

PRIMARY FREQUENCY RESPONSE REQUIREMENTS

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1. INTRODUCTION

1.1. Purpose and scope

These are the *primary frequency response requirements* made under clause 4.4.2A of the National Electricity Rules (PFRR).

The PFRR have effect only for the purposes set out in the National Electricity Rules (NER). The NER and the *National Electricity Law* prevail over the PFRR to the extent of any inconsistency.

1.2. Definitions and interpretation

1.2.1. Glossary

Terms defined in the National Electricity Law and the NER have the same meanings in these PFRR unless otherwise specified.

Terms defined in the NER are intended to be identified in these PFRR by italicising them, but failure to italicise a defined term does not affect its meaning.

The words, phrases and abbreviations in the table below have the meanings set out opposite them when used in these Procedures.

Term	Definition
Affected Generator	<i>Scheduled Generator and Semi-Scheduled Generator.</i>
Affected GS	The <i>generating system</i> of an Affected Generator subject to these PFRR.
Droop	As defined in clause S5.2.5.11(a) of the NER.
LNSP	An Affected Generator's <i>Local Network Service Provider</i> .
Maximum Operating Level	As defined in clause S5.2.5.11(a) of the NER.
Minimum Operating Level	As defined in clause S5.2.5.11(a) of the NER.
NOFB	<i>Normal operating frequency band</i>
PFR	<i>Primary frequency response.</i>
PFR Deadband	The frequency response deadband specified in section 4.3.
RMS	Root mean square
Technical Requirements	The technical requirements specified in section 4.

1.2.2. Interpretation

The following principles of interpretation apply to these PFRR unless otherwise expressly indicated:

- (a) These PFRR are subject to the principles of interpretation set out in Schedule 2 of the National Electricity Law.
- (b) Units of measurement are in accordance with the International System of Units.

2. WHAT IS PRIMARY FREQUENCY RESPONSE?

Primary frequency response (PFR) is the first stage of deliberate *frequency control* in a *power system*. It is the response of *generating systems* and *loads* to arrest and correct locally detected changes in *frequency* by changing their *active power* output or consumption. PFR is automatic; it is not driven by a centralised system of control and begins immediately a *frequency change* beyond a specified level is detected.

PFR is essential for stable operation of the power system, and therefore for *power system security*. Accurate knowledge of available PFR is required for *power system* modelling and event analysis, and is critical following *power system* disturbances, and during *power system* restoration.

3. REQUIREMENT TO PROVIDE PFR

Unless exempted by AEMO under section 6, each Affected Generator must ensure that its Affected GS provides PFR by ensuring their Affected GS operates in accordance with the Technical Requirements by the date required by AEMO under section 5.3.2.

4. TECHNICAL REQUIREMENTS

4.1. General

To provide PFR, each Affected Generator must modulate the *active power* output of its Affected GS in response to *power system frequency* deviating beyond the PFR Deadband. This *active power* modulation must continuously and automatically respond to locally measured *frequency*.

The control action must operate to decrease *active power* output in response to a rise in *power system frequency* above the PFR Deadband and increase *active power* output in response to a fall in *power system frequency* below the PFR Deadband.

This relationship is subject to a droop characteristic and may be comprised of control action that is proportional to *power system frequency* as well as components that are proportional to the integral and derivative of *power system frequency*.

4.2. No Headroom or Stored Energy

There is no requirement to maintain any level of headroom or stored energy to provide PFR.

For the avoidance of doubt, headroom here refers to either an increase or decrease in active power output.

4.3. PFR Deadband

Affected Generators must operate their Affected GS to provide PFR outside a deadband no wider than the PFR Deadband.

For all Affected GS, the PFR Deadband must be no wider than +/- 0.015 Hz.

For the avoidance of doubt, it is acceptable for an Affected GS to provide PFR outside a narrower deadband than this maximum permitted value.

4.4. Droop

For all Affected GS, Droop must be set less than or equal to 5%.

The change in *frequency* is to be measured from the deadband, as show in Equation 1.

