

Over Frequency Reserve Ancillary Service Schedule

1. Glossary and Interpretation

1.1 Glossary:

In this Ancillary Service Schedule, unless the context otherwise requires, the following definitions apply:

Allowed Outage

means an Outage that is permitted under clause 7.2;

Arm/Disarm Test

has the meaning given to that term in clause 8.1(a);

Planned Outage Coordination Process (POCP)

means ~~an application within~~ for the relevant Unit;

(a) if the ~~Operations Customer Portal that enables Asset Owners to provide information on outages~~ Unit has remote arming/disarming control, a test of ~~their Assets to~~ remote enable/disable control for the Relay Equipment for the Unit; and

(b) a test of arming/disarming indications for the Monitoring Equipment;

Availability Fee

means the fixed fee, as specified in Appendix 1, for the availability of Over Frequency Reserve provided under this Ancillary Service Schedule, irrespective of dispatch or provision, expressed as dollars per month per Unit(s);

Circuit Breaker Equipment

means circuit breaker equipment (as defined in the Procurement Plan) for a Unit;

Control Equipment

means control equipment (as defined in the Procurement Plan) for a Unit;

Control System Operator

means a control system (as defined in the Code) capable of ramping the active power output of a Unit;

Dispatch Instruction

means a dispatch instruction (as defined in the Code) to provide Over Frequency Reserve under this Ancillary Service Schedule;

Dispatched

~~means instructed~~ means dispatched by the System Operator in accordance with the Code to provide Over Frequency Reserve under this Ancillary Service Schedule. For the avoidance of doubt, ~~the relevant Equipment~~ a Unit will be deemed to be Dispatched if the System Operator arms the ~~Relay~~ Unit's Control Equipment remotely;

Equipment

~~means the Unit(s) and Relay Equipment;~~

End-to-End Test

means ~~a an end-to-end test to verify that~~ (as defined in the integrated components Procurement Plan) of ~~a system~~ the Ancillary Service Agent's Agent uses to provide Over Frequency Reserve under this Ancillary Service Schedule;

Equipment ~~system, other than~~

~~means the monitoring components, function correctly as a complete system;~~
Unit(s) and the Control Equipment, including the Relay Equipment, Circuit Breaker Equipment and Control Systems;

Event Fee

~~means the fixed fee, as specified in Appendix 1, for Over Frequency Reserve Dispatched and Provided under this Ancillary Service Schedule expressed as dollars per event per Unit(s);~~

Monitoring Equipment

means equipment capable of measuring and transmitting continuously to a designated interface point an indication of whether or not ~~Relay~~ the Control Equipment is armed or enabled;

Outage

~~means an outage (as defined in paragraph (a) of the definition of "outage" in Part 1 of the Code) affecting Equipment or Monitoring Equipment;~~

Performance Standard

~~means a performance standard specified in clause 4;~~

Planned Outage Coordination Process (POCP)

~~means an application within the System Operator's Operations Customer Portal that enables Asset Owners to provide information on outages of their Assets to the System Operator;~~

Provided

means, in respect of Over Frequency Reserve, ~~that~~ a Unit that has been Dispatched, automatically disconnects from the Grid or reduces its active power output when the Grid frequency reaches the Required Frequency for that Unit;

Relay Equipment

~~means relay equipment (as defined in the Procurement Plan) for a Unit;~~

Required Frequency

means, for a Unit, the frequency setpoint for the Unit specified in Appendix 1 ~~in respect of each Unit as, being~~ the Grid frequency at which the Unit must disconnect from the Grid; ~~or reduce its active power output;~~

Station

means a Generating Station specified in Appendix 1 under the field name "Station ID", at which one or more Units are located; ~~and~~

Term

~~means, for this Ancillary Service Schedule, the term specified in clause 4.3 of Part A: Foundation, unless this Ancillary Service Schedule is terminated earlier in accordance with this Ancillary Services Schedule or clause 11 of Part A2: General Terms.~~

Test Form

means the System Operator's FM-EA-997 OFA Test Form published on the System Operator's website, as amended from time to time; and

Unit

means a Generating Unit specified in Appendix 1 under the field name "Unit ID".

