Statement of Proposal: Gas Registry Amendments

Date issued: 12 August 2014
Submissions close: 22 September 2014

GAS INDUSTRY COMPANY LIMITED

About Gas Industry Co.

Gas Industry Co is the gas industry body and co-regulator under the Gas Act. Its role is to:

- develop arrangements, including regulations where appropriate, which improve:
  - the operation of gas markets;
  - access to infrastructure; and
  - consumer outcomes;
- develop these arrangements with the principal objective to ensure that gas is delivered to existing and new customers in a safe, efficient, reliable, fair and environmentally sustainable manner; and
- oversee compliance with, and review such arrangements.

Gas Industry Co is required to have regard to the Government's policy objectives for the gas sector, and to report on the achievement of those objectives and on the state of the New Zealand gas industry.

Gas Industry Co's corporate strategy is to 'optimise the contribution of gas to New Zealand'.

Submissions close: 22 September 2014

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Executive summary

This Statement of Proposal contains amendments to the Gas (Switching Arrangements) Rules 2008 (the Rules or the Switching Rules) and associated changes to the Gas Registry (the Registry). The proposed amendments respond to recommendations from audits and otherwise build on experience with the operation of the Rules and the Registry in the five years since go-live and benefit from the input of an industry working group, the Registry Amendments Project Team (the RAPT).

The proposed amendments support the purpose of the Rules and the purpose of the Registry. In particular they seek to:

- increase the accuracy and efficiency of retailers' conversion of metered volumes to energy by adding additional metering fields to the Registry;
- increase oversight of the quality and maintenance of ICP information in the Registry by requiring Registry participants to undergo performance audits;
- better align switching for dual fuel customers by reducing the maximum timeframe for gas switches from 23 business days to 10 business days;
- make minor amendments to the switch process and the ICP life cycle to better reflect the reality of commercial arrangements in the gas market; and
- enhance the mechanisms and interfaces for secure exchange of information between Registry participants.

Background

The Registry went live in March 2009 following the gazetting of the Rules in February 2008 and the appointment of Jade Software Corporation (Jade) as the Registry Operator in September 2008. Later in 2009 some minor and technical amendments were made to the Rules, but they have operated unchanged since then.

Between 2009 and 2011 several gas gate audits and retailer performance audits were performed under the Gas (Downstream Reconciliation) Rules 2008 (the Reconciliation Rules), which had implications for the Switching Rules and the Registry. It was discovered that errors in the application of billing factors such as meter pressure, multipliers, temperature correction and altitude correction were contributing to significant amounts of unaccounted-for-gas (UFG) at audited gas gates and across audited retailers. Several audit reports included recommendations such as the following:

- That meter owners be required to undergo performance audits to ensure the processes for recording and reporting metering set-up information are robust.

- That the switching rules be amended to include meter pressure, meter multiplier and meter dials as registry fields that are maintained by meter owners.
- That the switching rules be amended to include an accuracy requirement for altitude information populated by distributors.

These recommendations provided the stimulus for a project to add additional metering fields to the Registry (meter pressure, register multiplier and register reading digits). With the growing years of experience of the Registry and switching arrangements, the project scope was expanded to cover further potential improvements to the Registry and the Rules.

RAPT

In late 2013, Gas Industry Co invited nominations from Registry participants to form an industry working group (the RAPT) and developed a 'long list' of suggested improvements which formed a seed paper for the RAPT. Membership of the RAPT comprised individuals from five retailers (Contact, Genesis, Mercury, Vector and Trustpower) and the two main meter owners (AMS and Powerco), plus representatives from Jade who provided input and attended some meetings. Other Registry participants were kept up to date with proceedings on request.

The table below shows a list of the proposals that were discussed by the RAPT, with the last column indicating whether there was general support for the proposal amongst RAPT members.

Category	Proposal	Rule change	Registry change	Recommended?
Gas Registry fields (Section 3)	• Core metering fields • Other metering fields • Distributor fields • Impact on output files	Yes Yes Yes No	Yes Yes Yes Yes	Yes Partial No Yes
Audit provisions (Section 4)	• Performance audits for Registry participants	Yes	No	Yes
Switch process (Section 5)	• GTN discrepancy handling • Shorten switching timeframes • Back-dating standard switches • Contracted start date	Yes Yes Yes Yes	Yes No Yes No	Yes Yes Yes Yes
ICP lifecycle (Section 6)	• Meter information before retailer uplift • Edit ICP parameters during switch • Connection status code for temporary disconnections	Yes No No	Yes Yes Yes	Yes Yes Yes

Category	Proposal	Rule change	Registry change	Recommended?
Registry interfaces (Section 7)	• SFTP • Web browser timeout • Improved browser compatibility • Data hub • Web services	No No No No No	Yes No Yes Yes Yes	Implemented No No Yes Implemented
Other minor changes (Section 8)	• Purpose of the Registry • Notification of metering events • Minor drafting changes	Yes No Yes	No Yes No	Yes Not discussed Not discussed

This Statement of Proposal describes the proposals that were discussed by the RAPT and provides technical detail on Registry amendments and suggested drafting for Rule amendments. It includes, for reference, the proposals that were not supported by the RAPT, to ensure that other stakeholders have an opportunity to comment on these proposals. Where a proposal is deemed to have a material effect, an assessment of costs and benefits is provided as required by section 43N of the Gas Act.

Impact of proposals on Registry participants

It is important that all Registry participants understand the impact of the proposals, particularly as some of the proposed changes to the Rules and the Registry will require associated changes to Registry participant's systems and business processes.

In order to assist Registry participants in assessing the impact of the proposed changes, the effects on each type of Registry participant are summarised in the table below (assuming that the changes supported by the RAPT are the changes that get implemented).

Registry participant	Change	Likely impact
Retailer	Additional metering fields	Amend systems to bring in additional metering fields through new list files/event notification files OR continue to use old file versions and receive metering information via GTNs and request any updates directly from the meter owner
	Reduced switch timeframe	Adjust systems/processes to deal with a shorter switch timeframe and endeavour to use the same switch date for gas as electricity
	GTN validation	Ensure that the metering information populated in a GTN file matches the values in the registry otherwise the GTN will be rejected. Retailers will have to rectify any discrepancies within the new switch timeframe.
	Audits	Submit to regular performance audits (at similar intervals to performance audits under the Reconciliation Rules)
	Connection status	Amend systems to use the temporary disconnection status where relevant in the customer lifecycle and use reasonable endeavours to keep this information current and accurate in the Registry

Registry participant	Change	Likely impact
Meter owner	Additional metering fields	Amend systems to populate and maintain additional metering fields. Continue to supply metering updates via existing means to retailers who elect to continue using old file types
	GTN validation	Assist retailers to resolve any discrepancies with metering fields that are preventing a GTN file from being accepted
	Audits	Submit to regular performance audits (at similar intervals to performance audits under the Reconciliation Rules)
	Meter event before retailer uplift	Amend systems/processes so that meter information can be populated in the registry prior to retailer uplift i.e. at NEW or READY status
	Connection status	Recognise the new disconnection status if ICP billing is dependent on ICP status (subject to commercial arrangements)
Distributor (including TSOs)	Audits	Submit to regular performance audits (at similar intervals to performance audits under the Reconciliation Rules)
	Connection status	Recognise the new disconnection status if ICP billing is dependent on ICP status (subject to commercial arrangements)

Next steps and implementation

The consultation period for the Statement of Proposal will be six weeks. The deadline for submissions is 5pm, Monday 22 September 2014.

Following consultation on the Statement of Proposal, Gas Industry Co will consider submissions and, if appropriate, make a recommendation to the Minister of Energy and Resources (the Recommendation).

Noting that the date for approval of the Rule changes is uncertain, Gas Industry Co proposes to make provisions for a Test Date and a Go Live Date in the amended Rules. The two dates would be set by Gas Industry Co (either by determination or gazetting) after the amended Rules have been gazetted. The Test Date would be the deadline (latest date) for population into a test environment of the additional metering information by meter owners; the Go Live date would be two to three months after the Test Date, to allow sufficient time for user acceptance testing.

If the Recommendation is approved before Christmas we would hope that the changes required to the Registry could be ready for testing before the end of the first quarter of 2015. If this is the case, we would aim for a Test Date of 1 April 2015 and a Go Live Date of 1 June 2015 or 1 July 2015.

On a separate track, an implementation working group will be convened in the third quarter of 2014 and work on data cleansing and preparation for migration can be carried out throughout 2014 and into 2015. The diagram below illustrates an implementation timeline that is contingent on ministerial approval of the Recommendation at the start of December 2014. This is indicative only.

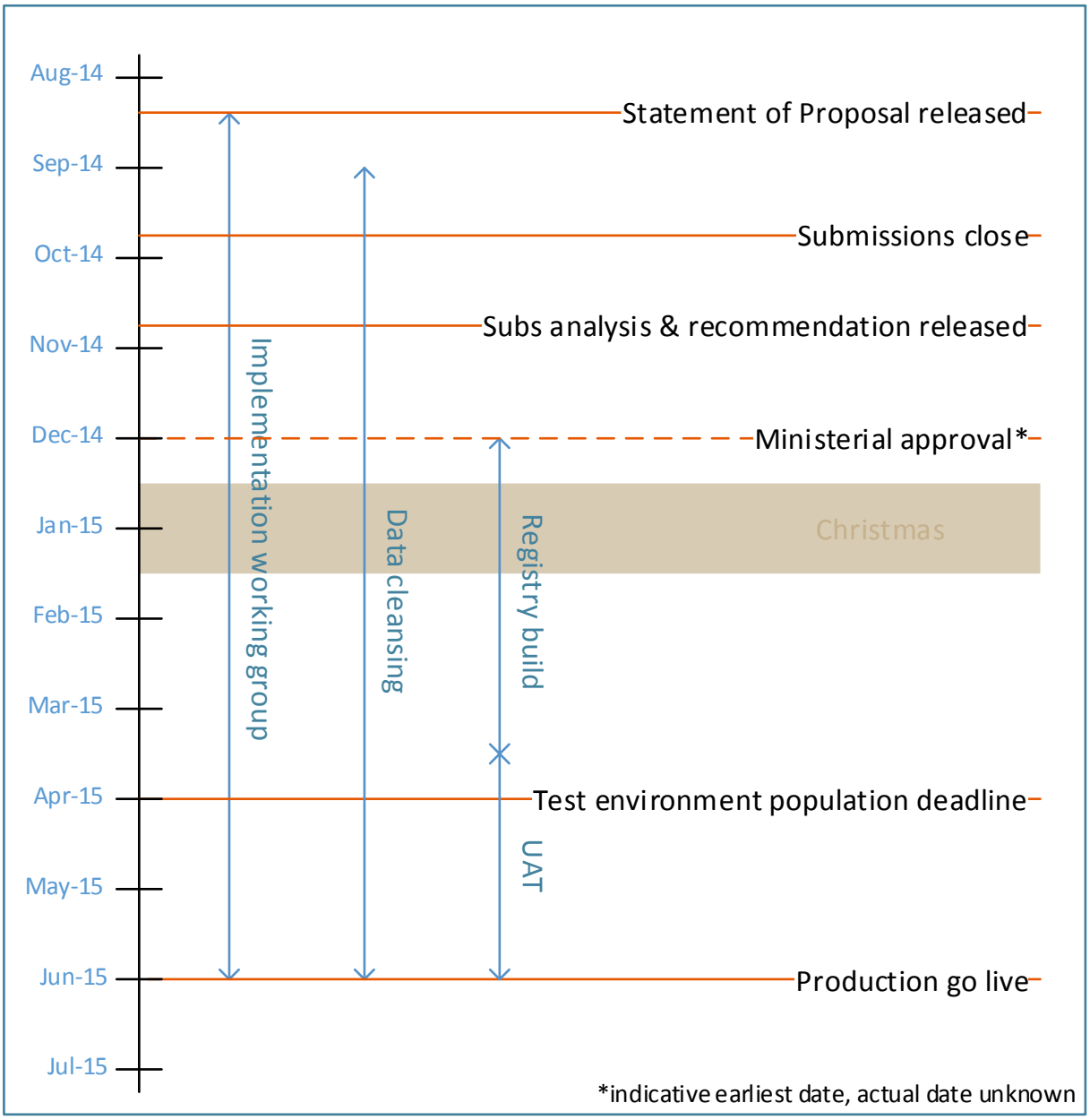

Figure 1 - Implementation timeline contingent on approval of Recommendation in December 2014

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1 Introduction

1.1 Overview

This Statement of Proposal considers amendments to the Gas (Switching Arrangements) Rules 2008 (the Switching Rules or the Rules) and to the Gas Registry (the Registry) to better achieve the purpose of the Rules and of the Registry. The purpose of the Rules and the Registry are:

> **Purpose of the Rules**
>
> To establish a set of gas switching and registry arrangements that will enable customers to choose, and alternate, efficiently and satisfactorily between competing retailers.
>
> **Purpose of the Registry**
>
> To facilitate efficient and accurate switching of retailers by customers; and
>
> To provide an authoritative database of current and historical information on all ICP parameters, to facilitate accurate billing of consumers and allocation of charges to retailers; and
>
> To provide a mechanism by which the accuracy and timeliness of information provided in relation to an ICP is controlled and recorded.