Equation 1:

$$\text{Droop (\%)} = 100 \times \frac{\Delta F / 50}{\Delta P / P_{MAX}}$$

Where:

ΔF is the frequency deviation beyond the deadband, in Hz.

ΔP is *active power* change, in MW.

P_{MAX} is the Maximum Operating Level.

The Droop characteristic may be asymmetrical for over- and under-frequency responses and may vary within the allowable range of less than or equal to 5%.

4.5. Speed of Response

Unless limited by stability or inherent *plant* capability, the Affected GS should be capable of achieving a 5% change in *active power* output resulting from a sufficiently large change in *frequency* beyond the PFR Deadband within no more than 10 seconds.

The response time is measured from when the *frequency* crosses the PFR Deadband until *active power* reaches a 5% change based on P_{MAX} .

For the avoidance of doubt, a more rapid change in output in response to a change in *frequency* is acceptable, and *plant* should not deliberately slow or reduce its response to match this minimum requirement.

An Affected GS' control parameters must ensure an *adequately damped* response to a change in *frequency*.

The change in an Affected GS' *active power* output following a *power system frequency* deviation outside the PFR Deadband must commence with no delay beyond that inherent in the *plant* controls.

4.6. No Withdrawal of Response

The Affected GS should operate, considering both plant load controllers or distributed control systems (DCS), and governor response, to support delivery of PFR, where it is safely and stably capable of doing so, until *power system frequency* returns to within the PFR Deadband.

PFR should not be deliberately withdrawn or defeated by a plant load controller to return an Affected GS to a *market dispatch* target, while *frequency* remains outside the PFR Deadband.

It is acknowledged that the ability of an Affected GS to sustain PFR may be limited by:

- Primary energy availability.
- Physical limits related to plant capability or safety, such as operating temperature limits, rough running zones, or pressure limits.
- Environmental limits.

An Affected GS would not be considered in breach of this requirement where it did not sustain PFR for such a reason.

4.7. Range of Response

The magnitude of the *active power* change that results from *frequency* deviating from 50 Hz must not be unnecessarily limited, however, it is recognised that it may be necessary to limit an Affected GS' response to:

- Maintain operation between the Affected GS' Maximum Operating Level and Minimum Operating Level.
- Avoid rough running ranges associated with the Affected GS.
- Maintain operation within environmental operating licence conditions.
- Manage safety or stability of the Affected GS.

- Respond to primary energy availability.

An Affected GS should not use load limiters or similar controls to limit or restrict the Affected GS' response to a level below what could otherwise be safely and stably delivered, if that limiter was not in place.

4.8. Continuity of response

PFR must remain continuously enabled with consistent settings, unless agreed with AEMO, independent of *ancillary services enablement*.

5. APPLICATION

5.1. Self-Assessment

Unless they submit an exemption application under section 6, Affected Generators must assess the ability of their Affected GS to meet the Technical Requirements and submit to AEMO the results of that assessment in the form shown in Appendix A (**Results**) within the time stipulated in Table 1, which is measured from the date of commencement of this PFR:

Table 1 Submission of Assessments

Nameplate Rating of Affected GS	Submission due within...
200MW or more	60 <i>business days</i>
Less than 200MW	120 <i>business days</i>

5.2. Insufficient Information

If AEMO considers that an Affected Generator has not provided enough information to AEMO for AEMO to assess an Affected Generator's ability to meet the Technical Requirements, a request specifying the further information required will be forwarded to the Affected Generator within 5 *business days* of receiving the Affected Generator's Results.

The Affected Generator must provide the further information requested within 5 *business days* of receiving AEMO's request.

5.3. AEMO Response

AEMO will respond to each Affected Generator within 20 *business days* of receiving the Affected Generator's Results, or provision of any further information requested, whichever is the later.

5.3.1. Affected Generators whose plant meets technical requirements

AEMO will acknowledge whether the Affected Generator meets the Technical Requirements and whether further action is required by the Affected Generator.

