

# 2022 amendments to the Emergency Management Policy

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## Decision and summary of submissions

25 October 2022



## Executive summary

The emergency management policy (EMP) is a document prepared by the system operator and incorporated by reference into the Electricity Industry Participation Code 2010 (Code) by the Electricity Authority (Authority) under section 64 of the Legislation Act 2019.

The EMP sets out the steps the system operator must take, as a reasonable and prudent system operator, and encourage participants to take at various stages of an extended emergency, including one contributed to by a critical contingency. It does not relate to management of short-term power system conditions. Those are managed through the system operator's "business as usual" obligations under the Code and the policy statement

The system operator has proposed, and the Authority has approved, changes to the EMP.

In 2021 sustained low hydro inflows coupled with a 20% reduction in gas production in the autumn of 2021 resulted in a period of elevated wholesale electricity prices. There was a high level of industry and media commentary at the time and concern expressed that the Electricity Risk Curves (ERCs) were not accurately estimating the availability of gas for thermal generation. In response to this concern, the Authority commissioned MartinJenkins to undertake an operational review of the 2021 dry year event.

Further to recommendations made by MartinJenkins, the Authority and the system operator initiated a review of the settings of the security of supply forecasting and information policy (SOSFIP) and EMP. As required by the Code, the system operator published a consultation paper on 29 March 2022 proposing several changes be made to the SOSFIP and EMP. Submissions closed on the consultation paper on 26 April 2022 and the system operator has considered the submissions received.

This decision paper relates only to the changes proposed for the EMP.

In addition to a number of relatively minor changes proposed to remove duplication and aid clarity of the EMP, the amendments reduce uncertainty and subjectivity, in particular:

- clarifying and removing subjectivity for the triggering and ceasing of daily security of supply reporting
- Including worst case 'time to alert status', and 'time to an OCC' metrics in daily security of supply reporting once daily reporting is triggered.

The new EMP (Appendix A) will take effect 1 December 2022.

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# 1 Background to the Authority's decision

## **The EMP is prepared by the system operator**

- 1.1 The EMP is a document prepared by the system operator and incorporated into the Code by the Authority. It sets out the steps the system operator must take, as a reasonable and prudent system operator, and encourage participants to take at various stages of an extended emergency, including one contributed to by a critical contingency. It does not relate to management of short-term power system conditions. Those are managed through the system operator's "business as usual" obligations under the Code and the policy statement. Clause 7.3(3) of the Code sets out what the EMP must contain.
- 1.2 Under clause 7.3(3)(c) of the Code, the system operator must comply with the EMP. This is subject to clause 7.3(5), which sets out that the system operator may depart from the policies set out in the EMP during an EMP departure situation (as defined in Part 1 of the Code) and such departure is required for the system operator to comply with clause 7.1A(1) (the reasonable and prudent system operator standard).
- 1.3 The system operator may submit to the Authority a draft EMP to replace the existing EMP. The system operator reviewed the EMP after the 2021 dry year event review<sup>1</sup>, and the Authority's and the MartinJenkins report's recommendations.
- 1.4 The EMP is available on the Authority's website.<sup>2</sup>

## **The system operator submitted a draft EMP following consultation**

- 1.5 Before submitting the draft EMP to the Authority, the system operator sought comment from participants on its proposals to change the EMP. This is a requirement of clause 7.5(3) of the Code. The consultation was published in April 2022 and was a joint consultation with change proposals for the SOSFIP. The system operator received 10 submissions. It considered the submissions and provided the submissions to the Authority (as required by clause 7.5(3) and (4)).
- 1.6 The system operator's key proposed changes to the EMP are:
  - (a) clarifying and removing subjectivity for the triggering and ceasing of daily security of supply reporting
  - (b) Including worst case 'time to alert status', and 'time to an OCC' metrics in daily security of supply reporting once daily reporting is triggered
- 1.7 The system operator also proposed a number of minor amendments to remove duplication and improve clarity.

