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Ben Hiron
Australian Energy Market Commission
PO Box A2449
Sydney South NSW 1235

13 February 2020

Dear Mr. Hiron

RE: Primary Frequency Response Draft Determination

We welcome the opportunity to provide feedback on the draft determination for the *Mandatory Primary Frequency Response* rule change.

Enel X works with commercial and industrial energy users to offer demand side capacity into the National Electricity Market's (NEM) frequency control ancillary services (FCAS) markets. Since October 2017 we have participated in the fast raise (R6), slow raise (R60) and delayed raise (R5) contingency FCAS markets. Following the entrance of Enel X and other new participants in these Frequency Control Ancillary Services (FCAS) markets, the costs to the Australian Energy Market Operator (AEMO) of procuring these services reduced significantly.

Enel X agrees that maintaining a stable and secure system is paramount. However, as per our submission to the consultation paper, Enel X remains concerned that the draft rule:

- risks relying on baseload generators for the continued provision of frequency services while reducing incentives for alternative technologies to participate in FCAS markets, potentially leaving a gap as baseload generators become less utilised, less reliable and ultimately retire;
- risks locking in a dependence on inefficient technologies at a higher cost to customers; and
- is likely to adversely impact the business case for battery storage, at a time when governments, policy makers, businesses and AEMO are looking to batteries to help resolve multiple market issues.

This submission further explores our concerns that a mandated approach to Primary Frequency Response (PFR):

- creates distortions in both the FCAS and wholesale markets;
- will have critical implications in the longer term despite the draft sunset clause, including potentially reducing demand response capability in FCAS markets and reducing incentives for customers to participate in the new wholesale demand response mechanism; and
- may not achieve its objective of improving system security, particularly as baseload thermal generators are already becoming less reliable, demand is increasingly being met by renewable generation, and as a result of a blurring between FCAS and PFR.

Setting aside the merits of the mandatory approach, we have a number of comments on the draft rule. In particular, we support:

- the adoption of a sunset clause, although we consider the date should be brought forward;
- setting out the primary frequency operating band and prohibition on requiring headroom in the National Electricity Rules (NER) rather than in the primary frequency response requirements (PFRR); and
- not reimbursing the upfront costs to generators of augmenting their units.

On the other hand, we consider that insufficient evidence has been provided to justify a near-universal obligation to provide PFR, and that broader exemption requirements should apply.

Finally we note that, if a mandatory approach to PFR is implemented, it is imperative that we shift to a market-based approach that appropriately values PFR as soon as possible. Delaying the implementation of a market mechanism risks system stability in the near future as demand is increasingly met by renewable generation and baseload thermal generators become less available and reliable. An appropriate mechanism must be in place to encourage the development of alternative, more cost effective technologies that will continue to support a secure system in the long run. It takes time for new technologies to be tested, proven and implemented in the market.

Our submission comprises two parts. The first sets out Enel X's overarching view of the draft rule. The second sets out our view on specific aspects of the draft rule.

We look forward to continuing to work through these issues with the AEMC and AEMO, including through the Technical Working Group that we are pleased to be part of. If you have any questions relating to this submission, please do not hesitate to contact me.

Regards

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1. OVERARCHING VIEW

Enel X agrees that maintaining a stable and secure system is paramount. However, Enel X continues to consider that there are alternative, more efficient mechanisms to address AEMO's system security concerns that are more consistent with both the underlying philosophy of a market-based approach to the NEM and the long term interests of consumers.

We recognise that, due to immediate system security needs, the AEMC is putting in place a short term solution with a view to implementing a more efficient approach once initial system security concerns are addressed. Ideally, any short term solution would be consistent with, and represent a first step towards, that more efficient longer term solution. In this instance, a market intervention in the form of a mandatory requirement represents a step in a different direction.

