

**Electricity Industry Participation (Demand-side Bidding
and Forecasting) Code Amendment 2011**

Pursuant to section 38 of the Electricity Industry Act 2010, I
make the following amendments to the Electricity Industry
Participation Code 2010.

At Wellington on the 10th day of October 2011



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Certified in order for signature:



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Amendment

- 1 Title**
This is the Electricity Industry Participation (Demand-side Bidding and Forecasting) Code Amendment 2011.
- 2 Commencement**
 - (1) This Amendment comes into force on 28 June 2012, except as provided in this clause.
 - (2) The following come into force on 28 March 2012:

- (a) the definitions of **conforming GXP** and **non-conforming GXP** in clause 4(a);
- (b) clause 21;
- (c) clause 67.

3 **Principal Code amended**

This Amendment amends the Electricity Industry Participation Code 2010.

4 **Interpretation**

Clause 1.1(1) is amended as follows:

- (a) by inserting the following definitions in their appropriate alphabetical order:

"**conforming GXP** means a **GXP** that—

- "(a) has been determined by the **Authority** to be a **conforming GXP** under clause 13.27A or 13.27B(4); or
- "(b) is deemed to be a **conforming GXP** under clause 13.27F

"**difference bid** means a **bid** submitted by a **purchaser**—

- "(a) under clause 13.7(1B)(a) in relation to a **conforming GXP**; and
- "(b) for the purpose of providing the **system operator** with an indication of the **purchaser's** reasonable prediction of an increase or decrease in the **purchaser's** usual quantity of **electricity** demanded for a **trading period** at a particular price at the **GXP**

"**expected near-constraint arc flows** means the scheduled quantity of energy flow on a transmission line or a transformer, if the energy flow is equal to or greater than 95% of the maximum energy flow limit (in **MW**) of the transmission line or transformer as set by the **system operator** in accordance with Schedule 13.3

"**expected near-group-constraint arc flows** means the scheduled quantity of energy flow on a group of transmission lines or a group of transformers or a group of transmission lines and transformers, calculated according to a **group constraint formula** covering the group, if the scheduled quantity of energy flow is equal to or above 95% of the maximum energy flow limit (in **MW**) for the

group as set by the **system operator** in accordance with Schedule 13.3

"nominated bid means a **bid** submitted by a **purchaser**—

- "(a) under clause 13.7(1)(a) in relation to a **non-conforming GXP**; and
- "(b) includes a **nominated bid** that is deemed to be made under clause 13.8A; and
- "(c) for the purpose of providing the **system operator** with an indication of the **purchaser's** reasonable prediction of total quantity of **electricity** that will be demanded for a **trading period** at a particular price at the **GXP**

"non-conforming GXP means a **GXP** that has been determined by the **Authority** to be a **non-conforming GXP** under clause 13.27A or 13.27B(4)

"non-response schedule means the schedule prepared by the **system operator**—

- "(a) under clause 13.58(1)(b); and
- "(b) for the purpose of assisting **generators, purchasers, consumers, ancillary service agents, and grid owners** to manage their resources

"price-responsive schedule means the schedule prepared by the **system operator**—

- "(a) under clause 13.58(1)(a); and
- "(b) for the purpose of assisting **generators, purchasers, consumers, ancillary service agents, and grid owners** to manage their resources

"schedule length period means,—

- "(a) in relation to a **price-responsive schedule** or a **non-response schedule** prepared under clause 13.62(1)(a), the current **trading period** and the following 71 **trading periods**; and
- "(b) in relation to a **price-responsive schedule** or a **non-response schedule** prepared under clause 13.62(1)(b), the current **trading period** and the following 7 **trading periods**"

- (b) by revoking the definition of **bid** and substituting the following definition:

"bid,—

- "(a) means—

- "(i) a **nominated bid**;
 - "(ii) a **difference bid**; and
 - "(b) includes a **bid** revised in accordance with clause 13.19A; but
 - "(c) excludes a **bid** cancelled in accordance with clause 13.19A"
- (c) by amending the definition of **bona fide physical reason** by—
- (i) revoking paragraph (b)(iv) and substituting the following subparagraph:
 "(iv) a reasonably unforeseeable physical infeasibility that arises from a **price-responsive schedule**, a **non-response schedule**, or a **dispatch schedule**; and"; and
 - (ii) inserting a comma after "**purchaser**" in the first place where it appears in paragraph (c); and
 - (iii) omitting "by that **purchaser** or **ancillary service agent**" in paragraph (c)(i) and substituting "by the **purchaser** or the **ancillary service agent**":
- (d) by amending the definition of **dispatch** by—
- (i) inserting a comma after "scheduling" in paragraph (a); and
 - (ii) omitting "**pre-dispatch schedule**" in paragraph (c) and substituting "**dispatch schedule**":
- (e) by revoking the definition of **forecast prices** and substituting the following definition:
- "forecast prices** means the prices for **electricity** at all **grid exit points**, **grid injection points**, and **reference points** scheduled in the **price-responsive schedule** or the **non-response schedule** (whichever is the case) in dollars and cents"
- (f) by revoking the definition of **forecast reserve prices** and substituting the following definition:
- "forecast reserve prices** means the prices for **fast instantaneous** and **sustained instantaneous reserve** for each **island** scheduled in the **price-responsive schedule** or the **non-response schedule** (whichever is relevant) in dollars and cents"
- (g) by revoking the definition of **reserve offer** and substituting the following definition:
- "reserve offer** means the information an **ancillary service agent** submits to the **system operator**

under clauses 13.37 to 13.54 specifying the quantity of **instantaneous reserve** the **ancillary service agent** is willing and able to provide—

- "(a) including a **reserve offer** that is revised in accordance with clauses 13.46 and 13.47; but
- "(b) excluding a **reserve offer** that is cancelled in accordance with clauses 13.46 and 13.47"

- (h) by revoking the definition of **schedule period** and substituting the following definition:

"**schedule period** means the current **trading period** and the following 71 **trading periods**"

- (i) by revoking the definitions of **dispatch arc flows**, **dispatch group constraint arc flows**, **dispatch prices**, **dispatch quantities**, **pre-dispatch schedule**, and **schedule of dispatch prices**, **dispatch quantities**, **dispatch arc flows**, **dispatch group constraint arc flows**, **group constraint formulas** and **HVDC component flows**.

5 Contents of this Part

Clause 13.1 is amended as follows:

- (a) by revoking paragraphs (a) and (b) and substituting the following paragraphs:

"(a) **purchasers** and **generators** submit and revise **bids** and **offers** for **electricity**, **grid owners** submit and revise information, **ancillary service agents** submit and revise **reserve offers**, the **system operator** forecasts **demand** at **conforming GXPs**, and the **system operator** collects information to enable schedules to be prepared; and

"(b) the **system operator** prepares and **publishes** information from the **price-responsive schedules**, **non-response schedules**, **dispatch schedules**, and **real time price schedules**, and formulates and issues **dispatch instructions**; and":

- (b) by inserting the following paragraph after paragraph (d):

"(da) the **Authority** determines whether each **GXP** is either a **conforming GXP** or a **non-conforming GXP**; and".

6 Bids and offers must be lawful

Clause 13.5 is amended by omitting "the performance of any contract that would arise from the acceptance of" and substituting "acting in accordance with".