1.2 Interpretation:

In this Ancillary Service Schedule, unless the context otherwise requires, references to appendices are references to appendices of this Ancillary Service Schedule.

2. Provision of Over Frequency Reserve

2.1 Provision of Over Frequency Reserve:

The Ancillary Service Agent must provide:

- (a) Over Frequency Reserve if Dispatched; and
- (b) the Equipment and Monitoring Equipment, in accordance with this Contract.

~~3. Dispatch Instructions~~

~~4.01.1 Staff and Facilities Available to Meet Dispatch Instructions:~~

~~The Ancillary Service Agent must ensure that appropriate personnel and facilities are available to receive and comply with any Dispatch Instruction issued by the System Operator to provide Over Frequency Reserve. The Ancillary Service Agent must ensure that the personnel specified in Appendix 2 (or other personnel who are no less qualified) can be contacted by the System Operator at the times and at the telephone and pager/mobile numbers specified in Appendix 2.~~

~~6.3. Remote Arming/Disarming Control~~

~~6.13.1 Remote Arming Control by the System Operator:~~

~~The System Operator may have remote arming/disarming control of the RelayControl Equipment from its co-ordination centre.~~

~~3.2 Remote Signalling:~~

~~The System Operator may have remote signalling to the Control Equipment from its co-ordination centre.~~

~~6.23.3 No Interference by the Ancillary Service Agent:~~

~~The Ancillary Service Agent must not in any way interfere with the exercise by the System Operator of any remote arming/disarming control of the RelayControl Equipment or any remote signalling to the Control Equipment.~~

~~6.33.4 Cost of Remote Arming Control and Remote Signalling:~~

~~Any costs of repairing and maintaining the System Operator's communication facilities for remote arming/disarming control of the RelayControl Equipment or remote signalling to the Control Equipment are the System Operator's responsibility.~~

~~6.43.5 Change of Arming Control:~~

~~If the method of arming/disarming the RelayControl Equipment is to change (either to enable or to disable remote arming/disarming), the parties agree to negotiate in good faith the process by and terms on which the System Operator~~

or Ancillary Service Agent, as the case may be, is to take over the responsibilities for arming/disarming the Relay Control Equipment, including as to any costs of installing and maintaining appropriate communication facilities.

7.4. Performance Standards

7.14.1 ~~Equipment Availability and Maintenance:~~

The Ancillary Service Agent must ensure that:

(a) ~~Availability:~~

(a) subject to clause 7.1, each item of Equipment and Monitoring Equipment is available ~~at all times during the term of this Ancillary Service Schedule~~ continuously to provide and monitor Over Frequency Reserve ~~at the Required~~ in accordance with this Ancillary Service Schedule; and

~~1.(b) each item of Equipment and Monitoring Equipment is maintained in accordance with Good Industry Practice to enable the provision and monitoring of Over Frequency Reserve in accordance with this Ancillary Service Schedule.~~

(-) ~~Arming/Disarming:~~

4.2 Relay Equipment:

The Ancillary Service Agent must ensure that:

(a) if the System Operator has remote arming/disarming control ~~of an item~~ of Relay Equipment, the Relay Equipment immediately arms or disarms (as appropriate) when it receives a remote arming or disarming signal from the System Operator's co-ordination centre; and

(a) ~~Automatically Disconnect:~~

(b) if the System Operator does not have remote arming/disarming control of an item of Relay Equipment, ~~when~~ the Relay Equipment is immediately armed, or disarmed (as appropriate) when the personnel specified in Appendix 2 receive a telephone call from the System Operator's co-ordination centre; and

(c) when the Relay Equipment is armed, the Relay Equipment and Circuit Breaker Equipment automatically ~~disconnects~~ disconnect the relevant Unit from the Grid within 500 milliseconds of the Grid frequency rising to or above the relevant Required Frequency.