While the AEMC's draft rule includes a sunset clause, there is a risk that this short term solution may have longer term impacts beyond the proposed three year life of the mandatory solution that could continue to adversely affect market outcomes for some time. Simply unwinding the rules will not unwind their impacts, for reasons discussed below. Further, the draft solution may prejudice the nature and form of future solutions.

In our submission to the Consultation Paper we noted our concerns that a mandatory approach to PFR:

- risks relying on baseload generators for the continued provision of frequency services while reducing incentives for alternative technologies to participate in FCAS markets, potentially leaving a gap as baseload generators become less utilised, less reliable and ultimately retire;
- risks locking in a dependence on inefficient technologies at a higher cost to customers; and
- is likely to adversely impact the investment case for battery storage (and other new technologies), at a time when governments, policy makers, businesses and AEMO are looking to batteries to help resolve multiple market issues.

We emphasised the importance of considering potential solutions in the wider context of the transition to a low carbon electricity market with more distributed energy resources and the way in which solutions may support or inhibit this transition.

This section explores additional concerns and information with a mandated approach to PFR that were not articulated in our earlier submission. This includes:

- the potential for distortions to arise in the FCAS markets, as well as the wholesale market, as a result of mandating the provision of PFR;
- the longer term consequences of a mandated approach;
- baseload generators, which are being relied upon to provide PFR, are increasingly unavailable and unreliable; and
- a lack of clarity on the interaction between PFR and FCAS markets.

Together, these issues suggest there is a risk that a mandatory approach to providing PFR may not achieve the objective of improving system security, particularly in the medium term.

We note that our views were shared by many other stakeholders in their submissions to the AEMC's consultation paper on this issue. The majority of submissions received by the AEMC did not support a mandated approach to PFR, or considered that further evidence was required before concluding that mandating the provision of PFR is the right approach. It is not clear from the draft determination that all the questions posed by stakeholders have been answered.

In the technical working group meeting, Enel X proposed four criteria that any interim solution must meet:

- Time limited
- Includes a commitment to develop a more efficient long term solution
- Minimise distortions to other markets
- Be feasible to unwind

The draft rule meets the first two of these. However, a mandatory approach creates distortions in both the FCAS markets and wholesale market and therefore does not meet the third criterion. While the rule itself may be straightforward to unwind, its longer term consequences are not. These issues are discussed further below. Further, while a sunset clause may signal a commitment to develop a more efficient solution, nonetheless there will be an ongoing risk of delays and that the sunset clause could be extended.

On the other hand, a market-based solution such as direct contracting with generators would address each of these criteria. We note AEMO's view that without a widespread obligation there is a greater operational burden on individual generators.[1] Presumably this could be addressed through financial compensation, which would also address a concern raised by the AEMC that the draft rule does not adequately value or reward frequency response from capable generating units.[2]

1.1. Price distortions in the FCAS and wholesale markets

As recognised by the AEMC, a mandatory approach to PFR is likely to suppress prices in FCAS markets due to increased entry in those markets. The AEMC states:[3]

> *The Commission also expects that a mandatory primary frequency response requirement would drive increased participation in the contingency FCAS markets, which would put downward pressure on prices for these services in the short-term, lowering prices for consumers.*

Enel X agrees that lower prices that result from increased competition and cost efficiencies provide a benefit to customers, to the extent that they are passed through. However, lower prices that result from an intervention in a related market represent a market distortion and are unlikely to be sustainable. We question whether such price changes can be cited as a benefit or are consistent with promoting the national electricity objective.

Further, we are concerned that lower prices for customers in the short term will come at the expense of higher costs in the long term, and therefore may not be in the long term interests of consumers. The reasons for this are explored further below.

Finally, the AEMC notes that the costs associated with providing PFR will ultimately be recovered through the wholesale market. Again, this represents a market distortion as the resulting wholesale prices will incorporate elements of the cost of providing frequency response. If PFR is over-procured, this will result in increased costs to customers via wholesale prices.

