GAS INDUSTRY COMPANY LIMITED

Gas Outage and Contingency Management Arrangements – Industry Forum
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Part A: Overview

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Part C: Supporting arrangements

Part D: Wrap-up

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Part A: Overview

Changes in terminology

- "emergency management" adopted in previous discussion papers and workshops as shorthand for security of supply management.
- Feedback suggested this term is more appropriate to describe "safety events" and may create uncertainty about the correct form of response.
- We have therefore decided to use the phrases:
  - **"outage and contingency management",**
  - **"contingencies",**
  - **"Gas Contingency Operator"**
- Further suggestion to drop "**Outage**"
- Issue re "Gas Contingency" being defined in MPOC

Proposed framework and hierarchy

Gas Act:
Section 43F(2)(a)(vi) "*arrangements relating to outages and other security of supply contingencies*"

Outage and Contingency Management Regulations

OCMPs
- Trigger for a GC
- the process to be followed during a GC
- a communications plan
- a process for terminating a GC

Curtailment Schedule
- The order in which curtailment will be called
- To be published and maintained by GIC

Gas Contingency Operator
- System Operator to provide this role
- Provided under a Service Provider Agreement with GIC

Compliance Regulations
- Uses arrangements for switching and registry
- Draft Gas (Compliance) Regulations 2007 amended to include OCMR

Statement Of Proposal (SOP)

- Structured to meet the requirements of the Gas Act
- Sections include:
  - Problems with current arrangements
  - Identifying reasonably practicable options
  - Proposed OCM arrangements
  - Compliance
  - Assessment of benefits and costs
  - Funding and cost allocation
  - **Proposed OCMRs** ← **Focus for today**
  - Proposed amendments to Compliance Regulations
  - Format for submissions

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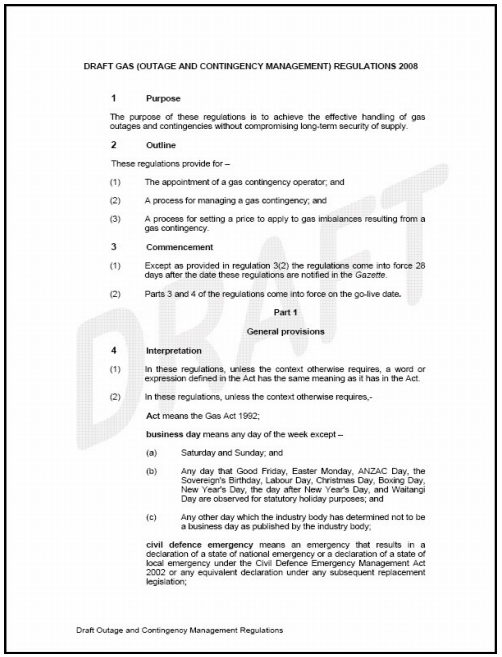
Part B: Regulations

Proposed Outage and Contingency Management Regulations (OCMRs)

- Appendix C: Draft Gas (Outage and Contingency Management) Regulations 2008
- Regulations are split into six parts:
  - Part 1 General Provisions
  - Part 2 Obligations prior to a gas contingency
  - Part 3 Gas contingency
  - Part 4 Obligations post gas contingency
  - Part 5 Miscellaneous provisions
  - Part 6 Transitional provisions



DRAFT GAS (OUTAGE AND CONTINGENCY MANAGEMENT) REGULATIONS 2008

1 Purpose

The purpose of these regulations is to achieve the effective handling of gas outages and contingencies without compromising long-term security of supply.

2 Outline

These regulations provide for –

(1) The appointment of a gas contingency operator; and

(2) A process for managing a gas contingency; and

(3) A process for setting a price to apply to gas imbalances resulting from a gas contingency.

3 Commencement

(1) Except as provided in regulation 3(2) the regulations come into force 28 days after the date these regulations are notified in the Gazette.

(2) Parts 3 and 4 of the regulations come into force on the go-live date.

Part 1

General provisions

4 Interpretation

(1) In these regulations, unless the context otherwise requires, a word or expression defined in the Act has the same meaning as it has in the Act.

