

Appendix B - Code drafting

fluctuation means a deviation in frequency outside the **normal band**

momentary fluctuation means a momentary deviation in frequency outside the **normal band**

principal performance obligation and **PPO** means a **system operator obligation** set out in any of clauses 7.2A to 7.2D

3.1 Appointment of market operation service provider

...

- (3) The **system operator** is also a **market operation service provider**, but clauses 3.3, 3.10, 3.11, and 3.15 do not apply to the **system operator**.

3.2A Market operation service providers to assist Authority to give effect to Authority's statutory objective

- (1) Each **market operation service provider agreement** must require the market operation service provider to perform its role in a way that assists the Authority to give effect to the Authority's statutory objective.
- (2) Each **market operation service provider agreement** that does not include the obligation referred to in subclause (1) is deemed to include that obligation.
- (3) If a **market operation service provider agreement** includes provisions that set out specifically how the market operation service provider is required to assist the Authority to give effect the Authority's statutory objective, the obligation referred to in subclause (1) will be fulfilled if the market operation service provider complies with those provisions.
- (4) Despite anything to the contrary in the **market operation service provider agreement**:
- (a) the system operator is not required to comply with the obligation referred to in subclause (1) when exercising discretion in real time in performing its functions; and
- (b) the obligation referred to in subclause (1) does not permit a market operation service provider to contravene the Act, any regulations made under the Act, or this Code.
- (2) ~~The system operator must progressively increase the extent to which it assists the Authority to give effect to the Authority's statutory objective.~~
- (3) ~~The system operator is not required to comply with subclause (1) when exercising discretion in real time in performing its functions.~~
- (4) ~~This clause does not permit a market operation service provider to contravene any other provision of this Code.~~

Comment [A1]: We think this is a more useful definition than "momentary fluctuation". See comment for proposed clause 7.2B

Comment [A2]: In essence, this definition now says that a momentary fluctuation is a momentary fluctuation. Unless some objective parameters are put around what "momentary" means, this definition is unhelpful and redundant.

Comment [A3]: Bolding error.

Comment [A4]: Many system operation functions rely on the free and frank provision of information from third parties, for instance security of supply and common quality functions. Applying clause 3.11 to the system operator could discourage participants from providing information that they would prefer not enter the public domain but that the system operator requires to fulfil its functions. Furthermore, extending clause 3.11 to the system operator will not overcome all confidentiality obligations the system operator owes to third parties because clause 3.11 is merely an entitlement to disclose, not an obligation to disclose. For example, it will be ineffective against most common law and contractual confidentiality obligations which are generally only subject to "required by law" type exceptions.

If the Authority decides to apply clause 3.11 to the system operator then the exclusions in clause 3.11 should be added to. The clause currently excludes information provided under Parts 6 and 9 of the Code and some parts of the Act. In order to maintain the current flow of information to the system operator, we suggest amending clause 3.11 to also exclude information provided under clause 7.3 and Schedule 8.3. We consider that incorporating these exclusions would not materially affect the Authority's market monitoring functions.

7.1A Reasonable and prudent system operator standard

- (1) The **system operator** must carry out its obligations under this Code~~role~~ with skill, diligence, prudence, foresight, good economic management, and in accordance with recognised international good practice, taking into account—
 - (a) the circumstances in New Zealand; and
 - (b) the fact that real-time co-ordination of the power system involves complex judgements and inter-related events.
- (2) The system operator does not breach a **principal performance obligation** or clause 8.5 if the system operator complies with subclause (1).

Comment [A5]: The Authority is proposing to remove the RPO qualifier from clause 8.5, which relates to restoration. That qualifier is important (as it is for the principal performance obligations) and should be preserved.

7.2A System operator to maintain frequency

- (1) The **system operator** must **dispatch assets** made available in a manner that avoids cascade failure of **assets** resulting in the loss of demand and arising from—
 - (a) a frequency or voltage excursion; or
 - (b) a **supply** and **demand** imbalance.
- (2) Except as provided in this clause and clause 7.2B, the **system operator** must maintain frequency in the **normal band**.
- ~~(3) The **system operator** must ensure that the scheduling, pricing, and dispatch tool has the information necessary to schedule a minimum quantity of **instantaneous reserve**.~~
- (4) Subject to the availability of **offers** or **reserve offers**, the **system operator** must schedule sufficient **instantaneous reserve** to meet the **system operator's** obligations in subclauses (5) to (7).
- (5) During a contingent event, the **system operator** must ensure that, for the **island** in which the contingent event takes place—
 - (a) frequency remains at or above 48 Hertz; and
 - (b) frequency returns to or above 49.25 Hertz within 60 seconds after~~of~~ the contingent event.
- (6) During an extended contingent event in the North Island, the **system operator** must ensure that, for that **island**—
 - (a) frequency remains at or above 47 Hertz; and
 - (b) frequency does not drop to or below 47.1 Hertz for longer than 5 seconds; and
 - (c) frequency does not drop to or below 47.3 Hertz for longer than 20 seconds; and
 - (d) frequency returns to or above 49.25 Hertz within 60 seconds after the extended contingent event.
- (7) During an extended contingent event in the South Island, the **system operator** must ensure that, for that **island**—