[1] AEMO, Submission to the Primary Frequency Response Rule Changes Consultation Paper, 31 October 2019, p.3.
[2] AEMC, Mandatory primary frequency response, Draft rule determination, 19 December 2019, p.72.
[3] Ibid, p.71.

1.2. Long term consequences of a short term solution

The AEMC accepts that a range of technologies, which will be a critical source of FCAS capability in the future, will be impacted by lower FCAS prices. The AEMC states: [4]

> *The Commission notes that FCAS revenue is a dominant revenue stream for new sources of generation such as demand response providers, market ancillary service providers and battery energy storage systems. These new technologies are a critical source of FCAS capability as thermal generation plant retires.*

At least in part for this reason, the AEMC has proposed a sunset clause whereby the mandatory requirement to provide PFR will fall away after 3 years. However, the consequences of the market intervention will not be alleviated simply because the mandatory requirement no longer exists. As noted earlier, there is also a risk that the sunset clause could be extended.

Market signals are currently providing incentives for new technologies to enter the FCAS markets. The largest supply increase in the raise FCAS markets in Q4 2019 compared to Q4 2018 came from battery storage, followed by hydro and demand response/VPPs.[5] However, as noted above, the effects of this rule change will be to distort these signals, discouraging further investment from such technologies and compromising their future in the market.

We are concerned that customers who currently provide demand response in FCAS markets:

- may be reluctant to participate in the wholesale demand response mechanism if they have a negative experience in FCAS markets due to a market intervention reducing prices; and
- may exit the FCAS market and be reluctant to re-enter.

Customers that have decided to participate in FCAS markets have done so on the basis of a forecast of FCAS prices. Prices will obviously vary and forecasts will never be entirely accurate. Further, we note that FCAS prices are likely to reduce over time as more battery storage enters the markets. However, these changes in prices due to competitive pressures are very different from a direct market intervention such as mandating the provision of PFR that has the effect of reducing FCAS prices, creating investment uncertainty.

We have three concerns:

1. If FCAS prices fall due to the PFR rule change, the opportunity cost associated with providing demand response in FCAS markets will outweigh the potential revenue for at least some customers. These customers will exit the FCAS markets.
2. Some customers may not have the opportunity to recover the initial set-up costs associated with enabling demand response in FCAS markets.
3. It may not be viable to enable new demand response customers to provide FCAS.

These scenarios are problematic for a number of reasons.

As acknowledge by the AEMC, demand response, batteries and other new technologies are increasingly being identified as essential to grid stability and security as existing baseload thermal generators retire.

[4] Ibid, p.71.
[5] AEMO, Quarterly Energy Dynamics Q4 2019, 7 February 2020, p.22.

Box 1 below describes how demand response contributed to restoring frequency on 4 January 2020 and 31 January 2020, as well as the important role new technologies are playing in the SA islanding event throughout February 2020.

Mandating PFR and its likely negative impact on FCAS prices may have the opposite impact of forcing some demand response capability out of the market and inhibiting the roll-out of batteries and other new technologies, as discussed in our response to the consultation paper. Indeed, market uncertainty associated with this rule change is already impacting our approach to our demand response portfolio for FCAS.

Customers that exit FCAS markets may be reluctant to re-enter when baseload generators do retire. This could result in less competitive FCAS markets or, worse, could leave a gap in FCAS providers.

Finally, customers who are currently providing demand response in FCAS markets are the obvious customers to begin participating in the wholesale market once the demand response mechanism comes into effect, since they will already have experience in providing demand response.[6] However, if they have had a negative experience in FCAS markets due to market intervention, they may be more reluctant to participate in other markets, including providing wholesale demand response.

Box 1: Contribution of demand response to restoring frequency

On 4 January 2020 NSW was experiencing extreme temperatures and bushfires. An interconnector tripped between NSW and Victoria, reducing generation supply into NSW and causing frequency to drop outside of the normal operating frequency band, and triggering a response from contingency FCAS providers. AEMO declared a Lack of Reserve Level 2 (LOR2) for NSW, indicating a potential shortfall in reserves for that region. As a result of the interconnect trip, AEMO also decided to procure more contingency FCAS in NSW, reflecting the severe conditions.