The Gas Registry has been operational since March 2009. As with all new arrangements, once there has been time to observe how they operate, refinements are often desirable. In the time the Registry has been operational; feedback has been received from Registry participants on areas that have caused ambiguity or inaccuracies for their operational teams. Recommendations have also been received from auditors on improvements to information held in the Registry.

This Statement of Proposal addresses all concerns that have been received by Gas Industry Co, and focuses on a series of minor to moderate changes to improve the switching and Registry system. These changes include additions and amendments to the information held in the Registry, as well as changes to the way that information is managed and exchanged. Most of the proposals require associated rule changes but some are more simple changes to the functionality of the Registry itself.

The table below shows a list of the proposals that were collated at the start of the Registry amendments project. The list provided the subject matter for discussions in an industry working group (discussed below in section 2.3) and determined the structure of this Statement of Proposal.

Table 1 List of RAPT Proposals

Category	Proposal	Rule change	Registry change	Recommended?
Gas Registry fields (Section 3)	• Core metering fields • Other metering fields • Distributor fields • Impact on output files	Yes Yes Yes No	Yes Yes Yes Yes	Yes Partial No Yes
Audit provisions (Section 4)	• Performance audits for Registry participants	Yes	No	Yes
Switch process (Section 5)	• GTN discrepancy handling • Shorten switching timeframes • Back-dating standard switches • Contracted start date	Yes Yes Yes Yes	Yes No Yes No	Yes Yes Yes Yes
ICP lifecycle (Section 6)	• Meter information before retailer uplift • Edit ICP parameters during switch • Connection status code for temporary disconnections	Yes No No	Yes Yes Yes	Yes Yes Yes
Registry interfaces (Section 7)	• SFTP • Web browser timeout • Improved browser compatibility • Data hub • Web services	No No No No No	Yes No Yes Yes Yes	Implemented No No Yes Implemented
Other minor changes (Section 8)	• Purpose of the Registry • Notification of metering events • Minor drafting changes	Yes No Yes	No Yes No	Yes Not discussed Not discussed

1.2 Statutory context

Regulatory objective

The Government Policy Statement on Gas Governance 2008 (the GPS) sets out the Government's objectives and outcomes for governance of the New Zealand gas industry, and its expectations for industry action. Under section 43ZO of the Gas Act 1992 (the Act), Gas Industry Co must have regard to the objectives and outcomes set out in the GPS when making recommendations to the Minister for Gas Governance rules or regulations. With regard to switching and the Gas Registry, the GPS seeks the following outcome:

> Effective and efficient customer switching arrangements that minimise barriers to customer switching.

The Industry Body's principal policy objective for the gas industry, as stated in section 43ZN of the Act and echoed in the GPS, is:

> To ensure that gas is delivered to existing and new customers in a safe, efficient, and reliable manner

It is against this regulatory background, as well as the context of the purpose statements for the Rules and the Registry, that the proposals in this document are evaluated. The proposals seek to improve the operation, accuracy and efficiency of the Registry and the consumer switching process as well as improving the accuracy and reliability of consumer billing and, by association, improving outcomes for downstream reconciliation.

Rule-making powers

Section 43G(2)(c) of the Act provides that gas governance regulations[1] may be made for the following purpose (amongst others):

> Providing for arrangements to enable consumers to switch gas retailers

The rule amendments proposed in this Statement of Proposal are considered to fall clearly within the rule making powers of the Act.

Gas Act requirements for recommending rule changes

Sections 43L, 43N and 43Q of the Act set out the requirements for making recommendations for gas governance regulations or rule changes.

Under section 43L, before making a recommendation to the Minister for any gas governance regulation or rule changes, Gas Industry Co must:

(a) undertake an assessment under section 43N; and

(b) consult with persons that Gas Industry Co thinks are representative of the interests of persons likely to be substantially affected by the proposed rule changes); and

(c) give those persons the opportunity to make submissions; and

(d) consider those submissions.

Section 43N(1) requires that, before making a recommendation to the Minister for any gas governance regulations or rule changes, Gas Industry Co must:

(a) seek to identify all of the reasonably practicable options for achieving the objective of the [rule change]; and

(b) assess those options by considering:

  (i) the benefits and costs of each option; and

[1] Section 43Q provides that the Minister may make a rule for all or any of the purposes for which a gas governance regulation may be made.

(ii) the extent to which the objective would be promoted or achieved by each option; and

(iii) any other matters considered to be relevant; and

(c) ensure that the objective of [the proposed Rule change] is unlikely to be satisfactorily achieved by any reasonably practicable means other than the making of the [rule change]; and

(d) prepare a statement of proposal for the purpose of consultation under section 43L(1).

Subject to section 43N(3), this Statement of Proposal will include the reasonably practicable options and costs and benefits of each option after each preferred option is described.

Simplified process where section 43N(3) applies

A simplified process can apply in the following circumstances under section 43N(3) of the Gas Act:

> The Industry Body…is not required to comply with subsection (1) if it is satisfied that the effect of the recommendation is minor and will not adversely affect the interests of any person in a substantial way.

Each section in this paper includes an assessment as to whether this process applies.

2 Background

2.1 The Rules and the Registry

The Rules were gazetted in February 2008 after a Recommendation to the Minister in May 2007. The purpose of the Rules is to establish a set of gas switching and Registry arrangements that will enable consumers to choose, and alternate, efficiently and satisfactorily between competing retailers.

After a competitive tender process, Jade Software Corporation (Jade) was appointed as Registry Operator on 1 September 2008 with contracts to establish and operate the Registry. The Registry went live on 1 March 2009 and has operated successfully since then. The Registry holds information on 325,000 ICPs and since go live over 230,000 switches involving 140,000 customers have been completed.

Minor and technical amendments were made to the Rules in 2009, which sought to clarify certain rules around the switch process and remove transitional arrangements from the Rules. The current amendments being proposed to the Rules and the Registry constitute the first major review of the Rules.

2.2 Motivation for amendments

One of the principal drivers for the current Statement of Proposal was a recommendation to add additional metering fields to the Registry. Between 2009 and 2011, several gas gate audits[2] and retailer performance audits were performed under the Gas (Downstream Reconciliation) Rules 2008 (the Reconciliation Rules) which had implications for the Switching Rules and the Registry. It was discovered that errors in the interpretation of meter reads and in the application of billing factors such as meter pressure, meter multipliers, temperature correction and altitude correction were contributing to significant amounts of UFG at audited gas gates and across audited retailers.

Examples of findings from the programme of audits include:

- Two sites discovered on the Palmerston North network where one-tenth of the correct volume was being reported, due to misreading of painted zeroes, creating 5,500GJ of UFG per year;

[2] Event audits were performed at the Greater Auckland, Tawa A, Palmerston North and Greater Hamilton gas gates. All audit reports are published on the Gas Industry Co website: http://gasindustry.co.nz/work-programme/market-administration/reports-allocation-agent-and-auditors

- Meter pressure discrepancies identified in a single retailer audit that resulted in under-reporting to the Allocation Agent in the order of 8,900GJ per year;
- Metering discrepancies identified for sample ICPs at Greater Auckland creating 2,000GJ per year of UFG;
- Discrepancies in meter pressure between retailer and meter owner records affecting 10% of sampled ICPs at Greater Hamilton and 16% at Tawa A (gigajoule impact not calculated); and
- Discrepancies in the number of reading digits between retailer and meter owner records affecting almost 20% of sampled ICPs at Greater Hamilton (gigajoule impact not calculated).

The errors identified in sample ICPs will be reflected in the broader population and where they have been identified at the four audited gas gates, will almost certainly exist at other gas gates. It is therefore reasonable to assume that these issue are contributing to some thousands of gigajoules of UFG per year.

The audit reports repeatedly resulted in recommendations such as the following:

- That meter owners be required to undergo performance audits to ensure the processes for recording and reporting metering set-up information are robust.
- That the switching rules be amended to include meter pressure, meter multiplier and meter dials as registry fields that are maintained by meter owners.
- That the switching rules be amended to include an accuracy requirement for altitude information populated by distributors.

These recommendations provided the stimulus for a project to add additional metering fields to the Registry (meter pressure, meter multiplier and register reading digits) and distributors have since updated altitude data to meet the ±10 metres accuracy requirement set out in NZS5259. In addition, the Registry has now been operational for over five years and as with all new arrangements, once there has been time to observe how they operate, refinements are often desirable. In the time the Registry has been operational, feedback has been received from Registry participants on areas that have caused ambiguity or inaccuracies for their operational teams.

2.3 RAPT

The Registry Amendments Project Team (the RAPT) was established in February 2014 after nominations were invited in late 2013. The seven member team comprised individuals drawn from a cross section of Registry participants, who were appointed for their expertise in switching and Registry processes. The key role of the RAPT was to provide expert advice to Gas Industry Co on matters assigned to it according to the *Key Deliverables and Milestones* section set out in its *Terms of*

Reference[3] and further detailed in the *Suggested Improvements to the Registry*[4] document circulated prior to the meetings.

The RAPT members were as follows:

- Jo Iggulden (nominated by Vector Limited)
- Campbell Wilson (nominated by Contact Energy)
- Andrew Maseyk (nominated by Genesis Energy)
- Melanie Joyce (nominated by Mercury Energy)
- Mark Hermann (nominated by Powerco)
- Bill Miller (nominated by Advanced Metering Services)
- Helen Taylor (nominated by Trustpower)

The RAPT was also assisted by representatives from Jade, who attended selected meetings and provided feedback on proposals

- Robert Barr
- Greg Matthews

The RAPT met three times in 2014 to discuss the proposals set out in the *Suggested Improvements* document. A meeting of meter owners was also held on 16 April 2014, to focus on details of changes that required meter owner specific input. Further details of the proceedings of the RAPT are available on the Gas Industry Co website:

#	Meeting Date	Meeting Material		
1	Wednesday 26 February 2014	Agenda	Papers	Minutes
2	Wednesday 9 April 2014	Agenda	Papers	Minutes
3	Wednesday 21 May 2014	Agenda	Papers	Minutes

[3] http://gasindustry.co.nz/sites/default/files/u254/rapt_terms_of_reference_183247.3.pdf
[4] Available on the Gas Industry Co website as part of the material for the first RAPT meeting

3 Gas Registry fields

This section considers proposals to add additional fields to the Registry. The objectives of adding the proposed fields are to:

- better identify and avoid errors in the conversion of metered volumes to energy quantities; and
- further the purpose of the Registry, which is to provide an authoritative database of ICP information.

These objectives both further the broader purpose of the Rules and are consistent with the principal policy objective in the GPS.

As illustrated in the table below, the proposals are grouped into meter owner fields and distributor fields, plus an associated section dealing with the impact of adding fields on reports and files generated by the Registry. The meter owner fields are further separated into core fields—these fields were the main driver of the Registry amendment project—and other metering fields that have been suggested by industry stakeholders. The discussion of whether to progress each of these proposals aims to balance the benefit of recording additional information in the Registry against the effectiveness of current, or alternative, means of maintaining and exchanging that information and against the cost of populating and maintaining that information in the Registry.

Table 2 – Gas Registry field changes

Category	Proposal	Rule change	Registry change	Recommended?
Gas Registry fields	• Core metering fields • Other metering fields • Distributor fields • Impact on output files	Yes Yes Yes No	Yes Yes Yes Yes	Yes Partial No Yes

Meter owners and retailers would need to make significant system and process changes to manage any or all of these extra fields. Due to this impact, Gas Industry Co does not regard this change as being minor and technical, and thus it is not covered by section 43N(3) of the Act.

3.1 Core metering fields

Description of change

The core metering fields that are proposed to be added to the Registry are:

- Meter pressure;
- Register reading digits; and
- Register multiplier.

The terms *meter* reading digits and *meter* multiplier have previously been used in reference to the latter two parameters, but as they are specific to a single register on the meter (as reflected in the existing Rules and the format of the GTN), it provides greater clarity if the terms register reading digits and register multiplier are used. The definitions and specifications of the fields that were agreed by the RAPT are given in the table below.