Comment [A6]: There are significant words missing from the re-drafted frequency obligation (compared to current clause 7.2(1)(a)) that we submit should be reinstated in order not to change the policy intent from the current obligation, and procedurally because their deletion has been given no explanation. Specifically, the words “made available” are necessary to convey that dispatch is constrained by asset availability, and the words “resulting in a loss of demand and” are significant for creating a dual test for cascade failure.

Comment [A7]: This subclause is awkwardly drafted, as is current clause 1(1) of schedule 8.4 from which it is taken. The fact the tool can come up with a minimum amount of reserve does not say anything about the sufficiency of that amount to achieve the frequency standards. We consider this creates a conflict with the economic objective to co-optimize energy and reserves. Proposed subclause (4) captures that and is sufficient.

Comment [A8]: For consistency with subclauses (6) and (7).

- (a) frequency remains at or above 45 Hertz; and
- (b) frequency returns to or above 49.25 Hertz within 60 seconds after the extended contingent event.

7.2B System operator to restore frequency if ~~momentary~~ fluctuation occurs

If a ~~momentary~~ fluctuation occurs, the system operator must ensure that frequency is restored to the normal band as soon as reasonably practicable having regard to all circumstances surrounding the ~~momentary~~ fluctuation. The system operator does not breach this obligation if it complies with subclauses (5) to (7) of clause 7.2A.

Comment [A9]: This clause does not make sense because the “if” part of it (i.e. a fluctuation being “momentary”) presupposes the “then” part of it (i.e. the frequency having been returned to the normal band).

It would make more sense if the obligation in this clause were triggered as soon as a fluctuation occurs (i.e. before it is known whether or not the fluctuation is momentary), which would be consistent with current clause 7.2(1)(b)(iv).

7.2D System operator to identify and resolve problems

- (1) A participant may request that the system operator investigate ~~and resolve~~ a security of supply or reliability problem arising from non-compliance with a standard in clause 4.7, 4.8, or 4.9 of the Connection Code, at any point of connection to the grid.
- (2) If the system operator receives a reasonable request under subclause (1), the system operator must take all reasonable and practical steps that are available to the system operator under this Code and given the assets made available to it—
 - (a) to identify whether there is a problem and, if so, the cause of the problem; and
 - (b) if there is a problem and the cause of it is known to the system operator, take all reasonable and practical steps to resolve the problem.

Comment [A10]: This obligation needs to be subject to the contingent event and extended contingent event allowances in clause 7.2A so that it is consistent with the obligation in clause 7.2A(2) (which is already subject to those allowances, and also to clause 7.2B).

Comment [A11]: Merely because the participant has made the request does not mean there is a problem or, if there is, that it can be can or will be resolved by the system operator. Resolution (if required and possible) is dealt with in subclause (2).

Comment [A12]: The requirement that the request be reasonable is in current clause 7.2(1)(c) and should be carried over.

Comment [A13]: The “reasonable and practical” qualifier should apply to subclause (a) (investigation) as well as subclause (b) (resolution) because the system operator does not have unfettered investigative powers. Also, the qualifiers about the steps being available to the system operator under the Code and assets being made available to the system operator are in current clause 7.2(1)(c) and should be carried over.

Comment [A14]: There may not actually be a problem to diagnose or resolve.

Comment [A15]: For consistency with the monthly reporting timeframe under clause 3.14(1).

