

## **NATIONAL ELECTRICITY LAW**

Undertaking to the Australian Energy Regulator given for  
the purposes of section 59A of the *National Electricity (Queensland) Law*

by

CS Energy Limited (ACN 078 848 745)

### **Person giving this Undertaking**

1. This Undertaking is given to the Australian Energy Regulator (**AER**) by CS Energy Limited (ACN 078 848 745) (**CS Energy**) of HQ "North Tower", Level 2, 540 Wickham Street, Fortitude Valley QLD 4006, for the purposes of section 59A of the *National Electricity (Queensland) Law* (**NEL**).

### **Background**

2. CS Energy is a company registered under the *Corporations Act 2001* (Cth), and is, and was at all relevant times:
  - a. responsible for each of the following *generating systems* within the National Electricity Market (**NEM**):
    - (i) the Gladstone Power Station (**GSTONE**), which is comprised of the *scheduled generating units* registered in the NEM as GSTONE1, GSTONE2, GSTONE3, GSTONE4, GSTONE5 and GSTONE6 (**GSTONE scheduled generating units**), in accordance with clause 9.34.6 of the National Electricity Rules (**NER**); and
    - (ii) the Wivenhoe Power Station (**W/HOE**), which is comprised of the *scheduled generating units* registered in the NEM as W/HOE#1 and W/HOE#2 (**W/HOE scheduled generating units**).
  - b. a *Registered Participant* within the NEM, being registered by the Australian Energy Market Operator (**AEMO**) as a *Generator* under clause 2.2 of the NER;
  - c. a *Generator* for the purposes of clause 2.2 of the NER in relation to W/HOE;
  - d. the *Nominated Generator* with respect to GSTONE in accordance with clause 9.34.6 of the NER, and as such, the *Registered Participant* (*Generator*) under clause 2.2 of the NER; and
  - e. a *Scheduled Generator* for the purposes of clause 2.2.2 of the NER in relation to both the W/HOE *scheduled generating units* and the GSTONE *scheduled generating units*.

3. AEMO is responsible for operating the NEM, including maintaining power system security, operating a central dispatch process and issuing *dispatch instructions* to *Scheduled Generators*.

### **Relevant Provisions**

#### Compliance with dispatch instructions

4. Clause 4.9.8(a) of the NER requires that a *Registered Participant* must comply with a *dispatch instruction* given to it by AEMO unless to do so would, in the *Registered Participant's* reasonable opinion, be a hazard to public safety or materially risk damaging equipment.
5. Compliance with *dispatch instructions* is necessary to ensure that the power system remains secure. AEMO relies upon conformance with *dispatch instructions* to ensure that it can effectively perform its functions as both power system operator and market operator for the NEM.

#### Obligation to ensure that scheduled generating units were at all times able to comply with latest generation dispatch offer

6. Clause 4.9.8(b) of the NER requires that a *Scheduled Generator* must ensure that each of its *scheduled generating units* is at all times able to comply with the latest *generation dispatch offer* made by it in respect of that generating unit.
7. Provision of an accurate *generation dispatch offer* is necessary for the efficient dispatch of the market and to enable AEMO to manage power system security.

### **The AER's Concerns**

8. The AER considers that CS Energy did not comply with Rule 4.9.8 of the NER on several occasions on 13 February 2014, 20 February 2014, 21 February 2014 and 29 April 2014. In particular, the AER considers that CS Energy did not:
  - a. comply with *dispatch instructions* issued by AEMO on the relevant trading days for the GSTONE *scheduled generating units* and the WHOE *scheduled generating units* as set out in Annexure A, and
  - b. did not ensure that the GSTONE *scheduled generating units* were at all times able to comply with the latest *generation dispatch offers* during particular *trading intervals* on 13 February 2014 as set out in Annexure B.
9. CS Energy has advised the AER that the following internal practices and/or operations led to or contributed to the non-compliance:
  - a. the 'droop' characteristic at GSTONE;
  - b. the operation of the 'demand limit regulator' at GSTONE;

- c. ramp rates for GSTONE, namely that the units were unable to sustain the offered ramp rates at relevant times; and
  - d. failure to take appropriate action, including delays in responding to *dispatch instructions*.
10. In addition, the AER considers that during the relevant period, parts of CS Energy's Spot Trading Compliance Program did not adequately address compliance with clause 4.9.8(b) of the NER.