During this time of severe strain on the electricity network, and increased likelihood of further excursions from the normal operating frequency band, Enel X provided crucial contingency FCAS resources. Over this period we were providing up to 18% of contingency FCAS in NSW at any given time, via the availability of our customers to reduce their demand in response to a drop in frequency.

Similarly, on 31 January 2020 high winds in eastern Victoria caused six transmission towers to collapse, causing a trip in the Heywood interconnector between Victoria and South Australia. The trip caused a drop in frequency across VIC, NSW, QLD, and TAS, triggering an under frequency event (UFE) and response from Enel X's portfolio. This happened during LOR2 conditions in both Victoria and NSW. During the subsequent hours after the trip, when the network was in extremely challenging conditions, Enel X provided up to 20% of the contingency FCAS in NSW and Victoria at any given time.

As a result of the Heywood interconnector trip, South Australia has remained operating in an islanded state. During the week following the interconnector trip, approximately 60% of the FCAS contingency supply in South Australia was from either batteries, demand response, or VPP.

With an increasing number of extreme weather events occurring, alternative technologies like demand response have an important role, both currently and into the future, in ensuring system security in all circumstances and scenarios.

[6] Subject to the AEMC's final determination on wholesale demand response mechanism.

1.3. Baseload thermal generators are already becoming less reliable

Under the draft rule, generators will not be required to maintain headroom, but will be expected to deliver PFR when it is safe to do so. Because there is no requirement to maintain headroom, the number of generators that will be able to provide raise PFR is likely limited to baseload thermal generators. When running, renewable generators are typically running at their maximum output, unless they have been constrained down, and so cannot provide raise PFR. Similarly, peaking plants that only run during high price events will not typically be available to provide PFR.

In its latest quarterly energy dynamics report, AEMO noted that black coal-fired generation in Q4 2019 was at its lowest quarterly level since Q4 2016. AEMO attributed this reduction to a combination of displacement by solar, unit outages and coal supply issues.[7]

Load will increasingly be supplied from renewable generation, particularly in the middle of the day when rooftop solar is generating. We note that there has already been one occasion in the NEM where 50% of demand was supplied by renewables, on 6 November 2019. During one trading interval on 10 November 2019, rooftop PV provided 64% of South Australia's underlying demand.[8] The proportion of load that is met by renewable generation will only increase over time. Over 75% of the generation projects being tracked by AEMO are wind and solar.[9] This means thermal generation will increasingly be unavailable to provide PFR.

Further, baseload thermal generators are aging and, as such, are becoming less reliable. For example, Loy Yang A2 and Mortlake 12 experienced long term outages in 2019 and their expected return to service was subject to significant uncertainty.[10] Loy Yang A Unit 2 came back online for only four days in Q4.[11]

While the majority of coal-fired generators are not expected to retire until the 2030s/2040s, they will become increasingly unreliable between now and then. In its 2019 Electricity Statement of Opportunities AEMO increased the assumed forced outage rates for its market modelling "based on generation surveys which indicated an increasing incidence of forced outages in recent history, reflective of an aging thermal generation fleet".[12] Not only will this mean they may be unavailable to provide FCAS, but they could also contribute to increased need for contingency FCAS where outages occur unexpectedly. Further, there is no guarantee that these generators will not retire sooner than expected.

It is therefore imperative that a market-based solution is implemented as soon as possible to encourage the development of alternative, more cost effective technologies that will continue to support a secure system as baseload thermal generators are less utilised, less reliable and ultimately retire. It takes time for new technologies to be developed, tested and implemented in the market. For this reason, Enel X encourages the AEMC and AEMO to implement a more efficient and effective mechanism for the provision of PFR as soon as possible, and not wait for the sunset clause to take effect.

