation services in Tasmania was due to expire on 31 December 2006, (later extended to 31 December 2008 by the ACCC). An additional intent of the rule change was to allow for regional recovery of local FCAS regulating services requirements under market conditions where Tasmania, (or possibly other regions in the future), remained electrically connected to the mainland but Basslink, or any other interconnector, is unable to transfer FCAS services.

Combined with the assurances from NEMMCo that local FCAS regulation services requirements would only be invoked when a region(s) was electrically islanded and to cater for the expiry of the Tasmanian derogation, the AEMC considered that;

Local market ancillary service requirements, or local FCAS requirements, are required in abnormal circumstances where only local market participants have the technical capability to provide FCAS. This is most often the case when a region becomes isolated – or “islanded” – due to planned and/or forced outages of transmission elements. A region that has become islanded can also be described as operating asynchronously from other regions within the NEM.ⁱⁱ

It is also worth noting that the purpose for inclusion of Clause 3.15.6 (j)(2) in the NER was to place a positive obligation on NEMMCo to ensure that a local contribution factor was always calculated whenever a region(s) was determined to be operating *asynchronously*. This was to cater for the Tasmanian situation with Basslink and the impending expiry of the derogation for regional recovery of local Tasmanian FCAS regulating services requirements under some Basslink operation conditions or failure. It was not intended to imply that NEMMCo should not calculate a local contribution factor under other Market conditions where a local FCAS regulation services requirement had been invoked.

Risk Mitigation

One of the key principles in guiding the 2007 rule change was that participants should be able to manage or mitigate their risk with regard to local FCAS regulating services costs. The AEMC accepted that one of the primary objectives of the rule change proposal was;

*To implement a NEM-wide solution that enables the cost of local regulation FCAS requirements to be recovered from those markets participants who had both the capacity and the ability to mitigate their liability at the time the requirements were needed.*ⁱⁱⁱ

NEMMCo also supported this at the time stating that:

The costs from local contingency FCAS requirements are recovered regionally, on the basis that only local market participants are the beneficiaries of the local FCAS requirements, and only local market participants are able to influence the local FCAS price.^{iv}

In assessing the merits of the rule change against the NEM Objective, the AEMC considered that:

It likely that benefits will flow to the NEM from the Proposed Rule. Firstly, it will promote consistency in the way that the costs of FCAS services are recovered across the NEM and across different forms of FCAS. Currently, the Rules permit the costs of localised contingency FCAS requirements to be recovered from market participants on a regional basis. With the exception of Tasmania (due to the Derogation), the costs of localised regulation FCAS requirements are recovered from participants across the NEM with the effect that market participants may be required to contribute to costs incurred other than by reason of their conduct. The Commission has not been able to identify a sound operational or policy rationale for maintaining the divergence in the current approaches and therefore considers it is appropriate that the discrepancy be addressed. Further, the Commission considers that improving the correlation between the contribution of a market participant to frequency deviations and liability for the cost of localised regulation FCAS requirements will promote more effective and efficient use of the power system, and provide clearer investment signals to existing and potential market participants.^v

It is clear that the AEMC's view was that cost recovery for local FCAS regulating services requirements was to be on the basis of recovery from those market participants who were the cause of the local requirement due to their conduct. It can also be inferred from the AEMC's considerations that where a participant's conduct is such that they do not contribute to the requirement for these services, then the participant should not be held liable for the costs of the service.

ERM Power believes that to meet the original principles and intent of the 2007 rule change any methodology must be based on the principle that the allocation of costs for the recovery of all local FCAS regulating services requirements must be based on the calculation of causer pays factors using the current trading interval values that apply at the time that the local FCAS regulating services requirements are invoked by the Market Operator. It is only through the use of the current trading interval values that participants may implement efficient risk mitigation solutions.

Risk mitigations solutions could include but not be limited to:

- Rebidding to maintain a steady output using a digital bid structure and maintaining this steady output;
- Removing a generating unit or scheduled load from service;
- Offering additional volume into FCAS services; and,
- In the case of wind farms, using control systems to maintain a steady predetermined output in conjunction with rebidding to maintain a steady output using a digital bid structure.