(2) In these regulations, unless the context otherwise requires,-

Act means the Gas Act 1992;

business day means any day of the week except –

(a) Saturday and Sunday; and

(b) Any day that Good Friday, Easter Monday, ANZAC Day, the Sovereign's Birthday, Labour Day, Christmas Day, Boxing Day, New Year's Day, the day after New Year's Day, and Waitangi Day are observed for statutory holiday purposes; and

(c) Any other day which the industry body has determined not to be a business day as published by the industry body;

civil defence emergency means an emergency that results in a declaration of a state of national emergency or a declaration of a state of local emergency under the Civil Defence Emergency Management Act 2002 or any equivalent declaration under any subsequent replacement legislation;

Draft Outage and Contingency Management Regulations

Part 1: General Provisions

- Purpose
- Interpretation
- Appointment of GCO
- Publication
- Performance standards
- Funding

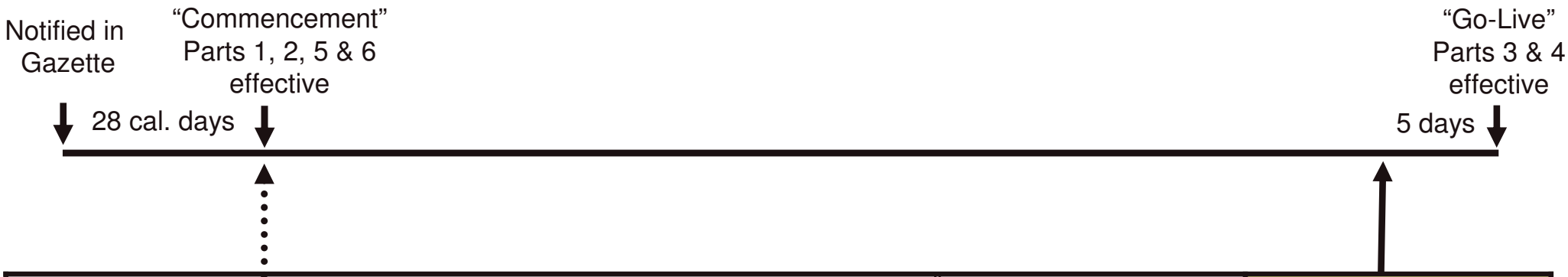
Funding arrangements

- Development fee:
  - Covers costs of incremental administrative costs for the new arrangements e.g. development fee in service provider agreement with GCO