AEMO has noted in its draft ISP "To ensure a gradual, orderly transition, there must be sufficient new generation in place before each major plant exits."[13] AEMO goes on to note "Innovative power system

[7] AEMO, Quarterly Energy Dynamics Q4 2019, 7 February 2020, p.4.
[8] Ibid.
[9] AEMO, 2019 Electricity Statement of Opportunities, August 2019, p.70.
[10] See for example AEMO Insights, Generator Outage analysis for 2019 Electricity Statement of Opportunities, September 2019.
[11] AEMO, Quarterly Energy Dynamics Q4 2019, 7 February 2020, p.14.
[12] AEMO, 2019 Electricity Statement of Opportunities, August 2019, p.9.
[13] AEMO, Draft 2020 Integrated System Plan, 12 December 2019, p.10.

services will be needed that span voltage control, system strength, frequency management, power system inertia and dispatchability."[14] To provide a "gradual, orderly transition" to renewables and ensure that innovative power system services are in place requires establishing the right incentives now.

1.4. It's not clear how PFR will interact with the FCAS markets

Because there is no requirement under the draft rule to maintain headroom, generators will be permitted to bid any spare capacity into the contingency raise FCAS markets, provided they are appropriately registered with AEMO. However, if a portion of the spare capacity is "used up" providing PFR and a contingency event subsequently occurs, fewer MW will be available than were bid into the contingency raise FCAS markets. During contingency events there is therefore a risk of under-delivery of frequency response, particularly in the 6 second and 60 second markets. This could pose a system security risk for AEMO. We note this issue was raised by a number of stakeholders in response to the AEMC's Consultation Paper[15] but does not appear to have been addressed by the AEMC in its draft determination.

The draft rule does not provide any clarity on how the provision of PFR will be distinguished from the provision of FCAS. Linked to this, it is not clear from the draft rule whether a generator would be considered non-compliant with the NER if it does not deliver contingency FCAS where it was delivering PFR prior to a contingency event. The draft rule would benefit from clarification on the interaction between the provision of PFR and the FCAS markets.

We note some of these issues are being considered by AEMO via amendments to the Market Ancillary Services Specification (MASS).[16] AEMO's proposed revisions to the MASS would essentially treat PFR provided by an enabled contingency FCAS generating unit as contingency FCAS for the purpose of verifying frequency response. However, this does not address the issue of a potential lack of contingency response as a result of responding to PFR.

Further, this approach conflates the provision of PFR with the provision of contingency FCAS and risks distorting outcomes in the FCAS markets. While conflating the two services provides a means to avoid compliance issues for those generators that both offer contingency FCAS and provide PFR, a more efficient and effective approach would be to clearly separate out and value the two services.

The AEMC states it is committed to developing a more efficient approach for the provision of PFR. In doing so, there needs to be a transparent and robust methodology for distinguishing between the provision of PFR and the provision of FCAS to preserve market signals for those unique services.

2. THE DRAFT RULE

For the reasons discussed above, Enel X does not agree with a mandatory approach to the provision of PFR. However, if the AEMC decides to proceed with this approach, Enel X has a number of comments on the specifics of the draft rule. These are set out in the table below.

[14] Ibid.

[15] See, for example, Australian Energy Council, p.6; Delta, p.5.

[16] AEMO, Market Ancillary Services Specification, Issues Paper, November 2019.

