



CCO ANNUAL EXERCISE 2021

Exercise Waru

Test of the First Gas Ltd Critical Contingency Management Plan

Prepared in accordance with the Gas Governance (Critical Contingency Management)
Regulations 2008

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CONTENTS

1. Introduction	2
2. Executive Summary	3
3. Exercise Scenario	4
4. Summary of Assessment against Test Criteria	4
5. Recommendations	6
6. Pre-Exercise Audit of TSO by CCO	7
7. TSO Exercise Test Criteria and Observations	9
8. CCO Exercise Test Criteria and Observations	12
9. Retailers and Large Consumers Exercise Test Criteria & Observations	14
10. Asset Owners Exercise Test Criteria and Observations	17

Appendix A – Exercise Injects

Appendix B – Exercise Timeline

Appendix C – Notice Summary

Appendix D - Asset Owners Public Statements and Retailer Media Appeals

Appendix E – Retailer Curtailment Plan Test Report Template

Acknowledgment

The success of this exercise was directly attributable to the time and effort contributed by the participants during the planning, execution and feedback phases. These contributions are recognised and appreciated and have assisted in identifying valuable improvement opportunities.

1. Introduction

The Critical Contingency Operator (CCO) is required by regulation 34 of the Gas Governance (Critical Contingency Management) Regulations 2008 (the regulations), to instigate test exercises. These exercises should test that:

- the Critical Contingency Management Plan (CCMP) complies with regulation 25 and achieves the purpose of the regulations; and
- the CCMP contains the contact details required by regulation 25 and that they are current; and
- the list of emergency contact details maintained by Retailers required by regulation 43 is current.

A test exercise, “Exercise Waru” was carried out on 5 May 2021. The exercise required the CCO, TSO, Asset Owners, Large Consumers and Retailers to carry out tasks and activities associated with the regulations, CCMP and other relevant documents.

After the exercise, regulation 34 also requires that:

- within 10 business days of the exercise the Transmission System Owner (TSO) must provide a report to the CCO explaining why it’s CCMP does or does not comply with regulation 25 and gives effect to the purpose of the regulations; identifies improvements and recommends CCMP amendments.
- within 10 business days of receiving the TSO report, the CCO provides a report to the industry body that assesses the effectiveness of the CCMP; evaluates any amendments recommended by the TSO; and identifies any amendments to the regulations, CCMP, communications plan or information guide that would improve the effectiveness in achieving the purpose of the regulations.

This report on Exercise Waru for the industry body is based on:

- the CCO’s pre-test exercise audit of the TSO
- the TSO’s post exercise report
- Retailer self-assessment forms and feedback
- Feedback from other participants
- the CCO’s own observations.

After completion of the exercise and the required reporting, a change process occurs to implement any recommendations arising, with consultation where appropriate.

2. Executive Summary

Exercise Waru provided an opportunity for parties to practice their response to a critical contingency event in a safe environment and subsequently enhance their knowledge and competency for dealing with an actual event.

The test exercise was desk-top only. Formal notices were sent and published, and communications made to industry participants, but no physical actions affecting equipment or gas supplies were carried out.

The exercise tested the core critical contingency phases and information flows associated with an event, such as declaration, demand curtailment, public information statements and media appeals. Retailers were issued with curtailment instructions and provided a consumer compliance update.

Large Consumers, Producers and the Electricity System Operator were not directly affected by this year's regional scenario, but communications were still tested.

Evidence from this exercise indicates that:

- The TSO demonstrated a good understanding of its role and responsibilities for critical contingency events and is well prepared to respond.
- The TSO met the specified regulatory timeframes for providing information to the CCO during the exercise.
- The level of engagement in the exercise by Retailers with respect to testing emergency contact details was less than optimal as has been the case in previous exercises. Only two Retailers elected to contact a high percentage of their consumers that would have been affected by the scenario to test that the details they held were correct. One Retailer contacted a small sample of consumers. Three Retailers elected not to contact any consumers and three Retailers did not provide any feedback or evidence of testing consumer contact details. All Retailers have a Retailer Curtailment Plan which sets out their process for contacting their consumers. However, it is not clear from this exercise if those processes have been tested for all Retailers.

The CCO concludes from this exercise that:

- The CCMP complies with regulation 25 and is effective in achieving the purpose of the regulations.
- The CCMP substantially contains the contact details required by regulation 25 and that they are current. However, this evidence is not without deficiencies and further work is required in the management and maintenance of contact details.
- The exercise provided only limited evidence to conclude that the list of emergency contact details maintained by all Retailers required by regulation 43 is current.

This report makes recommendations in Section 5 which, if fully implemented would:

- improve the efficiency of processes and procedures to support application of the CCMP.

- improve the level of confidence that the list of emergency contact details maintained by the TSO is current.
- improve the level of confidence that the list of emergency contact details maintained by all Retailers required by regulation 43 is current.

3. Exercise Scenario

The exercise scenario was designed and managed by the CCO. The scenario centered on 3rd party damage to the First Gas South Pipeline north of Hawera in Taranaki resulting in a gas escape. The test scenario resulted in a total loss of gas supply into the transmission system south of Hawera through to Wellington and east through to Hastings. As a result, it was necessary to curtail demand connected to those sections of pipeline until repairs could be completed.

The exercise required the CCO, TSO and Retailers to carry out tasks and activities associated with the regulations, CCMP and other relevant documents.

The test exercise was desk-top only. Formal notices were sent and published, and communications made to industry stakeholders, but no physical actions affecting equipment or gas supplies were carried out.

A series of exercise injects were pre-designed and issued at set times during the exercise. These injects were designed to ensure the full range of activities required to meet the test objectives were triggered.

The complete injects are detailed in Appendix A.

4. Summary of Assessment against Test Criteria

4.1. CCO Assessment

The CCO considers that the test exercise:

- provided sufficient evidence to conclude that the CCMP complies with regulation 25 and is effective in achieving the purpose of the regulations.
- provided evidence to conclude that the contact details contained in the CCMP as required by regulation 25 are substantially current. However, this evidence is not without deficiencies and further work is required in the management and maintenance of contact details.
- provided only limited evidence to conclude that the list of emergency contact details maintained by Retailers required by regulation 43 is current.

