

NATIONAL ELECTRICITY LAW

Undertaking to the Australian Energy Regulator for the purposes of section 59A of the National Electricity Law

by

AGL SA Generation Pty Limited (ACN 081 074 204)

1. Persons giving this Undertaking

1.1. This Undertaking is given to the Australian Energy Regulator (**AER**) by AGL SA Generation Pty Limited (ACN 081 074 204) (**AGL**) of Level 24, 200 George St, Sydney NSW 2000, for the purposes of section 59A of the *National Electricity (South Australia) Law (NEL)*¹.

2. Background

2.1. Prior to and during the Relevant Period (as defined below) AGL HP 1 Pty Ltd (ACN 080 429 901), AGL HP 2 Pty Ltd (ACN 080 810 546), and AGL HP 3 Pty Ltd (ACN 080 735 815) (**AGL Hydro Partnership**) was the operator (**Generator**) of:

2.1.1 the Hallett 1 wind farm, which comprises 45 wind turbines;

2.1.2 the Hallett 2 wind farm, which comprises 34 wind turbines;

2.1.3 the Hallett 4 wind farm, which comprises 63 wind turbines; and

2.1.4 the Hallett 5 wind farm, which comprises 25 wind turbines.

(collectively, the **Hallett wind farms**), with each wind farm comprising of one generating system, with a total of 167 wind turbine generating units manufactured by Suzlon Energy Ltd. Each generating unit has a capacity of 2.1 MW for a total registered capacity of 350.7 MW.

2.2. AGL is the current Registered Participant of each of the Hallett wind farms.

2.3. Each of the Hallett wind farms' wind turbines features low voltage ride-through (**LVRT**) capability. The LVRT capability is activated when the voltage at the generating unit terminal dips below 80% of the nominal voltage level (**undervoltage disturbance**). The purpose of the LVRT capability is to enable a wind turbine to ride through undervoltage disturbances within particular depths and particular durations.

2.4. Each wind turbine at the Hallett wind farms includes a repeat LVRT protection system (the **repeat LVRT protection system**). Once a wind turbine's repeat LVRT protection system is activated, it causes a braking program to commence, which causes the turbine to take specified actions including pitching the blades out of the wind so as to slow, and eventually stop the turbine blades and cease supplying active power. It will then open the 690V Generator Contactor.

2.5. Between 6 August 2013 and 23 December 2016 (the **Relevant Period**), the repeat LVRT protection system was set so as to be activated if the LVRT capability was utilised 3 times within a 120 second period.

¹ Note: AGL SA Generation Pty Limited is the current Registered Participant for each of the Hallett Wind Farms, but was not the Registered Participant during the Relevant Period.

Generator performance standard obligations

- 2.6. AGL Hydro Partnership was required to submit a proposal for generator performance standards (**GPS**) for each of the Hallett wind farms to the local transmission network service provider (relevantly, **ElectraNet**) prior to connecting its generating systems to the power system. Following negotiation and consultation with the Australian Energy Market Operator (**AEMO**), ElectraNet and AGL Hydro Partnership agreed to the GPS that would apply to the Hallett wind farms and their wind turbines.
- 2.7. As the Generator of the Hallett wind farms, AGL Hydro Partnership was required to do the following in order to supply electricity to the power system:
 - 2.7.1. Obtain written approval from AEMO and ElectraNet for the repeat LVRT protection system settings (clause S5.2.2 National Electricity Rules (**NER**));
 - 2.7.2. provide automatically initiated protection systems to protect its plant and associated facilities against abnormal voltage excursions of the power system in accordance with S5.2 (clause 4.4.3 NER); and
 - 2.7.3. ensure that its plant met or exceeded the GPS applicable to its plant (rule 4.15(a)(1) NER).