## **The system operator's summary of submissions on the draft EMP**

- 1.8 The system operator has summarised the submissions from the consultation relating to the draft EMP. Their summary is:
  - (a) *The system operator proposed to update the increased reporting section of the EMP to make the obligations clearer. Increased (daily) reporting would only be*

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<sup>1</sup> <https://www.ea.govt.nz/monitoring/enquiries-reviews-and-investigations/2021/2021-dry-year-event-review/>

<sup>2</sup> <http://www.ea.govt.nz/code-and-compliance/the-code/documents-incorporated-into-the-code-by-reference/>

*made on the first business day the risk status has changed to Watch status. Once increased reporting has begun, to prevent it from starting and stopping frequently, it must:*

- (i) continue for a minimum of 5 working days or,*
- (ii) until hydro storage level is 100GWh above the trigger for the Watch status*
- (b) The system operator proposed to include estimates of the time to the 4%, and Emergency risk curve from the level of storage at the time of publishing the ERCs in the daily reporting. Submitters' views:*
- (c) Six submitters supported the increased reporting proposal and three did not comment.*
- (d) Firstgas thought obligations of this type should not be included in the EMP. In addition, Firstgas felt that the system operator should make daily reporting available at all times.*
- (e) Four submitters supported the proposal to include an estimated length of time to the 4%, and Emergency risk curve and five did not comment. Nova felt the time estimates would create a misleading sense of urgency.*

### **The Authority has made the changes to the EMP**

- 1.9 After considering the system operator's proposed changes to the EMP, the Authority has decided to approve the draft EMP.
- 1.10 The draft EMP will become the EMP on 1 December 2022
- 1.11 The draft EMP is attached as Appendix A, with mark-ups showing the differences changes to current EMP.

### **The draft EMP meets the requirements of the Code**

- 1.12 The Authority is satisfied the draft EMP meets the requirements of clause 73(3)(a) and (b) of the Code.

### **The Authority may approve the draft EMP**

- 1.13 Under clause 7.5(5) of the Code, the Authority may approve or decline the draft EMP.
- 1.14 The Code does not explicitly set out any matters that the Authority must consider in deciding whether to approve the draft EMP. The Authority is therefore guided by its statutory objective, which is "to promote competition in, reliable supply by, and the efficient operation of the electricity industry for the long-term benefit of consumers".<sup>3</sup>

## **2 The proposed changes are approved because they promote the Authority's statutory objective**

### ***Net gains in efficiency, and no material effect on competition, are expected***

- 2.1 The Authority has decided to approve the draft EMP (Appendix A), under clause 7.5(5) of the Code, because this will promote its statutory objective.

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<sup>3</sup> Section 15 of the Electricity Industry Act 2010.

- 2.2 The proposed changes to the EMP are expected to yield efficiency benefits, while not incurring material efficiency losses. Hence the expected net effect on efficiency is positive.
- (a) There will be a reduction in costs for the system operator as it will not need to forecast when it “believes there is a realistic and imminent prospect of controlled hydro storage falling to or below the 1% hydro risk curve” as the trigger for the daily reporting
  - (b) There will be an overall reduction in costs for the system operator as it will only need to produce ‘time to alert’ and ‘time to official conservation campaign’ data when daily reporting starts rather than daily to set the risk meter. The daily reporting is required under the EMP, and the risk meter is required under the SOSFIP.
- 2.3 The proposed changes are not expected to have a material effect on reliability or competition.
- 2.4 Clarifying and simplifying the EMP and making it more consistent with current practice will provide greater certainty to participants about the actions the system operator will take. This is expected to yield a small positive effect on productive efficiency.

## Appendix A Revised EMP (with changes marked-up)

# Emergency Management Policy

Effective ~~from Date: 19 June 2016~~

## 1. Background

1.1 This Policy is the **emergency management policy**, which the **system operator** is required to prepare and **publish** under clause 7.3(3)(a) of the **Code**. This Policy replaces the **emergency management policy published** by the **system operator** on ~~9 January 2013~~ 19 June 2016.

1.2 This Policy sets out the steps the **system operator** must take, as a **reasonable and prudent system operator**, and encourage **participants** to take at various stages of an **extended emergency**, including one contributed to by a **critical contingency**. It does not relate to management of short term power system conditions. Those are managed through the **system operator's** "business as usual" obligations under the **Code** and the **policy statement**.