The current methodology, which uses distant historical data, fails to allow basic risk mitigation solutions by participants and prevents economically efficient cost recovery based on a participant's conduct at the time local FCAS regulating requirements are invoked by the market Operator.

AEMO consultation proposed solutions

AEMO has proposed three options as a solution to the recovery of local FCAS regulating services requirements costs.

Option 1 - A process that reflects the methodology currently used to determine contribution factors for recovery of the costs of all local ancillary service requirements, as currently set out in AEMO's Efficient Dispatch and Localised Recovery of Regulation Services Business Specification.

Option 2 - A process under which AEMO determines contribution factors for an asynchronous period ex post, based on individual unit performance during the asynchronous period itself. Those factors would be determined in the same way as they are during the historic reference period, to the extent possible in the circumstances. Under this option, Tasmania would be treated differently from other regions because it is permanently asynchronous.

Option 3 - A process for substituting NEM-wide contribution factors with factors that use historical performance factors for appropriately metered facilities within the asynchronous region(s) only, and a recalculated residual factor.

Of the three options proposed, ERM Power believes only Option 2 complies with the Rules and the guiding principles and intent of the original rule change. It also fully aligns with the discussions during the rule change process between NEMMCo, the AEMC and the NGF (as the rule change proponent) in that cost recovery of all local FCAS regulation service requirements should be based on the conduct of the market participant at the time of the Market Operator invoking local FCAS regulation service requirements and that the most efficient and practical way of achieving this outcome would be to

determine the regional contributions *as and when required* during the settlement calculation process calculated using current trading interval values. This was the methodology agreed between NEMMCo and the NGF during the rule change process and accepted by the AEMC.

Both Options 1 and 3 fail in this regard as both are based on the use of distant historical values and therefore fail to capture the actual conduct of a participant during the Dispatch or Trading Intervals when local FCAS regulation service requirements are invoked. These options also fail to allow a participant to implement risk mitigation solutions in real time.

In its Issues Paper, AEMO argues against Option 2 on the grounds that:

It results in significant divergence between the treatment of local requirements for asynchronous operation and local requirements for other reasons, with no obvious rationale.

ERM Power agrees with AEMO's view in that there is no obvious rationale for treating local requirements imposed for different causes differently and refers AEMO to the intent and guiding principles of the original rule change in that regional cost recovery of all local requirements should be based on the fact that a local requirement has been invoked regardless of the cause.

We also remind AEMO that the intent of Clause 3.15.6 (j)(2) in the NER was to place a positive obligation on the Market Operator to always ensure that a local contribution factor was calculated whenever a region(s) was determined to be operating asynchronously, and this was not intended to imply that the Market Operator should not calculate a local contribution factor under other Market conditions where a local FCAS regulation services requirement had been invoked.

AEMO also argues that:

On the basis that system changes are not justified ahead of the broader consultation, Option 2 will be a labour intensive process.

We believe that AEMO should consider that to be fully compliant with the Rules and the intent of the Rules, Option 2 should be implemented as soon as practically achievable regardless of the fact a broader consultation will commence sometime in the future. It is also our view that irrespective of the future broader consultation these system changes will need to be implemented and may facilitate improvements for the calculation of causer pays factors for all Trading Intervals to move the reference point closer to real time outcomes as opposed to the current delayed historical process.

AEMO also seeks to dismiss Option 2 on the grounds that:

Given that data from the asynchronous period will take some time (likely weeks) to collect, verify, load and then re-process, there is no method to provide a reasonable estimate of contribution factors in real time, meaning that AEMO will be unable to comply with clause 3.15.6A(nb) of the NER.