The CCO has made recommendations in Section 5 to:

- improve the efficiency of processes and procedures to support application of the CCMP.
- improve the level of confidence that the list of emergency contact details maintained by the TSO is current.
- improve the level of confidence that the list of emergency contact details maintained by Retailers required by regulation 43 is current.

4.2. TSO Assessment

Pursuant to section 34(5) of the CCM Regulations, Firstgas is required to provide a report to the CCO within 10 Business Days of the completion of a critical contingency test exercise that:

- a. Explains how the Firstgas CCMP meets or does not meet the test criteria in section 34(1) of the CCM Regulations.
- b. Identifies areas in which the Firstgas CCMP can be improved.
- c. Recommends any amendments Firstgas considers should be made to the CCMP.
- d. Provides any other information that Firstgas considers appropriate.

Firstgas submitted this report to the CCO on Wednesday 19 May 2021.

Exercise Waru was the first formal test of the current Firstgas CCMP which was published in October 2020. Firstgas considers that the CCMP complies with Regulation 25 and when implemented during the test exercise gave effect to the purpose of the CCM Regulations.

Firstgas has a suite of internal documentation that complements the CCMP, including various processes, plans, policies, and guidelines. This supporting documentation is designed to provide additional information or more detailed explanation on how aspects of the CCMP are to be interpreted or applied.

Firstgas concluded that the test exercise and the pre-exercise audit identified opportunities to improve the efficiency of processes and procedures to support application of the CCMP. However, the issues, opportunities, and outcomes resulting from Exercise Waru reach the threshold for requiring amendments to the Firstgas CCMP. Instead, Firstgas will proceed to review and make amendments to its supplementary critical contingency documentation where required to address the observations and recommendations set out in the Firstgas and the CCO's reports.

The CCO concurs with the assessment by Firstgas as TSO.

5. Recommendations

The following is a summary of the CCO recommendations arising from this exercise:

#	Recommendation	Responsible
1	<i>Provide a report to the CCO that clearly shows who receives email and/or sms notifications when a Critical Contingency notice is posted on OATIS.</i>	TSO
2	<i>Ensure there are contact details in OATIS for MegaTel.</i>	TSO
3	<i>Carry out training for Firstgas Control Room Operators to emphasize the monitoring and reporting requirements for the critical contingency pressure thresholds.</i>	TSO
4	<i>Review the process for managing Retailer curtailment compliance information to address the issues identified in the exercise.</i>	TSO
5	<i>Clarify the timing requirements for providing Curtailment Compliance updates.</i>	CCO
6	<i>Review Retailer Curtailment Plans to ensure they contain sufficient information to ensure a person responsible for gas usage at each consumer installation can be contacted at any time.</i>	GIC
7	<i>Engage with Retailers to confirm the primary role within each organisation responsible for implementing the Retailer Curtailment Plan.</i>	GIC
8	<i>Engage with Retailers to confirm the primary contact in each organisation for receiving and acting upon CCO communications within the organisation as required.</i>	CCO
9	<i>Ensure planning for future exercises includes obtaining commitment from all Retailers to fully participate in the exercise and confirmation as to the level of consumer contact testing they will undertake for the exercise.</i>	CCO
10	<i>Observe the participation of all Retailers during the next exercise via MS Teams.</i>	GIC
11	<i>Consider Retailer feedback on the Compliance Update template and modify if required.</i>	TSO
12	<i>Engage with Retailers prior to the next exercise to ensure the requirements for compiling and sending compliance updates are well understood.</i>	TSO
13	<i>Review and update the Domestic Gas Retailers Communications Protocol having regard to feedback provided by the Lead Retailer.</i>	GIC
14	<i>Engage with Nova Energy to consider being a signatory to the Domestic Gas Retailers Communications Protocol.</i>	GIC

6. Pre-Exercise Audit of TSO by CCO

The pre-exercise elements were audited on the 28 April 2021 (1 week prior to the actual exercise date). All items were audited by holding a pre-arranged meeting with the Firstgas Systems Control Manager and Senior Transmission Commercial Advisor.

6.1. Does the CCMP provide for compliant thresholds that meet the purpose of the regulations? [r25(1)(a)]

6.1.1. Thresholds:

In May 2020, the TSO provided the CCO with a document titled; 'Critical Contingency Pipeline Thresholds Overview and Background', which sets out the rationale for each pressure threshold and the recommended settings.

This document recommended changes to six of the pressure thresholds and these changes were implemented when the TSO issued a revised CCMP in October 2020.

The next annual review of the pressure thresholds is scheduled for May 2021.

6.1.2. SCADA System Alarms

The pressure threshold alarm settings were checked and found to be correct as detailed in the following table:

Measurement Point	Threshold		SCADA As Found		SCADA As-Left	
	Pmin	Hours	Low	Critical Low	Low	Critical Low
Rotowaro	30.0	3	7	3	As found	As found
Westfield	37.5	6	8	6	As found	As found
Waitangirua	37.0	10	12	10	As found	As found
Hastings	30.0	5	7	5	As found	As found
KGTP	35	3	4	3	As found	As found
Gisborne	30.0	5	7	5	As found	As found
Taupo	30.0	5	7	5	As found	As found
Tauranga	30.0	5	7	5	As found	As found
Whakatane	30.0	5	7	5	As found	As found
Cambridge	30.0	5	7	5	As found	As found
Whangarei	27.5	5	7	5	As found	As found
All Gates*	30	5	7	5	As found	As found

*Alarms have been established for all other gas gates that are monitored via SCADA.

6.2. Does the CCMP contain descriptions of the events that the TSO considers may feasibly result in a breach of the thresholds? [r25(1)(b)]

The CCMP contains description of the events that the TSO considers may feasibly result in a breach of the thresholds and it includes explanation of situations or occasions where thresholds may be breached for short durations due to high demand or system flow changes (i.e., transient conditions).

6.3. Does the CCMP contain actions that the TSO may take to remedy any threshold breach? [r25(1)(c)]

The CCMP refers to the Firstgas Pipeline Emergency Response Plans and associated Specific Event Guides for the management of pipeline emergencies and events that may cause a threshold breach.