Table 3 – Definition & specification of metering fields

Field	Format	Description
Meter pressure	Decimal (6,2)	The pressure on which the volumetric measurement is based, measured as gauge, not absolute, pressure in kPa. Used to convert the measured volume of gas to the volume of gas at standard pressure.
Register reading digits	Num 2	The number of moving dials on the meter register index that represent whole units, plus any painted or fixed digits that represent whole units.
Register multiplier	Num 5	The factor by which a quantity taken from a register reading is multiplied in order to convert to cubic metres.

Reason for change

The three fields were discussed as a part of the original development of the Registry in 2008; however, they were removed from the final composition of ICP parameters. The Switching and Registry Working Group[5] considered that the information held in the Registry should be limited to that which is of interest to multiple participants and other interested parties, to reduce the cost of the management of data in multiple databases. This view arose from trying to find a balance between the amount of information held in the Registry and the amount of information held in participants' databases separately, that resulted in the greatest overall benefit to the consumer. While this trade-off is still relevant, after six years it is prudent to consider whether the conclusion is still valid.

As discussed in the background to this Statement of Proposal, since the Registry went live, several gas gate and participant audits have identified ongoing issues with the accuracy of these data sets in

[5] The industry group that worked on the original design and implementation of the Rules and the Registry

retailers' systems. These inaccuracies have led to errors in the meter read and energy conversion processes, which result in UFG that gets smeared across retailers and ultimately billed to the consumer. A recommendation that repeatedly came out of these audits was to bring this information into the Registry in order for retailers to have access to the more accurate sets of data maintained by the respective meter owners.

Meter pressure

Meter pressure is an integral part of the energy conversion calculation from metered volume to volume at standard conditions and then to energy. In discussion with the RAPT, it was agreed that this was a valuable field to include in the Registry. In the subsequent meter owners' meeting it was noted that the information was readily available in meter owners' systems for population in the Registry but it was also recognised that in some cases the meter operates at network pressure in which case the meter owner was not directly responsible for the value of this parameter. It was therefore recommended that the Registry provide the functionality to populate the meter pressure directly from the existing network pressure field to cater for this scenario (and to allow any changes to this parameter to flow through without the need for the meter owner to intervene).

Register reading digits

The number of reading digits is of most use to meter readers out in the field, who are generally contractors or employees of the retailer. If the meter register is misread, it results in a meter reading orders of magnitude higher or lower than the correct reading. It seems unlikely that such a read would pass the normal validation checks in a retailer's system but if the ICP has recently switched then the new retailer's system may not have historical data against which the read can be verified. Alternatively a customer installation may have sporadic or seasonal consumption patterns that are not easily profiled for validation. The register reading digits field aims to set a standard for the correct application of register reading digits, and gives meter readers an instant reference point sourced directly from the meter owner.

As well as misreads of the mechanical register, some meters have fixed or painted digits after the moving dials which can either be completely missed, read incorrectly as a decimal digit, or interpreted as a x10 multiplier. This issue has been raised in previous industry workshops and the consensus was that a painted or fixed zero that represents a whole number should be treated as a reading digit. Gas Industry Co has strived to make Registry participants aware of this issue in the past but suggested to the RAPT that, for clarity, the definition of reading digits should include a reference to fixed and painted digits.

Register multiplier

Register multipliers exist to account for meters with registers that do not record cubic metres. Gas Industry Co has been told anecdotally that register multipliers are not widespread in New Zealand,

although they have been used in the past. Within the RAPT, feedback from retailers was that register multipliers exist in billing systems, although they are generally applied as 1 for non-TOU sites[6]. All but one meter owner confirmed that they do not use multipliers on their meters. As long as multipliers may exist for some non-TOU sites, the register multiplier field has value, as when an incorrect multiplier is applied it has a material consequence to the energy conversion.

The proposal is to allow for the population of a single set of the three parameters for each ICP in the Registry. Retailer feedback confirmed that only one mechanical register was present on all non-TOU sites, which means that having single values for meter pressure, register multiplier and register reading digits remains meaningful for non-TOU sites; however this is not the case at TOU sites, which generally have more than one register present on the gas measurement system (GMS) so will require alternative arrangements. Treatment of TOU sites is discussed below and in section 3.2.

Current treatment of fields

The importance of the three fields is recognised in the Rules by the requirement on an incumbent retailer to provide their values via the GTN to the new retailer when completing a switch. Thus the information flows from the old retailer's billing system to the new retailer's billing system. Meter owners can also supply this information to retailers, either on request or as part of the monthly billing cycle.

An issue arises when the incumbent retailer passes on values that are different to the information held by the meter owner. The new retailer does not know which is the correct information and its system will be built to receive (and use) the information supplied in the GTN. Adding these fields to the Registry will provide transparency of the information direct from the authoritative source.

If the fields are added they will become mandatory for the meter owner to populate; however, the proposal is that they will not be populated for TOU sites, where the pressure is generally dynamically measured rather than fixed, and the reading digits and register multiplier fields will often not be meaningful as a TOU site can have multiple registers on either the meter, logger or corrector. The carve out for TOU sites was supported by the RAPT and it was recognised that the major issue trying to be resolved by adding the core fields is to improve the accuracy of energy conversion for mass market, interval-read meters.

The cost of developing and implementing the core fields in the Registry is estimated by the Registry Operator to be $90,000.

[6] The meaning of TOU (time-of-use) versus non TOU is discussed in section 3.2

Rule changes

In order to implement the core fields, and make the population and maintenance of those fields mandatory, it is necessary to amend the following Rules. All mark-ups are highlighted using blue underlined text.

5 Interpretation

[…] **5.2** In these rules, unless the context otherwise requires –

[…] **meter pressure** means the pressure on which the volumetric measurement is based, measured as gauge, not absolute, pressure in kilopascals. Used to convert the measured volume of gas to the volume of gas at standard pressure;

[…] **register multiplier** means ~~the number to be used to convert the difference between two register readings to cubic metres of gas~~ the factor by which a quantity taken from a register reading is multiplied in order to convert to cubic metres of gas;

[…] **register reading digits** means the number of moving dials on the meter register index that represent whole units, plus any painted or fixed digits that represent whole units;

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72 What gas transfer notice must contain

72.1 A gas transfer notice must state –

[…] **72.1.7** The meter pressure; and

72.1.8 For each register for which information is being conveyed –

[…] (b) the ~~number of dials on the register~~ register reading digits;

(c) the **switch reading** for the register, which must contain the same number of digits as the ~~number of dials on the register~~ register reading digits for the register; and

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73 Registry validation of gas transfer notice

73.1 As soon as possible after having received the gas transfer notice, the registry must –

73.1 Validate the information in the gas transfer notice by confirming –

(a) that any codes used in the notice are available codes; and

(b) that the number of digits provide for each **register reading** is equal to the ~~number of dials~~ register reading digits specified for the relevant register; and

Schedule – Part C

ICP parameters maintained by Meter Owners

[…]

TOU Meter[7]	A 'Y'es or 'N'o value to indicate the use or not of a **TOU meter** for measurement of consumption volume for the **ICP**'s **consumer installation**.
Meter Pressure	The **meter pressure** unless the meter operates at network pressure (as indicated by a 'Y'es in the associated field), in which case this field will be automatically populated with the network pressure.
Register Multiplier	The factor by which a quantity taken from a **register reading** is multiplied in order to convert to cubic metres.
Meter operating at network pressure	A 'Y'es or 'N'o value to indicate whether the meter is operating at network pressure (I.e. has no meaningful meter pressure).
Register Reading Digits	The number of moving dials on the meter register index that represent whole units, plus any painted or fixed digits that represent whole units.

[…]

The **meter pressure**, **register reading digits** and **register multiplier** parameters are mandatory only for a **meter** that is not a **TOU meter**, as indicated by the 'Y'es/'N'o field.

Q1: Do you agree with the definitions proposed for the three core metering fields? If not, please explain why and supply alternate definitions.

Q2: Do you agree with the addition of these three fields to the registry?

3.2 Other metering fields

Changes to additional metering fields that were discussed by the RAPT were:

- a TOU flag;
- additional metering fields for TOU sites (logger/corrector identifiers, reading digits, and content codes); and
- a reduction in the number of location codes in use.

[7] The addition of the TOU Meter field is discussed in section 3.2 but is included here as it determines whether the core metering fields must be populated or not

These fields represent a collection of suggestions that have been given to Gas Industry Co over the life of the Registry, to improve the switching process. The logger and corrector fields specifically were put forward to Gas Industry Co as a straw man by a meter owner in 2011[8]. They were brought forward for discussion by the RAPT to see what value they held to the industry. At this stage, Gas Industry Co intends to recommend only the TOU flag for implementation.

TOU flag

Description of change

The addition of a TOU flag to the meter owner parameters of an ICP in the Registry, together with new definitions for *TOU meter* and *advanced meter* in the Rules.

Reason for change

TOU meters[9] are meters that log interval consumption data as well as potentially correcting for temperature and/or pressure on site, as opposed to a meter with a single mechanical register that relies on profiling of monthly or bi-monthly reads and fixed factor correction, such as a standard domestic meter. Despite the name clearly referring to *time of use*, TOU sites are typically understood—though not without exception—to include a corrector in place of a datalogger, and so are capable of recording volumes corrected to standard pressure and temperature.

TOU sites are also generally discussed in the context of large commercial or industrial installations with contractual arrangements vastly different to the domestic consumer (for example: customers that use energy brokers, run tenders or procurement processes, negotiate bespoke contracts, have non-standard terms and conditions, multi-year terms, account managers etc.).

Finally, *TOU* also has connotations for the way the ICP is reconciled under the Reconciliation Rules, with the majority of TOU sites being those with consumption greater than 10TJ per annum that are assigned to allocation groups 1 or 2 and are required to have consumption recorded daily. Due to their frequency of interrogation, supply of actual data[10] to the Allocation Agent, and greater scope for validation checking, TOU ICPs are given preferential treatment when it comes to allocation of UFG by the Allocation Agent.

Identifying TOU meters in the Registry will allow retailers to identify the physical capabilities of a meter without ambiguity. As well as discussing the need for a TOU flag, the RAPT also acknowledged the advanced meter flag field that is already present in the Registry. Advanced gas meters are yet to see commercial rollout in New Zealand, so the field is not currently being used, but based on the experience of electricity smart meter rollouts, RAPT members highlighted the need for a clear distinction to be drawn between a TOU meter and an advanced meter. This isn't easy since they share

[8] http://gasindustry.co.nz/sites/default/files/u14/additional_meter_information_20110911_md_175874.1.pdf
[9] Meter in this context is taken to refer to the whole gas measurement system (GMS) since the 'TOU' aspects (corrector, logger, telemetry) may be discrete devices connected to the service pipe.
[10] For the most part, the data provided to the Allocation Agent for TOU sites is actual data from the datalogger or corrector. In a low number of instances retailers will need to provide estimates, according to a documented process, as a result of meter (or component) failure.

several key characteristics: primarily the ability to log interval data and the potential to integrate with a telemetry device, but also the possibility of temperature and pressure correction. The main difference appears to be that advanced meters are generally referred to in the context of the mass market/domestic market and are often thought of as a single integrated device, although this latter feature is also questionable as some retrofit TOU devices have also been tested in the NZ market. RAPT members were supportive of the inclusion of a TOU flag, subject to agreement on suitable definitions for *advanced meter* and *TOU meter* to give value and clarity to the respective fields.

As mentioned above, under the Reconciliation Rules all ICPs assigned to allocation groups 1 and 2 that are allocated using the annual UFG factor are required to have TOU meters installed. However, this does not preclude TOU meters being installed on sites that are allocated using the residual monthly UFG factor. This means that the TOU status of a meter is not currently deducible from the existing information present in the Registry. The TOU flag and advanced meter flag are specifically aimed at describing the physical attributes of the meter at a site, rather than the way the site's consumption is being reconciled, in order to give retailers an accurate understanding of the site's capabilities. For this reason it was recommended that the definition should not make reference to *how* the meter is being used, e.g. using annual throughput levels.

With feedback from retailers and meter owners, the initial proposed definitions to be applied to TOU and advanced meters are as per table 5. As this is an important concept, we invite submitters to provide alternative or improved definitions if they can better capture the principles discussed in this section. The fields will be owned by meter owners to reflect the fact that the values of the parameters refer to the capability of the meter set up rather than the way it is being used.

Table 4 – Definition and specification of TOU meter and advanced meter

Field	Format	Description
TOU meter	Y/N	A meter that has a discrete volume corrector device with a data logger installed to allow register readings or gas consumption to be recorded at pre-determined intervals.
Advanced meter	Y/N	A meter that has a datalogger installed to allow register readings or gas consumption to be recorded at pre-determined intervals.