Table 1: Comments on the draft rule

Draft Rule	Enel X's view
The mandatory PFR requirement	
Obligation is on all scheduled and semi-scheduled generators who have received a dispatch instruction to generate to a volume greater than 0 MW, unless exempt by AEMO (draft clause 4.4.2(c1))	The case has not been made for requiring all generators to provide PFR. Universal provision may result in unnecessarily high levels of PFR which will, in turn, raise costs for consumers. Different generators have different costs associated with providing PFR, and alternative technologies may ultimately prove more cost effective. AEMO acknowledges that, in practice, it does not require 100% of generators to respond to frequency deviations. This is implicit in the proposed exemption arrangements, whereby generators that would incur "significant costs" to install the necessary capability will be exempt from having to comply with the requirement. In quantifying "significant costs", AEMO will need to make a judgement on the trade-off between a generator providing PFR and the associated costs of installing that capability. We consider that alternative approaches to the provision of PFR would make that trade-off more transparent and robust. As the AEMC notes, a report by DIGsilent commissioned by AEMO states that international experience demonstrates that "a relatively small amount of primary frequency response can make a significant difference to the regulation of frequency" and "there is a cost to the market from requiring high efficiency plant to provide frequency control at the expense of energy".[17] Despite this, the AEMC accepts AEMO's position that near-universal PFR is required on the basis that "it is not appropriate to define a minimum level of responsive generation to meet the policy objectives in its mandatory primary frequency response rule change request".[18] Enel X considers that no evidence has been presented to date that alternative approaches could not equally address the objectives set out in AEMO's rule change request.[19]

[17] DIGsilent, Frequency in the Normal Operating Frequency Band – Update report for AEMO, 18 September 2019, p.31.
[18] AEMC, Mandatory primary frequency response, Draft rule determination, 19 December 2019, p.73
[19] AEMO, Mandatory Primary Frequency Response Rule Change Request, 16 August 2019, p.28.

	We note the AEMC has deferred further analysis of how much PFR may be required to a more holistic consideration of incentives for providing PFR, which it will do as part of a separate rule change process. However, the lack of evidence of a need for all generators to provide PFR was a key concern raised by multiple stakeholders in response to the consultation paper[20], and it is disappointing that this issue has not been more fully addressed in the draft determination, particularly as the purported need for a near-universal PFR requirement is the primary justification for adopting a mandatory approach.
Lower bound for new primary frequency control band is set in the rules. AEMO has the flexibility to allow a wider primary frequency control band, but cannot be narrower than what is set in the rules (49.985 Hz to 50.015 Hz) (draft definition of *primary frequency control band*)	Enel X agrees that the lower bound should be set in the NER and not subject to AEMO discretion. Further narrowing the primary frequency control band would likely impose significant additional costs on generators, and ultimately customers. It is therefore appropriate that any narrowing of the lower bound should be subject to rigorous consultation via a rule change process.
Sunset clause of 3 years	We support the approach of having a sunset clause. As the AEMC notes, this provides a signal that the AEMC, in consultation with stakeholders and other market bodies, is committed to implementing a more efficient solution. The shorter the timeframe for implementing that alternative solution, the sooner we can transition to a full market-based approach that appropriately and transparently values the provision of PFR services in a way that does not distort other markets and allows more cost effective solutions to be employed. A more rapid transition than three years would be desirable, particularly as baseload thermal generation is becoming less reliable. On this basis, Enel X would support a sunset clause of 2 years to enable more cost effective and reliable technologies to be identified, tested, proven and rolled out to the market as soon as possible.
No requirement to maintain additional stored energy set out in the NER (draft clause 4.4.2A(c))	Enel X agrees that the NER should prevent the PFRR from requiring a generator to maintain additional stored energy. Similar to the lower bound for the primary frequency control band, the potential opportunity cost to generators from having to maintain headroom is high, and these costs would likely be passed through to

[20] See, for example, AEC, p.10; ARENA p.3; EnergyAustralia, p.2; Stanwell, p.5; IES, p.2.