7 **Generators**

Clause 13.6 is amended by revoking subclauses (1) to (3) and substituting the following subclauses:

- "(1) Each **generator** (other than an **embedded generator** submitting an **offer** in accordance with subclause (2) or an **intermittent generator** submitting an **offer** in accordance with subclause (3)) must—
 - "(a) submit to the **system operator** an **offer**—
 - "(i) for each **trading period** in the **schedule period**; and
 - "(ii) under which the **generator** is prepared to sell **electricity** to the **clearing manager**; and
 - "(b) ensure that the **system operator** receives an **offer** at least 71 **trading periods** before the beginning of the **trading period** to which the **offer** applies.
- "(2) Despite subclause (1), each **embedded generator** required by the **system operator** to provide an **offer** in accordance with clause 8.25(5) (other than an **embedded generator** who is also an **intermittent generator** submitting an **offer** in accordance with subclause (3)), must —
 - "(a) submit to the **system operator** an **offer**—
 - "(i) for each **trading period** of the **schedule period**; and
 - "(ii) under which the **generator** is intending to generate **electricity**; and
 - "(b) ensure that the **system operator** receives the **offer** at least 71 **trading periods** before the beginning of the **trading period** to which the **offer** applies.
- "(3) Despite subclauses (1) and (2), each **intermittent generator** with a **point of connection** to the **grid**, and each **intermittent generator** with a **point of connection** to a **local network**, required by the **system operator** to provide an **offer** under clause 8.25(5), must—
 - "(a) submit to the **system operator** an **offer**—
 - "(i) for each **trading period** of the **schedule period**; and
 - "(ii) which is based on the **intermittent generator's** forecast of the **electricity** that it expects to be able to generate; and

- "(b) ensure that the **system operator** receives the **offer** at least 71 **trading periods** before the beginning of the **trading period** to which the **offer** applies."

8 **Purchasers will submit bids**

- (1) Clause 13.7 is amended by revoking the heading and subclause (1) and substituting the following heading and subclauses:

"13.7 Purchasers to submit bids

- "(1) Each **purchaser** at a **non-conforming GXP** must—

- "(a) submit to the **system operator** a **nominated bid**—

- "(i) for each **trading period** in a **schedule period**; and

- "(ii) in relation to the **non-conforming GXP**; and

- "(b) ensure that the **system operator** receives the **nominated bid** at least 71 **trading periods** before the beginning of the **trading period** to which the **bid** applies.

- "(1A) Despite subclause (1), if a **purchaser** does not submit a **nominated bid** for a **trading period**—

- "(a) the **purchaser** does not breach subclause (1); and

- "(b) clause 13.8A applies.

- "(1B) Each **purchaser** at a **conforming GXP**—

- "(a) may submit to the **system operator** a **difference bid** for a **trading period** in relation to the **conforming GXP**; and

- "(b) must ensure that, if the **purchaser** submits a **difference bid**, the **system operator** receives the **difference bid** at least 2 hours before the beginning of the **trading period** to which the **difference bid** applies."

- (2) Clause 13.7(2) is amended by omitting "subclause (1)" and substituting "subclauses (1) and (1B)".

9 **New clauses 13.7A and 13.7B inserted**

The following clauses are inserted after clause 13.7:

"13.7A System operator to prepare forecast of demand at conforming GXPs

- "(1) The **system operator** must prepare a forecast of **demand** for each **conforming GXP** for each **trading period** in a **schedule period**.

- "(2) The **system operator** must—

- "(a) disclose to the **Authority** a description of the processes and methodology it uses to prepare the forecast of **demand**; and
- "(b) make available to the public on the **system operator's** website at all reasonable times, either—
 - "(i) the description it disclosed to the **Authority** under paragraph (a); or
 - "(ii) a summary of the processes and methodology it uses to prepare the forecast of **demand**.
- "(3) Despite subclause (2), the **system operator** is required to disclose or to make information available under subclause (2) only if the information—
 - (a) is available to the **system operator**; and
 - (b) is not confidential or commercially sensitive.

"13.7B Authority may request system operator to report on accuracy of forecasts of demand

- "(1) The **Authority** may, from time to time, request the **system operator** to report to the **Authority** on the accuracy of the forecast of **demand** that it prepares under clause 13.7A.
- "(2) A request—
 - "(a) must specify the period that must be covered by the report; and
 - "(b) must specify a reasonable date by which the **system operator** must provide the report; and
 - "(c) must be made no more frequently than once per calendar month, unless the **system operator** agrees otherwise.
- "(3) The **system operator** must comply with a request made under this clause."

10 New clauses 13.8 and 13.8A substituted

Clause 13.8 is revoked and the following clauses substituted:

"13.8 Deemed offers

- "(1) This clause applies if, on any **trading day** ("the current **trading day**"), a **generator** has not submitted an **offer** for a **trading period** in the **trading day** following the next **trading day**.
- "(2) A **generator** is deemed to have submitted, for that **trading period**, an **offer** that is the same as the **offer** the **generator** made for the corresponding **trading period** on the current **trading day**, and clause 13.9(b) applies accordingly.

- "(3) A deemed **offer** under subclause (2) applies until the **generator** cancels or revises the **offer** in accordance with clauses 13.19 to 13.21.

"13.8A Deemed nominated bids

- "(1) This clause applies if, on any **trading day** ("the current **trading day**"), a **purchaser** has not submitted a **nominated bid** for a **trading period** in the **trading day** following the next **trading day**.
- "(2) A **purchaser** is deemed to have submitted, for that **trading period**, a **nominated bid** that is the same as the **nominated bid** the **purchaser** made for the corresponding **trading period** on the current **trading day**, and clause 13.13(1)(b) applies accordingly.
- "(3) A deemed **nominated bid** under subclause (2) applies until the **purchaser** cancels or revises the **nominated bid** in accordance with clauses 13.19A to 13.21."

11 New clause 13.13 substituted

Clause 13.13 is revoked and the following clause substituted:

"13.13 Information to be contained in bids

- "(1) A **purchaser** must ensure that each of its **nominated bids**—
- "(a) contains all information required by Form 4 in Schedule 13.1; and
 - "(b) represents the **purchaser's** reasonable endeavours to predict the total quantity of **electricity** that will be demanded at the **GXP** by the **purchaser** for the relevant **trading period** at the relevant price contained in the **nominated bid**.
- "(2) A **purchaser** must ensure that each of its **difference bids**—
- "(a) contains all information required by Form 4A in Schedule 13.1; and
 - "(b) represents the **purchaser's** reasonable endeavours to predict an increase or decrease in its usual quantity of **electricity** demanded for a **trading period** at a relevant price at the **GXP**."

12 New clause 13.14 substituted

Clause 13.14 is revoked and the following clause substituted:

"13.14 Nominated bids may contain up to 10 price bands

- "(1) A **nominated bid** submitted by a **purchaser** may have a maximum of 10 price bands for each **trading period**.
- "(2) The price in each band must decrease progressively from band to band as the aggregate quantity increases.
- "(3) The highest price band in each **nominated bid** is deemed to start at a quantity of 0."

13 New clause 13.14A inserted

The following clause is inserted after clause 13.14:

"13.14A Difference bids may contain up to 10 price bands

A **difference bid** submitted by a **purchaser** may have a maximum of—

- "(a) 5 price bands for each **trading period** representing the **purchaser's** progressive increase in its usual quantity of **electricity** demanded for the **trading period**. The price in each band must decrease progressively from band to band as the aggregate quantity increases; and
- "(b) 5 price bands for each **trading period** representing the **purchaser's** progressive decrease in its usual quantity of **electricity** demanded for the **trading period**. The price in each band must increase progressively from band to band as the aggregate quantity increases."