4.3 Control Systems:

The Ancillary Service Agent must ensure that:

(a) if the System Operator has remote signalling to a Control System, the Control System is immediately configured for the delivery of Over Frequency Reserve when it receives a remote signal from the System Operator's co-ordination centre;

(b) if the System Operator does not have remote signalling to a Control System, the Control System is immediately configured for the delivery of Over Frequency Reserve when the personnel specified in Appendix 2 receives a telephone call from the System Operator's co-ordination centre;

(c) when the Control System has been configured for the delivery of Over Frequency Reserve, the Control System automatically reduces the active power output of the Unit within 500 milliseconds of the Grid frequency rising to or above the relevant Required Frequency; and

~~(b) — Maintenance:~~

~~(d) The rate of reduction of the Unit's active power output is at or above the ramp rate specified for the Unit in Appendix 1.~~

~~Equipment is maintained in accordance with good industry practice to enable the provision of Over Frequency Reserve in accordance with this Contract.~~

7.44.4 Monitoring Equipment:

The Ancillary Service Agent must ensure that:

~~(a) — Availability:~~

~~subject to clause 7.1, each item of Monitoring Equipment is available at all times; and~~

~~(b) — Arming Indication:~~

~~when the relevant Equipment is Dispatched, the Monitoring Equipment accurately and continuously measures and transmits to the designated interface point, an indication of whether or not the Relay Equipment is armed or the Control System is configured to deliver Over Frequency Reserve.~~

5. Operational Requirements

5.1 Staff and Facilities Available to Meet Dispatch Instructions:

The Ancillary Service Agent must ensure that appropriate personnel and facilities are available to receive and comply with any Dispatch Instruction. The Ancillary Service Agent must ensure that the personnel specified in Appendix 2 (or other personnel who are no less qualified) are trained in accordance with Good Industry Practice and can be contacted by the System Operator at the times at the telephone and mobile numbers specified in Appendix 2.

5.2 Contact Details:

The Ancillary Service Agent must ensure that its contact details specified in Appendix 2 and provided to the System Operator are correct and up to date at all times.

5.3 Capability Data:

The Ancillary Service Agent must provide the System Operator with such data as the System Operator may reasonably require from time to time, to enable the System Operator to model the Ancillary Service Agent's Over Frequency Reserve capability and to verify the fully compliant operational performance of the Equipment and Monitoring Equipment in accordance with this Contract.

5.4 Review Meetings:

7.51.1 Review Meetings:

The parties must use reasonable endeavours to meet in person or virtually at least once during the ~~term of this Ancillary Service Schedule~~Term to discuss the System Operator's performance in regard to the ~~issuing of Dispatch Instructions~~

~~for of~~ Over Frequency Reserve and the Ancillary Service Agent's provision of Over Frequency Reserve ~~against the Performance Standards~~ in accordance with this Ancillary Service Schedule.

8.6. Price

8.16.1 Availability Fee:

Subject to clauses 2 and 3.3(c) of Part A2: General Terms, the System Operator must pay to the Ancillary Service Agent the Availability Fee(s) each month.

8.26.2 Reduction in Availability Fee:

For the purposes of clause 3.3(c) of Part A2: General Terms, and subject to clause 7.1, the following formula will be used to calculate the amount by which the Availability Fee for a Unit or Station is to be reduced if the Ancillary Service Agent fails, or is unable, to meet a Performance Standard or comply with a Dispatch Instruction ~~(s): during the Term:~~

$$AP = AF \times (1 - [TP_{fail} \div TP_{max}])$$

where:

AP is the reduced Availability Fee payable for the relevant Unit or Station for a month;

AF is the Availability Fee that would have been payable for the Unit or Station for that month had clause 3.3(c) of Part A2: General Terms not applied;

TP_{fail} is the total number of Trading Periods in that month when clause 3.3(c) of Part A2: General Terms applied to the Unit or Station; and

TP_{max} is the total number of Trading Periods in that month.