We believe it is possible that AEMO has misinterpreted the requirements of Clause 3.15.6A(nb) in that the expectation is that the Market Operator simply publish its best estimate based on generation output at the time local FCAS regulation requirements are invoked to assist market participants to mitigate risks associated with the Market Operator invoking local FCAS regulation requirements. In the AEMC's final determination on the original rule change, it was indicated that:

The Commission considers that publishing an estimate of the contribution factors for those market participants affected by islanding once the islanding event has occurred will assist participants to manage the financial risks associated with localised regulation FCAS requirements, for example, by adjusting generation output in response to a sudden increase in FCAS costs. The Commission

understands that NEMMCO is able to determine approximate cost allocation factors for use in the dispatch timeframe for the duration of an islanding event and that the publication of these estimated factors would assist market participants to mitigate risks associated with regulation FCAS requirements. Clause 3.15.6A(nb) of the Rules to be made therefore requires NEMMCO to calculate and publish real time estimates of the contribution factors for market participants in a region that is operating asynchronously.^{vi}

Supporting this, AEMO is in constant receipt of 4 second SCADA data from all scheduled and semi-scheduled generating units, major loads and major load supply switchyards which is used in real time to ensure the system remains secure under credible operating conditions. We believe this data is also available to be processed to allow a reasonable estimate to be calculated *in real time* to satisfy the requirements of Clause 3.15.6A(nb) of the Rules.

Additionally, AEMO argues:

Option 2 cannot be applied uniformly for all regions because it is impractical to treat Tasmania in the same way as regions that may be temporarily asynchronous. Tasmania is permanently asynchronous, but Basslink can transfer Regulation FCAS depending on operating conditions.

We see no issue in this regard. As per the intent of the original rule change, whenever Basslink is unable to transfer FCAS regulation services between the Mainland and Tasmania and local FCAS regulation services requirements are invoked in Tasmania, the calculation for regional recovery of local FCAS regulation services requirements should be in accordance with the methodology outlined in Option 2 and not in accordance with AEMO's currently implemented methodology.

Finally, AEMO believes:

There would be other occasions when the methodology simply could not be applied in practice because the asynchronous period is not long enough.

As Option 2 is an ex post settlement adjustment on an *as and when* required basis we see no reason that regional cost recovery of local FCAS regulation services requirements could not be calculated even if AEMO were to invoke these requirements for a single Dispatch Interval.

Conclusion

In summary, taking the intent and the guiding principles of the original rule change request and the arguments and considerations detailed within the AEMC's draft and final rule determinations as well as the Rules as written, ERM Power believes that the calculation methodology as detailed in Option 2 is the only fully Rules compliant option of the three options proposed.

The methodology calculates contribution factors based on a market participant's conduct at the time local FCAS regulation services requirements are invoked and allows participants to implement efficient risk mitigation solutions in real time in the event of high local FCAS regulating services prices. The methodology is in accordance with NEMMCo's stated preference during the original rule change request consultation upon which the rule proponent and the AEMC agreed to a compromise solution within the final rules. When implemented, Option 2 will meet the design concept of *as and when required* during the settlement calculation process using current trading interval values put forward by NEMMCo during the rule change process which was generally accepted at the time as the *most practical* methodology to be adopted by the Market.

We also believe fixing the shortcomings in the current process for calculation of causer pays factors during periods of local FCAS regulation services requirements would be of ongoing benefit during the future broader consultation into the calculation of causer pays factors overall. Fixing these shortcomings would also assist to improve the causer pays calculation process from the current historically distant calculation process to a more close to or possible real time process for the calculation of causer pays factors.

We do not believe that the arguments put forward by AEMO against implementing Option 2 are sufficiently substantial to prevent its implementation as soon as reasonably practical.

Please contact me if you would like to discuss this submission further.

Yours sincerely,

[signed]

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ⁱ NEMMCo submission dated 29 June 2007 to the NGF rule change request Cost Recovery of Localised Regulation Services

ⁱⁱ Final Rule Determination Cost Recovery of Localised Regulation Services Page 3

ⁱⁱⁱ Final Rule Determination Cost Recovery of Localised Regulation Services Page 4

^{iv} Final Rule Determination Cost Recovery of Localised Regulation Services Page 16

^v Final Rule Determination Cost Recovery of Localised Regulation Services Page 12

^{vi} Final Rule Determination Cost Recovery of Localised Regulation Services Page 14