14 Bids or offers may be revised or cancelled

- (1) The heading to clause 13.17 is amended by omitting "Bids or offers" and substituting "Offers".
- (2) Clause 13.17(1) is amended as follows:
 - (a) by omitting "**purchaser** or";
 - (b) by revoking paragraphs (a) and (b) and substituting the following paragraphs:
 - "(a) revise any of its **offer** prices or **offer** quantities, as the case may be, for any **trading period** by submitting a new **offer** to the **system operator**. A revised **offer** may be made up to 2 hours before the beginning of the **trading period** in respect of which the **offer** was made; or
 - "(b) cancel any of its **offers** by notice in writing to the **system operator**. Any such cancellation

of an **offer** may be made up to 2 hours before the beginning of the **trading period** in respect of which the **offer** was made."

15 When revised bids or offers must be submitted

- (1) The heading to clause 13.18 is amended by omitting "bids or".
- (2) Clause 13.18(1) is amended as follows:
 - (a) by omitting "the **bid** or **offer** applies," and substituting "an **offer** applies, and";
 - (b) by omitting "a **purchaser** or";
 - (c) by inserting "(3)" after "clause 13.17";
 - (d) by omitting "**bid** or" after "immediately submit revised";
 - (e) by revoking paragraph (a);
 - (f) by amending paragraph (b) by omitting "**pre-dispatch**" and substituting "**non-response**";
 - (g) by amending paragraph (c) by omitting "— but no **purchaser** or **generator** is required to submit a revised **bid** or **offer** quantity if the expected change in the quantity is less than 5 MW".
- (3) Clause 13.18 is amended by inserting the following subclause after subclause (1):

"(1A) Despite subclause (1), a **generator** is not required to submit a revised **offer** quantity if the expected change in the quantity is less than 5 MW."
- (4) Clause 13.18(2) is amended as follows:
 - (a) by omitting "**purchaser** or";
 - (b) by omitting "**bid** or" in each place where it appears.

16 Quantity changes may be made within 2 hours before trading period

- (1) The heading to clause 13.19 is amended by omitting "Quantity" and substituting "Offer quantity".
- (2) Clause 13.19 is amended as follows:
 - (a) by omitting "**purchaser** or";
 - (b) by amending paragraph (a) by omitting "a" after "cancel or revise" and substituting "an";
 - (c) by omitting "**bid** or" in each place where it appears.

17 New clause 13.19A inserted

The following clause is inserted after clause 13.19:

"13.19A Bids may be revised or cancelled

"(1) Each **purchaser** may—

- "(a) revise any of its **bid** prices or **bid** quantities for any **trading period** by submitting a new **bid** to the **system operator**; or

- "(b) cancel any of its **bids** by notice in writing to the **system operator**.
- "(2) Despite subclause (1), a **purchaser** must not do any of the following within the 2 hours before the beginning of the **trading period** in respect of which a **bid** is made:
 - "(a) revise the **bid** price:
 - "(b) revise the **bid** quantity:
 - "(c) cancel the **bid**.
- "(3) Despite subclause (2),—
 - "(a) a **purchaser** may do any of the following within the 2 hours before the beginning of the **trading period** in respect of which a **bid** is made, if the **purchaser** has a **bona fide physical reason** necessitating the **purchaser** to do so:
 - "(i) revise its **bid** quantities:
 - "(ii) cancel the **bid**:
 - "(b) before the beginning of the **trading period** to which a **nominated bid** applies, the **purchaser** who submitted the **nominated bid** must immediately submit a revised **nominated bid** quantity to the **system operator** if the **purchaser** expects, or ought reasonably to expect, that the quantity of **electricity** likely to be purchased by the **purchaser** at the prices indicated in the **nominated bid** will differ from the quantity in the **nominated bid** by more than the lesser of—
 - "(i) 20MW; and
 - "(ii) 20% of the **nominated bid** quantity:
 - "(c) if the **system operator** declares a **grid emergency**, a **purchaser** may revise a **nominated bid** in accordance with clauses 13.99 and 13.100.
- "(4) Despite subclause (3)(b), a **purchaser** is not required to submit a revised **nominated bid** quantity, if the expected change in the quantity is less than 5 MW.
- "(5) Whether or not the cancellation or revision was in accordance with this clause must be determined in accordance with clause 13.21(2)."

18 New clause 13.20 substituted

Clause 13.20 is revoked and the following clause substituted:

"13.20 System operator notified of revised or cancelled nominated bids or offers in certain circumstances

- "(1) Subclause (2) applies if a **purchaser** at a **non-conforming GXP** or a **generator** submits a revised **nominated bid** or **offer**, or cancels a **nominated bid** or **offer**, within 15 minutes before the relevant **trading period**.
- "(2) If this subclause applies, before submitting a revision or cancellation, a **purchaser** or **generator** (other than an **intermittent generator** submitting a revised **offer** under clause 13.17), must immediately notify the **system operator** of the revision or cancellation by telephone or electronic means (if the electronic means have been agreed between the **system operator** and the **purchaser** or **generator** before the **purchaser** or **generator** notified the revision or cancellation)."

19 Authority notified of new, revised or cancelled bid or offer inside the 2 hour period

- (1) The heading to clause 13.21 is amended by omitting "new,".
- (2) Clause 13.21(1) is amended as follows:
- (a) by omitting "submits a new or revised" and substituting "revises a":
 - (b) by omitting "such new submission,":
 - (c) by omitting "new submission," in both places where it appears:
 - (d) by omitting "submission," after "**trading day** on which the".
- (3) Clause 13.21(2) is amended as follows:
- (a) by omitting "cancellation, revised **bid** or **offer**, or new **bid** or **offer**" and substituting "cancellation or revised **bid** or **offer**:"
 - (b) by omitting "13.19" and substituting "13.19A (in the case of **bids**) or clause 13.19 (in the case of **offers**)".

20 Transmission of information through information system

Clause 13.22(3) is amended by omitting "a confirmation that its information has been received by the **system operator**" and substituting "the confirmation".

21 New heading and clauses 13.27A to 13.27K inserted

The following heading and clauses are inserted after clause 13.27:

*"Process for determining conforming and non-conforming
grid exit points*

"13.27A Authority determines conforming and non-conforming GXPs on own initiative

The **Authority** may, on its own initiative,—

- "(a) determine whether a **GXP**, which is deemed to be a **conforming GXP** under clause 13.27F, is a **conforming GXP** or a **non-conforming GXP**;
- "(b) reconsider a previous determination, and as a result may decide to replace the previous determination with a new determination.

"13.27B Authority to determine conforming and non-conforming GXPs if requested

"(1) Subclause (4) applies if—

- "(a) a **purchaser** or the **system operator** makes a request under clause 13.27H; and
- "(b) the **Authority** decides there are valid grounds to consider the request.

"(2) The **Authority** must decide whether to proceed with the request within a reasonable time after receiving the request.

"(3) If the **Authority** decides there are no valid grounds to consider the request, the **Authority** must notify the requester in writing of—

- "(a) the **Authority's** decision; and
- "(b) the grounds for the **Authority's** decision.

"(4) If subclause (1) applies, the **Authority** must—

- "(a) determine whether a **GXP**, which is deemed to be a **conforming GXP** under clause 13.27F, is a **conforming GXP** or a **non-conforming GXP**;
- "(b) reconsider a previous determination, and as a result may decide to replace the previous determination with a new determination.

"13.27C Process for making a determination

"(1) In making a determination, the **Authority** must—

- "(a) apply the methodology set out in Schedule 13.7; and
- "(b) request and take into account advice from the **system operator**; and
- "(c) take into account any information submitted by a **purchaser** who purchases **electricity** at the **GXP**.