As the addition of the new TOU meter field has a very low marginal cost when added to the core fields proposed above, and the additional information serves to benefit Registry users, Gas Industry Co plans to recommend this change.

Rule changes

As mentioned above, the advanced meter field already exists in the Registry but is not a defined term. The proposal is to make both *TOU meter* and *advanced meter* defined terms and include them as parameters managed by the meter owner. Changes required to the Rules are given below.

5 Interpretation

[…] **5.2** In these rules, unless the context otherwise requires –

[…] advanced meter means a meter that has a datalogger installed to allow register readings or gas consumption to be recorded at pre-determined intervals;

[…] TOU meter means a meter that has a discrete volume corrector device with a datalogger installed to allow register readings or gas consumption to be recorded at pre-determined intervals;

Schedule – Part C

ICP parameters maintained by Meter Owners

[…]

Standard meter	A 'Y'es or 'N'o value to indicate the use or not of a standard **meter** (being one that is not a prepay **meter**, advanced meter or TOU meter) for measurement of consumption volume for the **ICP's consumer installation**
Advanced meter	A 'Y'es or 'N'o value to indicate the use or not of an **advanced meter** for measurement of consumption volume for the **ICP's consumer installation**
TOU meter	A 'Y'es or 'N'o value to indicate the use or not of a **TOU meter** for measurement of consumption volume for the **ICP**'s **consumer installation**

[…]

In the case of 'Y'es and 'N'o values for the advanced meter, standard **meter,** ~~and~~ prepay **meter** and TOU meter parameters, there may not be more than one 'Y' value between the ~~two~~ four parameters, but there may be ~~two~~ four 'N' values to signify that the **consumer installation** is unmetered.

Other additional metering fields for TOU sites

Description of change

The corrector and logger fields for TOU meters that were put forward to the RAPT were:

- Logger: identifier, reading digits, register multiplier
- Corrector: identifier, reading digits, content code, register multiplier
- Meter pressure max/min

- Meter type (make/model)

Reason for change

These considerations are a collection of suggestions that were proposed to Gas Industry Co in the form of a straw man paper produced in 2011 or were otherwise raised in discussion with Gas Industry Co since Registry go live.

Keeping in mind that the core metering fields discussed above will not apply to TOU sites, the meter owner (or logger/corrector owners) would hold this information for each component of the GMS. When discussed with the RAPT, meter owners felt that there would be a significant cost to synchronise their systems with the Registry, giving minimal benefit for a small number of TOU sites (less than 600 ICPs out of over 300,000). In addition, it was mentioned that due to the particular commercial arrangements that apply to TOU sites (as discussed in the previous section), a change of retailer will likely necessitate communications and exchanges of information between the associated parties prior to the switch taking place in the Registry. One aspect of this communication is that the new retailer will contact the incumbent retailer or meter owner to confirm the details of the metering set up irrespective of whether or not this information is held in the Registry.

It was noted that with the addition of the TOU flag, retailers would have a clear indication of which sites had TOU meters, and therefore when it would be useful to liaise with the meter owner directly. Taking into account the cost of maintaining extra metering fields for TOU sites (particularly where third parties are responsible for separate components of the GMS), the RAPT's recommendation was that these fields did not add enough value to be implemented.

The RAPT also discussed whether a more formal information exchange protocol may be useful to exchange details of a TOU ICP's metering set up outside of the Registry but this was also not supported. RAPT members felt that the current method of exchanging information was fit for purpose, so the cost of developing a new protocol was not warranted.

Regarding the proposal of maximum and minimum values for meter pressure (in addition to the 'core' meter pressure field), RAPT members felt that this field would not add value to the industry, and was therefore removed from consideration.

The meter type field received mixed support from the RAPT, with some members noting that this information would give an indication of load size of the meter, and therefore assist in determining a suitable tariff for the site. This was countered, however, by the observation that meter type is not useful unless you know the year the meter was made or last serviced, as meter specifications can change over time. Because of this, and the fact that the information is available directly from the meter owner, the field was removed from consideration.

The cost of implementing these fields was estimated by the Registry Operator at $8,000, if implemented alongside the three core fields in section 3.2.

Rule changes

The additional metering fields would require amendments to Part C of the Schedule to the Rules – ICP Parameters maintained by Meter Owners. As these fields were not supported by the RAPT, accurate definitions were not discussed; however, the definitions originally supplied in the straw man have been noted below for reference.

> **Schedule – Part C**
>
> **ICP parameters maintained by Meter Owners**
>
> […]

Logger Identifier	The serial number or other unique identifier of the datalogger that measures the consumption volume for the ICP's consumer installation, as assigned by the logger owner.
Logger Reading Digits	The number of digits displayed on the datalogger electronic index that record whole cubic metres.
Corrector Identifier	The serial number or other unique identifier of the conversion device, for the ICP's consumer installation, that converts the volume measured to a volume or amount of energy at base conditions, as assigned by the corrector owner.
Corrector Reading Digits (Corrected)	The number of digits, displayed on the conversion device electronic index relating to the corrected reading that record whole cubic metres.
Corrector Reading Digits (Uncorrected)	The number of digits, displayed on the conversion device electronic index relating to the uncorrected reading that record whole cubic metres.
Corrector Uncorrected Content Code	The code that identifies the type of uncorrected reading displayed by the conversion device. Codes are determined and published by the industry body from time to time. [Mandatory if Corrector Reading Digits (Uncorrected) is populated].

Reduction in number of location codes

Description of change

It was proposed that Gas Industry Co defines a set of standardised meter location codes to replace the use of participants' individual sets of location codes in the Registry. This could either be done by

standardising all meter location codes currently present in the Registry or by mandating the use of the standardised set for all new ICPs going forward.

Reason for change

239 meter location codes exist, of which there are 101 codes currently in use in the Registry. The codes include UNKN (unknown) which is used for over 20% of ICPs and the generic OUT, 0 or blank values account for at least another 20% of ICPs. There are further issues with duplicate codes such as RW and RTWL for right wall, which are also difficult to distinguish from the likes of RH (right hand), FR (front right) and RF (right front). Together with the left equivalents, these account for another 47% of ICPs.

This redundancy is a result of the original Registry data population. As participants each already had a set of meter location codes they used, and a mapping of other participants' codes to their own, there was limited benefit (but significant cost) to overhauling the management of these codes and prescribing a common set. Although the current method could be perceived as being messy, there is no positive impact on consumers or Registry participants made by transitioning each ICP's location code, either historically or moving forward, to a standardised set. Discussion at the RAPT also focussed on an unsuccessful attempt to achieve the same result in electricity during the Part 10 implementation.

Gas Industry Co agrees that it is unlikely that the cost of standardising the set of codes would outweigh the benefits, and will not recommend action to change the set of meter location codes. However it is worth noting that this is a meter owner field and given the small pool of meter owners, it would be possible for them to work together to align their usage of codes without the need for regulatory intervention or mandated changes to the Registry values.

Rule changes

No rule changes are required.

Q3:	*Do you agree with the definitions proposed for TOU meter and advanced meter? If not, please explain why and supply an alternate definition.*
Q4:	*Do you agree with the proposal to add the TOU flag, but not to add the other metering fields, or change the number of location codes in use?*

3.3 Distributor fields

The changes to distributor fields that were discussed by the RAPT were:

- various additional distributor fields; and
- a mapping of all member gas gates to notional delivery points in the Registry

Additional distributor fields

Description of change

The additional distributor fields that were discussed by the RAPT were:

- Network pressure max/min
- GPS coordinates/ longitude-latitude coordinates

Reason for change

These fields had been collated from suggestions by individual Registry participants over the last five years. To understand if they did or did not have wider support, they were put to the RAPT.

When discussed with the RAPT, network pressure boundaries were seen to be of use when determining the best fit between network connection and metering set up, but it was not clear how much value the field would have it were to be added to the Registry.

GPS coordinates were discussed as a way to assist maintenance workers and meter readers to locate difficult-to-find meters, however, it was noted that although it would be relatively easy to collect this information for the majority of cases, it would be very difficult to mandate for the minority that need the information, as they were by nature difficult to find. Comparisons were drawn with the experience in electricity, where the location of meters on large rural properties was identified as an issue, but it was noted that gas connections benefit from being more closely distributed around towns and cities. Also, as the Registry was developed after the NZ Post address format standardisation, members felt that addresses in the Registry were consistent enough not to require an additional data point.

Both of these additional fields were removed from consideration due to their limited value. Gas Industry Co does not plan to recommend these changes.

Rule changes

The additional distributor fields would need to be added to Part A of the Schedule to the Rules – ICP Parameters maintained by Distributors. As these fields were not supported by the RAPT, definitions were not determined or discussed.

Registry to map all member gas gates to notional delivery points

Description of change

Pursuant to the Reconciliation Rules, some physical gas gates are grouped for the purpose of reconciliation due to the interconnection of their networks, and hence the calculation of UFG only being meaningful at an aggregate level. ICPs in the Registry are currently populated against the physical (member) gas gate rather than the aggregated gas gate (referred to as the greater gas gate or notional delivery point).

The proposal for consideration was to map all ICPs at member gas gates to their notional delivery points in the Registry either by replacing the current values in the ICP's gas gate field or by adding an additional field for each ICP.

Reason for change

All transmission billing, capacity reservation and volume reconciliation by the Allocation Agent is reported at a notional delivery point level, irrespective of the level at which the submissions were made. The proposal to amend gas gates in the Registry was aimed at aligning the ICP data with the downstream reconciliation arrangements and upstream processes.

RAPT members were not generally supportive of this proposal. It was noted that a mapping table between member gas gates and notional delivery points already exists in the Registry static data, and that participants' systems have already been built to manage the differences between 'Registry' gas gates and 'Allocation System' gas gates. In discussion with the RAPT, members noted that network ownership can vary downstream of a notional delivery point, and as different networks have different pricing zones and tariffs, it is beneficial to continue with the status quo.

For these reasons, Gas Industry Co does not plan to recommend action to standardise the use of notional delivery point gas gate codes in the registry.

Rule changes

No rule changes are required.

Q5: Do you agree that the proposed distributor fields do not add sufficient value to warrant addition to the Registry?

3.4 Impact on output files

Description of change

Versioning to be applied to NP-030 notifications and PR-010/PR-020/PR-030 reports,[11] such that the old version does not contain the proposed additional metering fields and the new version does.

Reason for change

Additions to the metering parameters will necessarily add to the content of notification and list files routinely requested from, and produced by, the Registry and downloaded by retailers into their systems. The purpose of these additional fields is to provide a transparent and authoritative source of metering information; however, it does not follow that retailers must use the output files for this to be effective, as this information is also conveyed for the most part via the GTN. Participants' systems are built to manage the current file formats; therefore any changes to the metering fields will mean that

[11] References are to the relevant Registry Functional Specification subprocesses for creating notifications, ICP list files, monthly ICP lists and ICP event detail reports.

development of participants' systems is required to manage the additional information. Participants have indicated that this will be a moderate change to their systems, but also that the ability to plan this development for future quarters will greatly assist the change.

Gas Industry Co is aware of the difficulties habitually faced in IT development projects. The Registry amendments are not intended to be a heavy burden on retailers and meter owners, and as such, Gas Industry Co is interested in implementing the changes with this 'soft landing'. The Registry would be developed to produce both the current report file formats, and the new file formats, on request. By allowing retailers' development to occur after implementation, the change can be forecasted into a future period and aligned with other IT developments. This will avoid the pressure on retailers to push system changes that are not integral to the project, and avoid unnecessary delays in implementing the package of amendments.

There are two ways in which the file versioning could be implemented:

1. Each participant's supervisor sets the version type in the Registry, for all NP-030 notifications and PR-010/PR-020/PR-030 reports—whether requested on demand or scheduled/automated—and for all users under a participant code. This setting would be changed by the supervisor when the required system development has gone live such that all reports can be accepted with their additional fields; or

2. Additionally, the user has the ability to request the old or the new file version at the point of requesting a report. A default setting would exist, of the supervisor setting described above.

Gas Industry Co expects that for each participant the required system developments would go live at the same time, meaning that there will not simultaneously be one part of a participant's system that has been programmed to accept the old file version and another part that has been programmed to receive the new file version. This means that the extension of the change, as detailed in option 2, would be only effective for ad-hoc queries. Though Gas Industry Co considers that the purpose of this change is achieved by the first option alone, addition of the versioning at individual request level could be made available if participants believe that it would add sufficient value.