~~Other parts of the **Code** contain details about how the **system operator** will provide security of supply related information and respond to emergencies and security of supply situations. These include the **security of supply forecasting and information policy**, the **system operator rolling outage plan**, the **policy statement** and clauses of the **Code** relating to **grid emergencies**.~~

1.3 Part 7 of the **Code** sets out the **system operator's** obligation to prepare and publish the **security of supply forecasting and information policy** and the **emergency management policy**. Part 9 of the **Code** sets out the **system operator's** obligation to prepare and publish the **system operator rolling outage plan** and the **system operator may request specified participants** to develop a **participant rolling outage plan**. Part 9 also sets out the circumstances when the **system operator** must commence an **official conservation campaign**. Together, these policies and obligations relate to managing an extended emergency in which the ability of the power system to meet **demand** over an extended period of time is at risk.

~~1.4 The **system operator** does not intend to go beyond its powers in the **Code** to encourage participants to take steps to avoid or alleviate an extended emergency. For example, the **system operator** will not do the things set out in paragraph 3.5 of this Policy. The **system operator's** relevant powers under the **Code** are summarised in paragraphs 3.1 to 3.3 of this Policy.~~

## 2. Glossary

2.1 In this Policy, unless the context otherwise requires-



available hydro storage has the meaning given to it in the **security of supply forecasting and information policy**

~~Code~~ refers to the Electricity Industry Participation Code 2010

**contingent hydro storage** has the meaning given to that term in the **security of supply forecasting and information policy**

~~controlled hydro storage~~ has the meaning given to that term in the ~~security of supply forecasting and information policy~~

**critical contingency** has the meaning given to that term in the Gas Governance (Critical Contingency Management) Regulations 2008

**critical contingency operator** has the meaning given to that term in the Gas Governance (Critical Contingency Management) Regulations 2008

electricity risk curve has the meaning given to it in the **security of supply forecasting and information policy**

**extended emergency** means a situation where the ability of the power system to meet **demand** over an extended period of time is at risk, such as an extended dry sequence or an extended period of capacity (energy, reserves or transmission) inadequacy

**grid support contract** means a contract (other than an **ancillary service arrangement**) under which a **participant** is paid to reduce its **demand**, or make standby generation available, when required to do so by another party to the contract

~~hydro risk curve~~ has the meaning given to that term in the ~~security of supply forecasting and information policy~~

~~hydro storage projections~~simulated storage trajectories have the ~~mean~~meaning given to it the hydro storage projection made and published by the **system operator** under inby paragraph 12 of the **security of supply forecasting and information policy**

**information guide** means the information guide published by the **critical contingency operator** under regulation 36 of the Gas Governance (Critical Contingency Management) Regulations 2008

**risk assessment metrics** means-

- (a) ~~hydro~~electricity **risk curves** and ~~hydro~~simulated **storage trajectories**
- (b) any other information prepared or published under the **security of supply forecasting and information policy**
- (c) the security of supply metrics referred to in paragraph 4.1**b** of this Policy

**supply shortage** means a situation in which the **system operator** may make a **supply shortage declaration** under clause 9.14(2) of the **Code**, ~~which is only when there is a shortage of electricity supply or transmission capacity such that the **system operator** considers-~~

~~that the normal operation of the spot market for **electricity** is, or will soon be, unlikely to facilitate the adjustment of supply and demand necessary to ensure that supply matches demand; and~~

~~that, if planned outages are not implemented, unplanned outages are likely.~~

**watch status curve** has the meaning given to it in the **security of supply forecasting and information policy**

2.2 Any term in bold that is defined in the **Code** and used but not defined in this Policy has the same meaning as in the **Code**.

### 3. Overview of tools to manage extended emergencies

3.1 The **Code** contains several tools the **system operator** may use to manage an **extended emergency**-

- (a) provide information and forecasts to **participants** in accordance with the **security of supply forecasting and information policy**
- (b) request an urgent temporary grid reconfiguration under clause 9.13B of the **Code**
- (c) commence an **official conservation campaign** under clause 9.23 of the **Code**
- (d) make a **supply shortage declaration** and give directions to **specified participants** under Part 9 of the **Code** and the **system operator rolling outage plan**
- (e) for the purposes of maintaining **common quality** during the **extended emergency**, require **asset owners** and **purchasers** to co-operate with the **system operator** generally under clause 8.26 of the **Code**.

3.2 An **extended emergency** may involve one or more **grid emergencies**. The **system operator** has obligations and powers under technical code B of schedule 8.3 of the **Code** to manage **grid emergencies** which may also assist the **system operator** to manage the **extended emergency**.