- "(2) The **Authority** must make a determination in accordance with the methodology in Schedule 13.7, unless—
 - "(a) the **Authority** has applied the methodology; and
 - "(b) according to the methodology, the **GXP** is a **conforming GXP**; and
 - "(c) the **Authority** considers that the **GXP** should be treated as a **non-conforming GXP**; and
 - "(d) the **Authority** has **publicised** criteria under clause 13.27E; and
 - "(e) making a determination that the **GXP** is a **non-conforming GXP** is in accordance with the criteria.
- "(3) If paragraphs (a) to (e) in subclause (2) apply, the **Authority** may make a determination in accordance with the criteria **publicised** under clause 13.27E.
- "(4) As soon as practicable after making a determination, the **Authority** must—
 - "(a) advise all **purchasers** and the **system operator**—
 - "(i) of its determination; and
 - "(ii) whether, in making the determination, the **Authority** has followed—
 - "(A) the methodology set out in Schedule 13.7; or
 - "(B) the criteria **publicised** under clause 13.27E; and
 - "(iii) of the right to request, under clause 13.27H, a reconsideration of the determination; and
 - "(b) if the determination was requested under clause 13.27H, provide reasons for its decision to the requester.

"13.27D System operator to provide advice within reasonable time

The **system operator** must provide the advice requested under clause 13.27C(1)(b) within a reasonable time specified by the **Authority**.

"13.27E Authority may publicise criteria for determining GXP to be non-conforming

- "(1) The **Authority** may **publicise** criteria that set out the circumstances in which the **Authority** may make a determination that does not follow the methodology set out in Schedule 13.7.

"(2) The **Authority** must consult with **participants** before—

"(a) **publicising** the criteria under subclause (1):

"(b) amending the criteria **publicised** under subclause (1).

"13.27F GXP deemed to be conforming GXP before determination is made

If the **Authority** has not made a determination for a **GXP**, the **GXP** is deemed to be a **conforming GXP** until the **Authority** determines otherwise.

"13.27G Authority must publicise and maintain list of non-conforming and conforming GXPs

The **Authority** must **publicise** and maintain a list of all **non-conforming GXPs** and all **conforming GXPs**, including—

"(a) the mean **demand** (in **MW**) for each **GXP** calculated in accordance with clause 1(b) of Schedule 13.7; and

"(b) if the mean **demand** for a **GXP** is 10 **MW** or more, the unpredictability measure for the **GXP** calculated in accordance with clause 1(c) of Schedule 13.7.

"13.27H Right to request determination or reconsideration of determination

"(1) A **purchaser** may request that the **Authority**—

"(a) determine whether a **GXP** is a **conforming GXP** or a **non-conforming GXP**, in respect of a **GXP**—

“(i) at which the **purchaser** purchases **electricity**; and

“(ii) which is deemed to be a **conforming GXP** under clause 13.27F;

"(b) reconsider a determination made under clause 13.27A or clause 13.27B(4) for a **GXP** at which the **purchaser** purchases **electricity**.

"(2) The **system operator** may request that the **Authority**—

"(a) determine whether a **GXP**, which is deemed to be a **conforming GXP** under clause 13.27F, is a **conforming GXP** or a **non-conforming GXP**;

"(b) reconsider a determination made under clause 13.27A or clause 13.27B(4).

- "(3) The person making the request may provide the **Authority** with information that the person considers relevant to its request.

"13.27I Effect of determination

- "(1) When making a determination, the **Authority** must specify a date and a **trading period** from which the determination takes effect.
- "(2) The **Authority** must not specify a date that is earlier than 5 **business days** after the date on which the **Authority** makes the determination.

"13.27J New GXPs

At least 1 calendar month before a **grid owner** connects a **GXP** to the **grid** for the first time, the **grid owner** must advise the **Authority** in writing of its intention to connect the **GXP**.

"13.27K Authority to provide information at purchaser's request

- "(1) After the **Authority** has made a determination under clause 13.27A or clause 13.27B(4) for a **GXP**, a **purchaser** who purchases **electricity** at the **GXP** may request from the **Authority** the following information in relation to the **GXP**:
- "(a) reconciled **half hour demand** data (in **MW**), as described in clause 2(1)(a) of Schedule 13.7:
- "(b) information about the way in which **demand** switching information (described in clause 2(1)(b) of Schedule 13.7) has been used to prepare the adjusted reconciled **half hour demand** data described in clause 1(a) of Schedule 13.7:
- "(c) information about the one-off events described in clause 2(1)(c) and clause 2(3) of Schedule 13.7 and the way in which those one-off events have been used to prepare the adjusted reconciled **half hour demand** data described in clause 1(a) of Schedule 13.7:
- "(d) the adjusted reconciled **half hour demand** data (in **MW**), as described in clause 1(a) of Schedule 13.7:
- "(e) the estimates of the adjusted reconciled **half hour demand** produced by the statistical predictive model under clause 3(1)(a) of Schedule 13.7, and the residuals calculated under clause 3(1)(b) of Schedule 13.7.

- "(2) If a **purchaser** requests information under subclause (1), the **Authority** must provide the information if the information—
- "(a) is available to the **Authority**; and
 - "(b) is not confidential; and
 - "(c) is not commercially sensitive."

22 New heading before clause 13.28 inserted

The following heading is inserted before clause 13.28:

"Special treatment of some grid exit points"

23 Special treatment of some grid exit points

Clause 13.28(1) is amended as follows:

- (a) by inserting "determining the status of a **GXP** under clause 13.27A or clause 13.27B(4), submitting **bids**, scheduling," after "for the purposes of";
- (b) by omitting "scheduling," after "**dispatch**, pricing,".

24 Transmission grid capability information to be updated

Clause 13.32 is amended as follows:

- (a) by omitting "by 1300 hours on each **trading day**";
- (b) by omitting "the following" and substituting "a **schedule period**, or for such longer".

25 Ancillary service agents to submit reserve offers to system operator

Clause 13.38 is amended by revoking subclause (1) and substituting the following subclauses:

- "(1) Each **ancillary service agent** who has a contract described in clause 13.37 may submit **reserve offers** to the **system operator**.
- "(1A) An **ancillary service agent** who submits a **reserve offer** must ensure that the **system operator** receives the **reserve offer** at least 71 **trading periods** before the end of the **trading period** to which the **reserve offer** applies."

26 Inter-relationship between reserve offers of interruptible load and energy bids

- (1) The heading to clause 13.40 is amended by omitting "energy" and substituting "electricity".
- (2) Clause 13.40 is amended as follows:
 - (a) by omitting "made under clauses 13.7(1) and 13.38(1) respectively";
 - (b) by omitting "13.13(b)" and substituting "13.13(1)(b) or 13.13(2)(b)".

- 27 **Reserve offers may be revised or cancelled**
Clause 13.46(3)(b) is amended by omitting "**pre-dispatch**" and substituting "**non-response**".
- 28 **Availability of final bids and final offers**
(1) The heading to clause 13.55 is amended by omitting "final bids and final offers" and substituting "bids, offers, and reserve offers".
(2) Clause 13.55 is amended by revoking subclauses (6) and (7).
- 29 **New clause 13.55A inserted**
The following clause is inserted after clause 13.55:
"13.55A System operator to make information available
"(1) The **system operator** must retain, for at least 2 years,—
 "(a) information about all **bids**, cancelled **bids**, **offers**, cancelled **offers**, **reserve offers**, and cancelled **reserve offers** submitted by a **purchaser**, **generator**, or **ancillary service agent** for a **trading period**; and
 "(b) each forecast of **demand** prepared under clause 13.7A.
"(2) Any person may request that the **system operator** make available any of the information described in subclause (1) for any **trading period** that occurred at least 1 day before the date of the request.
"(3) The **system operator** must make the requested information available in a manner, and for a fee, that is reasonable having regard to the size and nature of the request."
- 30 **New clause 13.56 substituted**
Clause 13.56 is revoked and the following clause substituted:
"13.56 Contents of this subpart
This subpart specifies—
 "(a) the **system operator's dispatch objective**; and
 "(b) the process for preparing a **price-responsive schedule** and **non-response schedule**, including the contents of and inputs for those schedules; and
 "(c) the process by which the **system operator** prepares a **dispatch schedule**; and

- "(d) the process by which the **system operator** prepares and issues **dispatch instructions**; and
- "(e) the requirement for **generators** and **ancillary service agents** to comply with **dispatch instructions**; and
- "(f) the process for preparation and **publication** by the **system operator** of the schedule of **real time prices**; and
- "(g) the implications of a **grid emergency** for **bids, offers** and **reserve offers**; and
- "(h) the **system operator's** reporting obligations; and
- "(i) the requirement for the **system operator** to **publish** scheduling information."