8.36.3 Event Fee:

Subject to clauses 2 and 3.3(c) of Part A2: General Terms, in addition to the Availability Fee(s), the System Operator must pay ~~to~~ the Ancillary Service Agent the relevant Event Fee for Over Frequency Reserve Dispatched and Provided ~~each month.~~

8.46.4 CPI Adjustment to Availability Fee and Event Fee:

~~If, as at 31 January 2026 and 31 January of~~ Each Availability Fee and Event Fee will be reviewed each subsequent year ~~during the term of this Ancillary Service Schedule, as follows:~~

- (a) If the percentage change between the most ~~recent~~ recently published December quarter CPI and the preceding December quarter CPI is greater than 1.5%, ~~then~~ each Availability Fee and Event Fee is to be adjusted upwards in accordance with the ~~following~~ formula ~~and will be payable for the next and subsequent months and events during the term of this Ancillary Service Schedule (subject to any further adjustments to the Availability Fee and Event Fee under this clause):~~ below:

$$AEF_2 = AEF_1 \times (1 + [CPI_1 - 1.5\%])$$

where:

AEF₁ is the current Availability Fee or Event Fee, as at the date of calculation;

AEF₂ is the new Availability Fee or Event Fee; and

CPI₁ is the percentage change between the most recent December quarter CPI and the preceding December quarter CPI.

~~For the avoidance of doubt, if the percentage change between the most recent~~
~~Any adjustment under this clause 6.4(a) takes effect from each anniversary of the start of the Term, regardless of the date on which the adjustment is calculated, notified, invoiced or processed.~~

- (b) ~~If the difference between the most recently published~~ December quarter CPI and the preceding December quarter CPI is less than or equal to 1.5%, there will be no adjustment to the Availability Fee or Event Fee.

9.7. Outages

9.17.1 Compliance with Performance Standards:

~~An Outage will not be taken into account in~~ assessing the Ancillary Service Agent's compliance with the Performance ~~Standards in clauses 5.1 and 5.2,~~ Standard in clause 4.1(a):

~~if the following will not be taken into account:~~

(a) ~~Outage is an~~ Allowed **Outages:**

(a) ~~an outage of Equipment or Monitoring Equipment where the Ancillary Service Agent removes the Equipment or Monitoring Equipment from service for one of the reasons set out in clause 7.2,~~ Outage, provided that:

(i) ~~the Allowed Outage commenced during the Term;~~

~~(i)(ii)~~ (ii) the Ancillary Service Agent otherwise complies with this clause ~~7.7~~ and its other obligations under this Contract in respect of the ~~outage~~ Allowed Outage; and

~~(ii)(iii)~~ (iii) the ~~outage~~ Allowed Outage is no longer than the shorter of:

(A) one month; and

(B) a period of time equivalent to a reduction in the relevant Availability Fee of \$3,000; ~~and/or~~

(b) ~~No Generation:~~

(b) ~~during~~ any period of time for which the relevant Unit(s) are not under an ~~outage~~ Outage and have not been dispatched to generate electricity.

9.27.2 Allowed Outages:

The Ancillary Service Agent may, at any time and in accordance with this clause ~~7.7,~~ remove Equipment or Monitoring Equipment from service if, in the Ancillary Service Agent's reasonable opinion acting in accordance with Good Industry Practice, it is necessary to do so:

(a) ~~Maintenance:~~

(a) ~~for maintenance of the Equipment or Monitoring Equipment;~~

(b) ~~Risk of Injury or Damage:~~

(b) ~~to eliminate or mitigate an immediate risk of injury to any person or damage to the Equipment or Monitoring Equipment; or~~

(c) ~~Testing:~~

(c) ~~for a Test of the Equipment or Monitoring Equipment.~~

9.37.3 Co-ordination of Planned Outages:

~~Where an outage under clause 7.2 that~~Where an Outage is planned or anticipated by the Ancillary Service Agent and may compromise the Ancillary Service Agent's ability to provide Over Frequency Reserve in accordance with this Ancillary Service Schedule ~~is planned or anticipated by the Ancillary Service Agent~~, the Ancillary Service Agent must:

~~(a) — Notify the System Operator:~~

~~notify the System Operator as soon as reasonably practicable of any programme or amended programme for the outage;~~

~~(b) — Warn the System Operator:~~

- ~~(a) —~~ provide the System Operator with as much advance warning as reasonably practicable of the outage and advise ~~its~~the expected Outage start date and duration; ~~and~~

~~— Consult with the System Operator:~~

- ~~(b) —~~ consult with the System Operator on the timing of the ~~outage~~Outage with the intention that the timing of any ~~outage~~Outage must ensure that the System Operator can, at all times, comply with its Principal Performance Obligations;

~~(d) — Maintain accurate record of outages in POCP:~~

- ~~(c) —~~ notify the System Operator as soon as reasonably practicable of any programme or amended programme for the Outage; and

- ~~(d) —~~ ensure that POCP ~~at all times~~ accurately reflects ~~all planned Generating Unit outages in order to ensure the calculation~~the details of the ~~Reduction in Availability Fees under clause 6.2 is accurate~~Outage.