5.3.2. Affected Generators who need to change their plant to meet technical requirements

AEMO will liaise with each Affected Generator who needs to change its Affected GS to meet the Technical Requirements to agree on the following matters:

- Control settings
- The scope of works to be effected to meet the Technical Requirements
- The date by which completion of works to meet the Technical Requirements must be completed

Once AEMO is satisfied as to these matters, AEMO will respond to the Affected Generator agreeing to the Affected Generator's proposed works, with or without conditions.

5.3.3. Affected Generators who are unsure or need more time

If AEMO is satisfied that the Affected Generator genuinely cannot provide the Results or further information within the time specified in section 5.1, AEMO, in its absolute discretion, may grant the Affected Generator additional time to provide the Results.

5.4. No Works to Commence without Agreement

No works to an Affected GS should commence in the absence of AEMO's response under section 5.3.2.

5.5. Extensions to Complete Works

If an Affected Generator cannot finalise the required changes to its Affected GS to operate in accordance with the Technical Requirements by the due date specified in AEMO's response under section 5.3.2, the Affected Generator must apply to AEMO for an extension, with reasons, which AEMO will consider and respond within 20 *business days* of receipt of the application for extension.

5.6. Changes to Agreed Control Settings

Affected Generators who wish to change the performance of their Affected GS in a way that will affect their ability to meet the Technical Requirements must apply to AEMO. AEMO will consider the applications and respond to the Affected Generator within 20 *business days* of receiving the application.

6. EXEMPTIONS

6.1. Eligibility for Exemption

6.1.1. Full Exemption

Where an Affected GS is inherently incapable of having its output made responsive to changes in *power system frequency* via *plant* control changes, or it cannot be operated to meet the Technical Requirements without significant augmentation to the *plant*, AEMO may exempt the Affected Generator from having to operate the Affected GS in accordance with these PFRR.

6.1.2. Partial Exemption

Where an Affected GS can substantially meet the Technical Requirements but AEMO determines that full compliance with one or more of the Technical Requirements would adversely affect *power system security*, AEMO may partially exempt the Affected Generator from having to comply with the relevant Technical Requirement.

6.2. Application for Exemption

Where an Affected Generator seeks an exemption from the requirement to operate an Affected GS in accordance with these PFRR, it must submit an application for exemption in the form in Appendix B to AEMO detailing the Affected GS' limitations, with reasons and supporting evidence, within the time stipulated in Table 2, which is measured from the date of commencement of this PFRR:

Table 2 Submission of Applications for Exemption

Nameplate Rating of Affected GS	Submission due within...
200MW or more	60 <i>business days</i>
Less than 200MW	120 <i>business days</i>

6.3. Insufficient Information

If AEMO considers that an Affected Generator has not provided enough information to AEMO to assess an Affected Generator's application for exemption, a request specifying the further information required will be forwarded to the Affected Generator within 10 *business days* of receiving the Affected Generator's application for exemption.

The Affected Generator must provide the further information requested within 10 *business days* of receiving AEMO's request.

6.4. Standing Exemptions

6.4.1. Combined Cycle Gas Turbines

The steam turbine component of a combined cycle gas generator has no individual requirement for frequency responsiveness.

The gas turbine component is expected to meet these PFRR to the degree that it is compatible with the operation and design of the Affected GS.

6.4.2. Synchronous Condensator Mode

These requirements do not apply to an Affected GS while it is operating in *synchronous condensator* mode.

7. TESTING AND MODELLING

7.1. General

Any change to a *control system* or primary plant will require at a minimum a step response stability test as specified in section 7.2.

Where changes are only made to DCS, or to governor or plant load controller deadbands, modelling and testing beyond that described in section 7.2 will not be required by AEMO until expiry of the testing cycle detailed in the Affected GS' compliance program under clause 4.15(b) of the NER.

Changes beyond DCS, or governor or plant load controller deadbands will require the Affected Generator to test its Affected GS at the time when these changes are made, in accordance with the requirements of the GPS Compliance Assessment and R2 Model Validation Test Plan Templates¹.