31 Process for preparing pre-dispatch schedule

- (1) The heading to clause 13.58 is amended by omitting "pre-dispatch" and substituting "price-responsive schedule and non-response".
- (2) Clause 13.58 is amended by revoking subclauses (1) to (4) and substituting the following subclauses:
 - "(1) The **system operator** must prepare—
 - "(a) a **price-responsive schedule**; and
 - "(b) a **non-response schedule**.
 - "(1A) The **system operator** must prepare the schedules listed in subclause (1) in accordance with the timing required under clause 13.62.
 - "(3A) In preparing each **price-responsive schedule**, the **system operator** must—
 - "(a) use the most recent information received under subpart 1; and
 - "(b) use all other information described in clause 13.58A(1); and
 - "(c) act in accordance with Schedule 13.3.
 - "(3B) In preparing each **non-response schedule**, the **system operator** must—
 - "(a) use the most recent information received under subpart 1; and
 - "(b) use all other information described in clause 13.58A(2); and
 - "(c) act in accordance with Schedule 13.3.
 - "(4) As soon as practicable after the **system operator** has completed preparing a **price-responsive schedule** and a **non-response schedule**, the **system operator** must send the **price-responsive schedule** and the **non-response schedule** to the **clearing manager**."

32 **New clause 13.58A inserted**

The following clause is inserted after clause 13.58:

"13.58A Inputs for price-responsive schedule and non-response schedule

- "(1) The **system operator** must prepare a **price-responsive schedule** using the following inputs:
- "(a) **offers** and **reserve offers**; and
 - "(b) **nominated bids**; and
 - "(c) the forecast of **demand** prepared by the **system operator** under clause 13.7A; and
 - "(d) **difference bids**; and
 - "(e) information provided to the **system operator** by a **grid owner** under clauses 13.29 to 13.34 about—
 - "(i) the AC transmission system configuration, capacity, and **losses**; and
 - "(ii) the **HVDC link** configuration, capacity, and **losses**; and
 - "(iii) transformer configuration, capacity, and **losses**; and
 - "(f) the adjustments specified in subclause (2)(e), subject to any exceptions specified in the **policy statement**; and
 - "(g) information about **voltage support** from contracts held by the **system operator** under the **procurement plan**; and
 - "(h) information from **ancillary service agents** about **instantaneous reserves** procured under the **procurement plan**.
- "(2) The **system operator** must prepare a **non-response schedule** using the following inputs:
- "(a) **offers** and **reserve offers**; and
 - "(b) **nominated bid** quantities; and
 - "(c) the forecast of **demand** prepared by the **system operator** under clause 13.7A; and
 - "(d) information provided to the **system operator** by a **grid owner** under clauses 13.29 to 13.34 referring to—
 - "(i) the AC transmission system configuration, capacity, and **losses**; and
 - "(ii) the **HVDC link** configuration, capacity, and **losses**; and
 - "(iii) transformer configuration, capacity, and **losses**; and
 - "(e) adjustments made by the **system operator** under clause 13(1) of Schedule 13.3, in order to meet the **dispatch objective**; and

- "(f) information about **voltage support** from contracts held by the **system operator** under the **procurement plan**; and
- "(g) information from **ancillary service agents** about **instantaneous reserves** procured under the **procurement plan**."

33 New clause 13.59 substituted

Clause 13.59 is revoked and the following clause substituted:

"13.59 Contents of each price-responsive schedule and non-response schedule

For each **trading period** in the **schedule length period**,—

- "(a) each **price-responsive schedule** and each **non-response schedule** prepared by the **system operator** must specify—
 - "(i) the expected average level of **electricity** output for each **generating plant** or **generating unit**; and
 - "(ii) the expected average level of **instantaneous reserve** for each **generating plant** or **generating unit**; and
 - "(iii) the expected average level of **interruptible load** for each **ancillary service agent** for each **grid exit point** or **interruptible load group grid exit point**; and
 - "(iv) the indicative **frequency keeping generating stations** for each **island**; and
 - "(v) the expected average level of **demand** at each **grid exit point**; and
 - "(vi) **forecast prices**; and
 - "(vii) **forecast reserve prices**; and
 - "(viii) **forecast marginal location factors** for each **grid injection point** and each **grid exit point**; and
 - "(ix) the expected largest single reserve risk for each **island**; and
 - "(x) the expected level of **fast instantaneous reserve** and **sustained instantaneous reserve** required in each **island**; and
 - "(xi) a stack of **reserve offers** for each **island** (ranking in price order from lowest to highest), and for each **island**

- separate stacks must be provided for **fast instantaneous reserve** and **sustained instantaneous reserve**; and
- "(xii) a stack of all **reserve offers** for each **island** (ranking in price order from lowest to highest) adjusted for the expected level of energy output for each **generating plant** or **generating unit**, and for each **island** separate stacks must be provided for **fast instantaneous reserve** and **sustained instantaneous reserve**; and
 - "(xiii) the expected **HVDC component flows**; and
 - "(xiv) the expected **HVDC risk offsets**; and
 - "(xv) the expected **near-constraint arc flows**; and
 - "(xvi) the expected **near-group-constraint arc flows**; and
 - "(xvii) the **group constraint formulas** relating to the expected **near-group-constraint arc flows**; and
 - "(b) each **price-responsive schedule** prepared by the **system operator** must specify the expected quantities for each **bid**; and
 - "(c) each **non-response schedule** prepared by the **system operator** must specify the expected quantity of **demand**—
 - "(i) at each **conforming GXP**; and
 - "(ii) for each **nominated bid**."

34 Block dispatch may occur

Clause 13.60(2)(b) is amended by omitting "**pre-dispatch**" and substituting "**non-response**".

35 New clause 13.62 substituted

Clause 13.62 is revoked and the following clause substituted:

"13.62 Frequency of price-responsive schedules and non-response schedules

"(1) The **system operator** must use reasonable endeavours to commence preparing a **price-responsive schedule** and a **non-response schedule**—

- "(a) once in every 4th **trading period** throughout the **trading day**, for a period covering—

- "(i) the **trading period** in which the **system operator** commences preparing the relevant schedule; and
- "(ii) the following 71 **trading periods**; and
- "(b) once in each **trading period** for a period covering—
 - "(i) the **trading period** in which the **system operator** commences preparing the relevant schedule; and
 - "(ii) the following 7 **trading periods**.
- "(2) The **system operator** must use reasonable endeavours to ensure that—
 - "(a) each time it prepares a **price-responsive schedule**, it prepares a **non-response schedule** at the same time; and
 - "(b) each time it prepares a **non-response schedule**, it prepares a **price-responsive schedule** at the same time.
- "(3) The **system operator** must complete a schedule—
 - "(a) if it commenced preparing the schedule under subclause (1)(a), by the end of the **trading period** after the **trading period** in which the **system operator** commenced preparing the schedule; and
 - "(b) if it commenced preparing the schedule under subclause (1)(b), by the end of the **trading period** in which the **system operator** commenced preparing the schedule."