Participants that decide to use the old file versioning should be aware that by making this choice they will not be automatically notified of any updates or changes made to the additional metering fields by meter owners after go live. For these participants, this will need to be managed outside of the Registry as is the case currently. Gas Industry Co expects all participants to adopt the new file versions over time.

The development cost of this change is an estimated $13,000 for application of versioning at the participant level; and an additional $11,000 for application at an individual request level. For the reasons detailed above, Gas Industry Co is intending to only recommend the change at a participant level.

Rule changes

No rule changes are required.

Q6:	*Given the extent of the changes required to retailers' systems, do you agree that a file versioning mechanism should be implemented? If so, do you support participant level versioning or individual report level versioning?*

3.5 Analysis of costs and benefits

Benefits

The logic behind the broad set of metering proposals is that putting the fields on the Registry makes the information transparent, makes it easy to identify discrepancies, and provides a single source of truth direct from the party responsible for the accuracy of the information. Thus, the benefit of adding additional fields to the Registry is that errors in metering parameters that affect the accuracy of conversion to energy are more likely to be identified and resolved, so retailers can more accurately report consumption and bill customers.

This supports our Gas Act objectives of:

- ensuring that gas is delivered to customers in a safe, efficient, and reliable manner;
- delivered gas costs are subject to sustained downward pressure;

as well as the purposes of the Switching Rules and Reconciliation Rules.

Where errors exist in metering parameters, this results in incorrect amounts of energy being:

- billed to the customer;
- submitted to the Allocation Agent; and
- submitted to the distributor for billing of network charges

In the case of the submission to the Allocation Agent, a metering error will contribute to UFG. While metering errors could result in either positive or negative UFG, it is reasonable to assume that errors that result in over-submissions (and over-billing of the customer) are more likely to be spotted, so overall there is likely to be a bias towards under-reporting. This UFG is then socialised, which is inequitable and represents an allocative inefficiency. Even accepting that some retailers price in UFG in their tariffs in order to recoup this loss, this is still socialised to all customers, instead of being borne by those causing UFG.

To quantify the benefit of this proposal we will estimate the harm caused by inaccurate metering:

Let us assume that there are 260,000 active non TOU customers and that 2% have an error in one or more of the parameters e.g. an error in a metering parameter that results in under-submission of, say, 5%. As mentioned above, we will focus on under-submissions, since customers are more likely to complain if they are being over-billed and hence errors are identified and resolved more quickly. The 5% value is assumed as it is greater than the tolerance permitted by NZS 5259 but probably not large enough to be captured by validation protocols in the retailer's billing system.

If the average consumption of a domestic consumer is 25GJ per annum, then this amounts to an under-submission of 6,500GJ per annum (260,000 ICPs x 2% x 25GJ x 5%). This gas is allocated to retailers as UFG, so the cost to the industry lies in the fact that the gas has to be purchased but no revenue is received. That is, the harm at an industry-level is the difference between the wholesale gas price (the amount paid for the gas) and the retail gas price (representing the revenue foregone). Recent MBIE figures[12] puts these values at $7.59 and $39.57 respectively, which suggests the harm could be around $32/GJ or $208,000 per year.

Adding additional fields to the Registry would not solve all metering errors so a conservative assumption might be that half of all errors are resolved, that is, around $100,000 per year of costs are avoided. However, there is a similar volume of gas allocated to the small industrial and commercial market[13] as to the domestic market, and errors could equally apply to this market, so an ongoing benefit of $200,000 per year seems appropriate.

Costs

The costs of the metering proposal would be borne by two groups (at least in the first instance): meter owners and retailers.

Meter owners would face the one off cost of amending their systems to incorporate the extra fields in the information that is exchanged with the Registry. We have been advised by all meter owners that the core metering fields are all readily accessible in their systems and further, that the systems to exchange information with the Registry already exist for the current metering fields. This cost is estimated to be minimal; one meter owner has indicated that it will cost them $5,000 to update their system. Another indicated that the costs were in the low tens of thousands rather than hundreds of thousands. Given that systems already exist to exchange information with the Registry, it is reasonable to assume the marginal ongoing costs of maintaining the new fields in the Registry would be negligible.

Retailers would have to adapt their systems (where necessary) to use the new information and would also pay Jade's implementation costs due to the cost recovery methodology in the Rules. Metering fields are already transmitted to retailers through the GTN, hence systems are geared to use this mechanism and can continue to do so. The proposal to provide for old and new file versions will allow

[12] http://www.med.govt.nz/sectors-industries/energy/energy-modelling/data/prices, accessed 17 July 2014
[13] the remainder of allocation group 4 and 6 volumes, once domestic consumption is removed

retailers to align the implementation to take place with other IT enhancements to minimise costs. Indications from retailers of likely costs have varied from $10,000 to $100,000[14].

Jade has provided Gas Industry Co with a high level estimate for adding the core metering fields of $90,000, which will form part of the market fees for FY2015.

Taking a mid-point of $50,000 for each of the retailer's and meter owner's expected system costs, and including the Jade development costs, the total cost of the changes would be of the order of $500,000. At the conservative end of the estimate of benefits ($100,000 per year), the proposals would see payback within five years, with a much earlier payback (2.5 years) if the broader downstream market including small industrial and commercial is taken into account.

3.6 Practicable options

The discussion of options in the previous parts of this section 3 has already refined the list of proposals down to those that require regulatory intervention (i.e. amendments to the Rules). Where proposals are better addressed by non-regulatory means (for example retailers seeking metering setup information for TOU meters directly from meter owners instead of via the Registry), then they have been excluded from the proposed amendments since the status quo position will continue.

The registry amendments that are supported by Gas Industry Co have to be coupled with associated amendments to the Rules in order to make population and maintenance of those fields mandatory and to maintain consistency with the rest of the switching and registry arrangements which are underpinned by the Rules together with the Compliance Regulations.

3.7 Proposal

Gas Industry Co proposes to add the core fields, the TOU flag and file versioning.

[14] The estimate of $100,000 includes all changes in this document, on the proviso that file versioning is implemented.

4 Audit provisions

Table 5 – Audit provision changes

Category	Proposal	Rule change	Registry change	Recommended?
Audit provisions	• Performance audits for Registry participants	Yes	No	Yes

4.1 Description of change

Currently the Rules only include provisions to audit the performance of the Registry and the Registry Operator (rule 21). The proposal is to add audit provisions to the Rules so that all Registry participants can be audited against their obligations under the Rules.

The proposed audit provisions would be largely based on the existing audit provisions in the Reconciliation Rules and would cover the performance of each Registry participant (that is each retailer, distributor and meter owner). The scope of audits would cover all of the Registry participant's obligations under the Rules but would likely focus on the accuracy of Registry information/ICP parameters for which that participant is responsible and the systems and processes for maintaining the accuracy of that information.

Audits under the Switching Rules would be limited to performance audits, not event audits, as it is expected that anomalies in Registry information can easily be traced back to a single party unlike, say, a gas gate UFG issue which may require an event audit in order to identify who has caused the issue.

Consistent with the Reconciliation Rules, the audit provisions would be based on the following principles:

- Performance of all Registry participants must be audited regularly;
- Participants have the opportunity to nominate an auditor, but the auditor is appointed by Gas Industry Co at its sole discretion;
- Participants must meet the cost of their audit;
- Final audit reports will be published on the Gas Industry Co website;

- Participants will have the opportunity to comment on draft audit reports and any commercially sensitive information may be redacted from the published report; and
- The auditor will be required to allege breaches to the Market Administrator where there are reasonable grounds.

Further to these principles it is expected that, for retailers, a performance audit under the Switching Rules could occur in tandem with a performance audit under the Reconciliation Rules. Meter owners and distributors are not currently audited under the Reconciliation Rules so the audit programme will be a new development for those parties. We expect that a baseline audit of those organisations will be conducted in the first couple of years after the amended Rules take effect.

4.2 Reason for change

The Registry is the database of record for ICP information. Several parameters in the Registry are essential to the accurate conversion of reads to energy quantities and the reporting of those quantities to the Allocation Agent, these include:

Existing fields	Gas gate	Network Pressure	ICP Altitude	Allocation Group
Proposed fields	Meter Pressure	Reading Digits	Register Multiplier	TOU Flag

It is reasonable that retailers should be able to rely on the information in the Registry for the purpose of energy conversion and billing, but they have no control over the accuracy of the information or timeliness of identifying and correcting any errors. Introducing audit requirements to the Rules sharpens the incentive on all Registry participants to ensure that the Registry information for which they are responsible is kept accurate and up to date.

In the 2010/11 programme of baseline retailer audits under the Reconciliation Rules, a common recommendation in the final audit reports was that greater attention should be paid to meter owner and distributor fields in the Registry. A couple of examples of the auditor's recommendations are provided below; first in the Energy Online 2011 audit report:[15]

> I recommend that meter owners be required to undergo performance audits to ensure the processes for recording and reporting metering set-up information are robust
>
> Three recommendations are made in relation to the setup and maintenance of information:
>
> - That meter owners be required to undergo performance audits to ensure the processes for recording and reporting metering set-up information are robust.
> - That the switching rules be amended to include meter pressure, meter multiplier and meter dials as registry fields that are maintained by meter owners.

[15] http://gasindustry.co.nz/sites/default/files/u146/20110802_eol_final_performance_audit_report.pdf

- That the switching rules be amended to include an accuracy requirement for altitude information populated by distributors.

Also in the Nova 2011 audit report:[16]

> The issue of incorrect meter owner data in relation to meter pressure has now been identified in a number of performance audit reports. I recommend that this matter be raised at an industry wide level, with the following objectives:
>
> - Determine the extent of meter pressure inaccuracy, by conducting meter pressure field checks and comparing these results to meter dockets, meter owner's databases and retailer's databases. This recommendation was also made during the 2009 event audit for the Greater Auckland gas gate.
> - Identify actions to improve the current accuracy of meter pressure data.
> - Improve validation processes to ensure new meter pressure errors are not introduced.
>
> Two additional recommendations are made in relation to meter information:
>
> - That meter owners be required to undergo performance audits to ensure the processes for recording and reporting metering set-up information are robust.
> - That the switching rules be amended to include meter pressure, meter dials and multiplier as registry fields that are maintained by meter owners.

Examples of the UFG findings from the suite of gas gate audits and retailer performance audits are noted in section 2.2. These findings speak to both the efficacy of an audit regime in discovering issues, and the ongoing need for such a regime.

The audit provisions and proposed drafting for the required Rule amendments were discussed with the RAPT. Members were not opposed to adopting audit provisions into the Rules and saw the changes as uncontroversial. This is perhaps due to the fact that audits are a reasonably common occurrence in the wider energy industry.

4.3 Rule changes

This change requires an audit section to be added to the Rules. As this is a lengthy amendment, the section is included in the marked-up rules in Appendix A, but it is not replicated here. We invite comments on the rule drafting, which is largely taken from the equivalent section in the Reconciliation Rules.

4.4 Practicable options

The results and recommendations of the reconciliation audits provide sufficient grounds to suggest that audits are a worthwhile inclusion for the switching rules. Other options would be to maintain the status quo or perhaps to attempt a voluntary audit regime rather than a regulated solution.

[16] http://gasindustry.co.nz/sites/default/files/u146/20112507_nova_final_performance_audit_report_2011.pdf

Experience of the downstream reconciliation arrangements prior to the introduction of the Reconciliation Rules suggests that voluntary audits would not be a practicable solution. In order to achieve an industry wide improvement in the quality of information in the registry, participation by all registry participants must be mandatory, and be backed up by solid compliance arrangements.

4.5 Analysis of costs and benefits

Rule 58 places a requirement on registry participants to use reasonable endeavours to maintain current and accurate information in the registry in relation to their ICPs and the ICP parameters for which they have responsibility. Other rules require participants to correct errors where they are discovered (rule 61) and to resolve discrepancies regarding ICP information (rule 62).

We believe that this status quo position places a strong enough obligation on Registry participants to maintain current and accurate information in the Registry and we are not proposing to further tighten these requirements. However, with no independent oversight the incentives to comply with the obligations are not strong. Accordingly, the proposal is to add better oversight of participant's compliance with their current obligations. With the obligations on participants staying the same, the only cost of the proposal is the cost of the performance audits themselves.

Based on the experience of audits for downstream reconciliation, the average cost of a performance audit is $10,000 to $15,000 and each retailer has been, or by the end of 2014 will have been, audited twice in the six years since the Reconciliation Rules went live, equating to an annual cost of $3,000 to $5,000 per participant.

Retailers could be expected to achieve some cost efficiencies by combining the switching and reconciliation audits into a single event so costs would probably be on the lower end.

Other registry participants would likely face lower costs than retailers by virtue of their having fewer obligations under the Rules to audit (for example the switching provisions are largely obligations on retailers not meter owners or distributors).