¹ GPS Compliance Assessment And R2 Model Validation Test Plan Template For Conventional Synchronous Machines. AEMO, May 2016. Available at: https://www.aemo.com.au/-/media/Files/Electricity/NEM/Network_Connections/Transmission-and-Distribution/Generating-System-Test-Plan-Template-for-Conventional-Synchronous-Machines.pdf and GPS Compliance Assessment And R2 Model Validation Test Plan Template For Power Electronic Interfaced Nonsynchronous Generation Technologies. AEMO, September 2016. Available at: https://www.aemo.com.au/-/media/Files/Electricity/NEM/Network_Connections/Transmission-and-Distribution/Generating-System-Test-Plan-Template-for-Non-Synchronous-Generation.pdf

7.2. Demonstration of Stability

Once an Affected GS meets the Technical Requirements, its stability must be demonstrated. AEMO prefers that Affected Generators conduct the frequency step response stability test described in section 7.2.1 but if an Affected Generator cannot inject frequency to carry out that test, for example, where it uses a mechanical governor, it can submit the results of its Affected GS' performance following a suitable *power system* disturbance in accordance with section 7.2.2.

7.2.1. Step Response Stability Test

A test plan for a step response stability test must be submitted to AEMO a minimum of 10 *business days* prior to the proposed date for testing.

A positive frequency step signal equivalent to 5%, or greater, change in *active power* must be injected into the frequency controller summing junction. The response is to be recorded allowing at least 10 seconds pre-triggered recording and at least 60 seconds recording time after the response has settled at its steady-state value.

The tester must assess whether the recorded response is *adequately damped*, and if so, repeat the test with a negative frequency step signal of the same size.

The test is to be undertaken from a loading that will allow a full positive and negative 5% *active power* change to be achieved.

The *active power*, *reactive power* and *RMS voltage* must be recorded during the test. Values are to be provided to AEMO at a sample rate of no less than one sample per cycle. Where practicable, the injected frequency signal is to be recorded while synchronised with the other measurements.

7.2.2. Actual Response to Power System Disturbance

Where an Affected Generator cannot carry out the test described in section 7.2.1 and the Affected GS is operating in accordance the Technical Requirements, the Affected Generator may submit records of the Affected GS' performance following one or more *power system* disturbances to demonstrate stability.

The records required include *frequency*, *active power*, *reactive power* and *RMS voltage*. Values are to be provided to AEMO at a sample rate of no less than one sample per cycle.

8. PUBLICATION OF PRIMARY FREQUENCY RESPONSE OUTCOMES

AEMO will publish and maintain on its website a list of Affected GSs and, for each Affected GS, an indication of whether:

- It is exempt from the requirements of this PFRR and, to what extent.
- Date of exemption.
- If it is not exempt, the date from which the Affected GS meets the Technical Requirements.

9. COMPENSATION FOR IMPLEMENTATION COSTS

9.1. Eligibility

Affected Generators who have entered into a Connection Agreement for the Affected GS prior to the date of commencement of this PFRR, and whose Affected GS are altered to meet the Technical Requirements are eligible to recover the costs of implementation.

9.2. Compensable Implementation Costs

AEMO considers that costs directly and reasonably incurred to modify an Affected GS to meet the Technical Requirements are compensable. The following are examples of the types of costs that are compensable:

- Internal labour costs.
- External contractor or consultancy expenses directly related to planning, implementing and testing *control systems* changes.
- Expenditure associated with the modification of *control systems*.
- Bring-forward costs where routine upgrades are expedited to meet the Technical Requirements.

The following are not compensable:

- Maintenance and operation costs associated with operating *plant*.
- Fuel costs.
- Overheads on implementation costs.
- Interest on incurred expenditure.

9.3. Application for Compensation

Affected Generators who are eligible for compensation must submit an application in the form shown in Appendix C.

9.4. Supporting Evidence

9.4.1. Works carried out In-house

Where works were carried out by an Affected Generator to implement changes to its Affected GS, the Affected Generator must provide AEMO with evidence of the time taken by each staff member to perform the works. This evidence may be in the form of time sheets, or a printout from the time management software normally used by the Affected Generator.