9.47.4 Unexpected Outages:

In the event of any unexpected ~~outage of Equipment occurring~~Outage that ~~compromises~~may compromise the Ancillary Service Agent's ability to provide Over Frequency Reserve in accordance with this Ancillary Service Schedule, the Ancillary Service Agent must:

~~(-) — Inform the System Operator:~~

- ~~(a) —~~ inform the System Operator as soon as reasonably practicable following the start of ~~such unexpected outage, the~~ Outage of the cause and expected duration of the ~~outage~~Outage; and

~~(-) — Continue to Provide Over Frequency Reserve:~~

- ~~(b) —~~ use reasonable endeavours to continue to ~~perform its obligations under~~provide Over Frequency Reserve in accordance with this Ancillary Service Schedule.

9.57.5 Termination for Excessive Maintenance:

If, in the System Operator's reasonable opinion, the number or duration of ~~outages of Equipment or Monitoring Equipment~~Outages for maintenance is such that the Ancillary Service Agent's ability to provide or monitor Over Frequency Reserve in accordance with this Ancillary Service Schedule has been substantially detrimentally affected, the System Operator may, by giving one month's prior written notice to the Ancillary Service Agent, terminate this Ancillary Service Schedule.

9.67.6 Minimise Duration and Frequency of Outages:

The Ancillary Service Agent must use reasonable endeavours to minimise the duration and frequency of ~~outages~~Outages that affect the Ancillary Service Agent's ability to provide Over Frequency Reserve in accordance with this Ancillary Service Schedule.

10.8. Tests

10.1 Baseline Tests:

(-) Two Yearly Test:

8.1 Subject to Tests for Over Frequency Reserve Provided via Tripping:

(a) ~~This clause 8.1(d) 1.1 only applies to Over Frequency Reserve provided by Relay Equipment and Circuit Breaker Equipment disconnecting a Unit.~~

(b) ~~Subject to clause 8.3(a)(i), the Ancillary Service Agent must conduct a Test of arming/disarming control for each item of Relay Equipment, and arming/disarming indication for each item of Monitoring Equipment, (an Arm/Disarm Test): an End-to-End Test:~~

(i) ~~at least once every 24 months~~4 years from the date of completion of the ~~last End-to-End Test or previous Arm/Disarm End-to-End Test (whichever happened more recently),~~ whether that ~~Test~~test was conducted before or during the ~~term of this Schedule; and Term:~~

(ii) ~~if the Ancillary Service Agent has not conducted an Arm/Disarm End-to-End Test within the 24 months~~4 years immediately preceding the commencement of this Ancillary Service Schedule, within 2 months of the commencement of this Ancillary Service Schedule; and

~~(iii)~~(iii) immediately following any change to the Equipment or Monitoring Equipment that may impact the Ancillary Service Agent's ability to provide Over Frequency Reserve in accordance with this Ancillary Service Schedule.

~~An Arm/Disarm Test must also be conducted as part of an End-to-End Test.~~

(d) Four Yearly End-to-End Test:

~~Subject to clause 8.1(d), the Ancillary Service Agent must conduct an End-to-End Test:~~

~~(-) at least once every 48 months from the date of completion of the last End-to-End Test whether that test was conducted before or during the term of this Ancillary Service Schedule; and~~

~~(-) if the Ancillary Service Agent has not conducted an End-to-End Test within the 48 months immediately preceding the commencement of this Schedule, within 2 months of the commencement of this Schedule; and~~

~~(-) as soon as practicable after the Ancillary Service Agent makes a change to any Equipment that may impact the performance of the Over Frequency Reserve service.~~

~~(c) The operation time of Circuit Breaker Equipment may be tested separately to Relay Equipment operating time, hold delay, and trip coil supervision. If the Circuit Breaker Equipment is not tested during an End-to-End Test, it~~

must be tested separately at least as frequently as an End-to-End Test is required under clause 8.1(b).