It was noted that an in-depth overhaul of the Emergency Response Plan is underway with the assistance of external specialists and will be implemented by end of calendar year.

6.4. Are the contact details in the CCMP current? [r25(1)(i)]

OATIS contacts list for Maui and FGL were provided by the TSO.

The contacts are used by the OATIS system to automatically send emails and SMS text messages to the affected parties alerting them to the existence of the full notices in OATIS. The full notice is not sent with the email or text alert and affected parties must access the notices on the OATIS website.

The following observations are made from a review the lists provided:

- There are contact details for all organizations listed in Appendix 4 of the CCMP except for MegaTel.
- There are some email addresses included that are no longer in use.
- It is not clear who actually receives email and/or sms notifications when a Critical Contingency related notice is posted on OATIS.

The findings from this pre-exercise audit are an improvement on the findings from previous audits. However, management and maintenance of the contact lists and traceability of communications sent remains an opportunity for improvement. For the past two audits, the intention has been to address these issues as part of the OATIS replacement project. However, this project has been cancelled.

Recommendations:

- 1. TSO to provide a delivery report to the CCO that clearly shows who email and/or sms notifications are sent to when a Critical Contingency notice is posted on OATIS (a 'public' notice in OATIS).***
- 2. TSO to ensure there are contact details for MegaTel in OATIS.***

7. TSO Exercise Test Criteria and Observations

7.1. Does the CCMP have a process for demand curtailment and restoration consistent with the purpose of the regulations? [r25(1)(d)]

Section 5 of the CCMP details the processes for demand curtailment and restoration. Demand curtailment notices were issued successfully and in accordance with the CCMP and the associated timeframes. A summary of the notices issued by the CCO to the TSO and by the TSO to relevant parties are included in Appendix C.

The CCMP states that *“In the interest of timely notification, First Gas elects to create a PDF of the notice issued by the CCO and attaches it to the published OATIS notice”*. This approach has been adopted for several years and is reinforced by the CCO during the annual industry training.

In this exercise, the CCO elected to not test the demand restoration processes.

7.2. Does the CCMP have a communications plan describing how the TSO will communicate to and from the participants and within what timeframes? [r25(1)(e)]

Section 3 of the CCMP details the communication plan. The communications plan describes the notices that Firstgas will issue to affected parties during a critical contingency event, the reciprocal communications, and the timeframes under which those communications will take place.

The Firstgas internal procedure 3207704 “Critical Contingency Response Actions” was utilised during the exercise to facilitate correct communications, with status update information contained within the Security of Supply Update form. This procedure, form and the communication process used was consistent with that described in section 3 of the CCMP. The TSO identified some minor changes required to procedure 3207704.

7.3. Does the CCMP contain the contact details of suitably qualified TSO employees responsible for giving communications and directions under the CCMP and Communications Plan? [r25(1)(f)]

Appendix 6 of the CCMP contains appropriate and up to date contact details of the suitably qualified TSO employees responsible for giving communications and directions under the CCMP and communications plans. These were used to establish initial contact between Firstgas and the CCO at the start of the exercise via the Firstgas Control Room and to the nominated person who is the Transmission Duty Officer.

The Duty Officer became the Incident Controller and subsequently appointed a System Control Liaison Officer role to be the key contact for the CCO.

7.4. Does the CCMP detail circumstances in which the TSO may consider restoration should be directed in an order different from the regulations? [r25(1)(g)]

Section 5.6 and Appendix 11 of the CCMP details the steps taken for considering alternative restoration arrangements. This was not specifically tested as part of this test exercise as demand restoration was not a feature of the exercise scenario.

7.5. Does the CCMP have a process to determine the contingency imbalances? [r25(1)(h)]

Appendix 8 of the CCMP contains detailed 12-step and 22-step processes for contingency imbalance calculation methodologies consistent with MPOC and VTC respectively. This section also describes how Firstgas will properly integrate the contingency imbalance regime prescribed in the CCM Regulations with Firstgas' business-as-usual regime under section 8 of the Vector Transmission Code (VTC).

The CCO determined that the facts of Exercise Waru constituted a "regional" critical contingency so no critical contingency imbalances would be required for this event.

7.6. Does the CCMP provide effective mechanisms for making information available to the CCO? [r25(1)(j), r38, Communications Protocol]

Sections 3.8 and 4 of the CCMP address communications with, and the provision of information to, the CCO. The document refers to the CCO Communications Plan for the detail. The exercise was carried out in a manner consistent with the current CCO Communications Plan.

Detailed communication was also managed through the CCO's Communications Protocol. The Communications Protocol sets out the information requirements that apply to the TSO during normal system conditions, as well as during abnormal system conditions which do not amount to a potential or actual critical contingency. These requirements are consistent with sections 38 and 38A of the regulations. A summary of the Communications Protocol is provided in Appendix 11 of the CCO's Communications Plan.

Communications were carried out in a manner consistent with the CCMP, CCO Communications Plan and the Communications Protocol. There were two areas where the requirements of the Communications Protocol could have been more effectively implemented:

- During the first communication between the Firstgas Control Room and the CCO, the initial assessment of system conditions by Gas Control did not identify 5 hours to 30bar at Hawera DP as a critical contingency pressure threshold breach.
- The provision of Retailer Curtailment Compliance updates was less than optimal due to:
 - Some Retailers not providing curtailment compliance updates to Firstgas.
 - A low level of curtailment compliance being reported by Retailers.
 - A slow response by Firstgas to the low level of curtailment compliance being reported.
 - A lack of information on which Retailers had provided curtailment compliance information.
 - Some confusion as to how the deadline for Retailers to provide information to the TSO relates to timing of information to be provided to the CCO.

Recommendations:

- 3. TSO to carry out training for Firstgas Control Room Operators to emphasise the monitoring and reporting requirements for the critical contingency pressure thresholds.**
- 4. TSO to review the process for managing Retailer curtailment compliance information to address the issues identified in the exercise.**
- 5. CCO to clarify the timing requirements for providing Curtailment Compliance updates.**

**7.7. Is there a protocol for informing the CCO of potential CC conditions?
[r25(1)(j), r38(1A)(a)(i)]**

Section 2 of the CCMP addresses pre-critical contingency situations and sets out the conditions under which the TSO will notify the CCO of an event it believes could or would result in a critical contingency scenario. It also states that Firstgas will communicate with the CCO in accordance with the CCO Communications Plan.