36 Receipt of new pre-dispatch schedule supersedes old schedule

- (1) The heading to clause 13.68 is amended by omitting "pre-dispatch" and substituting "non-response".
- (2) Clause 13.68(1) is amended by omitting "**pre-dispatch**" and substituting "**non-response**".

37 System operator must use certain things

Clause 13.71(d) is amended as follows:

- (a) by inserting "**nominated**" after "revised";
- (b) by omitting "13.19" and substituting "13.19A".

38 Heading and clause 13.87 revoked

- (1) The heading before clause 13.87 is revoked.
- (2) Clause 13.87 is revoked.

39 Preparation of real time prices

- (1) The heading to clause 13.88 is amended by inserting "schedule of" after "Preparation of".

- (2) Clause 13.88(1) is amended by inserting "the schedule of" after "to produce".
- (3) Clauses 13.88(2) to 13.88(4) are amended by omitting "set" in each place where it appears and substituting in each case "schedule".
- (4) Clause 13.88(4) is amended by omitting "that" after "required to calculate" and substituting "the".

40 Publication of real time prices

- (1) The heading to clause 13.89 is amended by inserting "schedule of" after "Publication of".
- (2) Clause 13.89 is amended by inserting "each schedule of" after "to **publish**".

41 Process for publishing real time prices

Clause 13.90(1) is amended as follows:

- (a) by omitting "that" in the first place where it appears and substituting "the";
- (b) by omitting "set" in both places where it appears and substituting in each case "schedule";
- (c) by omitting "13.103" in each place where it appears and substituting in each case "13.104".

42 Effect of grid emergency on total quantities bid

Clause 13.99(a) is amended as follows:

- (a) by inserting "**nominated**" after "in all of the";
- (b) by omitting "**grid exit points**" and substituting "**non-conforming GXPs**".

43 Purchasers may change other parameters

- (1) Clause 13.100 is amended by revoking paragraph (a) and substituting the following paragraph:
 "(a) increase the quantities bid in respect of a **non-conforming GXP**, or submit **nominated bids** at **non-conforming GXPs** that were not subject to **nominated bids** before the **grid emergency**, if equivalent decreased quantities are, in substitution, bid for **non-conforming GXPs** in the affected electrical or geographical region, as notified by the **system operator** under clause 5(1) of **Technical Code B** of Schedule 8.3, which were the subject of **nominated bids** made by the **purchaser**; and".
- (2) Clause 13.100(b) is amended by omitting "**grid exit point**" and substituting "**non-conforming GXP**".

44 Reporting requirements in respect of grid emergencies

- (1) Clause 13.101(1)(b) is amended by omitting "A reduction made in the period up to 1200 hours on a **trading day**

must be reported to the **Authority** by 1700 hours on that **trading day**. A reduction made after 1200 hours on a **trading day** must be reported to the **Authority** by 0900 hours on the following **trading day**" and substituting "A reduction must be reported to the **Authority** by 1700 hours on the first **business day** after the **trading day** on which the reduction was made".

- (2) Clause 13.101(1) is amended by revoking paragraph (c) and substituting the following paragraph:

"(c) a **purchaser** who increased the aggregate quantity of **electricity** specified in **nominated bids** made by the **purchaser** in respect of the **non-conforming GXPs** and **trading periods** affected by the **grid emergency** must report the increase to the **Authority** in writing together with details of the **bona fide physical reason** for the increase claimed by the **purchaser** under clause 13.99(a). An increase must be reported to the **Authority** by 1700 hours on the first **business day** after the **trading day** on which the increase was made."

45 Reporting obligations of system operator

Clause 13.102(1)(b) is amended by omitting "**pre-dispatch**" and substituting "**non-response**".

46 Clause 13.103 revoked

Clause 13.103 is revoked.

47 New clause 13.104 substituted

Clause 13.104 is revoked and the following clause substituted:

"13.104 Information to be published

"(1) As soon as practicable after the **system operator** has completed preparing a **price-responsive schedule** and a **non-response schedule**, the **system operator** must **publish**, for each **trading period** in the **schedule length period**,—

"(a) the following information in respect of both the **price-responsive schedule** and the **non-response schedule**:

"(i) **forecast prices** and **forecast reserve prices**; and

"(ii) **scheduled demand** at each **conforming GXP**; and

"(iii) the aggregate supply curve at each **reference point** incorporating all **offers** from **generators** with **offer prices**

- adjusted for **forecast marginal location factors**; and
- "(iv) the **grid injection points** and **grid exit points** that are **disconnected**; and
- "(v) the **grid injection points** and **grid exit points** where an **infeasibility situation** has occurred; and
- "(vi) the scheduled largest single reserve risk for each **island** as described in clause 13.59(ix); and
- "(vii) the scheduled levels of **fast instantaneous reserve** and **sustained instantaneous reserve** required in each **island** as described in clause 13.59(x); and
- "(viii) the **reserve offer** stacks for each **island** as described in clause 13.59(xi); and
- "(ix) the adjusted **reserve offer** stacks for each **island** as described in clause 13.59(xii); and
- "(x) the scheduled **frequency keeping generating stations** for each **island**; and
- "(xi) the scheduled **HVDC component flows**; and
- "(xii) the scheduled **HVDC risk offsets**; and
- "(xiii) the **expected near-constraint arc flows**; and
- "(xiv) the **expected near-group-constraint arc flows**; and
- "(xv) the **group constraint formulas** relating to the **expected near-group-constraint arc flows**; and
- "(b) in relation to the **price-responsive schedule**, the aggregate **demand** curve at each **reference point** incorporating the forecast of **demand** prepared under clause 13.7A, and all **bids** from **purchasers** with **bid** prices adjusted for **forecast marginal location factors**.
- "(2) Subclause (3) applies to—
 - "(a) each **price-responsive schedule** prepared under clause 13.62(1)(a);
 - "(b) each **non-response schedule** prepared under clause 13.62(1)(a).
- "(3) Despite subclause (1), for each schedule to which this subclause applies, the **system operator** is not

required to **publish** the information set out in subclause (1) for the **trading periods** covered by—

"(a) the **price-responsive schedule** prepared under clause 13.62(1)(b);

"(b) the **non-response schedule** prepared under clause 13.62(1)(b)."

48 Clause 13.105 revoked

Clause 13.105 is revoked.

49 New clause 13.105A inserted

The following clause is inserted after clause 13.104:

"13.105A Information to be provided to purchasers, generators, and ancillary service agents

"(1) At the same time as the **system operator** is required to **publish** information in accordance with clause 13.104, the **system operator** must—

"(a) send to each **purchaser** information from the current **price-responsive schedule** relating to the scheduling of the **purchaser's bids** for the **trading periods** covered in the **schedule length period**; and

"(b) send to each **generator** information from the current **price-responsive schedule** and **non-response schedule** relating to the scheduling of the **generator's offers** for the **trading periods** covered in the **schedule length period**; and

"(c) send to each **ancillary service agent** who has submitted a **reserve offer** for the **scheduling period**, information from the current **price-responsive schedule** and **non-response schedule** relating to the scheduling of the **ancillary service agent's reserve offers** for the **trading periods** covered in the **schedule length period**.

"(2) Subclause (3) applies to—

"(a) each **price-responsive schedule** prepared under clause 13.62(1)(a);

"(b) each **non-response schedule** prepared under clause 13.62(1)(a).