7.2E System operator to report on ~~momentary~~ fluctuations

- (1) By the 10th ~~working~~ day of each month, the system operator must report to the Authority the number of ~~momentary~~ fluctuations in each of the following frequency bands, in each island in the previous month:

Frequency band (Hertz) (where “x” is the maximum or minimum frequency during a momentary fluctuation)				
52.00	>	x	≥	51.25
51.25	>	x	≥	50.50
49.50	>	x	≥	48.75
48.75	>	x	≥	48.00
48.00	>	x	≥	47.00

- (2) By the 10th ~~working~~ day of each month, the **system operator** must report to the **Authority** the number of ~~momentary fluctuations~~ in each of the following frequency bands, in the South Island in the previous month:

Frequency	band	(Hertz) (where “x” is the maximum or minimum frequency during a momentary fluctuation)
55.00	> x ≥	53.75
53.75	> x ≥	52.00
47.00	> x ≥	45.00

7.3 Functions of the system operator in relation to security of supply and emergency management

...

- (5) The system operator may depart from the policies set out in an emergency management policy if an EMP departure situation arises and such departure is required to enable the system operator to comply with clause 7.1A(1).
- (6) If the system operator makes a departure under subclause (5) ~~because of an EMP departure situation~~, the system operator must provide a report to the Authority setting out the circumstances of the EMP departure situation and the actions taken to deal with it. The Authority must publish the report within a reasonable time of its receipt.

Comment [A16]: Subclause (2) of clause 7.1A is only relevant to the principal performance obligations, which clause 7.3 is not.

Comment [A17]: Redundant. Similar redundant words are already proposed to be deleted from clause 8.14(2).

7.11 Review of performance of the system operator

...

- (2) The self-review must contain such information as the **Authority** may reasonably require from time to time to enable the **Authority** to review the **system operator's** performance during the period in relation to the following:
- (a) the **policy statement**:
 - (b) the **security of supply forecasting and information policy**:
 - (c) the **emergency management policy**:
 - (d) the joint development programme prepared under clause 7.7(1):
 - (e) the work programmes agreed with the **Authority** under the **system operator's market operation service provider agreement**:
 - (f) the **system operator's** engagement with ~~participants and consumers~~:
 - (g) delivery of the **system operator's** capital and business plans:

Comment [A18]: Referring to consumers is inappropriate because it suggests that the system operator directly engages with consumers when we do not (other than direct connect consumers, who are participants anyway).

- (h) the **financial and** operational performance of the **system operator**.

Comment [A19]: We disagree with the requirement to provide financial information. The Code is not concerned with the financial performance of participants and none of the other MOSPs are subject to a review of financial performance under clause 3.15. The MOSPs' service provider agreements is the place for financial performance and reporting to be dealt with.

8.11 Content of draft policy statement

...

- (3) The **draft policy statement** must address the matters in, and must be prepared on the basis of, clause 8.8 and must include—

Comment [A20]: No longer relevant given the proposed change to clause to 8.8.

8.14 Departure from policy statement

- (1) The **system operator** may depart from the policies set out in a **policy statement** when a **system security situation** arises and such departure is required for the **system operator** to comply with clause 7.1A⁽¹⁾.

Comment [A21]: See comment to clause 7.1A

8.60 System operator must investigate causer of under-frequency event

- (1) The **system operator** must promptly notify **the Authority**, every **generator**, every **grid owner**, and any other **participant** substantially affected by an **under-frequency event**, that an **under-frequency event** has occurred.

Comment [A22]: We think it is appropriate for the Authority to be notified given that it will be making the determination.

...

- (5) Within 40 **business days** of receiving the information, **or such longer period as may be agreed by the Authority**, the **system operator** must provide a report to the **Authority** that includes the following:

Comment [A23]: Even with all the information to hand there may be difficult cases where the assessment takes longer than 40 business days. We think this is a practical way to cover off that eventuality.

- (a) whether, in the **system operator's** view, the **under-frequency event** was caused by a **generator** or **grid owner**, and if so, the identity of the **causer**;
- (b) the reasons for the **system operator's** view;
- (c) all of the information the **system operator** considered in reaching its view.

8.61 Authority to determine causer of under-frequency event

- (1) The **Authority** must determine whether an **under-frequency event** has been caused by a **generator** or **grid owner** and, if so, the identity of the **causer**.
- (2) The **Authority** must **publish** a draft determination that states whether the **under-frequency event** was caused by a **generator** or **grid owner** and, if so, the identity of the **causer**.

Comment [A24]: For consistency with subclause (2).

13.102 Reporting obligations of system operator

- (1) By the 10th **business day** of each calendar month, the **system operator** must inform the **Authority** in writing of any discretionary action the **system operator** has taken under clause 13.70, in the previous calendar month, that required departure from the **dispatch schedule**.

Comment [A25]: Redundant subclause reference.

Comment [A26]: Redundant because clause 13.70 is about departures from the dispatch schedule.

