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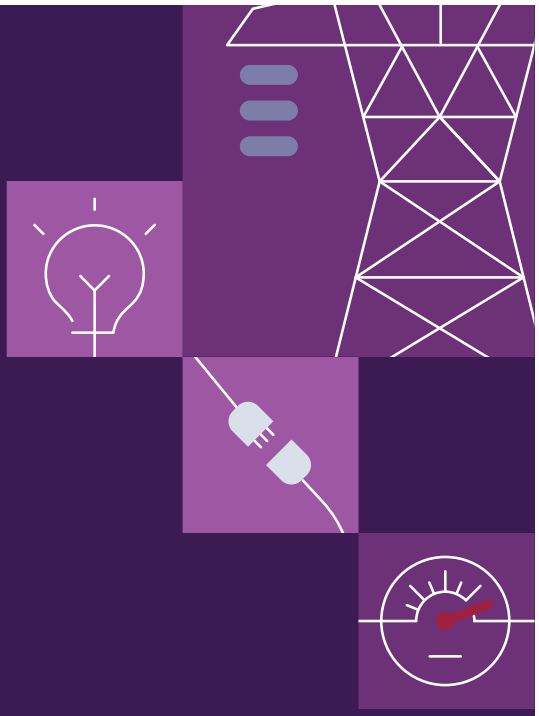

Regional Benefit Directions Procedures Consultation

Final Report – Expedited consultation for the National Electricity Market

Published: 19 December 2023

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Executive summary

The publication of this final report concludes the expedited consultation procedure conducted by AEMO to consider the Regional Benefit Directions Procedures (the Procedures) which have been developed by AEMO under the National Electricity Rules (NER).

The proposed Procedures, published on 10 October 2023, describe the process and principles AEMO proposed to apply when determining the relative benefit each region receives from the issuance of a direction for the purpose of compensation cost recovery under the NER. The proposed Procedures reflected AEMO's latest methodology and principles when calculating regional benefit factors.

AEMO thanks all stakeholders for their feedback on the proposal, which was undertaken as required by NER 3.15.8(b2), following the procedure in NER 8.9.3. Submissions on AEMO's proposed Procedures were received from Energy Users Association of Australia (EUAA) and Shell Energy.

The issues raised in submissions to the proposed Procedures and a subsequent consultation meeting with Shell Energy are as follows:

- Principle 5 of the proposed Procedures does not allocate regional benefit factor (RBF) on the basis of actual regional benefit as it uses operational demand as a proxy for the calculation of regional benefit factors for cost recovery;
- Benefits such as additional variable renewable generation arising from an essential system service (ESS) direction in a region should be considered as part of regional benefit cost recovery; and
- Potential impacts on Reliability Emergency Reserve Trader (RERT) cost recovery.

After reviewing and considering all suggested approaches to address the issues outlined in the stakeholder submissions, AEMO has decided to maintain the approach taken under the proposed Procedures in the final Procedures.

In developing the final Procedures, AEMO has made some changes to the proposed Procedures to improve clarity for stakeholders. The changes, which are track marked in one version of the final Procedures, are shown in Table 1 below.

Table 1 Changes made to the proposed Procedures in developing the final Procedures

Summary of change	Wording of change
Footnote added to principle 5 (page 6)	AEMO currently foresees that only reliability directions have the potential to benefit multiple regions. Under such circumstances, operational demand across the affected regions is expected to be high. AEMO will continue to review whether system security directions have the potential to benefit multiple regions and adapt the Procedures accordingly if this becomes the case.
Principle 6 added (page 6)	The RBF is not determined by energy or market ancillary services provided incidental to a direction to provide a service.
Footnote added to principle 6 (page 6)	If, for example, a direction for system security enables the provision of additional renewable energy generation, the RBF is not determined by this additional energy, as it was provided incidental to the system security direction.
Footnote added to Table 1, for the Queensland and New South Wales reliability direction case study (page 11)	Where the directed unit is in Queensland and the interconnector flow is constrained from New South Wales to Queensland (northwards flow), the benefits are split across both regions based on operational demand, because it is generally possible in such a scenario that additional energy in Queensland could improve reserves in New South Wales.

AEMO's final determination on the proposal is to amend the Procedures in the form published with this final report, with an effective date of 19 December 2023. The consultation webpage for the Procedure,

including proposed and final Procedures as well as the written submissions are available on AEMO's website.

Contents

Tables

1. Stakeholder consultation process

As required by NER 3.15.8(b2), AEMO has consulted on the Procedures in accordance with the expedited rules consultation procedure in NER 8.9.3.