### Contributing Factors

11. Further detail regarding how the internal practices and/or operations set out in paragraph 9 above contributed to CS Energy's non-compliance is set out below.

#### *'Droop' characteristic at GSTONE*

12. Frequency control ancillary services (FCAS) are services provided by registered participants to keep power system frequency (**system frequency**) stable, that is, within an acceptable tolerance around 50 hertz (Hz). There are two main types of FCAS: regulation (for minor variations of frequency) and contingency (for major variations of frequency due to a system event). FCAS providers are enabled by AEMO to provide the relevant service when required, in response to system frequency deviations and, in some instances, certain signals from AEMO.
13. GSTONE has a 'droop' characteristic, which means that the GSTONE *scheduled generating units* will inversely change output level (also referred to as load) in proportion to system frequency. This characteristic means that the units will automatically depart from energy dispatch targets in response to system frequency deviations, notwithstanding that the units have not been instructed by AEMO to provide regulation FCAS.
14. This 'droop' can be prevented by putting in a 'deadband' on each unit at GSTONE. A deadband is a setting that prevents the droop characteristic from controlling the output of the *scheduled generating units* by effectively creating a symmetrical 'deadband' of system frequency either side of 50 Hz in relation to which the *scheduled generating units* will not respond to frequency deviations.
15. The then current deadband settings at GSTONE meant that the *scheduled generating units* could not provide contingency FCAS when the deadbands were in. The default position of CS Energy and the GSTONE Operator was to leave the deadbands out when the units were generating above their minimum load.
16. During certain *dispatch intervals* (DIs) identified in Annexure A, deadbands were not in place on the GSTONE *scheduled generating units* to allow CS Energy to offer FCAS contingency services. As a result of not having in deadbands, in some of these *dispatch intervals*, the units automatically changed load in

proportion to their droop characteristic, contributing to the units generating output in excess of the relevant *dispatch instruction*.

#### *Demand Limit Regulator*

17. The GSTONE *scheduled generating units* are usually operated using a system known as "Automatic Governor Control" (AGC). This system is designed to control a unit's output so that it responds automatically to dispatch instructions issued by AEMO without human intervention. A unit must be operated manually when it is 'off AGC'.
18. The "Demand Limit Regulator" (DLR) is a separate protection mechanism in the control system which prevents the GSTONE *scheduled generating units* from responding to AGC in certain circumstances. This system is controlled by the GSTONE Operator. CS Energy has systems which show whether a *scheduled generating unit* is away from dispatch target using data measured every five minutes; at the relevant time these systems did not show the DLR status of the unit.
19. The DLR was involved in GSTONE4's non-compliance with dispatch instructions on three occasions. CS Energy traders were not aware during the relevant *dispatch intervals* that the unit was not responding to *dispatch instructions* due to the operation of the DLR.

#### *Ramp rates for GSTONE*

20. *Scheduled generators* are required to submit rate of change values to AEMO (also known as ramp rates) as part of the *generation dispatch offer* for their *scheduled generating unit*. The ramp rate is the rate at which the output of a generating unit can vary up or down within a specified time period. AEMO's dispatch algorithm takes ramp rates into account when issuing *dispatch instructions* to both the specific *scheduled generator* and in managing the efficient dispatch of the market.
21. CS Energy advises that the ramp rate capability of the GSTONE *scheduled generating units* changes as a function of output (and subject to minimum and maximum ramp rate capabilities). The GSTONE *scheduled generating units'* actual ramp rate capabilities are telemetered from GSTONE to CS Energy's trading room.
22. During the 9:30, 10:00, 10:30, 11:30, 12:00, 12:30, 14:30, 15:30, 16:00, 16:30 and 17:30 *trading intervals* on 13 February 2014 ("**the relevant trading intervals**"), the latest *generation dispatch offers* for the GSTONE *scheduled generating units* specified a ramp rate that could only be achieved when the units were generating above approximately 190 megawatts ("**the ramp rate load range**").
23. During the relevant *trading intervals* the actual ramp rate capability of the GSTONE *scheduled generating units* was less than that offered for a number of

*dispatch intervals*. That is, during the relevant *trading intervals*, CS Energy's GSTONE *scheduled generating units* were not capable of changing output at the rate offered because the units were generating outside the ramp rate load range.