9.4.2. Works performed by Third Parties

Where works were performed by third parties, the Affected Generator must provide AEMO with copies of each tax invoice detailing the work performed by each third party.

Where consulting services were acquired, tax invoices need to detail the amount of time spent by each consultant and the rate at which their services were charged.

9.4.3. Purchase of Goods

Where plant or equipment or new software was purchased by the Affected Generator, copies of each invoice detailing the relevant part or software must be provided to AEMO.

9.5. Request for Further Information

If AEMO considers that further information is required for AEMO to assess an application for compensation, a request specifying the further information required will be forwarded to the Affected Generator at any time after receiving the application.

9.6. Response to Application

AEMO will advise Affected Generators of the outcome of their application for compensation, and if AEMO rejects the application AEMO will also provide reasons, within 30 *business days* of receiving the application.

If AEMO determines that the works proposed by an Affected Generator represent a significant uneconomic augmentation to the Affected Generator's *plant*, AEMO may grant the Affected Generator an exemption under section 6 for that *plant*.

9.7. Agreement

If an Affected Generator is satisfied with the amount of compensation proposed to be paid by AEMO to the Affected Generator, the Affected Generator must advise AEMO, whereupon AEMO will forward to the Affected Generator a deed of release in the form shown in Appendix D.

9.8. Dispute

If an Affected Generator is dissatisfied with the outcome of its application for compensation, the Affected Generator may issue a *DMS referral notice* to AEMO's *DMS Contact* and follow the dispute resolution process detailed in rule 8.2 of the NER.

9.9. Payment

AEMO will pay the compensation agreed or awarded to an Affected Generator within 20 *business days* of receipt of an executed release from the Affected Generator (as contemplated by section 9.7) or award made by a *DRP* (as contemplated by section 9.8).

APPENDIX A. PRIMARY FREQUENCY RESPONSE REQUIREMENTS RESULTS OF SELF-ASSESSMENT

Section 1: Applicant

Applicant	
ABN	

Section 2: Generating System & Local Network Service Provider

Name	
DUID	
Connection Point	
Registered Capacity	
Technology	
LNSP	

Section 3: Results of Self-Assessment

The following are the results of the self-assessment of the generating system’s ability to meet the Technical Requirements:

PFR Deadband	
Droop	
Speed of Response	
Sustained Response	
Range of Response	

Section 4: Modifications required – for each relevant item, indicate the changes need to meet the technical requirement. Attach supporting information, if relevant.

PFR Deadband	
Droop	
Speed of Response	
Sustained Response	
Range of Response	

Section 5: Applicant Contacts for Queries³

Name	
Title	

³ Copy and paste table to insert more names if more than one contact.

Phone	
Email	

Section 6: Certification and Signature

I, _____ (insert name)	
_____ (insert title)	
DECLARE that I am authorised by the Applicant to submit this Self-Assessment on the Applicant’s behalf and CERTIFY that the contents of this Self-Assessment and any attachments are true and correct.	
Signature/...../20..... Date

This form should be submitted to: PFRR@aemo.com.au

Enquiries about this form should be submitted to: PFRR@aemo.com.au

APPENDIX B. PRIMARY FREQUENCY RESPONSE REQUIREMENTS APPLICATION FOR EXEMPTION (FULL OR PARTIAL)

Section 1: Applicant

Applicant	
ABN	

Section 2: Generating System & Local Network Service Provider

Name	
DUID	
Connection Point	
LNSP	

The Applicant seeks exemption from the requirement to operating the Generating System in accordance with the Primary Frequency Response Requirements on the following grounds:

Section 3: Grounds for Exemption:

Provide details of grounds for exemption, and attach any relevant evidence.

Section 4: Supporting Information

Attach supporting information.

Section 5: Applicant Contacts for Queries⁴

Name	
Title	
Phone	
Email	

⁴ Copy and paste table to insert more names if more than one contact.