  - Invoiced to industry participants pro rata to number of GJ of gas the person purchased directly from gas producers during 12 months prior to commencement date
- Ongoing fees:
  - Based on estimated gas contingency ongoing costs e.g. annual fee in service provider agreement with GCO
  - Invoiced monthly to industry participants pro rata to number of GJ gas purchased directly from producers during previous month
  - Annual reconciliation to actual costs
- Industry participants are required to provide information on gas purchases to GIC by 10th of the month

Part 2 Obligations prior to a gas contingency
(focus on prior to go-live date)

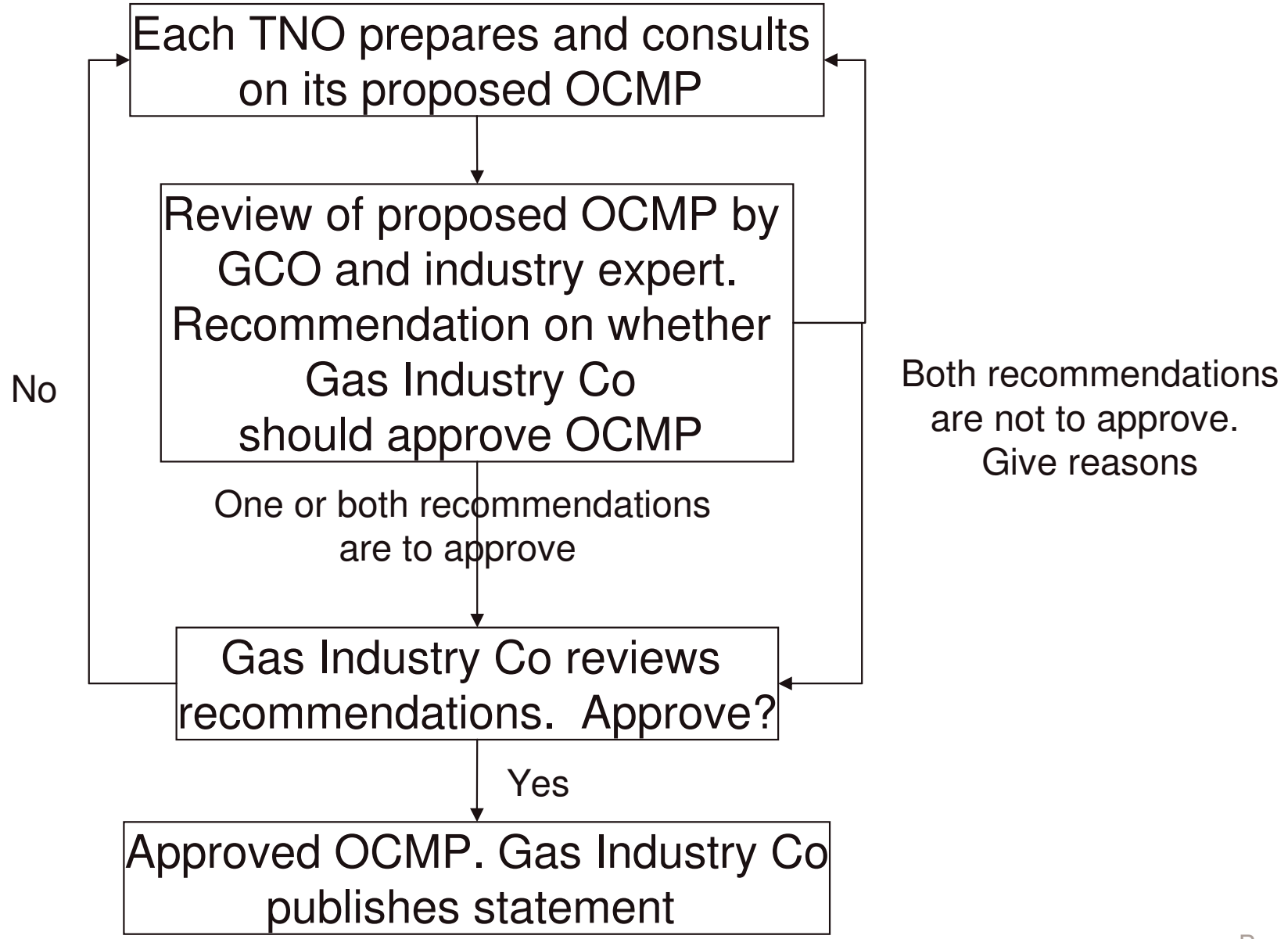
Party	Responsibility	Regulations
GCO	Communications Plan, Information Guide	34, 35&36
	Review of OCMPs	27
	Testing arrangements	31
TNOs	OCMPs	23 to 29
	Maintenance and testing	30&31
Retailers	Provide consumer information to GCO	37 to 39,
	Contact details for customers	40
	Designation of customers	41, 42
Customers	Designation as essential service provider, minimal load consumer	41,42
GIC	Publish curtailment bands	32&33
	Appoint expert adviser (review OCMPs)	26
	Approval of OCMPs	28