24. CS Energy failed to rebid the ramp rates for the GSTONE *scheduled generating units* and as a consequence the units were unable to comply with their latest *generation dispatch offer* at all times during the relevant trading intervals.
25. The *dispatch instructions* for the 9:20, 9:55, 10:20, 11:20, 11:55, 12:25, 14:25, 15:15, 16:00, 16:30 and 17:30 *dispatch intervals* on 13 February 2014, specified in Annexure A, required the relevant GSTONE *scheduled generating units* to decrease generation to a level which crossed the units' ramp rate load range, such that the ramp rate capability of the units declined as output decreased. Those *dispatch instructions* to reduce output were received upon a rebid of the latest *generation dispatch offers* coming into effect but the relevant rebids did not amend the offered ramp rates. Accordingly the units failed to comply with their *dispatch instructions*.

*Failure to take appropriate action*

26. For certain *dispatch intervals* set out in Annexure A, the following issues contributed to CS Energy's failure to follow *dispatch instructions*:
  - a. CS Energy responded to *dispatch instructions* issued by AEMO, but did not do so sufficiently promptly to meet the dispatch targets specified in the *dispatch instructions* including by delaying:
    - i. the initiation of the stop sequence for the relevant W/HOE *scheduled generating units*,
    - ii. requesting a mill change from the GSTONE Operator,
  - b. CS Energy failed to take appropriate action, as follows:
    - i. when AEMO issued a *dispatch instruction* requiring W/HOE#2 to cease generation, the trader made a *rebid* so that W/HOE#2 would be dispatched in the next *dispatch interval* instead of initiating the stop sequence, and
    - ii. the CS Energy trader elected to not take any action on the basis of anticipated future dispatch targets in relation to certain *dispatch instructions* issued for GSTONE *scheduled generating units* which required a reduction in the number of mills in service.

### Proposed Resolution of Issues

27. CS Energy acknowledges the AER's concerns and has co-operated with the AER to resolve the issues described above. In particular, CS Energy has indicated a willingness to resolve this matter by:
- a. the provision of this Undertaking to the AER pursuant to section 59A of the NEL to address the concerns described above and its future compliance with the NEL and the NER; and
  - b. the payment of four (4) Infringement Notices totalling \$80,000. The Infringement Notices will be issued by the AER for alleged contraventions of clauses 4.9.8(a) and 4.9.8(b) of the NER, namely:
    - i. the delay in responding to the *dispatch instruction* issued for W/HOE#2 for the 12:05 *dispatch interval* on 13 February 2014;
    - ii. the failure to follow the *dispatch instruction* issued for W/HOE#1 for the 16:05 *dispatch interval* on 20 February 2014;
    - iii. GSTONE3 being unable to comply with its latest *generation dispatch offer* at all times during the *trading interval* ending at 10:30 on 13 February 2014; and
    - iv. GSTONE6 being unable to comply with its latest *generation dispatch offer* at all times during the *trading interval* ending at 15:30 on 13 February 2014.

### Commencement of Undertaking

28. This Undertaking comes into effect when:
- a. the Undertaking is executed by CS Energy; and
  - b. the AER accepts the Undertaking so executed.
29. Upon the commencement of this Undertaking, CS Energy undertakes to assume the obligations set out below for a period of two (2) years.

### Undertaking by CS Energy

#### Compliance Officer

30. From commencement, and for the duration of this Undertaking:
- a. CS Energy will continue to employ an officer with responsibility for overseeing CS Energy's compliance with these Undertakings as well as general compliance with, among other things, clauses 4.9.8(a) and 4.9.8(b) of the NER ("**Compliance Officer**"); and

- b. the Compliance Officer will report to the CS Energy Market Risk Committee, on a monthly basis, as to compliance with this Undertaking and in particular, the progress in implementing the below changes, any issues in implementing the changes, and any amendments to the processes that are required.