- (d) Each End-to-End Test must test all time delays in the Equipment (including the operation time of the Relay Equipment ~~and circuit breakers, on delay, and trip coil supervision~~), ~~provided that the operation time of a circuit breaker may be tested separately to the Tests under clauses 8.1(b)(i) and 8.1(b)(ii) but must be tested at least as frequently as an End-to-End Test is required to occur under those clauses,~~ hold delay, and trip coil supervision).

(i) **Test Reporting:**

Within 15 Business Days of the completion of a Test under clauses 8.1(a) or 8.1(b), the Ancillary Service Agent must provide to the System Operator:

- (-) full Test results; and

- (e) **verification of meeting the relevant Performance Standards by completing and submitting to System Operator the System Operator's FM-EA-997-OFA** Subject to clause 8.3(a)(ii), the Ancillary Service Agent must conduct an Arm/Disarm Test:

- (i) at least once every 2 years from the date of completion of the previous Arm/Disarm Test, whether that test was conducted before or during the Term;
- (ii) if the Ancillary Service Agent has not conducted an Arm/Disarm Test within the 2 years immediately preceding the commencement of this Ancillary Service Schedule, within 2 months of the commencement of this Ancillary Service Schedule; and
- (iii) as part of any End-to-End Test under clause 8.1(b).

8.2 Tests for Over Frequency Reserve Provided via Ramping.

- (a) This clause 8.2 only applies to Over Frequency Reserve provided by:

- (i) a Unit that is a Battery Energy Storage System; or
- (ii) a Control System ramping the active power output of a Unit.

- (b) Subject 8.3(a)(iii), the Ancillary Service Agent must conduct an End-to-End Test:

- (i) at least once every 1 year from the date of completion of the last End-to-End Test, whether that test was conducted before or during the Term;
- (ii) if the Ancillary Service Agent has not conducted an End-to-End Test within the 1 year immediately preceding the commencement of this Ancillary Service Schedule, within 2 months of the commencement of this Ancillary Service Schedule; and
- (iii) immediately following any change to the Equipment or Monitoring Equipment that may impact the Ancillary Service Agent's ability to provide Over Frequency Reserve in accordance with this Ancillary Service Schedule.

- (c) Each End-to-End Test must test all time delays in the Equipment (including the operation time and the response time of the Control System).
- ~~(-) **Test Form** published on the System Operator's website, a copy of which as at the date of this Schedule is in Appendix 3.~~

~~(m) **Test Not Necessary:**~~

- (d) The Ancillary Service Agent must conduct an Arm/Disarm Test as part of any End-to-End Test under clause 8.2(b).

8.3 Exemptions:

- (a) Subject to clause 8.3(b), the Ancillary Service Agent is not required to conduct a Test of an item of Relay Equipment under clause 8.1(a) or:
- (i) an End-to-End Test under clause ~~8.1(b)~~ 8.1(b)(i) or 8.1(b)(ii) if ~~the~~ the Ancillary Service Agent has demonstrated fully compliant operational performance of the relevant Equipment and Monitoring Equipment by being Dispatched and having Provided Over Frequency Reserve in the previous ~~24 months~~ 4 years;

10.2 Test Requirements – Relay Equipment:

~~A Test of Relay Equipment must verify whether or not the Relay Equipment can meet the Performance Standards in clauses 5.1(b) and 5.1(c).~~

- (ii) an Arm/Disarm Test under clause 8.1(e)(i) or 8.1(e)(ii) if the Ancillary Service Agent has demonstrated fully compliant operational performance of the relevant Relay Equipment and Monitoring Equipment by being Dispatched and having Provided Over Frequency Reserve in the previous 2 years; or
- (iii) an End-to-End Test under clause 8.2(b)(i) or 8.2(b)(ii) if the Ancillary Service Agent has demonstrated fully compliant operational performance of the relevant Equipment and Monitoring Equipment by being Dispatched and having Provided Over Frequency Reserve in the previous 1 year.

- (b) Clause 8.3(a) does not apply if the Ancillary Service Agent has not provided the System Operator with operational data verifying the fully compliant operational performance of the relevant Equipment and Monitoring Equipment.