Timetable to prepare for new arrangements: triggered from Commencement date



OCMPs	Preparation and consultation (50 days)	Review of OCMPs by GCO and expert adviser (maximum 15 days)	Industry body approves all OCMPs and publishes statement
Communications Plan	Preparation		Publish on go-live date
Information Guide	Preparation and consultation		Publish on go-live date
Consumer information	Retailers to provide consumer volume information to GCO (within 20 days)		
Designation of customers	As soon as reasonably practicable		

Process for approval of an OCMP



Interim Curtailment Bands:
existing NGOCP and proposed interim bands

- Interim curtailment bands are based on those in NGOCP with minor changes that are being consulted on in the Statement of Proposal
- GIC to publish interim curtailment bands which will apply from commencement date
- Regulations require GIC to commission a study to determine curtailment bands within 3 years
- Industry study is underway to look at the key interactions between the gas and electricity sectors, including security of electricity supply risks, for a range of gas contingency scenarios with the potential to trigger curtailment of major loads

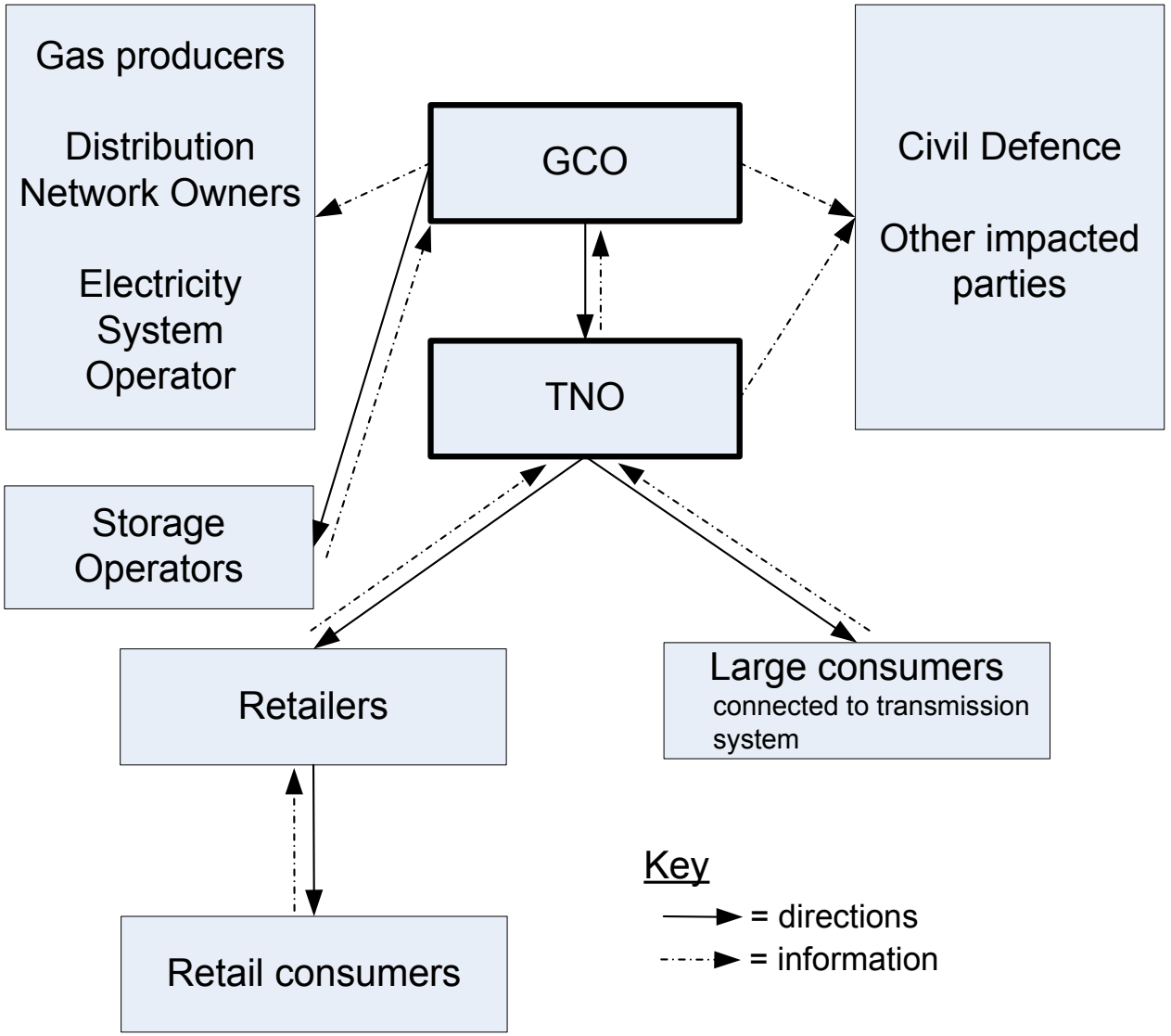
Interim Curtailment Bands:
existing NGOCP and proposed interim bands

Existing NGOCP Arrangements			Proposed Bands		
NGOCP Category	Description		Curtailment Band	Consumption	Description
			0		Gas off-taken for injection into gas storage.
Major Plant	>15 TJ/day, Direct Supply		1a	>15TJ/day	Consumers supplied directly from a transmission network and who have an alternative fuel capability. If minimal load consumer then manage wind-down of plant.
			1b	>15T/day	Consumers supplied directly from a transmission network who do not have an alternative fuel capability. If minimal load consumer then manage wind-down of plant.
A	>10TJ, with alternative fuel facilities		2	>10TJ/annum	Industrial and commercial consumers with alternative fuel capability. If minimal load consumer then manage wind-down of plant.
B	>10TJ, curtailment will not affect plant or product				
C	>10TJ, curtailment could cause product loss				
D	>10TJ, curtailment could cause plant damage/ environmental damage		3	>10TJ	Industrial and commercial consumers without alternative fuel capability. If minimal load consumer then manage wind-down of plant.
E	>2TJ and <10TJ, not in category F		4	2 to 10TJ	All consumers except for essential service providers. Minimal load consumers fully interrupted.
F	>2TJ classed as essential service		5	>2TJ	Essential service providers.
G	<2TJ all consumers		6	<2TJ	All remaining consumers.

Part 3: (During a) gas contingency

Party	Responsibility	Regulations
GCO	Determine and declare GC; notify parties, direct curtailment Maximise opportunities for supply, technical operator Termination	44 to 48 49 54 to 57
TNOs	Comply with direction from GCO Follow OCMP	50
Retailers	Follow directions from TNO Instruct customers to curtail	51, 52
Customers	Comply with directions	53

Flow of directions and information during a Gas Contingency



Part 4: After a gas contingency

Party	Responsibility	Regulations
GCO	Incident report & performance report	58, 59
TNOs	Assist GCO with report	60
Retailers	Cash-out arrangements	67, 69
Customers	Cash-out arrangements (large consumers)	67, 69
GIC	Industry expert to determine gas contingency price	61 to 65
	Appointee to determine contract imbalances	66
	GIC to invoice and administer contingency cash pool	67 to 69
	Provision of information	71