The TSO met the regulatory requirement to alert the CCO within 15 minutes of an event within the transmission system that has the potential to create a critical contingency.

7.8. Is the CCMP consistent with the MPOC and VTC? [r25(2)]

No inconsistencies between the CCMP and the current Operating Codes were observed because of this exercise.

8. CCO Exercise Test Criteria and Observations

8.1. CCO Process for determining, declaring and notifying critical contingency [r48-49]

The first exercise inject was issued at 09:02. The TSO subsequently alerted the Duty CCO and requested they contact Gas Control. The CCO called Gas Control and the Operator briefed the CCO on the event based on the first inject. The Operator relayed the system conditions described in the inject and advised that further investigations were being initiated. The initial assessment by Gas Control did not identify 5 hours to 30bar at Hawera Delivery Point as a critical contingency pressure threshold breach.

The CCO and TSO Duty Officer discussed the situation further and the CCO was advised that a section of the Firstgas South pipeline between KGTP and Hawera will be isolated. The CCO determined that a breach of the Hawera Delivery Point pressure threshold had occurred and gave notice to the TSO that a critical contingency was being declared at 09:23 and written notice would be issued as soon as possible.

The critical contingency declaration notice was subsequently issued to the TSO and published on the CCO website within required timeframes.

8.2. CCO process for determining and declaring regional status [r52A]

The CCO determined that this scenario constituted a regional critical contingency, and this was notified as a part of the declaration notice.

8.3. CCO processes for issuing notices during a CC event [r51,52, 53, 59]

The Communications Protocol incorporates a process with associated timeframes for the TSO to provide information to the CCO that is considered necessary to ensure that the CCO has the information required to prepare and issue notices.

The notices were sent to the correct parties and stakeholders and contained the correct information and were given within required timeframes.

8.4. CCO processes for demand curtailment, exploration of alternative supply and restoration [r53]

Given the initial uncertainty of the estimated time to repair the damaged pipeline, the CCO issued instructions at 10:40 for curtailment to Band 4 to remove the large loads from the system.

Subsequent discussions with the TSO confirmed the estimated repair time to be 48 hours. As a result, the CCO determined that curtailment to Band 6 would be required and curtailment instructions to that effect were given at 11:00.

The CCO also issued a notice at 11:33 to Retailers to implement media appeals for domestic consumers to conserve gas.

There was a well-reasoned approach to determining proposed curtailment and exploring alternative supply, bolstered by checking with the TSO and obtaining clear agreement.

8.5. CCO process for determining and notifying termination [r60]

The exercise was concluded before the need for a termination notice arose due to the scenario requiring a two-day repair time.

8.6. CCO modelling of the system operates effectively and gives consistent results [r53, r38]

Load curtailment decisions are supported by a load modelling tool. The SCADA Data File Transfer Process provides data files for the load model. During events, files are provided at 20-minute intervals via an automated process.

During the exercise, SCADA data files via “event” mode were not available due to a wider IT system issue hindering the availability of data from the SCADA system that had been affecting Firstgas for several days. However, this did not materially affect the exercise as data is simulated for the given scenario.

8.7. CCO publishes information [r54A, Schedule 5]

The CCO had obligations to provide public statements in accordance with Schedule 5 of the regulations. During the exercise, the CCO requested that Firstgas provide information that would inform the CCO’s Status Update Notice.

Firstgas was able to provide a Draft Asset Owner Statement at 12:01 that was reviewed in conjunction with the CCO. Information from this statement was incorporated in the CCO Status Update Notice which was published at 12:31.

8.8. CCO performs to required standard [SPACCO Schedule 2]

Schedule 2 of the SPACCO sets performance standards and target/measures for determining, declaring, decision making, communication and termination during a critical contingency event.

The Exercise Event Log in Appendix B demonstrates that the CCO performed the required tasks in accordance with the performance standards.

9. Retailers and Large Consumers Exercise Test Criteria & Observations

9.1. Participation

All Retailers were requested to participate in the exercise and issued with a Participants Briefing on 29 March 2021. A reminder for the exercise was issued on 28 April 2021.

As part of the exercise, Retailers were required to undertake such testing to confirm that the processes that support their certified Retailer Curtailment Plan, which ensure that the list of emergency contact details maintained in accordance with regulation 43 is current. Testing should include sampling of both longstanding and recently acquired customers to confirm completeness and accuracy of contact details.

Retailers were required to provide supporting evidence of such testing to the CCO within 7 business days of completion of the exercise. The CCO provided an optional Test Report Template for Retailers to use (Appendix F).

Retailers were also advised that testing of Consumer contact details could be carried out prior to the exercise day.

Large Consumers were not directly affected by the exercise scenario.

A summary of the feedback received from Retailers affected by the exercise is shown below.

Retailer	Date Retailer Curtailment Plan last updated:	Number of consumers impacted by the scenario	% of consumers impacted by the scenario and contacted during or adjacent to the exercise	Processes for holding and maintaining emergency consumer contact details outlined?
Vector (OnGas)	April 2021	37	100%	Yes
Greymouth Gas	March 2014	7	100%	Yes
Contact Energy	June 2018	3796	0.4%	Yes
Nova Energy & MegaTEL	March 2021	2513	0%	Yes
Genesis Energy	September 2020	1226	0%	Yes
Trustpower	Annual review	289	0%	Partly
Mercury	May 2020	0	NA	Yes
Switch Utilities	No feedback received			
Pulse Energy	No feedback received			
Hanergy	No feedback received			

9.2. Retailer curtailment plans to contain sufficient information to ensure a person responsible for gas usage at each consumer installation can be contacted at any time. [r43]

The Retailer Curtailment Plans are submitted by Retailers to Gas Industry Company but are not held by the CCO.

It is not clear to the CCO which role within each organisation is responsible for implementing the Retailer Curtailment Plan and ensuring that it is maintained up to date.