10.3 ~~Test Requirements – End-to-End Test and Circuit Breaker:~~

~~An End-to-End test and a Test of a circuit breaker (if done outside an End-to-End test) must verify whether or not the Equipment can meet the Performance Standard in clause 5.1(c).~~

10.5 Test Requirements – Monitoring Equipment:

~~A Test of Monitoring Equipment must verify whether or not the Monitoring Equipment can meet the Performance Standards in clause 5.2.~~

10.78.4 Test After Failure:

If:

~~(a) — Failure:~~

~~the Ancillary Service Agent fails to meet any Performance Standard or comply with a Dispatch Instruction under this Ancillary Service Schedule for any Trading Period; and~~

~~(b) — Test Requested:~~

~~(a) , the System Operator requests a request an End-to-End Test of the relevant Equipment or and Monitoring Equipment within 20 Business Days of such Trading Period, becoming aware of the failure, which the Ancillary Service Agent must conduct promptly.~~

~~(b) then, notwithstanding Notwithstanding clause 4.5 of Part A2: General Terms, the Ancillary Service Agent must meet the costs incurred by the Ancillary Service Agent in conducting the any End-to-End Test requested under clause 0, regardless of whether or not the results from the Test show that the Ancillary Service Agent is able to meet the Performance Standards.~~

~~10.71.1 — Capability Data:~~

~~(c) The Ancillary Service Agent must provide conduct an Arm/Disarm Test as part of any End-to-End Test under clause 0.~~

~~8.5 Test After Change to Equipment:~~

~~(a) The Ancillary Service Agent must promptly (and in any event, within 10 Business Days) notify the System Operator if the Ancillary Service Agent intends to make, or has made, a change to the Equipment or Monitoring Equipment that may impact its Over Frequency Reserve performance, regardless of the level of impact or likelihood.~~

~~(b) The Ancillary Service Agent must comply with clauses 8.1(b)(iii) and 8.2(b)(iii) (as applicable) following the change.~~

~~8.6 Test Requirements such data as~~

~~(a) In carrying out and reporting on tests under this clause 8, the Ancillary Service Agent must comply with any relevant test guidelines published on the System Operator may reasonably require from time to time to enable Operator's website, including by using and submitting to the System Operator to model the Ancillary Service Agent's Over Frequency Reserve capability any standard forms in those guidelines.~~

~~(b) A Test under this clause 8 must verify the following:~~

~~(i) An Arm/Disarm Test for Relay Equipment and Monitoring Equipment must verify whether or not the Relay Equipment and~~

Monitoring Equipment can meet the Performance Standards in clauses 1.1(a) and 4.4.

- (ii) An End-to-End Test must verify whether or not the relevant Equipment and Monitoring Equipment can meet the Performance Standards in clauses 1.1(a), 4.3 and 4.4.
- (iii) A test of Circuit Breaker Equipment, outside an Arm/Disarm Test or End-to-End Test, must verify whether or not the Circuit Breaker Equipment can meet the Performance Standard in clause 4.2(c).
- (iv) A Test of Monitoring Equipment, outside an Arm/Disarm Test or End-to-End Test, must verify whether or not the Monitoring Equipment can meet the Performance Standards in clause 4.4.

8.7 Provision of Data for Compliance:

Within 15 Business Days of the completion of any test under this clause 8, the Ancillary Service Agent must provide to the System Operator:

- (a) full test results; and
- (b) verification of meeting the relevant Performance Standards by completing and submitting a Test Form.

8.8 Breach of this clause 8:

If the System Operator believes the Ancillary Service Agent has not complied with this clause 8, the System Operator may make a claim under clause 3.3 of Part A2: General Terms as if the Ancillary Service Agent had failed to meet a Performance Standard.

11.9. Limitation of Liability

11.19.1 Limitation of Liability:

If there is a default by either party of any obligation under this Ancillary Service Schedule (other than non-payment of any amounts due), that party and its Associated Persons will only be liable to the other party up to a combined maximum liability for any single event or related series of events of [\$ figure will be inserted reflecting the lesser of 5% of the total amount of the expected annual Availability Fees and Event Fees payable under this Ancillary Service Schedule or \$100,000] with a combined maximum liability in any 12 month period of [\$ figure will be inserted reflecting the lesser of 20% of the total amount of the expected Availability Fees and Event Fees payable under this Ancillary Service Schedule or \$300,000], irrespective of the number of events.