Note that this document uses terms defined in the NER, which are intended to have the same meanings. There is a glossary of additional terms and abbreviations in Appendix A.

AEMO's process and timeline for this consultation are outlined below.

Table 2 Consultation process and timeline

Consultation steps	Dates
Proposed Procedures published	10 October 2023
Submissions due on proposed Procedures	7 November 2023
Final report and Procedures published	19 December 2023

AEMO's consultation webpage for the proposal is on AEMO's website, containing all published papers, reports and written submissions.

In response to its proposed Procedures, AEMO received two written submissions from EUAA and Shell Energy. AEMO also received a request for a stakeholder meeting from Shell Energy which was held on 24 November 2023.

AEMO thanks all stakeholders for their feedback on the proposed Procedures, which has been considered in preparing the final Procedures.

2. Background

2.1. Context for this consultation

As required by NER 3.15.8(b2), AEMO consulted on the Procedures in accordance with the expedited rules consultation in NER 8.9.3.

2.2. NER requirements

AEMO is responsible for developing the Procedures in accordance with NER 3.15.8(b2). These Procedures describe the process and principles AEMO will follow after issuing a direction to determine the relative benefit each region receives from the issuance of that direction, which is referred to in these Procedures as a regional benefit factor (RBF).

The Procedures may be amended in accordance with the Rules consultation procedures set out in NER 8.9.

2.3. The national electricity objective

Within the specific requirements of the NER applicable to this proposal, AEMO has sought to make a determination that is consistent with the national electricity objective (NEO).

The *Statutes Amendment (National Energy Laws) (Emissions Reduction Objectives) Act 2023* (SA) recently amended the National Electricity Law to incorporate a new emissions reduction element into the NEO. The amended NEO is expressed in section 7 of the National Electricity Law as:

> to promote efficient investment in, and efficient operation and use of, electricity services for the long term interests of consumers of electricity with respect to:
>
> (a) price, quality, safety, reliability and security of supply of electricity; and
>
> (b) the reliability, safety and security of the national electricity system
>
> (c) the achievement of targets set by a participating jurisdiction—
>
> (i) for reducing Australia's greenhouse gas emissions; or
>
> (ii) that are likely to contribute to reducing Australia's greenhouse gas emissions.

AEMO is not required to apply the amended NEO to a process which started before but was not completed by 21 November 2023 (the effective date of the amendment), but it has a discretion to do so. This consultation process is such a process.

AEMO has determined that the amended NEO should not apply to this consultation process because the application of the amended NEO will not make a material difference to AEMO's final determination. This is because:

- the Procedures developed under NER 3.15.8(b2) do not allow for consideration of the achievement of emissions reduction targets and there is no other requirement or basis for AEMO to consider the new emissions reduction element in the NEO when determining a relative regional benefit,
- the amendments to the Procedures will have no influence on the level of Australia's greenhouse gas emissions or on related emissions targets, and so consideration of emissions reduction or related targets will not be relevant to the Procedures or this consultation process, and

- actions taken under the Procedures fall within the real time systems and operations functions performed by AEMO which are not intended to be affected by the new emissions objective[1].

[1] Second Reading Speech, Statutes Amendment (National Energy Laws) (Emissions Reduction Objectives) Bill 2023, Hansard, South Australian House of Assembly, Wednesday June 14, 2023 (The Hon A Koutsankounis).

3. Discussion of material issues

A comprehensive list of issues raised by respective stakeholders and AEMO's responses are detailed in Table 3.