Recommendations:

- 6. GIC to review Retailer Curtailment Plans to ensure they contain sufficient information to ensure a person responsible for gas usage at each consumer installation can be contacted at any time.***
- 7. GIC to engage with Retailers to confirm the primary role within each organisation responsible for implementing the Retailer Curtailment Plan.***

9.3. Retailer to test that the list of emergency contact details maintained in accordance with regulation 43 is current. [r34]

Only two Retailers, (Greymouth, Vector OnGas) elected to contact all their consumers to test that the details they held were correct.

One Retailer, (Contact Energy) contacted a small sample of consumers. Not all of the contact details tested were correct.

Three Retailers (Nova Energy, Genesis Energy, Trustpower,) elected not to contact any consumers, placing full reliance on their business-as-usual process for capturing and maintaining consumer contact details.

Three Retailers, (Switch Utilities, Pulse Energy, Hanergy) did not provide any feedback or evidence of testing consumer contact details.

As has been found in previous exercises, there appears to be a reluctance by some Retailers to embrace testing of consumer contacts. Reasons given for this include:

- a lack of resources available for the exercise
- a view that consumers may be confused by the call given it is just an exercise
- confidence that the business-as-usual process for maintaining consumer contact details is fully effective.
- confidence that in a real event, the required resources would be mobilised, and consumers would be contacted quickly.

The CCO considers that without the testing of at least a sample of Retailer contacts, a key requirement of the annual exercise is not achieved.

Other observations by the CCO include:

- The CCO maintains a contacts database for issuing communications to Retailers. Some Retailers have several contacts or use generic email addresses from which communications are auto-forwarded internally. It is not clear to the CCO which role within each Retailer is the primary contact for receiving and acting upon CCO communications within the organisation as required.
- All Retailers were given prior notice of the exercise and reminded of the requirements for testing that emergency contact details maintained in accordance with regulation 43 is current. However, specific commitment from Retailers to participate in the exercise and undertake the testing was not obtained.
- The placement of observers with Retailers for the duration of the exercise would be beneficial.

Recommendations:

- 8. CCO to engage with Retailers to confirm the primary contact in each organisation for receiving and acting upon CCO communications within the organisation as required.***
- 9. CCO to ensure planning for future exercises includes obtaining commitment from all Retailers to fully participate in the exercise and confirmation as to the level of consumer contact testing they will undertake for the exercise.***
- 10. GIC to observe the participation of all Retailers during the next exercise via MS Teams.***

9.4. Retailers and large consumers to provide regular updates to TSO [r55]

Retailers provided curtailment compliance updates to Firstgas using their Combined Large Consumer and Retailer Update Template. These were subsequently consolidated into a single update and provided to the CCO. The provision of Retailer Curtailment Compliance updates was less than optimal due to:

- Some Retailers not providing curtailment compliance updates to Firstgas.
- A low level of curtailment compliance being reported by Retailers.

One Retailer provided feedback that the template could be simplified and made more user-friendly.

Recommendation:

- 11. TSO to consider Retailer feedback on the Compliance Update template and modify if required.***
- 12. TSO to engage with Retailers prior to the next exercise to ensure the requirements for compiling and sending compliance updates are well understood.***

9.5. Retailers to Implement Media Appeals [r53]

The following Retailers are signatories to the Domestic Gas Retailers Communications Protocol: Trustpower, Contact Energy, Energy On-line, Genesis Energy, Mercury, Pulse Energy and Switch Utilities.

The Protocol provides for the establishment of a position of a “Lead Retailer” to act for and on behalf of all the Signatories during a critical contingency event in respect to the organisation of national media appeals for conservation of gas by domestic consumers. The role of Lead Retailer for 2021 is held by Mercury.

A notice for Retailers to implement media appeals was issued by the CCO at 11:33am. The Lead Retailer prepared and issued a Media Release in accordance with the current Domestic Gas Retailers Communications Protocol (see Appendix D).

Post-exercise, the Lead Retailer made several observations and recommendations for improving the Gas Retailers Communications Protocol including:

- There should be a contingency in case the Lead Retailer is unavailable, for example going to the next Retailer on the list.
- Add a line into the media releases acknowledging the cooperation and patience of gas users who are being asked to curtail their use.
- Update some contact details in the Protocol.
- Teams within each retailer who are calling commercial customers to ask them to curtail their demand should be scripted to be aligned across the industry in messaging to consumers.
- Email is not efficient for coordinating a large group. Suggest modernising to a shared document that can be used to collaborate live.
- Social media should be included in this protocol document, for swifter dissemination of information.

Nova Energy is not a signatory of the Domestic Gas Retailers Communications Protocol however for the exercise they drafted and submitted a media appeal for distribution to key news outlets. The CCO notes that the content of this media appeal was not consistent with the content of the media appeal prepared by the Lead Retailer. In a real event this could result in conflicting message and cause confusion for consumers.

Recommendation:

13. GIC to review and update the Domestic Gas Retailers Communications Protocol having regard to feedback provided by the Lead Retailer.

14. GIC to engage with Nova Energy to consider being a signatory to the Domestic Gas Retailers Communications Protocol.

10. Asset Owners Exercise Test Criteria and Observations

10.1. The owner of the damaged or failed component publishes the required information [r54A]

First Gas was the affected asset owner in this exercise and information was provided to the CCO and published in accordance with the CCMP and associated processes. (Appendix D).

Appendix A – Exercise Injects

Inject # 1 for TSO. 09:02am

For the purpose of the exercise, Gas Control is to assume that they have received a call from the Fire Brigade who have been called to Wirihana Road just north of Hawera. The Fire Brigade advises that they have arrived on site and:

- There is a large gas escape in a paddock about 100m from the end of Wirihana Road.
- There is a large bulldozer in the paddock near the gas leak.
- A contractor on site has said they were carrying out earthmoving works when the gas main erupted.
- The area has been evacuated and they are awaiting instructions.

At the time of the call from the Fire Brigade, SCADA indicates:

- Critical contingency pressure threshold at Hawera DP in alarm and showing 5 hours to 30barg.
- Flow through KGTP has increased.
- Kaitoke Compressor Station is running.
- Pressure threshold at Waitangirua is showing 18 hours to 37bar
- Inlet pressure at all gas gates north of Kaitoke Compressor Station on SCADA are dropping.