Ignoring the general benefit of having audits in dissuading non-compliant behaviour, for direct benefits to exceed costs it would require an ongoing stream of benefits per audit of around $3,000 to $4,000 per year per participant. In gigajoule terms this could mean identifying the cause of say 300GJ to 400GJ of UFG per audit which, when compared with the results of reconciliation audits noted in section 2.2, doesn't seem an unreasonable expectation.

4.6 Proposal

It is proposed that audit provisions be added to the Rules as per the suggested drafting in Appendix A.

Q7: Do you agree with the introduction of audit provisions to the Rules? Do you have any comments on the audit principles or proposed rule drafting?

5 Switch process

This section considers proposals to alter the processing of, and requirements around, retailer switches. The objectives of these amendments are:

- to improve the gas industry's reputation by facilitating a better handling of dual fuel switches;
- to resolve some provisions in the Rules that do not align with intended best practice; and
- to give better effect to customer wishes through improvements to the switch process.

These objectives both further the broader purpose of the Rules and are consistent with the principal policy objective in the GPS.

As illustrated in the table below, the proposals are grouped into how the Registry processes switches, and the requirements around retailers when managing a switch. These Rule requirements regard three different aspects of a switch; the timeframe to complete the switch, the management of back-dated standard switches, and the requirements around instigating a switch with a contract completion date that is significantly in advance of the supply commencement date.

Table 6 – Switch process changes

Category	Proposal	Rule change	Registry change	Recommended?
Switch process	• GTN discrepancy handling • Shorten switching timeframes • Back-dating standard switches • Contracted start date	Yes Yes Yes Yes	Yes No Yes No	Yes Yes Yes[17] Yes

Gas Industry Co acknowledges that retailers may need to adjust their switching processes to manage a reduction in the allowed switching timeframe. The other three changes either give more flexibility to retailers in their switching processes, or seek to improve the accuracy of information exchanged when an ICP is switched. Gas Industry Co does not expect that these changes will have a significant adverse effect on any participants, and as such, regards these changes as being covered by section 43N(3) of the Act.

[17] This change will be formally consulted on through the Compliance Threshold Regime.

5.1 GTN discrepancy handling

Description of change

When an ICP is the subject of a switch, the Registry will run validation checks against the Registry database for the following parameters in the GTN:

- meter identifier;
- meter pressure;
- register reading digits; and
- register multiplier

For ICPs with multiple meter or register rows, the Registry will search for one match to the Registry database for each parameter. Any GTNs that fail this validation will be rejected. The sender is then obliged to resolve the discrepancy and complete the switch within the required timeframe. This validation will not take place for TOU ICPs[18], as the register reading digits, meter pressure, and meter multiplier information will not be mandatory fields in the Registry if the ICP has a TOU meter.

Reason for change

Moving a lot of the information that is already held in a GTN into the Registry database creates the question of what to do with any discrepancies between these two sets of data. The RAPT initially discussed whether the requirement to include the core metering parameters should be removed from the GTN once the fields exist in the Registry but it was agreed that this would create a much larger change to retailers' systems than was necessary. Another alternative discussed was to allow the GTN to be passed through with discrepancies but to flag the difference to the gaining retailer, but this seemed counterintuitive to the purpose of adding the metering fields to the Registry. The preferred approach was to validate the GTN values against the new Registry-held values to ensure that a match existed and to reject the GTN otherwise.

Currently, there is no check on the information that is passed between retailers during a switch,[19] as the Registry does not hold information against which to validate the values in the GTN. This means that until a billing error is discovered, discrepancies between the information held by the meter owner and the information held by the retailer are not found (unless routine comparisons with meter owner data and subsequent exception handling are performed). So the motivation for this change is that, with the Registry as the authoritative source of metering information, validating GTN data will stop the spread of incorrect data that can originate in participants' systems.

[18] As indicated by the TOU flag from section 3.2
[19] The Registry does check the GTN for internal consistency e.g. number of M rows must equal number of meters specified in the P row, length of meter read must equal number of reading digits etc.

The RAPT was very supportive of this change, noting that it should incentivise retailers to maintain accurate data in their billing systems because, if a GTN bounces, the losing retailer has the obligation to rectify the discrepancy with the meter owner within the timeframe for completing the switch. Gas Industry Co does not anticipate extending the valid withdrawal request reason codes to include errors in metering values, so we do not expect switches to be withdrawn due to a rejected GTN except in exceptional circumstances. Transparency in the switch process is important for tracking inaccuracies in Registry data and allowing switches to be withdrawn would circumvent this check by creating a discontinuity in the switch. The proposal to allow ICP parameters to be edited during a switch (discussed below in section 6.2) should cover any cases where the registry data itself is at fault and requires amendment.

By enforcing a validation stage on GTNs, it becomes even more important that the data cleansing process before implementation is thorough. Gas Industry Co acknowledges this and is bringing together a group of industry representatives to assist in this phase.

Ultimately, this change will help to ensure customers are billed correctly, by placing stronger incentives on retailers to maintain correct metering parameters that support accurate billing in their systems. In terms of Registry development, the cost of this change is negligible, and has been estimated at $2,000 by the Registry Operator.

Rule changes

It would be possible to implement this validation as a business rule in the Registry functional requirements without a rule change, but given that rule 73 specifically deals with validation of the GTN, it is tidier to include it there.

73 Registry validation of gas transfer notice

73.1 As soon as possible after having received the gas transfer notice, the **registry** must –

73.1.1 Validate the information in the gas transfer notice by confirming –

[…]

(c) That, except for a **meter** that is a **TOU meter**, as at the **switch date** specified in the notice, there exists a match in the notice to the value held in the **registry** for each of the **meter identifier**, **meter pressure**, **register reading digits** and **register multiplier**; and

Q8: Do you agree with the introduction of a validation check on the content of the Gas Transfer Notice? Do you agree that this validation should not be applied for ICPs with TOU meters?

5.2 Switching timeframes

Description of change

The proposal is for the Rules to be amended to require switches to be completed within 10 business days, to replace the current requirement of switches to be completed within 23 business days.

Reasons for change:

Seven out of the nine gas retailers also trade as electricity retailers[20] and generally offer discounted rates to customers that enter into dual fuel contracts. However, the switching timeframes between electricity and gas exhibit significant differences. The Electricity Industry Participation Code 2010 requires that all switches are completed within 10 business days of notification and in any 12 month period at least 50% of switches must be completed within 5 business days.[21] With the current requirement for gas switches to be completed within 23 business days, this often results in the incumbent retailer waiting for the next physical read to settle the final bill, meaning that customers can receive their final electricity bill days or weeks before their final gas bill. Although a move to 10 business days will not ensure complete alignment for dual fuel switches, it will mean that it is less likely for gas switches to be deferred until a physical meter read can take place, resulting in the customer being more likely to experience a combined switch for both electricity and gas.

Since 2010[22], the average time taken for any type of switch is 6.1 business days, with the average time for standard switches being 9.0 business days (with a median of seven business days). 77% of standard switches and 84% of all switches are completed within 10 business days. Retailers in the RAPT noted that only minor changes will need to be made to in-house procedures to manage this change, and we do expect that retailers will make operational adjustments to allow them to better comply with this rule. Any breaches due to the reduction will be dealt with in the same ways as breaches of the 23 business day rule are currently dealt with.

Gas Industry Co discussed this proposal with the RAPT, and given that the reduced timeframe would most likely result in an increase in estimated final reads, asked whether or not this change would have a material effect on the number of switch read renegotiation requests. Members did not believe that a significant increase in renegotiations would be seen, as many final reads are already estimated, and few are renegotiated. The more pertinent issue from a customer perspective would be whether the value of a reduced switch timeframe and greater alignment with electricity is worth the price of an increase in the likelihood of an estimated read.

Further feedback from the RAPT was that it is difficult for call centre staff to give customers an accurate timeframe for a dual fuel switch, due to the difference in deadlines between the two fuels

[20] Contact Energy, Energy Direct NZ, Energy Online, Genesis Energy, Mercury Energy, Nova Energy and Trustpower. Greymouth Gas NZ and OnGas are not electricity retailers.
[21] Electricity Industry Participation Code 2010, part 11, schedule 11.3, clause 4
[22] As the Rules went live in 2009 and participants were becoming familiar with their responsibilities with regards to switching, the average switch time for this year is significantly higher than other years. For this reason this information has been excluded from the analysis.

and the fact that in each case it is the losing retailer that generally determines the switch date. There was definite value seen in the proposal that customers could be given a clear maximum of 10 business days that covers both fuels (even if the reality is that the majority of electricity switches then complete in 5 business days or less).

As well as increased alignment for dual fuel switches resulting in an improved customer experience, it can be argued that removing barriers for customers to switch in this market will incentivise retailers to develop more competitive pricing. Most homeowners with both electricity and gas expect to have a dual fuel discount when they look at their bill, although if the switch process is known to be slow or exhausting, consumers will be less inclined to consider switching to a retailer with a more competitive dual fuel contract. Any increase in competitiveness as a result of this proposal will contribute to sustaining downward pressure on prices as a long term objective.

A further positive impact on competition may be seen if the current proposals make the gas market more attractive to electricity retailers who are not dual fuel retailers. By better aligning the switching regimes, electricity retailers may see the gas market as more attractive to enter.

Rule changes

The necessary rule changes to implement this change are simple. A replacement of 23 business days with 10 business days occurs for rules 67.3, 67.3A, 69.2, 70.2.2, 72.3.1, 72.3.2, and 72.5. Changes are detailed in the mark-up to the rules in Appendix A.

Q9:	*Do you agree with the reduction of the allowed switch timeframe from 23 business days to 10 business days?*

5.3 Backdating standard switches

Subject to consultation, this proposal will be implemented via the compliance threshold regime

Description of change

Through the recently introduced compliance threshold regime[23], standard switches will be able to be back-dated to the first of the month in which the switch request is sent. This will apply to the requested switch date in a GNT, as well as when an actual switch date in a GTN is back-dated to comply with a (non-compliant) back-dated requested switch date in a GNT. These breaches of rule 67.3 and 72.5 (as amended below) will still be flagged to Gas Industry Co in the monthly switch compliance report, but not alleged as breaches to the Market Administrator.

[23] Details of the amendments to the Gas Governance (Compliance) Regulations 2008 to provide for a threshold regime can be found here: http://gasindustry.co.nz/work-programme/compliance/statement-proposal-and-recommendation

Reason for change

This change is aimed at avoiding immaterial breaches for large contracted sites or group-switched sites, where the switch may be entered after the contract start date due to the need for extra coordination or negotiation. Often these switches are incorrectly processed as move switches, in order to avoid a rule breach, which runs counter to the purpose of the Registry being an authoritative database of ICP activity. The full discussion and consultation on this change will be found in the consultation on the compliance threshold regime, which will be released in the next few weeks. It is mentioned here because the proposal was discussed with the RAPT and received general support. If approved, this change will be progressed via a Market Administrator guideline pursuant to the Compliance Regulations, so can occur independently of the other Registry amendments discussed in this SoP that require approval by the Minister in order to be implemented.

A minor amendment to rule 72.5 is required to remove any ambiguity in the application of a compliance threshold. Without the addition of the words "or included a requested **switch date** that did not comply with rule 67.3 or 67.3A" there would be no direction on the restrictions applied to the switch date in a GTN that responded to a non-compliant back-dated requested switch date. This amendment merely aims to clarify the upper and lower bounds of the switch date. Note that the compliance regime will allow a switch date in a GTN to be back-dated to comply with a back-dated requested switch date, provided it is on or after the requested switch date.

The addition of the words "must not pre-date the date the gas switching notice was received by the registry" places a lower bound on the switch date in the gas transfer notice, in order to avoid back-dating of standard switches that had no requested switch date. This is a change that codifies the current functionality of the Registry.

Rule changes

No rule change is required to allow backdating of standard switches since this will be administered using the compliance threshold. However, rule 72.5 requires the small amendment mentioned above to accommodate non-compliant requested switch dates, and provide for a lower bound on the switch date in a GTN for a switching notice that did not contain a requested switch date. This is consistent with the current functionality of the Registry.

72 What gas transfer notice must contain

[…]

72.5 If a gas transfer notice relates to a gas switching notice that either did not include a requested **switch date**, or included a requested **switch date** that did not comply with rule 67.3 or 67.3A, the **switch date** must not pre-date the date the gas switching notice was received by the **registry**, and must be no later than ~~23~~10 **business days** after the gas switching notice was received by the **responsible retailer**.