Table 3 Summary of submissions and AEMO responses

Issue No.	Summary of issue raised with proposed Procedures	Consulted stakeholder	Consulted stakeholder feedback	AEMO response
1.	Principle 5 of the proposed Procedures does not allocate RBF on the basis of actual regional benefit as it uses operational demand as a proxy for the calculation of regional benefit factors for cost recovery.	EUAA	The proposed Principle 5 allocates the RBF according to operational demand and does not allocate the RBF on the basis of regional benefit, e.g. for a direction given for South Australia and Victoria, where a larger energy direction is given for South Australia than Victoria (therefore South Australia receives a greater benefit) would see the allocation of benefits under the proposed Principle 5 incorrectly biased towards Victoria as the operational demand in Victoria is larger. The stakeholder considered that Principle 5 needs to measure the regional benefit by reflecting the size of the problem in each region requiring directions, and therefore the quantity of the direction in each region provided through the direction. The participant proposed the following changes to Principle 5 to accommodate measuring the actual regional benefit: "If a *direction* is issued to address a problem that affects multiple regions, the RBFs for each affected *region* should equal the proportion that is the sum of ~~operational demand~~ ***the direction*** for the affected *region* divided by the sum of the ~~operational demand~~ ***direction*** from all affected regions across the direction event, unless a region is not benefitting from the direction, such as through a constrained interconnector. ~~Where a region is not benefitting from the direction, operational demand in that trading interval will be excluded from the RBF calculation.~~" The stakeholder suggested that changing Principle 5 to allocate the regional benefits accruing to each region (rather than based on operational demand) will correctly allocate the cost and therefore correctly incentivise a response from Market Customers, Market Generators and Market Small Generation Aggregators to rectify any underlying issues that may have led to the direction.	• When a direction is issued to address a problem that affects multiple regions (Principle 5), AEMO determines that it is not practical to measure or quantify the beneficiary of a direction using either MW flows or interconnector headroom (i.e. the ability of additional reserves from the direction to provide reserves to each region). • To quantify the benefits that a region would receive from a direction using MW flows, AEMO would need to compare the flows of energy from the case where the direction occurred to a counterfactual case where there was no direction. However, there is no counterfactual case that reliably predicts dispatch without the direction in place. The 'what-if' run[2] used during an intervention pricing event estimates the price had the direction not occurred, but does not predict dispatch outcomes. This is because the difference in dispatch outcomes with and without a direction are influenced by the underlying bid structure, rebids and the coefficients of the directed unit, other units, or interconnectors in binding constraints. • Therefore, for a 100 MW direction in Queensland it is impossible to determine how many MW from that direction was transferred to New South Wales. In addition, the same 100 MW direction might require more or less than 100 MW of headroom on the Queensland to New South Wales interconnectors for benefits to fully transfer between regions. • AEMO has considered an additional approach to calculating the RBF based on the proportional need for the direction in each region to address concerns raised in the submissions that a better assessment of 'benefits' is required. For a direction in one region that benefits multiple regions, the approach uses proportional shortfalls in reserves to calculate regional benefit factors. This approach assumes that reliability directions are the only direction type determined as reasonably likely to

[2] See https://aemo.com.au/-/media/files/stakeholder_consultation/consultations/nem-consultations/2020/wholesale-demand-response/final-stage/intervention-pricing-methodology.pdf?la=en

Issue No.	Summary of issue raised with proposed Procedures	Consulted stakeholder	Consulted stakeholder feedback	AEMO response
		Shell Energy	Key issue in the stakeholder's view was that the currently proposed methodology has no process for the calculation of an actual regional benefit as it associates regional demand as a proxy for a benefit rather than seeking to determine what the actual underlying benefit is and to which region(s) this accrues. The stakeholder considered that a more accurate calculation of the regional benefit could be determined based on the ability of the additional reserves to provide reserves to each region. The stakeholder recommended that the methodology to determine what benefit each region derives from the direction as opposed to the currently proposed regional share of total demand approach. Proposed procedure may be deficient in some scenarios where AEMO's procedure classifies only a single region, or where multiple regions are involved. This deficiency has the potential to increase where multiple regions are concerned as the proposed methodology did not in the stakeholder's view calculate a regional benefit as such, but instead simply allocates costs based on in which region the direction is given and a region's share of total demand within the impacted region. The proposed methodology is also unclear as to how cost recovery could be reasonably allocated where one region within a multi-region direction may have very low demand.	benefit multiple regions. As an example, if Queensland required 400 MW to increase reserve back to a Lack of Reserve (LOR) 2 level, and New South Wales required 200 MW, Queensland would receive 2/3 of the benefit and New South Wales would receive 1/3 of the benefit. • AEMO has determined that using operational demand as a proxy for the calculation of regional benefit factors for directions remains the most appropriate methodology, given the counterfactual for issuing a direction involves load shedding. The benefit to market customers resulting from a reliability direction in multiple regions is that consumers in these regions have avoided the need for load shedding. This aligns with NER 3.15.8(b2), which states that the Procedures must take into account the load at risk of not being supplied if the direction were not issued. In addition, using operational demand to calculate RBF aligns with the approach used in equitable load shedding[3] when two regions are connected by a non-binding interconnector. Under this arrangement, load shedding must be proportionate to the operational demand in each region. Equitable load shedding affects customers from multiple regions, making operational demand a more suitable approach as it applies regionally. This contrasts to the proportional need of reserve approach which is incremental in nature. • AEMO recognises the possibility of exceptionally low operational demand in one region resulting in perverse outcomes for calculating cost recovery in a direction benefitting multiple regions. However, AEMO currently only foresees reliability directions as having the potential to benefit multiple regions. Under such circumstances, operational demand across the affected regions is expected to be high. AEMO will review and adapt the Procedures accordingly if system security directions are viewed as having the potential to benefit multiple regions.
2.	Benefits such as additional variable renewable generation arising from an ESS direction in a region should be considered as part of regional benefit cost recovery	Shell Energy	For an ESS direction such as system security direction in South Australia (Case Study 6.1), AEMO's current approach would be to allocate all costs to South Australia as the methodology would deem that only South Australian participants would stand to benefit from the direction since the system security issue is local to the region. In the example provided in the submission by the stakeholder, the stakeholder stated that an ESS direction in South Australia allows for additional VRE output in both South Australia and Victoria. Therefore, benefits would be spread across both regions and costs should be allocated to both regions instead of solely to South Australian Market Customers.	• System security directions currently benefit one region per direction, as the issue is localised to that region. As discussed in the AEMO response to submission issue #1, there are challenges involved in calculating the MW benefit flowing from one region to another across an interconnector. AEMO will review and adapt the Procedures accordingly if system security directions are viewed as having the potential to benefit multiple regions. • In addition, in accordance with NER 3.9.3(b2)(3), intervention pricing does not apply ('what-if' pricing run) where the reason for the direction is to obtain a service that is not a market-traded commodity, such as