TSO is to assume that the CCO is not aware of the system conditions and will only act on information provided by the TSO.

Inject # 2 for TSO 10.07am

For the purpose of the exercise, the Duty Officer is to assume that FGL Field Staff have arrived on site at Wirihana Road and at Hawera Delivery Point and provided the following information.

- There is a large bulldozer in the middle of a large gas escape.
- The Fire Brigade has secured the area.
- Gas is still escaping, and the pipeline should be isolated as soon as possible.
- The two Main Line Valves at Hawera DP have both closed.

TSO is to assume that the CCO is not aware of the system conditions and will only act on information provided by the TSO.

Inject #3 for TSO. 13:38pm

For the purpose of the exercise, the Duty Officer is to assume that the ER Team has provided the following update:

- Repair teams have been mobilised to site and repairs are underway.
- Repair conditions are good, and repairs are progressing to schedule.
- Estimated repair time 40 to 48 hours from when the system was isolated.

TSO is to assume that the CCO is not aware of system conditions and will only act on information provided by the TSO.

Inject #4 from Exercise Control to all participants 15:03

There will be no further injects for the exercise.

For this scenario which would span more than 24 hours, demand curtailment and restoration requirements would be subject to on-going review by the CCO, and regular status updates would be provided.

Instructions to restore demand would be issued as and when supply to the gas transmission system was restored. Demand Restoration Notices and Critical Contingency Termination Notice will not be issued for this exercise.

Would active participants please continue with your involvement in the exercise as required until you are advised that the exercise has ended.

Appendix B – Exercise Timeline

Exercise Control Log

Please note this is only a summary of events. Not every communication has been noted in this report.

Event:	Exercise Waru	Date:	05/05/2021
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Time	From	To	Details
08:57	Exercise Control	All Participants	Exercise Waru has commenced – email & SMS Website updated to reflect exercise commenced
09:02	Exercise Control	TSO Gas Control	Inject #1 issued by email and followed up with phone call.
09:11	Gas Control	CCO	Gas Controller sends SMS to CCO requesting Duty CCO to contact Gas Control
09:12	CCO	TSO Gas Control	CCO contacts Gas Control and is briefed on pipeline incident by Gas Controller. Initial assessment by Gas Control did not identify 5 hours to 30bar at Hawera DP as a CC pressure threshold breach. Further conversation between CCO and Duty Officer confirms section between KGTP and Hawera will be isolated. CCO requested SCADA data be switched to Event Mode and Security of Supply alert to be sent. CCO advised intention to assess system conditions while further information on situation was obtained.
09:23	CCO	TSO Duty Officer	CCO determines that breach of Hawera DP pressure threshold has occurred. CCO advises the TSO that a Critical Contingency is being declared at 09:23 and written notice will be issued as soon as possible. CCO commences preparing CC Declaration Notice.
09:29	TSO Gas Control	CCO	Security of Supply Alert #1 issued. 28 minutes after inject #1 provided.
09:33	CCO	TSO Duty Officer	Draft Critical Contingency Notice CC-0059 based on discussions and Security of Supply alert sent for review.
09:34	TSO Duty Officer	CCO	Duty Officer advises that CCO Liaison Officer role has been established in the ER Team. Review of Draft CC Notice carried out and changes agreed.
09:43	CCO	TSO & Stakeholders	Critical Contingency notice CC-0059 emailed to TSO & Stakeholders.
09:44	CCO	TSO	Call to advise that Declaration Notice has been sent and obtain update.
09:44	CCO	GIC	Provide update that CC has been declared.

Time	From	To	Details
09:48	CCO	Stakeholders	Critical Contingency notice CC-0059 published on website.
09:52	CCO	Stakeholders	SMS text advising CC-0059 has been issued.
09:49	TSO	Interconnected Parties	OATIS (Maui) New Critical notice ID 61692 "Exercise Waru – Critical Contingency Declaration Notice CC-0059" - Action Required. 6 minutes after CCO Notice issued.
09:51	TSO	Interconnected Parties	OATIS (Vector) New Critical notice ID 61693 "Exercise Waru – Critical Contingency Declaration Notice CC-0059" - Action Required. 8 minutes after CCO Notice issued.
09:55	CCO	TSO	CCO attended tail end of TSO update meeting. Chris Adams established as System Control Liaison
09:59	CCO	Electricity System Operator	Call to confirm that electricity generation not affected by the pipeline incident.
10:07	Exercise Control	TSO Duty Officer	Inject #2 issued and followed up with phone call.
10:11	TSO Duty Officer	CCO	TSO provides update confirming system isolation south of Hawera and loss of supply between KGTP and Hawera. TSO estimated repair time not yet known but could be 48 hours. CCO undertakes to determine load curtailment requirements.
10:18	TSO	CCO	TSO provides system drawings confirming location of pipeline damage and isolation details.
10:20	CCO	TSO	Emailed draft notice (0060) for TSO review
10:27	TSO Duty Officer	CCO	Security of Supply Update #2 issued. 20 minutes after inject #2 provided.
10:31	CCO	TSO Duty Officer	Draft Demand Curtailment Notice CC-0060 based on discussions sent for review.
10:34	TSO Duty Officer	CCO	Review of Draft Curtailment Notice carried out and confirmed as ok.
10:40	CCO	TSO	Demand Curtailment notice CC-0060 emailed to TSO & copied to Stakeholders.
10:43	CCO	Stakeholders	Curtailment notice CC-0060 published on CCO website.
10:43	TSO	Interconnected Parties	OATIS (Maui) New Critical notice ID61694 "Exercise Waru" – Direction to Curtail Demand Notice CC-0060" - Action Required. 3 minutes after CCO Notice issued.
10:44	TSO	Interconnected Parties	OATIS (Vector) New Critical notice ID61695 "Exercise Waru" – Direction to Curtail Demand Notice CC-0060" - Action Required. 4 minutes after CCO Notice issued.
10:47	CCO	Stakeholders	SMS text advising CC-0060 has been issued.