5.4 Contracted start date

Description of change

Rule 66.1 will be amended to allow the initiation of a switch to be delayed for ICPs where contracts have been entered into significantly in advance of the supply commencement date.

Reason for change

For large users or group switches, it is not uncommon for gas supply contracts to be tendered, negotiated and signed weeks or months in advance of the supply commencement date. For these sites, once a contract has been signed, it is currently impossible for the new retailer to comply with both rule 66.1, which requires a switch to be initiated within 2 business days of the contract being signed, and rules 67.3/67.3A, which state that the requested switch date cannot be more than 23 business days in the future. It would also be impossible for the losing retailer to comply with the requested switch date and with rule 69.2 which requires that switches are completed in 23 business days. This is a weakness in the Rules that this change seeks to rectify.

Rule changes

We invite submissions on whether the proposed rule change adequately captures the issue. The reference to 12 business days in the new rule 66.1.1 takes into account the 2 business days granted by rule 66.1 to initiate the switch, plus the 10 business day limit that would apply to the switch length under the proposal in section 5.2. If the proposal to reduce the switching timeframe does not proceed then the condition in rule 66.1.1 would reference 25 business days.

66 Gas switching notice

66.1 Subject to rule 66.1.1, within 2 **business days** after entering into a contract to supply gas to a consumer at the relevant **consumer installation**, the **new retailer** must initiate the **switch** by giving a gas switching notice to the **registry**.

66.1.1 Where a contract to supply gas is entered into more than 12 business days in advance of the supply commencement date, the new retailer must initiate the switch by giving a gas switching notice to the registry as soon as practicable so as to comply with rule 67.3 or 67.3A, as appropriate.

Q10: Do you agree with the amended wording of rule 61.1.1, to accommodate switches where contracts have been entered into significantly in advance of the supply commencement date?

5.5 Proposal

The proposal is to implement all four of the changes discussed in section 5.

6 ICP lifecycle

The changes proposed to the ICP lifecycle in the Registry aim to ensure that the Registry ICP parameters accurately reflect the physical status of the installation in a timely manner. This aligns with both purposes of the Registry, to facilitate efficient and accurate switches, and to form an authoritative database of ICP parameters.

Table 7 – ICP lifecycle changes

Category	Proposal	Rule change	Registry change	Recommended?
ICP lifecycle	• Meter information before retailer uplift • Edits to ICP parameters during switch • Connection status code for temporary disconnections	Yes No No	Yes Yes Yes	Yes Yes Yes

As these changes have minimal impact or serve to better reflect current practice, they are not expected to adversely affect participants. As such, Gas Industry Co regards these changes as being covered by section 43N(3) of the Act.

6.1 Input of metering events prior to retailer uplift

Description of change

Meter owners will have the ability to populate metering parameters for ICPs with the status of NEW or READY, before a responsible retailer has assigned the meter owner. Once a meter owner has claimed the ICP, the responsible meter owner may only be changed by the responsible retailer.

Reason for change

The current ICP lifecycle in the Registry requires a distributor to create the ICP and populate the parameters in Part A of the schedule to the Rules (including the expected retailer field). When the distributor parameters are complete the ICP takes the READY status, at which point any retailer can uplift the ICP and assign a meter owner. The meter owner can only populate metering fields once it has been nominated by the retailer. This process reflects the contractual arrangements in place for creating a gas connection.

Often in the commissioning of an ICP, the expected retailer will request that a meter be hung at a site before there is a contract with a consumer at that site. For new building developments this could be so that contractors have access to hot water, or because developers have the intention of offering installed gas appliances as part of the package to potential buyers. So the physical chain of events can involve the distributor, then the meter owner and finally a retailer that signs a contract with a customer.

This difference between the physical and contractual chain of events causes an issue in the Registry because retailers are not incentivised (or required) to uplift an ICP until they have a contract with a customer. So there will exist ICPs at READY status that have meters installed but the meter owner is unable to record the metering parameters in the Registry; this is contrary to the notion that the Registry is the database of record for ICP information.

The proposal to address this issue is to allow a meter owner to claim the ICP in the Registry before it is assigned to that ICP by the responsible retailer. Once a meter owner has claimed the ICP, no other meter owner can overwrite that ownership unless the initial claim is reversed or a retailer uplifts the ICP and changes the meter owner. Having discussed this with the RAPT, we do not see this as an issue. The ownership of the meter at an installation should generally be a simple matter to identify or resolve. Once the responsible retailer has uplifted the ICP it will have sole responsibility for the responsible meter owner field, as is currently the case.

This is a significant change to the Registry architecture, with development work of an estimated $39,000. The change was broadly supported by the RAPT.

Rule changes

Despite being a significant system change in the Registry, the change to the Rules is relatively simple:

> **56 Meter owner information for new ICP**
>
> **56.1** Subject to rule 56.3 and within the timeframe specified in rule 56.2, the **responsible meter owner** for an **ICP** must enter in the **registry** values for all of the **ICP parameters** listed in Part C of the Schedule.
>
> **56.2** The timeframe is within 2 **business days** after the **responsible meter owner** –
>
> 56.2.1 Has confirmed that the **metering equipment** has been installed at the new **consumer installation**; and
>
> 56.2.2 Where rule 56.3 does not apply, has been notified of the information under rule 55.2 in relation to the **ICP**.
>
> 56.3 If an ICP has an ICP status of NEW or READY, and no responsible meter owner exists for that ICP, a meter owner who has installed metering equipment at the new consumer installation –

56.3.1 May enter in the registry values for all of the ICP parameters listed in Part C of the Schedule; and

56.3.2 In doing so, is deemed to become the responsible meter owner.

---

57 Registry validation of first meter owner information

[…]

57.2 Within 1 **business day** of having accepted the **ICP parameters** in the **registry**, the **registry** must give notice, stating the ICP parameters that have been accepted in the registry for that ICP, to –

57.2.1 The **responsible distributor**, **responsible retailer** and **responsible meter owner** for that **ICP**; or

57.2.2 If rule 56.3 applies, the responsible distributor, expected retailer and responsible meter owner for that ICP.

Schedule – Part B

ICP parameters maintained by Retailers

[…]

Responsible meter owner: The code of **the responsible meter owner**. The **responsible meter owner** is assigned according to the authority of a service agreement between the **responsible retailer** and the **meter owner** providing the **meter** measuring consumption for the **ICP**. Note that a meter owner may self-assign to the ICP if there is no responsible meter owner and no responsible retailer and the ICP has an ICP status of NEW or READY state. Meter owner codes are determined and **published** by the **industry body** from time to time.

Q11: Do you agree that a meter owner should have the ability to populate an ICP's metering parameters, and the responsible meter owner field, before retailer uplift of an ICP?

6.2 Edit ICP parameters during switch

Description of change

The restriction on editing ICP parameters during a switch will be removed. As normal, only the responsible retailer, distributor or meter owner may edit ICP parameters. For the avoidance of doubt, the responsible retailer during a switch is the old retailer up until the GTN is entered.

Reason for change

Currently during a switch, all ICP data is locked in the Registry; changes to ICP parameters that occur during a switch have to be entered in the Registry after the switch is completed (or after a withdrawal

has been accepted) with a backdated event date. By allowing this data to be edited by its owners during a switch, it is hoped that switch withdrawals due to errors will be reduced, as the error can be amended during the switch process. This aligns with a recent similar change to the Electricity Registry. It is also particularly relevant if the proposal is accepted to introduce validation of GTN metering values against Registry metering values.

The RAPT was supportive of the proposal. The only issue raised was whether all ICP parameters should be editable or just a subset of them. The conclusion in the RAPT was to make all parameters editable. One issue raised by Jade since then was that changes to ICP parameters that would invalidate the switch should not be allowed, most notably a distributor changing the ICP status to DECR (decommissioned). This is a sensible exception and we welcome comments on any other restrictions that should be considered.

The cost of this change in the Registry, estimated at $10,000, is not large. We consider that the change is beneficial to further the purpose of the Registry, i.e. to facilitate efficient and accurate switches.

Rule changes

There are no rule changes required; this is a functional change in the Registry.

Q12: Do you agree that ICP parameters should be able to be edited by their respective owners during a switch? Are there any ICP parameters that should remain restricted?

6.3 Connection status for temporary disconnections

Description of change

The addition of an ICP connection status code for the ICP status *active-contracted* of *Gas Contracted Disconnect – GMS remains, supply capped or plugged (GCC).*

Reason for change

This change activates the connection status described in rule 59.4.2, that is currently not provided for in the Registry:

> **59** The **ICP** status of ACTIVE-CONTRACTED may only be assigned by the **responsible retailer** and denotes that the **responsible retailer** has entered into a contract to supply gas to a consumer at the **consumer installation** and that either –
>
> **59.4.1** Gas is able to flow to the installation; or
>
> **59.4.2** The gas supply is temporarily disconnected.

Currently there is only one connection status associated with an active-contracted site, and that is the one represented by 59.4.1 – gas able to flow ('GAS'). However; there are instances where this is not sufficient to accurately describe the connection status at a site. One of those instances is when a customer is temporarily disconnected due to a customer request or dispute with their retailer. As there is no direction in the Rules or determinations for how to represent this situation in the Registry, retailers tend to manage these situations in different ways (either leaving the status as ACTC-GAS, or changing it to ACTV-GAS or INACT-xxx; none of which accurately represent the connection status). The intention of this change is to give effect to what is already present in the Rules, and to ensure that all retailers handle these situations in a consistent way, resulting in a more accurate Registry database.

If a temporary disconnection then leads to a permanent disconnection of the site, the ICP status code and connection status code must be updated accordingly on the day of the permanent disconnection.

In the RAPT, members discussed the benefits of implementing a temporary disconnection code. Meter owners brought up the issue of meter maintenance workers being asked to reconnect sites that had been disconnected due to credit reasons. It was only when they visited the site that they were able to realise that the lack of gas flow the customer was experiencing was due to a purposeful cap or plug put on the outlet, and not due to a malfunction. In some cases, this situation would lead to the maintenance worker being put in physical danger, if the customer became agitated or threatening. This is a health and safety risk that may be mitigated if the ICP could be searched in the Registry before the visit, as the worker would see the temporary disconnection status and realise that the disconnection was purposeful. This means that the site check would not be required and instead the meter owner would be expected to liaise with the retailer for details.

The question was also asked as to whether this temporary disconnection code would result in a significant increase in traffic through the Registry. Analysis of one retailer's disconnection and reconnection timeframes indicated that over 25% of disconnected sites[24] were reconnected within the day, which represents 50% of the sites that get reconnected within seven days. With most retailers using batch file uploads at the end of the day to update ICP connection statuses, this implies that the disconnections that will not benefit from the additional connection status will not be affected by it. For the remainder of the disconnection/reconnections, meter owners will benefit from the added information. In any case, with the relatively small number of gas ICPs in the field this additional traffic should not pose a problem for the Registry's processing.

As the addition of the connection status reflects what is already present in the Rules, and there does not seem to be any convincing argument for its exclusion, Gas Industry Co proposes that this change be implemented.

Rule changes

No rule change is required. The status code will need to be added to the Notice of Determinations.

[24] This does not include disconnected sites that were not reconnected.

Q13: Do you agree that a connection status for temporary disconnections, as provided for in Rule 59, should be added to the Registry?

6.4 Proposal

The proposal is to implement all three changes in section 6.

7 Registry interfaces

This section discusses improvements to the interfaces that participants can use to manage their Registry interactions.

Table 8 – Registry interfaces changes

Category	Proposal	Rule change	Registry change	Recommended?
Registry interfaces	• SFTP • Web browser timeout • Improved browser compatibility • Data hub • Web services	No No No No No	Yes No Yes Yes Yes	Implemented No No Yes Implemented

Changes to these interfaces would not require ministerial approval, as they do not include changes to the Rules, but they have been included in this Statement of Proposal to invite formal feedback from the industry on their value.

7.1 SFTP

This proposal has already been implemented. It is mentioned here for reference, as it was discussed by the RAPT along with the other enhancements, and to ensure that participants are familiar with the development.

Description of change

Upgrade the file transfer protocol (FTP) used to upload bulk files to the Registry, to the secure protocol SFTP.

Reason for change

This upgrade aligns with industry best practice, giving a higher level of security to the file transfer process by encrypting the data and commands before the files are transferred. The electricity industry has already migrated to an SFTP service and has plans to phase out the use of FTP by the end of 2014. Although none of the gas files currently transferred require the upgraded level of security (compared to some EIEPs exchanged in electricity which contain personal information such as customer account details), making provision for SFTP has positive consequences to the majority of gas retailers who are

also electricity retailers, as they are then able to streamline their operations by only using one protocol. SFTP is also a pre-requisite for the establishment of a data hub, if that is desired by the industry, as the gas data hub will be based upon the electricity data hub which uses SFTP.