"(3) Despite subclause (1), for each schedule to which this subclause applies, the **system operator** is not required to send the information set out in subclause (1) for the **trading periods** covered by—

"(a) the **price-responsive schedule** prepared under clause 13.62(1)(b);

"(b) the **non-response schedule** prepared under clause 13.62(1)(b)."

50 Transmission of information through information system

Clause 13.106(1) is amended by omitting "13.103 to 13.105" and substituting "13.104 to 13.105A".

51 Form 4 of Schedule 13.1 amended

- (1) The heading to Form 4 of Schedule 13.1 is revoked and the following heading substituted:

"Form 4

"Purchaser's nominated bid for electricity".

- (2) Form 4 of Schedule 13.1 is amended as follows:

- (a) by omitting "Bid" and substituting "Nominated Bid";
(b) by omitting "@" in each place where it appears and substituting in each case "below".

52 New Form 4A of Schedule 13.1 inserted

Form 4A, which is set out in Schedule 1 of this Amendment, is inserted after Form 4 in Schedule 13.1.

53 Schedule 13.3 amended

The heading to Schedule 13.3 is amended by omitting "Schedule" and substituting "Schedules".

54 Purpose of modelling system

- (1) Clause 1(1) of Schedule 13.3 is amended by omitting "a schedule" and substituting "schedules".
(2) Clause 1(3) of Schedule 13.3 is amended by omitting "provides" and substituting "must provide".
(3) Clause 1(4) of Schedule 13.1 is revoked and the following subclause substituted:

"(4) The modelling system must be used, using different inputs, to produce—

- "(a) **price-responsive schedules**; and
"(b) **non-response schedules**; and
"(c) **dispatch schedules**; and
"(d) schedules of **real time prices**; and
"(e) schedules of **provisional prices**; and
"(f) schedules of **interim prices**; and
"(g) schedules of **final prices**."

55 Contents of the schedule

- (1) The heading to clause 2 of Schedule 13.3 is amended by omitting "the" and substituting "each".

- (2) Clause 2 of Schedule 13.3 is amended as follows:
- (a) by omitting "The" in the first place where it appears and substituting "Each";
 - (b) by omitting from paragraph (a) "if this schedule is used as a **pre-dispatch schedule**" and substituting "for a **price-responsive schedule** and a **non-response schedule**";
 - (c) by revoking paragraph (b);
 - (d) by omitting from paragraphs (c) and (d) "if this schedule is used as" and substituting in each case "for";
 - (e) by omitting from paragraph (d) "prices" and substituting "**provisional prices** or a schedule of **interim prices** or a schedule of **final prices**";
 - (f) by omitting from paragraph (e) "if this schedule is used for a set" and substituting "for a schedule".

56 New clause 3 of Schedule 13.3 substituted

Clause 3 of Schedule 13.3 is revoked and the following clause substituted:

"3 Specific inputs must be used in schedules

The schedules must be prepared using the following inputs:

- "(a) for each **price-responsive schedule**, the inputs set out in clause 13.58A(1); and
- "(b) for each **non-response schedule**, the inputs set out in clause 13.58A(2); and
- "(c) for each **dispatch schedule**, the inputs set out in clause 7; and
- "(d) for each schedule of **provisional prices**, each schedule of **interim prices** and each schedule of **final prices**, the inputs set out in clause 13.141; and
- "(e) for each schedule of **real time prices**, the inputs set out in clause 6."

57 Clauses 4 and 5 of Schedule 13.3 revoked

Clauses 4 and 5 of Schedule 13.3 are revoked.

58 Set of real time prices

- (1) The heading to clause 6 of Schedule 13.3 is amended by omitting "Set" and substituting "Schedule".
- (2) Clause 6 of Schedule 13.3 is amended by omitting "If this schedule is used for a set" and substituting "For a schedule".

59 Dispatch schedules

- (1) The heading to clause 7 of Schedule 13.3 is amended by omitting "schedules" and substituting "schedule".
- (2) Clause 7 of Schedule 13.3 is amended as follows:
 - (a) by omitting "If this schedule is used as a" and substituting "For a":
 - (b) by revoking paragraph (b) and substituting the following paragraph:

"(b) **nominated bids** (clause 13.7(1)) and revised **nominated bids** (clause 13.19A); and"
 - (c) by omitting from paragraph (g) "13.36" and substituting "13.34".

60 The objective function

Clause 8 of Schedule 13.3 is amended by amending the definition of " $D_{i,j}$ " by inserting the following after "whichever is relevant":

", and where the relevant **bids** used here are formed from a combination of the following, as appropriate to the schedule being calculated:

"(a) **nominated bids**:

"(b) the forecast of **demand** prepared under clause 13.7A:

"(c) **difference bids** (if **difference bids** are used, the quantities must be added or subtracted, as appropriate, from the forecast of **demand** prepared under clause 13.7A):

"(d) the **system operator's** expectation of the profile of **demand** during the relevant period covered by the schedule being calculated:

"(e) a measure of actual **demand** during the relevant period".

61 Constraints

Clause 9 of Schedule 13.3 is amended by omitting "following constraints" and substituting "constraints under this clause and clauses 10, 11, and 12".

62 New clause 10 of Schedule 13.3 substituted

Clause 10 of Schedule 13.13 is revoked and the following clause substituted:

"10 Demand

If a **price-responsive schedule** is being prepared, the modelling system must not schedule **demand** for a price band that would result in the scheduled quantity of **demand** being greater than the quantity bid for that price band. Otherwise, for the purposes of preparing **provisional prices, interim prices,**

and **final prices**, the modelling system must use metered **demand**."

63 Adjustments to pre-dispatch schedule, schedule of dispatch prices, dispatch quantities, dispatch arc flows, dispatch group constraint arc flows, group constraint formulas, HVDC component flows and dispatch schedule to meet dispatch objective

(1) The heading to clause 13 of Schedule 13.3 is revoked and substituted with "Adjustments to schedules to meet dispatch objective".

(2) Clause 13 of Schedule 13.3 is amended as follows:

(a) by revoking subclause (1) and substituting the following subclause:

"(1) As soon as practicable after each **non-response schedule** and each **dispatch schedule** has been completed, the **system operator** must notify **participants** of any changes required to the **non-response schedule** or **dispatch schedule** (as the case may be) to meet the **dispatch objective**, including adjustments for—

"(a) **voltage support**; and

"(b) **frequency keeping** reserves; and

"(c) over-frequency arming; and

"(d) additional transmission **constraints**; and

"(e) **instantaneous reserve**."

(b) by revoking subclauses (3) and (4) and substituting the following subclauses:

"(3) For a **non-response schedule** or a **dispatch schedule**, the adjustments must be made by the **system operator**. For a **dispatch schedule**, this method must be repeated to produce a new schedule. This must continue until the **system operator** is satisfied that the requirements of the **dispatch objective** have been met.

"(4) For a schedule of **provisional prices** or a schedule of **interim prices** or a schedule of **final prices**, the adjustments must be made using the adjustments that were used in the **non-response schedule** that applied at the beginning of the **trading period**."

64 Principles to be followed by system operator

Clause 14 of Schedule 13.3 is amended by omitting from paragraph (b) "that line or" and substituting "the line or the".

65 Schedule of prices

Clause 15 of Schedule 13.3 is amended as follows:

- (a) by omitting "If the schedule is used as a schedule of prices, it must contain the information specified in" and substituting "A schedule of **provisional prices** or **interim prices** or **final prices** must use";
- (b) by inserting "the information specified in" at the beginning of paragraphs (a) and (b);
- (c) by omitting from paragraph (d) "13.36" and substituting "13.34";
- (d) by omitting from paragraph (e) "**pre-dispatch**" and substituting "**non-response**";
- (e) by omitting from paragraph (e) "the objectives of".