3.3 ~~In some **grid emergencies** the **pricing manager** may notify a **shortage situation** under clause 13.144(1) of the **Code**. That may trigger the scarcity pricing provisions in clauses 13.135A to 13.135C and schedule 13.3A of the **Code** and play a **wholesale market**-based role in managing an **extended emergency**. [Revoked]~~

3.4 The **Code** contains **asset owner performance obligations** (Part 8 of the Code) which apply at all times, including obligations for some **asset owners** to provide **automatic under-frequency load shedding** ~~and extended reserve~~. The **system operator** will rely on compliance with **asset owner performance obligations** in managing an **extended emergency**.

3.5 For avoidance of doubt the **system operator** does not-

(a) enter into in **grid support contracts**

(b) ~~play a role in gaining grant~~ access to **contingent hydro storage**

(c) pay compensation to **participants** for complying with their **Code** obligations or taking voluntary actions during an **extended emergency**.

## 4. Management of extended emergencies

### *Increased reporting and analysis*

4.1 When ~~controlled available~~ **hydro storage** ~~approaches crosses~~ the New Zealand or South Island **1% hydro watch status risk curve** ~~such that the system operator believes there is a realistic and imminent prospect of controlled hydro storage falling to or below the 1% hydro risk curve~~ the **system operator** will-

(a) ~~make a hydro storage projection at least once per calendar month~~ revoked

(b) ~~publish daily~~ make available each business day on its website security of supply metrics aimed at ensuring the system operator and other participants understand the prevailing security of supply risks and can quickly identify any power system or wholesale market circumstances that impact on those risks. This will include an estimate of the time to 'Alert' status and an official conservation campaign and make public the methodology used to derive this estimate.

(c) make available the information provided under clause 4.1(b) for a minimum of 5 business days and until available hydro storage exceeds the watch status curve by 100GWh or more.

### *Preparation for an official conservation campaign*

4.2 When ~~controlled available~~ **hydro storage** is at or below the New Zealand or South Island 1% ~~hydroelectricity-~~ **risk curve** the **system operator** will (in addition to the activities described in paragraph 4.1 of this Policy)-

(a) begin preparations for an **official conservation campaign**, including applying for funding and otherwise engaging with the **Authority** and service providers

- (b) monitor whether the assumptions made for the **risk assessment metrics** are consistent with how **generators** are operating and revise the assumptions if necessary.

#### *Official conservation campaign*

4.3 ~~Under clause 9.23 of the Code indicates when~~ the **system operator** must commence an **official conservation campaign** ~~for the South Island or New Zealand~~

~~(a) when~~

~~(i) a comparison of **controlled hydro storage** with the New Zealand or South Island **hydro risk curves** shows a risk of shortage of 10% or more; and~~

~~(i) the **system operator** forecasts the risk of shortage will be 10% or more for one week or more; or~~

~~(b) on a date on which the system operator has agreed with the Authority to commence an official conservation campaign.~~

4.4 The **system operator** will not commence an **official conservation campaign** at any other time.

#### *Rolling outages*

4.5 If there is a **supply shortage** the **system operator** may make a **supply shortage declaration** and give directions to **specified participants** under Part 9 of the **Code** and the **system operator rolling outage plan**.

## **5. Gas critical contingencies**

5.1 A **critical contingency** may be declared by the **critical contingency operator** when there is a shortage of gas supply relative to demand, as indicated by decreasing pressure on gas transmission pipelines. Due to reliance on gas-fired thermal **generating plant**, a **critical contingency** may have an impact on the power system and contribute to an **extended emergency**.

5.2 Under the Gas Governance (Critical Contingency Management) Regulations 2008 the **critical contingency operator** must-

(a) give urgent notice to the **system operator** when a **critical contingency** is declared or terminated (regulations 51(1) and 62(1))

(b) consult with the **system operator** before curtailing the gas consumption of certain gas-fired thermal **generating plant** during a **critical contingency**, and give urgent notice to the **system operator** if the **critical contingency operator** determines to allow certain

gas-fired thermal **generating plant** to use gas during the **critical contingency** (regulation 53(1)(da)).

- 5.3 The **system operator** will manage an **extended emergency** contributed to, or caused, by a **critical contingency** in the same way as it manages other **extended emergencies** and in accordance with this Policy. In addition, the **system operator** will communicate and coordinate with the **critical contingency operator** in accordance with the **information guide**.