	customers. For this reason, any proposal to require generators to maintain headroom should be tested via the rule change process.
Treatment of battery storage systems	Enel X agrees that battery storage systems should not be required to respond to frequency deviations when they are not dispatched to generate electricity. This is consistent with a technology neutral approach.
Exemptions	
Exemptions - the AEMC provides some guiding principles on which generators should be fully or partially exempt from having to comply with the PFRR (see page 47) but leaves the detail for AEMO.	Enel X considers that, at least initially, there should be a blanket exemption for all generation with a nameplate capacity rating of under 200MW from having to comply with the PFRR, and that this exemption should be set out in the NER. We consider this approach: • Reduces the risk of over-procuring PFR and therefore reduces the risk of imposing unnecessary costs on customers • Should make a significant difference to regulating frequency based on observations of international experience provided by DIGSilent • Would reduce (although not eliminate) distortionary impacts in the FCAS markets • Would provide useful information to inform parameters for a market-based mechanism While this will impose the cost of providing PFR on a smaller number of generators, we note that a number of members of the Australian Energy Council were willing to make themselves available for a PFR trial under which they would presumably wear the costs. Further, larger generators are likely to be better placed to absorb the costs. Should this approach prove insufficient to improve system security, the threshold could be reduced. One way to implement this approach is as follows: 1. Under the NER, the interim PFRR must exempt all generators with a nameplate capacity rating under 200MW from having to comply with the interim PFRR. 2. As part of developing the first PFRR, AEMO would conduct a review of whether the mandatory PFR arrangements should be extended to

	generators under 200MW. AEMO would only be able to extend the mandatory requirement if certain criteria were met e.g.: a. Evidence that frequency performance during normal operation has not improved sufficiently b. Evidence that the chance of under-frequency load shedding and over-frequency generation shedding following non-credible events has not reduced sufficiently c. Evidence that that incidences of frequency oscillatory events have not reduced sufficiently 3. If AEMO determines the PFRR should be extended, the first PFRR would also include a staged approach to imposing the requirement on generators under 200MW, including dates by when generators will be required to comply with the first PFRR.
Implementation and transitional arrangements	
AEMO to publish draft interim Primary Frequency Response Requirements by 9 April 2020 and finalise by 4 June 2020.	Enel X supports the proposed timeframe for implementation. We note that it would be helpful to provide as much time as possible for stakeholders to comment on the interim PFRR.
No reimbursement for upfront costs	Enel X strongly supports this approach. We agree with the AEMC's conclusions that participants are not typically compensated as a result of complying with the NER. Further, as the AEMC notes, "in most cases, generator upgrades will contribute to the development of a capability that may be utilised by affected generators to obtain a revenue stream for frequency response through the present and future market arrangements for FCAS".[21] Compensating generators would effectively represent a subsidy to them and therefore an unfair advantage in those markets.
Other proposed changes	
Clarify that provision of PFR by a scheduled or semi-scheduled participant will not be judged to be contributing to the need for regulation services in determining a	Enel X agrees that the AEMC's proposed approach to these amendments appears reasonable.

[21] AEMC, Mandatory primary frequency response, Draft rule determination, 19 December 2019, p. 93.

contribution factor (draft clauses 3.15.6A(k)(5) and 3.15.6A(k)(7))	
Clarify that scheduled and semi-scheduled generators can send out energy as a result of being frequency responsive (draft clause 4.9.4(a)(3A))	
Clarify that operating a plant in a frequency response mode is compatible with a generator's obligation to follow its dispatch instructions (draft clause 4.9.8(a1))	
Remove clause S5.2.5.11(i)(4) to clarify that a generator is not precluded from operating in a frequency response mode when it is not enabled to provide FCAS; and a draft note after clause S5.2.5.11(b)(2) and S5.2.5.11(c)(2) to clarify the interactions between requirements for frequency control capability in clause S5.2.5.11 and the operational requirement in clause 4.2.4A	
No change to clause S5.2.5.14 to clarify that a scheduled generating unit or system should be capable of controlling its active power output "subject to local frequency"	Enel X agrees with the AEMC's proposed approach not to include these amendments.
No change to clause 4.3.1 to clarify that AEMO is responsible for improving, not just maintaining, power system security	
No change to clause 5.20B.5(a) to include an explicit reference to the provision of fast frequency response from inverter-connected plant being an included inertia support activity; no change to the definition of *Inertia* to reflect the changing energy mix	