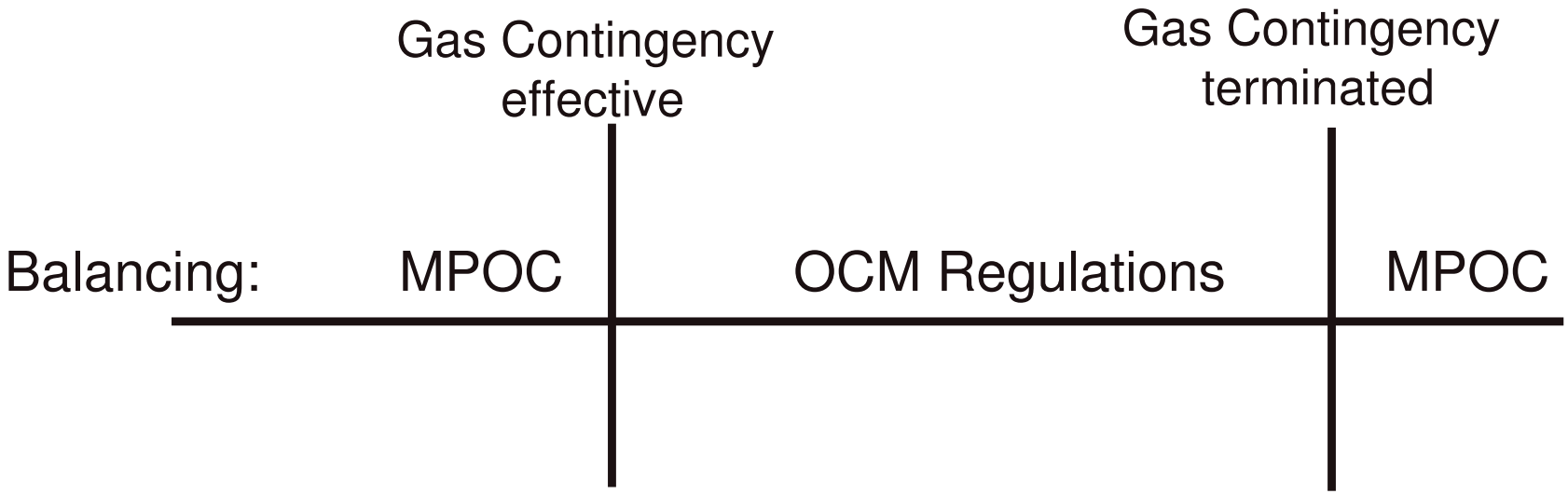
Worked example of cashout: hypothetical supply/demand portfolios

- Before a GC
- Consider total production and total demand, then all parties are in balance
- Parties are shippers in the transmission system

	Production			Demand	Imbalance
	P1	P2	Total	Total	
Shipper A	30	40	70	70	0
Shipper B	30	40	70	70	0
Shipper C	40	-	40	40	0
Shipper D	-	10	10	10	0
Shipper E	-	10	10	10	0
Total	100	100	200	200	0

Balancing over period of gas contingency

- MPOC balancing provisions apply up to the point that GC becomes effective
- OCM Regulations apply for period of the GC and a single imbalance calculation is performed for the period of the gas contingency as a whole
- MPOC balancing provisions re-activated from the point that GC is terminated



Worked example of cashout: hypothetical supply/demand portfolios

- There is a loss of 100 in production from P2 (e.g. field failure)
- Leads to curtailment in demand, according to curtailment schedule, of 100

	Production			Demand after curtailment	Imbalance
	P1	P2	Total	Total	
Shipper A	30	0	30	15	+15
Shipper B	30	0	30	25	+5
Shipper C	40	-	40	40	0
Shipper D	-	0	0	10	-10
Shipper E	-	0	0	10	-10
Total	100	0	100	100	0

Worked example of cashout: hypothetical supply/demand portfolios

- Assume gas contingency price is determined by industry expert to be $20/GJ
- Negative contract imbalances:
  - Shipper D pays 10TJ * $20/GJ = $200,000
  - Shipper E pays 10TJ * $20/GJ = $200,000
- GIC invoices Shippers B and C and holds the moneys, $400,000, in trust
- Once moneys are received GIC pays out the proceeds to those with positive contract imbalances:
  - Shipper A receives 15/(15+5) * $400,000 = $300,000
  - Shipper B receives 5/(15+5) * $400,000 = $100,000
  - Shipper C receives zero

	Imbalance
Shipper A	+15
Shipper B	+5
Shipper C	0
Shipper D	-10
Shipper E	-10
Total	0

Parts 5 and 6

- Part 5 Miscellaneous provisions:
  - Audit of retailers information to determine if consumer information provided to GCO is materially incorrect
- Part 6 Transitional provisions:
  - Treatment of gas contingency occurring before plans receive approval
  - Interim curtailment bands