Revised procedures dealing with the operation of GSTONE (deadbands)

- 31. During this period of this Undertaking, CS undertakes:
  - a. to use its best endeavours to ensure that the Revised Deadband Settings at the GSTONE *scheduled generating units* are maintained to address the concerns described above, with the option of having no deadbands to only be used during emergency or legitimate testing situations; and
  - b. to require that the trader on duty is required to check the deadband setting status with the GSTONE Operator twice per trading shift in accordance with the Market Operations Physical Trading Daily Check Sheet (CS Energy Registered Form s1899).

Revised procedures for dealing with the Demand Limit Regulator (DLR)

- 32. CS Energy undertakes:
  - a. to implement, within six (6) months of the commencement of the Undertaking, system changes which will automatically alert the trader when a GSTONE *scheduled generating unit* is not responding towards a dispatch target (whether off or on AGC) within the relevant *dispatch interval*. The system changes will include:
    - i. an automatically generated audible alarm which will alert the trader immediately upon the unit is not responding towards a dispatch target (using data which is generated on a 30 second basis);
    - ii. an automatic SMS alert to be sent to the on duty trader's mobile phone where the alarm in subparagraph a.i. above is triggered;
    - iii. audible alarms to alert traders when the unit AGC status changes to 'off AGC' within a *dispatch interval*;
  - b. to require traders, upon receiving the alerts specified above, to:
    - i. call the GSTONE Operator as soon as reasonably practicable to request investigation and rectification of the issue;
    - ii. assess, taking into consideration the advice of the GSTONE Operator, whether an amendment to the latest *generation dispatch offer* is required to reflect a change to the unit's capabilities and make any necessary *rebids*; and

- iii. monitor the situation and latest *generation dispatch offer* of the relevant unit(s) until such time as problem is resolved and the unit is operating normally again.

#### Revised Procedures for dealing with responsiveness at W/HOE

33. CS Energy undertakes to implement, within six (6) months of the commencement of the Undertaking, an alarm in the trading room which will alert traders when:
  - a. a W/HOE *scheduled generating unit* is signalled to change mode (stop, pump or generate); or
  - b. there is a change in the pump or generator *dispatch instruction* value for a W/HOE *scheduled generating unit*.

#### Revised Procedures for dealing with ramp rates

34. CS Energy undertakes to implement, within one month of the commencement of the Undertaking, a Work Instruction for traders designed to ensure that:
  - a. compliance with dispatch targets is closely monitored, and
  - b. that ramp rate parameters are rebid where necessary to more closely match unit capability, including rebidding ramp rates when the trader expects that the ramp rate in the latest *generation dispatch offer* will or would be likely to result in the unit being unable to comply with its dispatch target or its *generation dispatch offer*.

#### Revised procedures for dealing with mill changes

35. CS Energy undertakes, within one month of the commencement of the Undertaking, it will review and, where appropriate, amend its procedures for traders with respect to the management of mill limits, whether by instructing a mill change or rebidding the units, to minimise the risk of non-compliance.

#### Use and maintenance of arrangements

36. CS Energy undertakes to maintain the arrangements specified in paragraphs 31 to 34 inclusive for the duration of the Undertaking.
37. CS Energy undertakes that, in the event that it becomes aware of non-compliance with the arrangements specified in paragraphs 31 to 35 inclusive, it will provide the AER with a written report setting out the reasons for non-compliance within five (5) business days.
38. CS Energy undertakes that, in the event it wishes to amend or modify the arrangements specified in paragraphs 31 to 34 inclusive above, it will seek the prior written consent of the AER.