Conduct of concern to the AER and AGL's position

- 2.8. The rigorous negotiation and documenting of performance standards, and Generators' ongoing compliance with those performance standards, is important to promoting power system security and minimising the risk of cascading outages across the power system during unstable power system conditions.
 - 2.9. The AER is concerned that in respect of Hallett 2, Hallett 4 and Hallett 5 wind farms:
 - (a) during the Relevant Period, AGL Hydro Partnership did not comply with the NER because it operated those generating systems with automatic protection systems, which prevented its wind turbines from riding through network voltage disturbances in accordance with the GPS; and
 - (b) on 28 September 2016, in contravention of the NER, AGL Hydro Partnership failed to ensure that a significant proportion of the plant and associated facilities at those Hallett wind farms complied with their GPS and, in particular, failed to ensure that they rode through network voltage disturbances.
- (AER concerns)
- 2.10. In relation to the AER concerns, AGL's position is that:
 - (a) the GPSs for those Hallett wind farms did not require the wind turbines to ride through the multiple low voltage events of 28 September 2016;
 - (b) AGL Hydro Partnership did not fail to comply with the NER, either in respect of the Relevant Period or on 28 September 2016; and
 - (c) AGL Hydro Partnership did not fail to comply with the relevant GPS, either in respect of the Relevant Period or on 28 September 2016.

(AGL position)

3. Acknowledgement and resolution

- 3.1. Whilst AGL maintains the AGL position, AGL acknowledges the AER concerns and offers the Undertaking in clause 6, to resolve the AER concerns.

4. Commencement of the Undertaking

4.1. This Undertaking comes into effect (**Commencement Date**) when:

- 4.1.1. the Undertaking is executed by AGL; and
- 4.1.2. the AER accepts the Undertaking so executed.

4.2. Upon the Commencement Date, AGL undertakes to assume the obligations set out in clause 6 below.

5. Expiry and variation

5.1. This Undertaking expires (**Expiry Date**) once AGL has completed each of its obligations set out in clause 6 below.

5.2. AGL may apply to withdraw or vary the Undertaking at any time, but this Undertaking will only be taken to be withdrawn or varied on the date on which the AER consents to such withdrawal or variation.

5.3. The AER may, if requested by AGL, expressly waive or vary in writing any of the obligations contained in the Undertaking or extend the date by which any such obligation is to be satisfied.

6. Undertaking

6.1. AGL undertakes that, it will use its best endeavours, by carrying out the steps outlined in clause 6.2 below, to update the GPS and connection agreements for the Hallett wind farms within 6 months after the Commencement Date (or as soon as practicable thereafter) to:

- 6.1.1. expressly provide for the operation and settings of the repeat LVRT protection system; and
- 6.1.2. make any other incidental or minor amendments including, but not limited to, inserting definitions and correcting typographical errors.

For the avoidance of doubt, AGL will not be required to modify the GPS or connection agreement for the Hallett wind farms to the extent that AGL would be unable to comply without altering the Hallett wind farms' generating units or generating systems or to the extent that AGL would be unable to comply without exceeding the operational limitations of the Hallett wind farms' plant and equipment.

6.2. AGL undertakes that:

6.2.1. Within 10 Business Days of the Commencement Date, AGL will propose an Independent Expert for the AER's approval to complete an Independent Review of the GPS and connection agreement. If the AER does not approve the Independent Expert AGL nominates, then the AER will provide AGL with a written explanation and then AGL will liaise with the AER to identify a candidate acceptable to the AER within a further 5 Business Days.

6.2.2. Within 10 Business Days of receiving notice of the AER's approval of the Independent Expert, AGL will engage the Independent Expert to complete an Independent Review of the GPS and connection agreement for the Hallett wind farms and prepare a report, including recommendations, addressing the following matters:

- a) whether the Hallett wind farms' GPS and connection agreements expressly provide for the operation of their multiple LVRT setting;
- b) to the extent that the Hallett wind farms' GPS and connection agreements do not expressly provide for the operation of their multiple LVRT setting,