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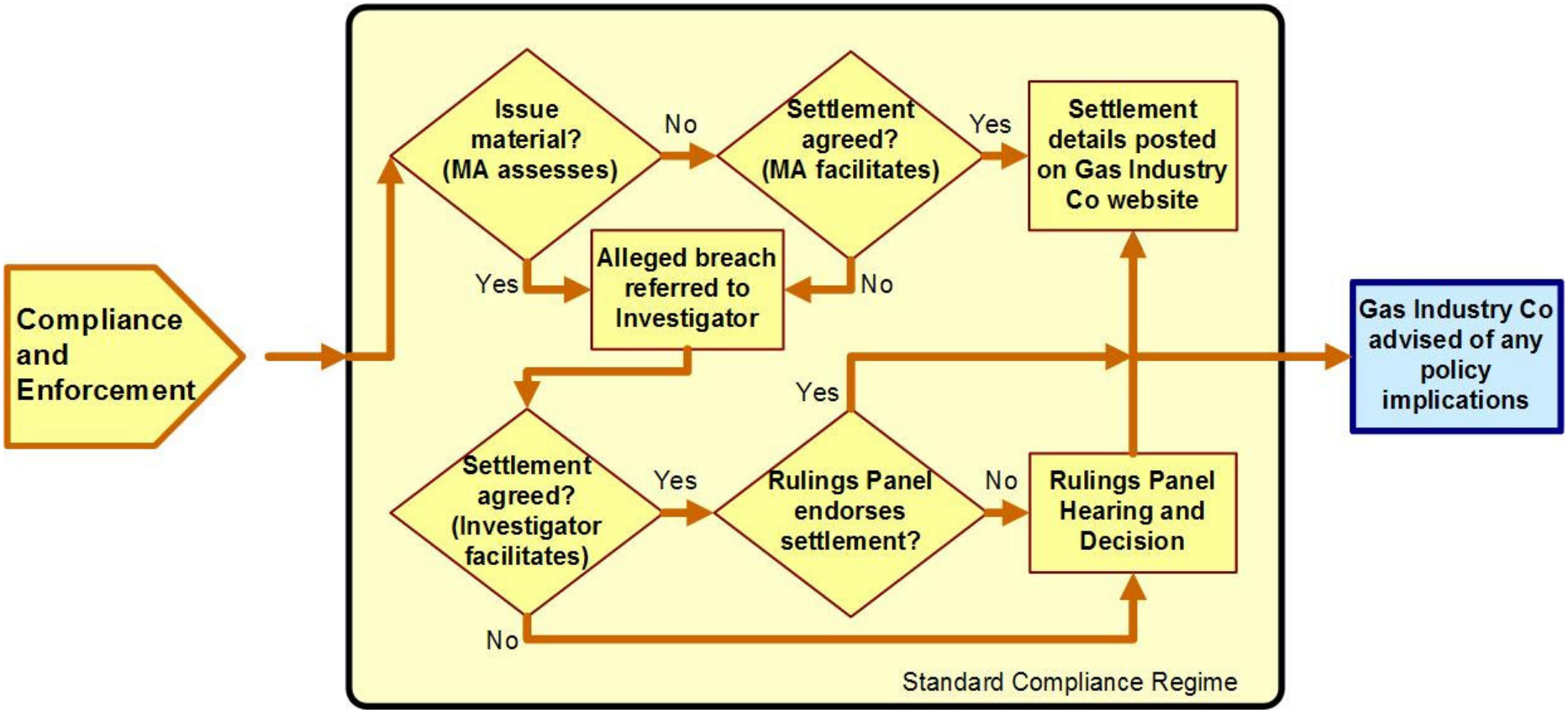
Part C: Supporting arrangements

- Compliance
- Cost allocation
- Service provider agreement
- Cost-benefit analysis

Compliance Arrangements

- The proposed Outage and Contingency Management arrangements are based on regulations in order to make them mandatory and remove ambiguity about compliance
- It follows that the arrangements for compliance should also be based on regulations
- It is proposed to amend the Draft Gas (Compliance) Regulations 2007 that were developed to cover the new switching and registry regulations
- The amendments will simply extend the draft compliance regime to cover the proposed Outage and Contingency Management Regulations
- Applying the proposed compliance regime to Outage and Contingency Management should work to reduce the uncertainty that shippers, retailers and consumers will comply with directions during a gas contingency

Compliance Arrangements



Cost allocation

Application of standard economic criteria to cost allocation

Criterion	Application to cost allocation
Economic efficiency	Does not discriminate between options
User/causer/beneficiary pays	Favours cost allocation to retailers and wholesale consumers
Rationality	Favours cost allocation to retailers and wholesale consumers
Simplicity	Favours allocating costs on the basis of either volume or ICPs
Equity	Favours cost allocation to retailers and wholesale consumers
Sufficiency	Favours allocating fees based on actual cost

The expected low level of costs favours a simple allocation to all gas consumers based on volume