Time	From	To	Details
11:00	CCO	TSO Duty Officer	TSO advises repair time 48 hours. CCO advises that further curtailment to Band 6 required together with media appeals for domestic consumers and prepares draft revised curtailment notice.
11:03	CCO	TSO Duty Officer	Draft Revised Demand Curtailment Notice CC-0061 based on discussions sent for review.
11:04	CCO	GIC	Update on Curtailment instructions given.
11:05	TSO Duty Officer	CCO	Review of Draft Revised Curtailment Notice CC-0061 carried out and confirmed as ok.
11:09	CCO	Methanex	Call to confirm not affected by the pipeline incident and check communications being received ok.
11:10	CCO	TSO	Revised Demand Curtailment notice CC-0061 emailed to TSO & copied to Stakeholders.
11:12	CCO	Stakeholders	Revised Demand Curtailment notice CC-0061 published on CCO website.
11:14	TSO	Interconnected Parties	OATIS (Maui) New Critical notice ID61696 "Exercise Waru" – Revised Direction to Curtail Demand Notice CC-0060" - Action Required. 4 minutes after CCO Notice issued.
11:15	CCO	Stakeholders	SMS text advising CC-0061 has been issued.
11:16	TSO	Interconnected Parties	OATIS (Vector) New Critical notice ID61697 "Exercise Waru" – Revised Direction to Curtail Demand Notice CC-0060" - Action Required. 6 minutes after CCO Notice issued.
11:23	CCO	TSO Duty Officer	Draft Retailers to Implement Media Appeals Notice CC-0062 sent for review.
11:26	TSO Duty Officer	CCO	Review of Retailers to Implement Media Appeals Notice CC-0062 carried out and confirmed as ok.
11:30	TSO	CCO	TSO issues Draft Asset Owner Statement #1 for review by CCO.
11:33	CCO	Retailers	Retailers to Implement Media Appeals notice CC-0062 emailed to Retailers & copied to Stakeholders.
11:36	CCO	Stakeholders	Retailers to Implement Media Appeals notice CC-0062 published on CCO website.
11:38	CCO	Stakeholders	SMS text advising CC-0062 has been issued.
11:42	CCO	TSO	Phone call to discuss Draft Asset Owner Statement - voice message left.
11:42	TSO	Interconnected Parties	OATIS (Maui) New Critical notice ID61698 "Exercise Waru" – Retailers to Implement Media Appeals Notice CC-0062" - Action Required. 9 minutes after CCO Notice issued.

Time	From	To	Details
11:44	TSO	Interconnected Parties	OATIS (Vector) New Critical notice ID61699 "Exercise Waru" – Retailers to Implement Media Appeals Notice CC-0062" - Action Required. 11 minutes after CCO Notice issued.
11:47	CCO	TSO	Email sent to TSO (Duty Manager and Communications) with suggested changes to Draft Asset Owner Statement #1
11:47	CCO	TSO	Phone call to discuss Draft Asset Owner Statement #1.
12:01	TSO	CCO	Firstgas Asset Owner Statement #1 issued.
12:09	CCO	TSO Duty Officer & Comms	Draft Status Update Notice CC-0063 sent for review.
12:11	CCO	TSO Duty Officer & Comms	SMS text to alert them to email sent.
12:12	TSO	Interconnected Parties	OATIS (Maui) New Critical notice ID61700 "EXERCISE WARU Critical Contingency - Firstgas Asset Owner Statement 05 May 2021" - Action Required.
12:13	TSO Duty Officer	CCO	Status Update Notice CC-0063 confirmed as ok.
12:16	TSO	Interconnected Parties	OATIS (Vector) New Critical notice ID61701 "EXERCISE WARU Critical Contingency - Firstgas Asset Owner Statement 05 May 2021" - Action Required.
12:31	CCO	Stakeholders	Status Update notice CC-0063 emailed to Stakeholders & copied to TSO.
12:35	CCO	Stakeholders	Status Update notice CC-0063 published on CCO website
12:37	CCO	Stakeholders	SMS text advising Status Update CC-0063 has been issued.
12:40	TSO	Interconnected Parties	OATIS (Maui). New Critical notice ID61703 "Exercise Waru - Critical Contingency Status Update Notice - CC-0063 " - Action Required 9 minutes after notice issued.
12:42	TSO	Interconnected Parties	OATIS (Maui). New Critical notice ID61704 "Exercise Waru - Critical Contingency Status Update Notice - CC-0063 " - Action Required 11 minutes after notice issued.
13:28	Critical Compliance	CCO	Curtailed compliance update provided by TSO.
13:34	CCO	Critical Compliance	Queries relating to first update.
13:38	Exercise Control	TSO Duty Officer	Inject #3 issued.
13:43	Critical Compliance	CCO	Response to queries relating to first update.

Time	From	To	Details
13:51	TSO Duty Officer	CCO	Security of Supply Update #3 issued. 13 minutes after inject #3 provided.
14:15	Critical Compliance	CCO	Further curtailment compliance update provided by TSO.
14:20	CCO	Mercury	Query re the progress on media appeals
14:25	Mercury	CCO	Prepared media release provided.
14:30	TSO	CCO	CCO and TSO agreed that the TSO needs to start contacting Retailers regarding apparent lack of curtailment compliance.
14:34	CCO	Nova	Query re the progress on media appeals
14:37	Nova	CCO	Prepared media release provided.
14:45	CCO	Nova	Media release prepared by Mercury provided for information.
15:03	Exercise Control	All Participants	Email to all participants to advise that no further injects will be issued and Demand Restoration and Termination notices will not be issued for the exercise.
15:29	Exercise Control	All Participants	Advised that exercise has ended
15:30	Exercise Control	Stakeholders	SMS text advising that Exercise Waru has ended.
15:30	CCO	Stakeholders	Website updated to reflect Exercise Waru has ended.
15:31	TSO	Interconnected Parties	OATIS (Maui). New Critical notice ID61706 "Exercise Waru - Exercise Termination." - Action Required
15:32	TSO	Interconnected Parties	OATIS (Vector). New Critical notice ID61707 "Exercise Waru - Exercise Termination." - Action Required
15:32	Exercise Control	Retailers	Requested feedback on testing on Retailer Curtailment Plans and provided optional template