- 6.2.2.b.1. the modifications which would be required to expressly provide for the operation of the Hallett wind farms' multiple LVRT settings; and
- 6.2.2.b.2. any other incidental or minor amendments to the Hallett wind farms' GPS.
- 6.2.3. AGL will, within 10 Business Days of engaging the Independent Expert, submit to the AER for approval, a detailed Independent Review Proposal developed jointly with the Independent Expert which addresses the matters in 6.2.2 above. The proposal must include details of how the Independent Expert will conduct the review and the matters to be addressed by the Independent Expert in its final report. If the AER has concerns about the proposal, AGL will make revisions to the proposal in conjunction with the Independent Expert within 5 Business Days of the AER notifying AGL of its concerns and submit the revised Independent Review Proposal to the AER for approval.
- 6.2.4. AGL will use its best endeavours to ensure that the Independent Expert will:
- a) commence the Independent Review within 15 Business Days of AGL receiving notice of the AER's approval of the Independent Review Proposal;
 - b) complete the Independent Review within 40 Business Days of the Independent Review commencing;
 - c) provide AGL with a final Independent Review report within 20 Business Days of completion of the Independent Review; and
 - d) have full, free and unrestricted access to all the Hallett wind farms' functions, staff, records, documentation and information necessary to conduct the Independent Review.
- 6.2.5. Within 2 Business Days of AGL's receipt of the Independent Expert's findings and recommendations, AGL will provide the final Independent Review report to the AER.
- 6.2.6. Within 20 Business Days of AGL's receipt of the Independent Expert's findings and recommendations, AGL will provide the AER with AGL response to the findings including the steps that AGL will take to implement all reasonable recommendations. If AGL is unable to implement any of the Independent Expert's recommendations, it will provide the AER with its reasons for its inability and the Independent Expert's response to those reasons. This response will be from AGL Energy Ltd's Chief Executive Officer, unless that person is on leave at the required time, in which case it will be from his/her delegate.
- 6.2.7. AGL undertakes that, following AGL's provision of its response to the Independent Expert's findings and recommendations, AGL will:
- a) submit, within 20 Business Days, its proposed modifications to the Hallett wind farms' GPS and connection agreements to AEMO, ElectraNet and ESCOSA incorporating all of the reasonable recommendations of the Independent Expert; and
 - b) negotiate in good faith with AEMO, ElectraNet and ESCOSA and use its best endeavours to achieve a modification of the terms of the GPS and connection agreements for the Hallett wind farms which implements all reasonable recommendations of the Independent Expert and which is registered by AEMO under rule 4.14(n) of the NER and approved by AEMO and ElectraNet under S5.2.2 of the NER.
- 6.2.8. AGL will notify the AER in writing within 5 Business Days of any failure to comply with the dates identified within this Undertaking.

6.2.9. All drafts and final versions of the Independent Review Proposal, the Independent Expert's Review Report, and AGL's response to the Independent Expert's Review Report are not to be made publicly available.

7. Acknowledgements

7.1. AGL consents and acknowledges that:

- 7.1.1. the AER may authorise a member of the AER or a member of the AER staff, to exercise a decision making function under this Undertaking on its behalf and that authorisation may be subject to any conditions the AER may impose;
- 7.1.2. the AER will make this Undertaking publicly available including by publishing it on the AER's website, but other documents referred to in this Undertaking which are not publicly available will not be made publicly available by the AER;
- 7.1.3. the AER will, from time to time, make public reference to the Undertaking in news media statements and in AER publications, but the AER will not make substantive reference to the contents of any documents referred to in this Undertaking which are not publicly available;
- 7.1.4. the AER reserves its rights and remedies (including to institute legal proceedings against AGL seeking penalties and other relief) in relation to any breaches of the NER or NEL which have occurred before or after the Commencement Date, including in respect of matters referred to in this Undertaking; and
- 7.1.5. this Undertaking in no way derogates from the rights and remedies available to any other persons arising from the alleged conduct.

8. Costs

8.1. AGL must pay all of its own costs in relation to this Undertaking.

9. Notification

9.1. Any notice or communication to the AER pursuant to this Undertaking must be sent to:

Name: General Manager – Compliance & Enforcement

Address: Australian Energy Regulator

GPO Box 520

Melbourne VIC 3001

Email: Attn: GM Compliance & Enforcement AERCompliance@aer.gov.au

9.2. Any notice or communication to AGL pursuant to this Undertaking must be sent to:

[REDACTED]