#### Review of CS Energy's Guidelines and Procedures and other documentation

39. CS Energy undertakes to engage, within three (3) months from the date of commencement of this Undertaking, at its own expense, a suitably qualified independent compliance expert (**Expert**) acceptable to the AER.
40. CS Energy undertakes that the Expert will be engaged to assess the accuracy, and amend if necessary, all current internal documents relating to its compliance with clauses 4.9.8(a) and 4.9.8 (b) of the NER, so that those internal documents accurately reflect the CS Energy's obligations to comply with those clauses and CS Energy must:
  - a. with the assistance of the Expert, identify all internal documents relating to the CE Energy's compliance with clauses 4.9.8(a) and (b) of the NER;
  - b. provide the internal documents identified under subparagraph a. above to the Expert;
  - c. provide the Expert with any assistance that the Expert reasonably requires to assess and amend the internal documents;
  - d. amend the internal documents itself as required by the Expert; and
  - e. within nine (9) months of the date of commencement of this Undertaking, provide a written report signed by the Expert and the Executive General Counsel and Company Secretary of CS Energy to the AER:
    - i. describing the expertise of the Expert and confirming his or her independence;
    - ii. stating precisely how each of the steps in subparagraphs a. to d. inclusive above have been completed; and
    - iii. certifying that the internal documents accurately reflect CS Energy's obligations.

#### Training of CS Energy's Staff and others

41. CS Energy undertakes that:
  - a. it will ensure that it provides regular and practical training, (at least once per year for the duration of the Undertaking), for all directors, officers, employees, representatives and agents whose duties could result in them being concerned with conduct that could contravene clauses 4.9.8(a) and/or 4.9.8(b) of the NER;
  - b. the training referred to in subparagraph a. above is conducted by a suitably experienced professional with sound knowledge of compliance with the relevant provisions of NEL and the NER;

- c. it includes a requirement that awareness of compliance with the relevant provisions of the NEL and NER forms part of the induction of all new directors, officers, employees, representatives and agents whose duties could result in them being concerned with conduct that could contravene clause 4.9.8(a) and (b) of the NER; and
- d. it will use its best endeavours to ensure that the GSTONE Operator takes the steps described in subparagraphs a. to c. inclusive above in relation to its own staff for the duration of this Undertaking.

Report by the Compliance Officer relating to Revised Procedures

42. CS Energy undertakes that:

- a. no later than three (3) months prior to the expiration of this Undertaking, the Compliance Officer will prepare a written report detailing all of CS Energy's changes to its practices and procedures occasioned by and/or implemented as a result of this Undertaking, and will also include any proposed amendments to its practices and procedures yet to be occasioned by and/or implemented as a result of this Undertaking; and
- b. within seven (7) days of such report being completed, it will provide the report to the AER.

AER Recommendations

43. CS Energy undertakes for the duration of this Undertaking to implement any reasonable recommendations, provided in writing, made by the AER relating to compliance with the relevant provisions.


**Acknowledgments**

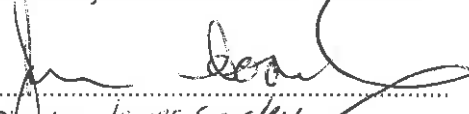
44. CS Energy acknowledges that:

- a. the AER will make this Undertaking publicly available including by publishing it on the AER website;
- b. the AER will, from time to time, make public reference to the Undertaking including in news media statements and in AER publications; and
- c. this Undertaking in no way derogates from the rights and remedies available to any other person arising from the alleged conduct.


**Executed by**

CS Energy Ltd (ACN 078 848 745) by its authorised officers pursuant to section 127(1) of the *Corporations Act 2001* (Cth).

  
.....  
Secretary/Director *Emma Roberts*

  
.....  
Director *James Scoble*  
This *13<sup>th</sup>* day of *June* 2016

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

  
.....  
Chair  
This *29<sup>th</sup>* day of *June* 2016

## Glossary

All italicised words or phrases in this Undertaking shall be taken to have the same meaning as described in Chapter 10 of the NER.

'**AEST**' means Australian Eastern Standard Time.

'**Dispatch target**' means the level of power (or energy) that AEMO instructs a scheduled generating unit to provide during the relevant dispatch interval.

'**Document**' means any document in the possession, power or control of CS Energy and includes:

- (a) correspondence, notices, circulars, memoranda, minutes, notes, reports, contracts, agreements, facsimile transmission, electronic mail transmissions, training materials for representatives, sales presentation materials, and any drafts thereof;
- (b) electronic records stored on, hard disks, CD-Rom, computer hard-drive, or other fixed or removable electronic storage device or media which are capable of being reproduced.