Cost allocation

- Gas Industry Co has a preference for funding specific arrangements directly rather than through the general levy
- The expected low level of costs for outage and contingency management favours a simple allocation mechanism
- The arrangements to recover costs are therefore designed to emulate the levy calculations in order to reduce the administrative complexity of cost recovery
- Accordingly it is envisaged that the returns supplied to Gas Industry Co under gas levy regulations will be sufficient to provide the information necessary to calculate the individual cost allocations

Service Provider Agreement for Gas Contingency Operator

- Discussions have been commenced with Vector to establish a service provider agreement
- A draft of proposed key terms has been tabled
- The draft is based on similar service provider agreements used in the electricity sector
- The agreement is expected to be concluded and published before the Regulations are gazetted

Service Provider Agreement – Key Terms

Term	Draft proposal
Appointment	Vector to be appointed as GCO pursuant to regulation 5.1 GCO warrants that it has sufficient resources and skills to carry out services
Duration	Initial appointment for 5 years with one year notice of termination required (both ways)
Services	Generally as set out in regulations
Fees	See next slide
Confidentiality	GCO must ring-fence information that has been designated as confidential by the party supplying the information
Liability	Liability of GCO for breach of obligations is limited to the quantum of the annual fees payable
Termination	Agreement can be terminated by Gas Industry Co with 20 business days notice under certain circumstances – Vector ceases to be system operator, material breach of regulations, or Vector insolvency

Service Provider Agreement – Fees

Fee	Draft proposal
Development Fee	One-off fee to cover the initial cost of developing the arrangements
Base Fee	Annual fee based on the principle that it will recover the incremental costs of providing the services To include an estimated cost of managing contingencies Incremental costs to be based on normal commercial rates and estimates of the time spent preparing and approving plans, coordinating contingencies and conducting tests
Event Fee	No event fee is proposed
Compliance Fees	Where the provider is the subject of the complaint and the breach is proved – no compliance fee is payable Where the provider is the subject of the complaint and the breach is not proved – the reasonable costs of the provider are payable Where the provider is not the subject of the complaint - the reasonable costs of the provider are payable
Audit Fees	Fees payable to the provider in respect of any amounts payable to third parties for audits of software and systems

Cost benefit analysis

Key to the cost benefit analysis is the assessment of reasonably practicable options contained in section 6 of the Statement of Proposal – only two reasonably practicable options

Option	Description and assessment	Reasonably practicable?
Status quo	NGOCP arrangements lack effective enforcement, lack clearly defined roles and do not provide adequate commercial arrangements	No
Proposal	OCMR combined with OCMPs resolves problems with status quo while allowing industry participants to reach agreement on the detailed arrangements	Yes
Industry agreement	Developing NGOCP into a mandatory industry agreement would be difficult because of the diverse interests of the parties and existing contracts	No
Fully regulated	A fully-prescribed set of Regulations and Rules setting out detailed arrangements for managing contingencies is possible but has disadvantages	Yes

Cost benefit analysis

Assessment of Costs and Benefits – undertaken by NZIER (Appendix A)

Cost–benefit item	Description
Development costs	The cost of designing the new arrangements
Establishment costs	The cost of drafting and implementing regulations
Amendment costs	The cost of periodically reviewing and amending the arrangements to keep them up to date
Compliance and enforcement costs	The cost of monitoring and enforcing compliance with the new arrangements
Contingency benefits	The potential for shorter, smaller gas outages, with less impact on participants and gas users
Efficiency benefits	Greater confidence in the reliability of gas supply and certainty about arrangements during a contingency – leading to increased efficiency and incentives to invest