Appendix C – Notice Summary

All CCO notices can be viewed in full on www.cco.org.nz – Historical Events

All First Gas TSO notices can be viewed on www.oatis.co.nz – First Gas Information Exchange, using ‘Notice Search’ button and begin date of 05/05/21

Notices to TSO

CCO Notice ID	Notice Type	Time CCO e-mailed Notice to TSO	Time TSO Published CCO Notice	
			OATIS (Maui)	OATIS (First Gas)
CC-059	Critical Contingency Declaration	09:43	09:49	09:51
CC-060	Direction to Curtail Demand	10:40	10:43	10:44
CC-061	Revised Direction to Curtail Demand	11:10	11:14	11:16
CC-062	Retailers to Implement Media Appeals	11:33	11:42	11:44
CC-063	Status Update	12:31	12:40	12:42

The exercise was ended without moving through the restoration and termination phases.

Appendix D - Asset Owners Public Statements and Retailer Media Appeals

EXERCISE WARU – 05 May 2021

First Gas Limited – Transmission System Event Public Statement 1		
Report No:	2021-05-05_12.00 Public Statement 1	
What has Happened?:	<p>A bulldozer has struck the First Gas transmission pipeline north of Hawera. The location is near Wirihana Road. There has been a release of gas. As a result, the critical contingency threshold at the Hawera Delivery Point has been breached. No injuries have been reported as a result of the event. The fire service has evacuated affected people in the area.</p> <p>As a result of this incident there is no gas being fed into the transmission system south of Kapuni Gas Treatment Plant. The Critical Contingency Operator has curtailed gas demand (bands 1 to 6) and instructed retailers to make media appeals for domestic customers to conserve gas.</p>	
Actions Being Taken to Effect Repairs:	<p>First Gas and Fire Service personnel have been mobilised to site. The pipeline has been isolated between Kapuni Gas Treatment Plant and Hawera Delivery Point. The pipeline is venting down at the leak location and the damage to the pipeline will be inspected later today, once it is safe to access.</p>	
Estimation of the Likely Duration of each Step of the Repair Process:	<p>Current estimates are that the full repair process will take approximately 48-hours from 11am on 05 May 2021. This repair timeframe could include the time required for significant weld repairs, but more will be known once the inspection has occurred. Current time estimate is based on;</p> <ul style="list-style-type: none"> • Full mobilisation of repair equipment and personnel to site; • Purging all gas from the damaged section of pipeline; • Carrying out the required welding and associated repair processes; • 24-hours of non-destructive testing after repair is completed; • Approval from Pipeline Certifier; • Re-opening of Main-line valves and re-pressurisation of the repaired section of pipeline. 	
Estimated Time of When the Component will be Returned to Service:	<p>The damaged section of the First Gas Transmission Pipeline is therefore expected to be returned to service at approximately midday on Friday 07 May 2021.</p> <p>As the damage is yet to be assessed this timeframe may vary considerably and Firstgas will update as the inspection is completed.</p>	

EXERCISE WARU – 05 May 2021

	<p>if there is expected to be any change to this timeframe First Gas will provide a further update.</p>
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- Further information on First Gas Limited and the Gas Transmission System can be found on the First Gas website www.firstgas.co.nz
- The Critical Contingency Operator is also required to make regular public statements and updates, which will be posted on the CCO website www.cco.org.nz

Media Statement

5 May 2021 12:15pm

Media appeals to domestic consumers

This is a message for domestic gas consumers.

Third party damage which has occurred on the First Gas Transmission Pipeline north of Hawera resulting in a significant gas escape.

In response to the critical contingency emergency, gas curtailment notices have been issued to industrial, medium and small commercial gas consumers.

As the gas supply system has not stabilised, gas retailers are now asking domestic consumers in the affected area (Hawera through to Wellington and east through to Hastings) to reduce their gas usage to a minimum until further notice.

Any commercial consumers who have not yet been contacted by their retailer should cease using gas in anticipation of being directed to do so by their retailer. These conservation measures are designed to extend the availability of gas for as long as possible while efforts are made to restore normal supplies.

Public safety is the number one concern, and field crews have been mobilised to site. Estimated time to resolve is currently 48 hours. New information will be provided as it comes to hand.

Please note that we do not want consumers to turn off the service valve at their gas meter. All we are seeking is that consumers reduce their use of gas as much as possible by not using their gas appliances (for example, gas-fired heaters, stoves/hobs, and hot water) or only using them sparingly.

This message is provided by the following retailers –Contact Energy, Energy Online, Genesis Energy, Mercury, Pulse Energy, Switch Utilities and Trustpower.

ENDS

For further information, please contact First Gas – Cressida Gates-Thompson – 027 703 6177.

Appendix E – Retailer Curtailment Plan Test Report Template

Retailer Name:								
Date Retailer Curtailment Plan last updated:								
Date consumers were last notified of the existence of the critical contingency regulations as set out in regulation 44.								
Curtailment Bands:		3	3CP	4	4CP	5	6	7
1	How many consumers did you have in each of the affected bands?							
2	During the exercise, how many consumers in each curtailment band did you contact?							
3	Of those consumers contacted, how many were the correct contact details?							
4	Of those consumers contacted, how many were aware of their obligations under a critical contingency?							
5	Description of process in place to ensure consumer emergency contact details are maintained and up to date in accordance with regulation 43.							
6	Description of methods and processes in place for issuing urgent notice to consumers to curtail or restore demand in accordance with regulation 56.							
7	Comments on the levels of consumer understanding of your instructions and their obligation to comply with directions							
8	Description of process for implementing any media appeals if directed by the CCO under regulation 53(1)(db).							

9	Comments on the Retailer Compliance Update Form and process.	
10	Comments on the quality and effectiveness of your Retailer Curtailment Plan.	
11	Comments on the level of awareness and understanding of your Retailer Curtailment Plan within your organisation	
12	Comments on exercise format, lessons learnt and any planned changes or initiatives you may take identified during the exercise.	
13	What are the 'actions arising' for your organisation because of this exercise?	
14	Any other comments?	