'**GSTONE Operator**' means the entity (NRG Gladstone Operating Services Pty Ltd (ACN 061 519 275)) with contractual obligations to operate the GSTONE power station, including employees and representatives

'**Mill**' means a piece of equipment that pulverises fuel, in this case coal, for combustion in a boiler to produce steam for electrical power generation. The range of output a unit is capable of is dependent on the number of mills in service.

'**MW**' means megawatt.

'**QLD**' means Queensland.

'**Revised Deadband Settings**', with reference to GSTONE *scheduled generating units*, means the following:

- (a) a 'narrow' deadband setting equivalent to +/-0.10Hz as the default setting; and
- (b) a 'wide' deadband setting equivalent to +/-0.25Hz applied when the GSTONE Operator or CS Energy require a unit load to be stabilised.

'**SMS**' means Short Message Service.

**Annexure A**

Table A1: Non-compliance with dispatch instructions by unit and dispatch interval

Trading day and dispatch interval (AEST)	Scheduled generating unit	Dispatch Instruction (MW)	Measured Output (MW)	Difference (MW)
13/02/2014 0:35	GSTONE2	126.90	143.68	16.78
	GSTONE3	125.41	141.93	16.52
	GSTONE4	125.41	141.93	16.52
	GSTONE5	126.38	149.97	23.59
	GSTONE6	127.25	139.65	12.40
13/02/2014 0:40	GSTONE2	120.00	141.22	21.22
	GSTONE3	120.00	141.22	21.22
	GSTONE4	120.00	141.22	21.22
	GSTONE5	149.97	153.65	3.68
	GSTONE6	120.00	146.47	26.47
13/02/2014 9:20	GSTONE2	152.33	179.02	26.69
	GSTONE3	160.15	177.10	16.95
	GSTONE4	160.20	176.75	16.55
	GSTONE5	160.55	176.05	15.50
	GSTONE6	158.75	177.10	18.35
13/02/2014 9:55	GSTONE2	151.45	175.52	24.07
	GSTONE3	156.65	177.80	21.15
	GSTONE4	156.18	177.63	21.45
	GSTONE5	155.83	175.52	19.69
	GSTONE6	155.95	176.22	20.27
13/02/2014 10:20	GSTONE2	156.18	173.95	17.77
	GSTONE3	165.05	200.20	35.15
	GSTONE4	154.25	183.58	29.33
	GSTONE5	164.23	177.27	13.04
	GSTONE6	157.18	190.58	33.40
13/02/2014 11:20	GSTONE2	150.40	168.35	17.95
	GSTONE3	159.80	174.13	14.33
	GSTONE4	159.15	177.27	18.12
	GSTONE5	158.98	172.38	13.40
	GSTONE6	157.35	174.13	16.78
13/02/2014 11:55	GSTONE2	152.15	175.70	23.55
	GSTONE3	160.15	177.63	17.48

Trading day and dispatch interval (AEST)	Scheduled generating unit	Dispatch Instruction (MW)	Measured Output (MW)	Difference (MW)
	GSTONE4	160.38	224.52	64.14
	GSTONE5	161.08	179.55	18.47
	GSTONE6	157.52	182.52	25.00
13/02/2014 12:25	GSTONE2	154.08	174.13	20.05
	GSTONE3	150.00	172.38	22.38
	GSTONE4	150.23	175.52	25.29
	GSTONE5	150.00	172.55	22.55
	GSTONE6	151.58	174.13	22.55
13/02/2014 14:25	GSTONE2	150.00	182.70	32.70
	GSTONE3	157.18	181.30	24.12
	GSTONE4	155.05	180.77	25.72
	GSTONE5	154.17	180.60	26.43
	GSTONE6	158.93	184.10	25.17
13/02/2014 15:15	GSTONE2	150.00	173.43	23.43
	GSTONE3	153.68	178.85	25.17
	GSTONE4	154.08	179.02	24.94
	GSTONE5	151.73	177.10	25.37
	GSTONE6	150.00	178.15	28.15
13/02/2014 16:00	GSTONE2	158.98	173.43	14.45
	GSTONE3	159.80	175.70	15.90
	GSTONE4	159.68	177.10	17.42
	GSTONE5	158.27	178.15	19.88
	GSTONE6	156.65	173.43	16.78
13/02/2014 16:30	GSTONE2	153.40	173.77	20.37
	GSTONE3	156.13	176.05	19.92
	GSTONE4	154.43	177.45	23.02
	GSTONE5	154.53	176.05	21.52
	GSTONE6	150.00	177.27	27.27
13/02/2014 17:30	GSTONE2	153.73	181.47	27.74
	GSTONE3	162.77	185.15	22.38
	GSTONE4	157.23	220.68	63.45
	GSTONE5	152.50	183.93	31.43
	GSTONE6	150.00	177.10	27.10
20/02/2014 16:55	GSTONE3	156.83	173.43	16.60
	GSTONE4	156.83	173.95	17.12