Section 6: Certification and Signature

I, _____ (insert name)	
_____ (insert title)	
DECLARE that I am authorised by the Applicant to submit this Application on the Applicant’s behalf and CERTIFY that the contents of this Application and any attachments are true and correct.	
Signature/...../20..... Date

This form should be submitted to PFRR@aemo.com.au

Enquiries about this form should be submitted to PFRR@aemo.com.au

APPENDIX C. APPLICATION FOR COMPENSATION

Section 1: Applicant

Applicant	
ABN	

The Applicant claims that the costs detailed in this Application were directly and reasonably incurred by the Applicant to effect changes to the generating system detailed below to operate the generating system in accordance with the Primary Frequency Response Requirements.

The Applicant hereby authorises AEMO to contact any organisation named in any attachments to this Application to verify whether the expenses claimed were directly and reasonably so incurred.

Section 2: Generating System

Name	
DUID	
Connection Point	
Registered Capacity	
Technology	

Section 3: Applicant Contacts for Queries⁵

Name	
Title	
Phone	
Email	

Section 4: Works Completed To Comply With These Requirements

Equipment	Work Carried Out	Service Provider	Cost (GST-inclusive)

Section 5: Supporting Information

Each tax invoice, time sheet or other documentary evidence to substantiate the amount of compensation claimed must be attached to this Application and clearly marked to indicate which amount it relates to.

⁵ Copy and paste table to insert more names if more than one contact.

Section 6: Payment Details

Name of Bank	
BSB	
Account Number	
Reference	

Section 7: Certification and Signature

I, _____ (insert name)	
_____ (insert title)	
DECLARE that I am authorised by the Applicant to submit this Application on the Applicant’s behalf and CERTIFY that the contents of this Application and any attachments are true and correct.	
Signature/...../20..... Date

This form should be submitted to PFRR@aemo.com.au

Enquiries about this form should be submitted to PFRR@aemo.com.au

APPENDIX D. DEED OF RELEASE

DETAILS

Parties:	Australian Energy Market Operator Limited ABN 94 072 010 327 of Level 22, 530 Collins Street, MELBOURNE VIC 3000 (AEMO) and #1# ABN #2# of #3# (Generator)
Generating System:	#4#
Settlement Sum:	#5#
Due Date:	#6#
Bank Account:	#7#
Governing Law:	Victoria

Operative Provisions

1. Interpretation

Definitions

- 1.1. Capitalised terms not otherwise defined in **clause 1.2** are defined in the **Details**.
- 1.2. Unless a contrary intention appears, these meanings apply in this document:

Claim means all claims, demands, actions, suits, proceedings and causes of action of every description whatsoever that Generator has made to AEMO relating to Generator's costs of ensuring that the Generating System meets the requirements agreed or specified under the Primary Frequency Response Requirements published by AEMO under clause 4.4.2A of the National Electricity Rules made under the *National Electricity Law*.

Confidential Information means the existence and details of the Claim, the Settlement Sum and other contents of this deed, and the details of any discussions, negotiations or other communications between the parties or their advisers relating to or arising from the Claim or this deed.

Law means Commonwealth, state, or local legislation, judicial, administrative, or regulatory decrees, judgments, awards or orders and all common laws and equity.

Construction

- 1.3. Unless a contrary intention appears in this document, a reference to:
 - (a) legislation includes subordinate legislation and other instruments under them, and consolidations, amendments, re-enactments or replacements of any of them;

- (b) the word “**person**” includes a firm, a body corporate, a partnership, an unincorporated association or a government agency and any successor entity to those persons;
 - (c) the words “**includes**”, “**including**” or “**such as**” are not words of limitation, and when introducing an example, do not limit the meaning of the words to which the example relates to examples of a similar kind;
 - (d) a person includes a reference to the person’s executors, administrators, successors, substitutes (including persons taking by novation) and assigns;
 - (e) a thing (including an amount) is a reference to the whole and each part of it and a reference to a group of persons is a reference to all of them collectively, to any two or more of them collectively, and to each of them individually; and
 - (f) “**dollars**” or “**\$**” means Australian dollars.
- 1.4. If a word or phrase is defined in this document, other parts of speech and grammatical forms of that word or phrase have corresponding meanings.
- 1.5. No rule of construction will apply to a clause to the disadvantage of a party merely because that party put forward the clause or would otherwise benefit from it.