[3] See https://www.aemc.gov.au/sites/default/files/content/Guidelines-for-Management-of-Electricity-Supply-Shortfall-Events.PDF

Issue No.	Summary of issue raised with proposed Procedures	Consulted stakeholder	Consulted stakeholder feedback	AEMO response
			The stakeholder noted that this example is particularly important given the relativity of load between these two regions where ESS is expected to be required. The stakeholder recommended that in this scenario, AEMO could calculate the increase in flows from SA to VIC due to the direction as the percentage share of the overall increase in SA VRE generation output.	system strength, inertia, voltage control and non-market ancillary services. • NER 3.15.8(b2) suggests that the relative benefit each region receives from the issuance of a direction should be determined considering the reason the direction was given. In the example provided by Shell Energy, the additional variable renewable energy generation was incidental to the reason for the direction (provision of an essential system service) and therefore should not be considered in calculating the benefit of the direction.
3	Potential impacts on RERT cost recovery	Shell Energy	The stakeholder noted that whilst the proposed procedure has no direct impact with regards to the cost recovery for RERT, there is a potential for the similar allocation of costs for RERT cost recovery under Clause 3.15.9(c). The stakeholder understood that there is no Rules requirement currently for AEMO to publish a methodology for the determination of regional benefits associated with RERT contracting and/or dispatch. However, they recommended that AEMO consider an additional consultation process for the determination of regional benefit arising from RERT contracts.	• The cost recovery for directions is independent to the cost recovery for RERT. The rules require a relative benefit test for the recovery of directions costs (NER 3.15.8(b1)) whereas the requirement for RERT cost recovery is based on a reasonable test to allocate usage charges in accordance with NER 3.15.9(e1). • For RERT, AEMO is required to agree the cost sharing between regions with the jurisdictions nominated representatives, and the agreed procedure takes into account the allocation of cost based on the region receiving the benefit.

4. Final determination on proposal

Having considered the matters raised in submissions to the proposed Procedures and at consultation meetings, AEMO's final determination is to amend the Regional Benefit Directions Procedures in the form published with this final report, in accordance with NER 3.15.8(b2).

AEMO has made some changes to the proposed Procedures to improve clarity for stakeholders. The changes, which are track marked in one version of the final Procedures, are shown in Table 4 below.

Table 4 Changes made to the proposed Procedures in developing the final Procedures

Summary of change	Wording of change
Footnote added to principle 5 (page 6)	AEMO currently foresees that only reliability directions have the potential to benefit multiple regions. Under such circumstances, operational demand across the affected regions is expected to be high. AEMO will continue to review whether system security directions have the potential to benefit multiple regions and adapt the Procedures accordingly if this becomes the case.
Principle 6 added (page 6)	The RBF is not determined by energy or market ancillary services provided incidental to a direction to provide a service.
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Effective date

AEMO's final determination on the proposal is to amend the Procedures in the form published with this final report, with an effective date of 19 December 2023.

Appendix A. Glossary

Term	Definition
ESS	Essential system service
EUAA	Energy Users Association of Australia
LOR	Lack of reserve
NER	National Electricity Rules
RERT	Reliability Emergency Reserve Trader
RBF	Regional Benefit Factor being the relative benefit each *region* received from the issuance of a direction