66 Calculation of prices, marginal location factors and reserve prices

Clause 16(3) of Schedule 13.3 is amended as follows:

- (a) by omitting "as follows:" and substituting "used—";
- (b) by omitting from paragraph (a) "if this schedule is used as a **pre-dispatch schedule**" and substituting "for a **price-responsive schedule** or a **non-response schedule**, as";
- (c) by omitting from paragraph (b) "if this schedule is used as a schedule of prices:" and substituting "for a schedule of **provisional prices**, or a schedule of **interim prices**, or a schedule of **final prices**, as—";
- (d) by revoking paragraph (c);
- (e) by omitting from paragraph (d) "set of **real time prices**," and substituting "schedule of **real time prices**, as".

67 New Schedule 13.7 inserted

Schedule 13.7, which is set out in Schedule 2 of this Amendment, is inserted after Schedule 13.6.

Schedule 1
New Form 4A of Schedule 13.1 inserted

cl 52

"Form 4A
"Purchaser's difference bid for electricity

"Date: _____

"Purchaser: _____

"Grid Exit Point: _____

"Trading Period: _____ starting at _____ : _____ 0 hours

"Difference bid to increase/ decrease use of electricity

"Increase electricity

"Band 1: **Increase** _____ MW below \$ _____ per MWh

"Band 2: **plus** _____ MW below \$ _____ per MWh

"Band 3: **plus** _____ MW below \$ _____ per MWh

"Band 4: **plus** _____ MW below \$ _____ per MWh

"Band 5: **plus** _____ MW below \$ _____ per MWh

"Decrease electricity

"Band 1: **Decrease** _____ MW above \$ _____ per MWh

"Band 2: **plus** _____ MW above \$ _____ per MWh

"Band 3: **plus** _____ MW above \$ _____ per MWh

"Band 4: **plus** _____ MW above \$ _____ per MWh

"Band 5: **plus** _____ MW above \$ _____ per MWh"

Schedule 2
New Schedule 13.7 inserted

cl 67

"Schedule 13.7
"Methodology for Determining Conforming and
Non-Conforming GXPs

cls 13.27C, 13.27E, 13.27G, and 13.27K

"1 Methodology for determining whether GXP is conforming GXP or non-conforming GXP

In making a determination under clause 13.27A or clause 13.27B(4), the **Authority** must use the following method:

- "(a) use the input data described in clause 2 to determine the adjusted reconciled **half hour demand** data (in **MW**) for the **GXP** for each **trading period** during the most recent 12 consecutive months for which data is available; and
- "(b) using the results from paragraph (a), determine the mean **demand** (in **MW**) for the **GXP** over the most recent 12 consecutive months for which data is available; and
- "(c) determine the unpredictability measure for the **GXP** in accordance with clause 3; and
- "(d) apply the results from paragraphs (b) and (c) to the table below, to determine whether the **GXP** is either a **conforming GXP** or a **non-conforming GXP**.

"Table 1: Determining whether GXP is conforming or non conforming

Category for mean demand (in MW) for a GXP over relevant 12 months (clause 1(b)) (d)	Category for unpredictability measure (clause 1(c)) (p)	Resulting classification of the GXP
Where $d < 10\text{MW}$	For all p	Conforming GXP
Where $10\text{MW} \leq d < 20\text{MW}$	For $p < 0.15$	Conforming GXP
	For $p \geq 0.15$	Non-conforming GXP
Where $20\text{MW} \leq d < 250 \text{ MW}$	For $p < 0.10$	Conforming GXP
	For $p \geq 0.10$	Non-conforming GXP
Where $d \geq 250 \text{ MW}$	For all p	Non-conforming GXP

"2 Input data

- "(1) For the purpose of determining the adjusted reconciled **half hour demand** data for a **GXP** under clause 1(a), the **Authority** must use the following data from the most recent 12 consecutive months for which data is available:

- "(a) reconciled **half hour demand** data for the **GXP** representing purchases of **electricity** at the **GXP** aggregated across all **purchasers** at the **GXP**, and with each **half hour** figure in **MWh** converted to an average **demand** in **MW** over that **half hour**; and
 - "(b) information about the impact of **demand** switching on the **GXP**; and
 - "(c) information from **distributors, purchasers** and the **system operator** about any one-off events that have affected **demand** but which would not be expected to affect **demand** in the future.
- "(2) If the **Authority** identifies, under subclause (1)(b), that 2 or more adjacent **GXP**s are significantly affected by **demand** switching, the **Authority** must—
- "(a) combine the **GXP**s' reconciled **half hour demand** data as described in subclause (1)(a) and follow the method set out in clause 1 for the combined **GXP**s as if they were a single **GXP**; or
 - "(b) follow such other method of addressing the impact of **demand** switching as the **Authority** may determine is appropriate in the circumstances.
- "(3) In applying the methodology under clause 1, the **Authority** must remove one-off events identified under this clause from the input data.
- "(4) A one-off event includes, but is not limited to, the following:
- "(a) a transmission outage that has caused a **GXP** to be unable to be supplied with **electricity**;
 - "(b) a **consumer** ceasing to consume at a **GXP**, if over the proportion of the relevant 12 month period for which the **consumer** was consuming **electricity**, the reconciled **demand** attributed to the **consumer** (in **MW**) was on average at least 40% of the total **demand** (in **MW**) at the **GXP**.
- "3 Calculate unpredictability measures**
- "(1) For the purpose of determining the unpredictability measure of a **GXP** under clause 1(c), the **Authority** must use the following method:
- "(a) the **Authority** must fit an appropriate statistical predictive model as described in subclause (2), to the adjusted reconciled **half hour demand** data (in **MW**) which is produced in accordance with clause 1(a); and
 - "(b) the **Authority** must calculate the residuals (in **MW** for each **half hour**) of the statistical predictive model (representing the simulated predictive errors of such a model); and

- "(c) the **Authority** must calculate the unpredictability measure as the ratio of the standard deviation of the residuals calculated under paragraph (b) to the mean **demand** at the **GXP** (calculated under clause 1(b)).
 - "(2) The statistical predictive model under subclause (1)(a) must achieve the approximate level of predictive accuracy that should be able to be achieved by the **system operator** when preparing the forecast of **demand** under clause 13.7A several hours in advance in the absence of forecast information from **purchasers** and **electricity** users.
 - "(3) To avoid doubt, the statistical predictive model may include a variable representing weather forecast information.
- "4 Data for most recent 12 months unavailable**
- "(1) If the data required under clauses 1 to 3 is not available for the most recent 12 consecutive months, the **Authority** must use reasonable endeavours to make a determination in accordance with the methodology set out in this Schedule using the data it has available.
 - "(2) If the available data is insufficient to enable the **Authority** to make a determination in accordance with subclause (1), the **Authority** must make a determination by—
 - "(a) using all available data; and
 - "(b) using its own reasonable expectations of the future activities at the **GXP**; and
 - "(c) taking into account, to the extent practicable, the methodology set out in clauses 1 to 3."

Explanatory Note

This note is not part of the Code Amendment, but is intended to indicate its general effect.

This amendment to the Electricity Industry Participation Code 2010 comes into force on 28 June 2012, except for provisions relating to the process for determining conforming and non-conforming GXPs which come into force on 28 March 2012.

This amendment amends Parts 1 and 13 of the Electricity Industry Participation Code 2010 to implement the Electricity Authority's demand-side bidding and forecasting proposal, in order to improve the demand-side inputs into advance schedules.

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