11.29.2 Suspension of Liability:

The Ancillary Service Agent will have no liability to the System Operator in respect of the Ancillary Service Agent's obligations under this Ancillary Service Schedule to be performed during any period the System Operator is in default under this Contract in relation to Over Frequency Reserve.

Appendix 1 - Capability

Station ID	Unit ID	Island	Unit Max MW	Availability Fee (\$ per month) <u>per Unit(s)</u>	Event Fee (\$ per event) <u>per Unit(s)</u>	Required Frequency (Hz)

Appendix 2- Contact Details of Personnel Capable of Carrying Out Dispatch Instructions

Station ID	Name and Designation	Hours Available	Telephone Number	Pager/mobile ile Number

DRAFT

Appendix 3 – OFR Test Form FM-EA-997

		TEST FORM – OFR				
About This Form:		For use when generators are testing over-frequency response to satisfy the requirements of the Ancillary Services Procurement Contract as an approved provider of over-frequency reserves (OFR). Test Forms are to be emailed to: market.operations@transpower.co.nz				
Asset Owner Requirements		- Secondary frequency injection tests are required to test relay device signals are being transmitted to protection relays correctly. - End-to-end test remains a requirement for any new connections and/or changes to systems including relay devices.				
SO Contact Details		Market Operations Email: market.operations@transpower.co.nz				

Section 1 Asset Information					
Ancillary Service Agent:	{Company}			Phone:	{Click here to enter No.}
Contact Person:	{AO Name}			Email:	{AO Email}
Date:	{Click or tap to enter a date}			Signed:	
Completed by:	{Click here to enter text}			Designation:	{Click here to enter text}
Asset Station:	{Click here to enter Station Name}			Unit No.:	{Click here to enter Unit No.}
Performance Requirements:	Trip frequency (Hz):	{Click here to enter Trip Frequency}		Trip Time (ms):	{Click here to enter Trip Time}

Section 2 OFR Audit Testing Results and/or Baseline Testing Results (2-Yearly)					
Remote enable/disable Control		Remote armed/disarmed Indications:		Trip Circuit Reviewed	Over-Frequency Relay Configuration Reviewed
Transpower:	SCADA:	Transpower:	SCADA:		
Choose an item.	Choose an item.	Choose an item.	Choose an item.	Choose an item.	Choose an item.
{Click or tap to enter a date}	{Click or tap to enter a date}	{Click or tap to enter a date}	{Click or tap to enter a date}	{Click or tap to enter a date}	{Click or tap to enter a date}
Comments:		{Click here to enter test result details}			

Ancillary Service Agent Attestation:	<i>The 2 yearly tests have been carried out in accordance with the Performance Requirements of OFR Contract requirements and [the Ancillary Service Agent] believes that the configured system will meet those requirements.</i> <i>[Ancillary Service Agent] can confirm that no changes have been made to any equipment or monitoring equipment which would require full baseline testing since the date of the last baseline tests.</i>	Digital Signature Required	
---	---	-----------------------------------	--

Section 3 OFR Baseline Testing Results (4-Yearly)					
Relay Testing Date:	Relay Operating Frequency (Hz):	Relay Operating Time (ms):	Circuit Breaker Operating Time (ms):	Circuit Breaker Testing Date (tested as part of baseline testing or as a separate test)	Total Trip Time (ms) (must be <0.5s):

[Click or tap to enter a date]	[Click here to enter frequency]	[Click here to enter time]	[Click here to enter time]	[Click or tap to enter a date]	[Click here to enter time]
Comments:	[Click here to enter test details]				
Attestation:	<i>The 4 yearly baseline tests have been carried out in accordance with the Performance Requirements of OFR Contract requirements and [the Ancillary Service Agent] believes that the configured system will meet those requirements.</i>			Digital Signature Required	
Section 4 Appendices					
Appendices:	[Click here to enter test results, drawings, and or test reports]				