Trading day and dispatch interval (AEST)	Scheduled generating unit	Dispatch Instruction (MW)	Measured Output (MW)	Difference (MW)
20/02/2014 17:40	GSTONE3	132.50	155.40	22.90
	GSTONE4	132.50	154.70	22.20
	GSTONE6	138.18	154.00	15.82
20/02/2014 21:55	GSTONE4	140.22	193.90	53.68
	GSTONE6	186.30	218.40	32.10
21/02/2014 0:05	GSTONE2	172.80	178.85	6.05
	GSTONE4	124.80	151.90	27.10
	GSTONE5	121.30	151.02	29.72
	GSTONE6	124.35	152.08	27.73
21/02/2014 15:30	GSTONE2	177.80	189.52	11.72
	GSTONE3	160.00	180.95	20.95
	GSTONE4	160.00	179.38	19.38
	GSTONE5	160.00	179.20	19.20
	GSTONE6	164.08	182.18	18.10
29/04/2014 10:45	GSTONE3	145.00	153.65	8.65
13/02/2014 12:05	W/HOE#2	0.00	256.80	256.80
13/02/2014 14:05	W/HOE#1	40.00	249.20	209.20
13/02/2014 16:35	W/HOE#2	0.00	175.20	175.20
20/02/2014 16:05	W/HOE#1	0.00	208.80	208.80
20/02/2014 17:55	W/HOE#1	0.00	252.80	252.80
29/04/2014 17:50	W/HOE#1	0.00	247.20	247.20

**Annexure B**

**Table B1: Inability to comply with generation dispatch offer by unit and trading interval**

<b>Trading day and trading interval (AEST)</b>	<b>Scheduled generating unit</b>	<b>Description of how unable to comply with dispatch offer</b>
13/02/2014 9:30	GSTONE2, 3, 4, 5 and 6	Each unit was unable to achieve the offered down rate of change during certain dispatch intervals.
13/02/2014 10:00	GSTONE2, 3, 4, 5 and 6	Each unit was unable to achieve the offered rates of change (up and/or down) during certain dispatch intervals.
13/02/2014 10:30	GSTONE2, 3, 4, 5 and 6	Each unit was unable to achieve the offered rate of change (up and down) during certain dispatch intervals.
13/02/2014 11:30	GSTONE2, 3, 4, 5 and 6	Each unit was unable to achieve the offered rate of change (up and down) during certain dispatch intervals.
13/02/2014 12:00	GSTONE2, 3, 4, 5 and 6	Each unit was unable to achieve the offered rate of change (up and down) during certain dispatch intervals.
13/02/2014 12:30	GSTONE2, 3, 4, 5 and 6	Each unit was unable to achieve the offered rate of change (up and down) during certain dispatch intervals.
13/02/2014 14:30	GSTONE2, 3, 4, 5 and 6	Each unit was unable to achieve the offered rate of change (up and down) during one dispatch interval.
13/02/2014 15:30	GSTONE2, 3, 4, 5 and 6	Each unit was unable to achieve the offered rate of change (up and down) during certain dispatch intervals.
13/02/2014 16:00	GSTONE2, 3, 4, 5 and 6	Each unit was unable to achieve the offered rate of change (up and down) during certain dispatch intervals.
13/02/2014 16:30	GSTONE2, 3, 4, 5 and 6	Each unit was unable to achieve the offered rate of change (up and down) during certain dispatch intervals.
13/02/2014 17:30	GSTONE2, 3, 4, 5 and 6	Each unit was unable to achieve the offered rate of change (up and down) during certain dispatch intervals.