2. Settlement

- 2.1 In consideration of the releases in this deed, AEMO agrees to pay Generator the Settlement Sum by the Due Date by direct transfer of cleared funds to the Bank Account in full and final settlement of the Claim and Generator accepts from AEMO the Settlement Sum in full and final settlement of the Claim.

3. Release

- 3.1 To the extent permitted by Law, Generator:
- (a) releases absolutely and forever discharges AEMO from all claims it may have or, but for this deed may have had, against AEMO directly or indirectly arising out of the Claim; and
 - (b) agrees irrevocably not to take, make, bring or seek to enforce, or be party to, any Claims against AEMO directly or indirectly arising out of the Claim, other than a claim under this deed.
- 3.2 Generator acknowledges that AEMO may enforce the releases, discharges and covenants not to sue granted in its favour by this deed.

4. Bar

- 4.1 The parties agree that, to the extent permitted by Law, this deed may be pleaded as a bar to any claim brought by Generator against AEMO directly or indirectly in relation to or arising out of the Claim.

5. Breach

- 5.1 A breach of this deed entitles the party not in breach to sue the party in breach for damages.

6. Confidentiality

- 6.1 A party must not disclose or allow to be disclosed any Confidential Information except:
- (a) with the consent of the other party;
 - (b) to the extent required by Law;
 - (c) on a confidential basis to its accountants, auditors, lawyers, tax advisers and insurers and its parent company, as the party reasonably thinks necessary;
 - (d) to enforce its rights or to defend any claim or action under this deed; or
 - (e) if it has come into the public domain through no fault of that party.

7. Governance

- 7.1 This deed is governed by the Law in force in the place specified in the Details. Each party submits to the non-exclusive jurisdiction of the courts of that place.
- 7.2 A party may only assign, novate or otherwise deal with its rights under this deed with the consent of the other party.7.3 A party may only assign, novate or otherwise deal with its rights under this deed with the consent of the other party.
 - (a) no other conduct of a party (including a failure to exercise, or delay in exercising, the right) operates as a waiver of the right, or otherwise prevents the exercise of the right;
 - (b) a waiver of a right on one or more occasions does not operate as a waiver of that right if it arises again; and
 - (c) the exercise of a right does not prevent any further exercise of that right or of any other right.
- 7.3 A party’s rights, powers and remedies under this deed are in addition to the rights, powers or remedies provided by Law.
- 7.4 If a provision of this deed is void, unenforceable, or illegal in a jurisdiction, it is severed for that jurisdiction. The remainder of this deed remains effective and the validity or enforceability of that provision in any other jurisdiction is not affected. This **clause 7.5** has no effect if the severance alters the basic nature of this deed or is contrary to public policy.
- 7.5 This deed may consist of more than one copy, each signed by one or more parties to this deed. If so, the signed copies make up one document and the date of this deed will be the date on which the last counterpart was signed.
- 7.6 This deed constitutes the entire agreement of the parties about its subject matter and supersedes any previous agreements, understandings and negotiations on that subject matter.

EXECUTED as a deed

SIGNED by #17# as authorised representative for)

#1# PTY LTD in the presence of:)

)

)

.....)

Signature of witness)

)

.....)

Name of witness (block letters))

)

.....)

Address of witness)

)

.....)

Occupation of witness)

.....
By executing this agreement the signatory warrants that the signatory is duly authorised to execute this agreement on behalf of #1#

Date:
.....

SIGNED by #18# as authorised representative for)
AUSTRALIAN ENERGY MARKET OPERATOR)
LIMITED in the presence of:)

.....)
Signature of witness)

.....)
Name of witness (block letters))

.....)
Address of witness)

.....)
Occupation of witness)

.....
By executing this agreement the signatory warrants that the signatory is duly authorised to execute this agreement on behalf of Australian Energy Market Operator Limited

Date:
.....