9.3. AGL must notify the AER of a change to its contact details within five *business days*.

10. Definitions

10.1. Terms used in this Undertaking are set out below.

Term	Meaning
AER	Australian Energy Regulator
AEMO	Australian Energy Market Operator
AGL	AGL SA Generation Pty Limited (ACN 081 074 204)
AGL Hydro Partnership	AGL HP 1 Pty Ltd (ACN 080 429 901), AGL HP 2 Pty Ltd (ACN 080 810 546), and AGL HP 3 Pty Ltd (ACN 080 735 815)
BSE	Black System Event
Business Day	has the meaning give to it in Chapter 10 of the NER
Commencement Date	is the date the Undertaking comes into effect under clause 4 of this Undertaking.
ElectraNet	ElectraNet Pty Ltd (ACN 094 482 416)
ESCOSA	Essential Services Commission of South Australia
Expiry Date	has the meaning given to that term by clause 5 of this undertaking.
Generator	has the meaning give to it in Chapter 10 of the NER
GPS	Generator performance standards
Hallett wind farms	Hallett 1 wind farm, Hallett 2 wind farm, Hallett 4 wind farm and Hallett 5 wind farm
Independent Expert	<p>means a third party who is not a Related Body Corporate of AGL.</p> <p>The third party carrying out the Independent Review must:</p> <ul style="list-style-type: none"> • be able to act without bias and without any actual or potential conflicts of interest with reference to the following criteria: <ul style="list-style-type: none"> ○ is not a present or past staff member or director of AGL; ○ has not acted and does not act for, and does not consult and has not consulted to, AGL in any matters relating to compliance with the NEL or NER; and ○ has no significant shareholding or other interests in AGL; • have professional competence to apply established audit standards and techniques to carry out the Independent Review to a high standard; • have a system of quality controls to ensure the Independent Review report is of a professional standard; • have relevant expertise in compliance with GPS; and • be able to conduct the Independent Review in accordance with the Undertaking.

Independent Review	means an assessment of: <ul style="list-style-type: none"> a) whether the Hallett wind farms' GPS and connection agreements expressly provide for the operation of its multiple LVRT setting; and b) to the extent that the Hallett wind farms' GPS and connection agreements do not expressly provide for the operation of their multiple LVRT setting, the modifications which would be required to do so without materially compromising the capacity, functionality or operational limitations specified by the manufacturer of the Hallett wind farms under their existing GPS or connection agreements.
LVRT	low-voltage ride through
NEL	National Electricity (South Australia) Law
NEM	National Electricity Market
NER	National Electricity Rules
Related Body Corporate	Has the meaning given by section 4A(5) of the <i>Competition and Consumer Act 2010</i>

11. Interpretation

11.1. In the interpretation of this Undertaking, the following provisions apply unless the context otherwise requires:

- 11.1.1. a reference to this Undertaking includes all of the provisions of this document including its annexures;
- 11.1.2. headings are inserted for convenience only and do not affect the interpretation of this Undertaking;
- 11.1.3. if the day on which any act, matter or thing is to be under this Undertaking is not a Business Day, the act, matter or thing must be done on the next Business Day;
- 11.1.4. a reference in this Undertaking to any law, legislation or legislative provision includes any statutory modification, amendment or re-enactment, and any subordinate legislation or regulations issued under that legislation or legislative provision;
- 11.1.5. a reference in this Undertaking to any company includes a company over which that company is in a position to exercise control within the meaning of section 50AA of the *Corporations Act 2001*;
- 11.1.6. a reference in this Undertaking to any agreement or document is to that agreement or document as amended, novated, supplemented or replaced;
- 11.1.7. a reference to a clause, part, schedule or attachment is a reference to a clause, part, schedule or attachment of or to this Undertaking;
- 11.1.8. an expression importing a natural person includes any company, trust, partnership, joint venture, association, body corporate or government agency;
- 11.1.9. where a word or phrase is given a defined meaning, another part of speech or other grammatical form in respect of that word or phrase has a corresponding meaning;

- 11.1.10. a word which denotes the singular also denotes the plural, a word which denotes the plural also denotes the singular, and a reference to any gender also denotes other genders;
- 11.1.11. a reference to the words 'such as', 'including', 'particularly' and similar expressions can be construed without limitation;
- 1.1.2. a construction that would promote the purpose or object of this Undertaking (whether expressly stated or not) will be preferred to a construction that does not promote that purpose or object.
- 11.1.12. a reference to:
 - a) a thing (including but not limited to, a chose in action or other right) includes part of that thing; and
 - b) a party includes its successors and permitted assigns.

Executed by

AGL SA Generation Pty Limited (ACN 081 074 204) pursuant to section 127(1) of the *Corporations Act 2001*.



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 Director



.....
 Director/Secretary

This...23.....day of.....July.....2021.

ACCEPTED BY THE AUSTRALIAN ENERGY REGULATOR PURSUANT TO SECTION 59A OF THE NATIONAL ELECTRICITY LAW.



.....
 Clare Savage – Chair

This.....29th.....day of.....June.....2022.