Cost benefit analysis

Assessment of Costs and Benefits

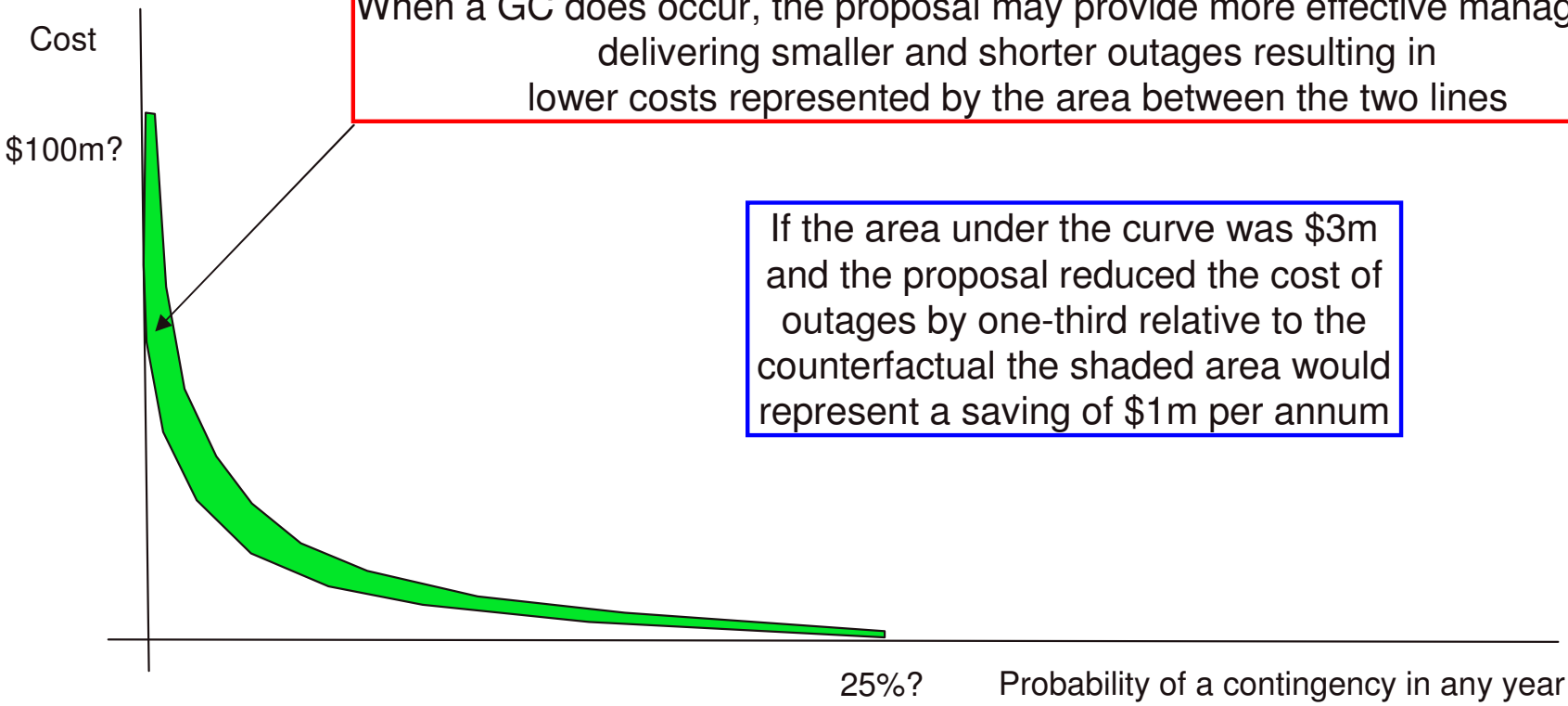
Cost–benefit item	Proposal – OCMR and OCMPs	Counterfactual – fully-prescribed
Development costs	$353,000	$537,000
Establishment costs	$212,000	$637,000
Amendment costs	$141,000 – five years	$294,000 – five years
Compliance and enforcement costs	No difference	No difference
Contingency benefits	No difference or $6,145,000	
Efficiency benefits	No difference	No difference
Net benefit (cost)	$706,000 or $5,439,000	$1,468,000

Ignoring contingency benefits yields a small benefit in favour of the proposal

The contingency benefits of the proposal may be significant

The difference that might accrue between the two options is based on the observation that the fully-prescribed regulated option is likely to be less flexible and take longer to amend in response to the need to update the arrangements. This means that the proposal could lead to better management of a gas contingency when one occurs.

When a GC does occur, the proposal may provide more effective management delivering smaller and shorter outages resulting in lower costs represented by the area between the two lines



If the area under the curve was $3m and the proposal reduced the cost of outages by one-third relative to the counterfactual the shaded area would represent a saving of $1m per annum

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Part D: Wrap-up

Questions for submissions: key areas that we are interested in receiving industry view

Q9: Do you agree that the GCO should be provided with some flexibility to take action that it considers necessary to ensure the effective management of a gas contingency?

Q10: Do you agree with the split between the planning role for the TNO and the communications plan role for the GCO? Do you agree that an industry expert should assist the GCO in the process to approve the plans?

Q13: Do you agree that the proposed contingency cash-out price will provide incentives for commercial arrangements to be put in place to maximise upstream production during a GC?

Q14: Do you agree with the proposed criteria for setting the contingency price? Are there any other prices that the expert could usefully reference to determine the contingency price?

Q15: Do you agree that the proposed scheme to calculate imbalances using existing industry processes is workable? If not, what adjustment would be required?

Timetable – slide 1 of 2

Target Date	Key Step
3 August	Issue Statement of Proposal
14 September	Receive submissions (6 weeks allowed)
14 October	Recommendation to the Board of Gas Industry Co
25 October	Board considers recommendation
November	Recommendation to Minister
	Regulations gazetted

Timetable – slide 2 of 2

Estimated date	Key step
November 2007	Recommendation to Minister
mid-Feb 2008	Minister approves recommendation
May	Regulations gazetted
June	Commencement
September	Go-live