When put forward to the RAPT, members were supportive of this change on the proviso that a phase-out of FTP wasn't to be rushed. There is no cost benefit to disabling FTP, so Gas Industry Co has no plans to remove the service until it is no longer being used by participants.

As the cost of implementing SFTP was negligible (less than $1000), it had industry support, and the change did not require ministerial approval, Gas Industry Co has already implemented this change. Participants have been notified and the SFTP service is already in use by several participants.

7.2 Web browser timeout

Description of change

Various proposals were discussed by the RAPT, including the creation of different timeout periods for different user types on the web browser, and a pop-up notification for when a user's session times out.

Reason for change

Gas Industry Co put forward this discussion to ensure that users were not having any issues with the current timeout functionality of the Registry website and to investigate any solutions if this was found to be an issue. It was noted that the automatic timeout in the electricity registry had recently been extended.

When web browser timeout was discussed with the RAPT, one member agreed that the timeout was often an issue, especially as the website would not notify you that you were required to log in again until you had tried to instigate a search, or navigate through the site. This meant you could input a set of ICP search parameters or an address and press 'search' before you realised that you need to log in again. Within this conversation the suggestion was also put forward to look into implementing different timeout timeframes for different user types, e.g. a shorter timeout for call centre staff. It was also pointed out that the original reason for automatic logouts was that the electricity registry (on which the gas registry is based) operated a limited number of user licenses so there was a need to close inactive sessions in order to allow access to other users. This is no longer the case in electricity and has never been the case in gas.

Feedback from Jade was that changing the default timeout value (currently 1 hour) is trivial as it is a configurable parameter. However a change that automatically returned a user to the login screen on timeout (without a button click), or provided for users with different timeouts, would not be feasible without moving outside of generic JADE software functionality and behaviour.

The RAPT concluded that there was not enough desire for a change to the current timeout period, and that any of the more complex changes would involve costs that would far outweigh the benefits. For these reasons, Gas Industry Co has chosen not to pursue any changes to the web browser timeout function. We invite comments on whether participants would like an increase to the default timeout value of one hour.

7.3 Improved browser compatibility

Description of change

Upgrade the Registry website's ability to be viewed on different web browsers.

Reason for change

Similar to the web browser timeout, Gas Industry Co put this forward to be discussed to ensure participants did not have any issues with the current website functionality on common web browsers. Members of the RAPT cited no problems with browser compatibility.

Gas Industry Co has determined there is no need for improved compatibility but again we invite participants who weren't represented at the RAPT to register any issues.

7.4 Gas data hub

Description of change

Implementation of a gas data hub or, more formally, a gas information exchange protocol (GIEP) exchange service to Registry users. The data hub would allow files to be exchanged securely and efficiently between participants and could be accessed either using an SFTP mechanism that can be integrated into participants' systems or using a GUI interface that would be added into the Registry website.

Reason for change

A gas data hub would provide a transfer service to, and between, Registry participants for non-Registry files, such as network billing files. It would include an audit service that tracks the date and time of receipt of files. The data hub would be based on the design of the electricity EIEP exchange service available in the electricity registry, which is well used by distributors and retailers/traders to exchange billing, volume and other ICP and consumer information.

A gas data hub would be beneficial in that it would allow dual fuel retailers and dual fuel network owners to streamline non-Registry file transfer procedures that are common across both utilities, with the added value that it notifies the sender when the file has been seen by the recipient and avoids the common errors associated with the use of email to exchange important (and often confidential) information.

When brought up in the RAPT, members were generally happy to progress this option to the formal consultation phase, although no strong opinions were voiced for or against the proposal. It was noted that the cost of implementation of this service is reasonably significant, with an estimate around $32,000 and that there are not the same scale efficiencies in gas as existed in electricity to drive the implementation of the EIEP exchange service.[25]

Gas Industry Co is interested in gaining wider feedback on whether participants view this service as valuable, before determining whether or not to proceed with the implementation. Further details of the service can be provided upon request.

7.5 Web services

This proposal has already been implemented. It is mentioned here for reference, as it was discussed by the RAPT along with the other enhancements, and to ensure that participants are familiar with the development.

Description of change

The Registry offers four web services for the purpose of retailer call centre integration. The four supported operations are:

- address search;
- meter identifier search;
- view ICP details; and
- view ICP event history

The web service development was originally funded by, and restricted to, two retailers. The proposal here is for Gas Industry Co to refund the two retailers with the cost of the development and lift the restrictions so that all registry participants can use the web services.

Reason for change

Web services are an alternative method for querying, or otherwise engaging with, the Registry. They sit alongside the standard interfaces (the Registry website and FTP functionality for file transfers) and allow users to integrate several Registry functions within their systems. In this case, Registry queries can be performed efficiently within a retailer's customer relationship management system without the need to login using the separate web-based interface. This increases efficiency for call centre staff, provides an improved customer experience and eliminates the lockouts that frequently occur due to mis-keying credentials when logging in to the web interface.

[25] The electricity market has at least twice as many retailers as gas and ten times the number of distributors. It is exchanges between these parties that drive the bulk of the traffic in the electricity data hub. Electricity also has 11 EIEPs (4 of which are regulated), whereas gas has only 4 GIEPs, all of which are voluntary.

In 2012, development of the web services was funded by two retailers, on the understanding that if other retailers were interested in the service, they could buy-in and payback a proportion of the development costs to the founding retailers.

No other retailers or participants expressed an interest in sharing the development at the time. Within the last 12 months, however, Gas Industry Co has been approached by three other retailers (and two prospective retailers) querying the availability of web services, indicating that use of the technology is becoming more widespread.

In the interests of removing the need for bilateral agreements and multiple marginal repayments between retailers, and in making the services available to all participants now that the technology is better understood and a common feature of websites, Gas Industry Co put forward the option of a buy-back to the RAPT and to the two founding retailers. Members of the RAPT were not opposed to this, and saw value in giving participants the option to use the service if they wished. Jade confirmed that raising the restriction on who could access the services was trivial and the two founding retailers were also comfortable with the proposal to reimburse costs.

The cost of the buy-back is the cost of the development at the time, approximately $20,000. As the retailers that originally funded the change together with retailers querying access to the services together account for over 90% of the market by ICPs (and it is on this basis that the cost of the buy-back would be levied on the industry), and no rule changes are necessary to effect the change, Gas Industry Co did not see any significant impediment to implementing the proposal immediately rather than waiting for feedback via the Statement of Proposal and the longer timeframe necessitated by the approval of a Recommendation to the Minister.

Gas Industry Co has therefore progressed this buy-back, and the two founding retailers have been reimbursed for their original payments. Participants have been advised of the availability of the four web services and new users have already begun integration testing.

7.6 Proposal

The proposal for this section is to implement the data hub, if sufficient support is received from participants (particularly those participants that pay the majority of the market fees). The upgrade to SFTP and the buy-back of web services have already been completed.

Q14: Do you support the development and implementation of a gas data hub?

Q15: Do you have any other comments on enhancements to the Registry interfaces or other information exchange mechanisms?

8 Other minor changes

Table 9 – Other minor changes

Category	Proposal	Rule change	Registry change	Recommended?
Other minor changes (Section 8)	• Purpose of the Registry • Notification of metering events • Minor drafting changes	Yes No Yes	No Yes No	Yes Not discussed Not discussed

Three minor changes are being proposed:

- reference to the purpose of the Registry;
- a change to the notification of metering events; and
- other minor drafting changes.

These changes are not expected to have any significant impact on Registry participants, and as such, Gas Industry Co regards them as being covered by section 43N(3) of the Act.

8.1 Reference to the purpose of the Registry

Description of change

Insert a reference to the purpose of the Registry within the purpose of the Rules.

Reason for change

During this review it was noticed that the purpose of the Registry is somewhat hidden, as rule 39 out of 87, rather than sitting alongside the overall purpose of the Rules (set out in rule 3). This is due to the structure of the Rules, as the purpose statement sits at the start of Part 2 of the Rules which is concerned with establishing and operating the Registry. Given that the Rules and Registry are well established, and that the operation of the Registry is key to the effectiveness of the arrangements, it is confusing to find the purpose of the Registry so far embedded in the Rules. To avoid restructuring the Rules, it was suggested that the purpose of the Registry be cross-referenced at the beginning of the Rules, within the overall purpose of the Rules.

Rule changes

The rule change is a simple cross reference.

> **3 Purpose**
>
> The purpose of these rules is to establish a set of gas switching and registry arrangements that will enable consumers to choose, and alternate, efficiently and satisfactorily between competing retailers. This is supported by the purpose of the registry, set out in rule 39.

8.2 Notification parameters

Description of change

The Registry functional specification document sets out which notifications are voluntary and which are mandatory when ICP parameters are changed by their owner or when a switch occurs. The table below illustrates this information. Where Mandatory is shown, the associated/affected owner must be sent an appropriate notification. Where Optional is shown, an owner must be able to choose whether to receive notifications of events of that type or not.

Table 10 – Participant notification parameters

Event type	Distributor	Retailer	Meter Owner
Network	Mandatory	Mandatory	Optional
Pricing	Mandatory	Mandatory	Optional
Address	Mandatory	Mandatory	Optional
Status	Mandatory	Mandatory	Optional
Retailer (non-switch)	Optional	Mandatory	Mandatory
Retailer (switch), consisting of Completed Switch (GTN accepted) and Withdrawn Switch (GAW accepted)	Mandatory	Mandatory	Optional
Metering	Optional	Optional	Mandatory

The proposal is to change the highlighted cell from Optional to Mandatory.

Reason for change

As discussed in section 3.2, maintenance of metering data is integral to the accuracy of the energy conversion calculation. Introducing the core metering fields goes some way to addressing this; however, there is still a disconnect between the retailer and the meter owner if changes to this information in the Registry are not notified. It is conceivable that if the fields are introduced, but can be updated without efficiently notifying the retailer, the effect of the change will be muted. Currently,

retailers receive this information via alternate means, e.g. billing information at the end of the month, and can otherwise undertake their own reconciliation activities between Registry and system information. The consideration is whether by making metering events notifications mandatory for retailers, these changes will be received in a more consistent and efficient manner. Gas Industry Co acknowledges that this change may require minor changes to retailers' systems and/or internal processes.

In the absence of justification that the change will adversely affect participants, Gas Industry Co plans to recommend this change.

Rule changes

No rule change required.

8.3 Minor drafting changes

A small number of very minor changes have been made to the Rules, for the purpose of correcting typographical errors. These changes are marked up in the Rules attached in Appendix A, and affect only rules 5.2, 33.1.2 and 41.1. We welcome any further suggestions or identification of errors.

8.4 Proposal

The proposal is to implement all of the changes in this section.

Q16: Do you support the proposed minor changes?

9 Implementation phase

The development and implementation of the supported proposals will begin once ministerial approval of the Recommendation has been received, but planning and transition activities can begin immediately. The implementation phase will include the following components:

- appointment of a transition working group;
- formulation of an implementation plan;
- data cleansing activities;
- Registry development work;
- meter owner and, possibly, retailer development of in-house systems;
- population of a test environment with new metering parameters;
- user acceptance testing (UAT);
- gazetting of rule changes and publication of determinations;
- agreement on suitable go-live date.

With key focusses being:

- communication between participants and the Gas Industry Co on issues and progress;
- thorough data cleansing; and
- thorough user acceptance testing prior to go-live.

Due to the major Registry developments being conditional on Rule changes, work by Jade will not commence until the Minister has approved the Rule changes. Taking into account the upcoming general elections, however, there is a risk that this decision may take longer than normal. In order to mitigate, to the extent possible, the effect that this delay may have on the project as a whole, Gas Industry Co has decided to convene a transition working group to discuss a transition plan and begin

work on data cleansing. This group will convene in September. A request for nominations has already been circulated but we invite nominations from any other Registry participants who may have missed this invitation.

The working group will:

- establish an implementation plan, including:
    - data cleansing priorities, data quality, methodology and timeline; and
    - a communications plan, including an issues register;
- agree on details and specification of proposals including assistance with finalising an updated Registry Functional Specification document;
- progress work on data cleansing prior to implementation; and
- when a decision is made on the Recommendation by the Minister, members will maintain an ongoing dialogue with the group regarding any issues encountered in the system development process, and give updates on readiness for go-live.

It is expected that working group activities will continue into mid-2015.

Once submissions have been received on this Statement of Proposal, Gas Industry Co will consider the responses in order to collate the final set of changes that will go to the Minister. Contingent on ministerial approval, an indicative implementation timeline is presented below.

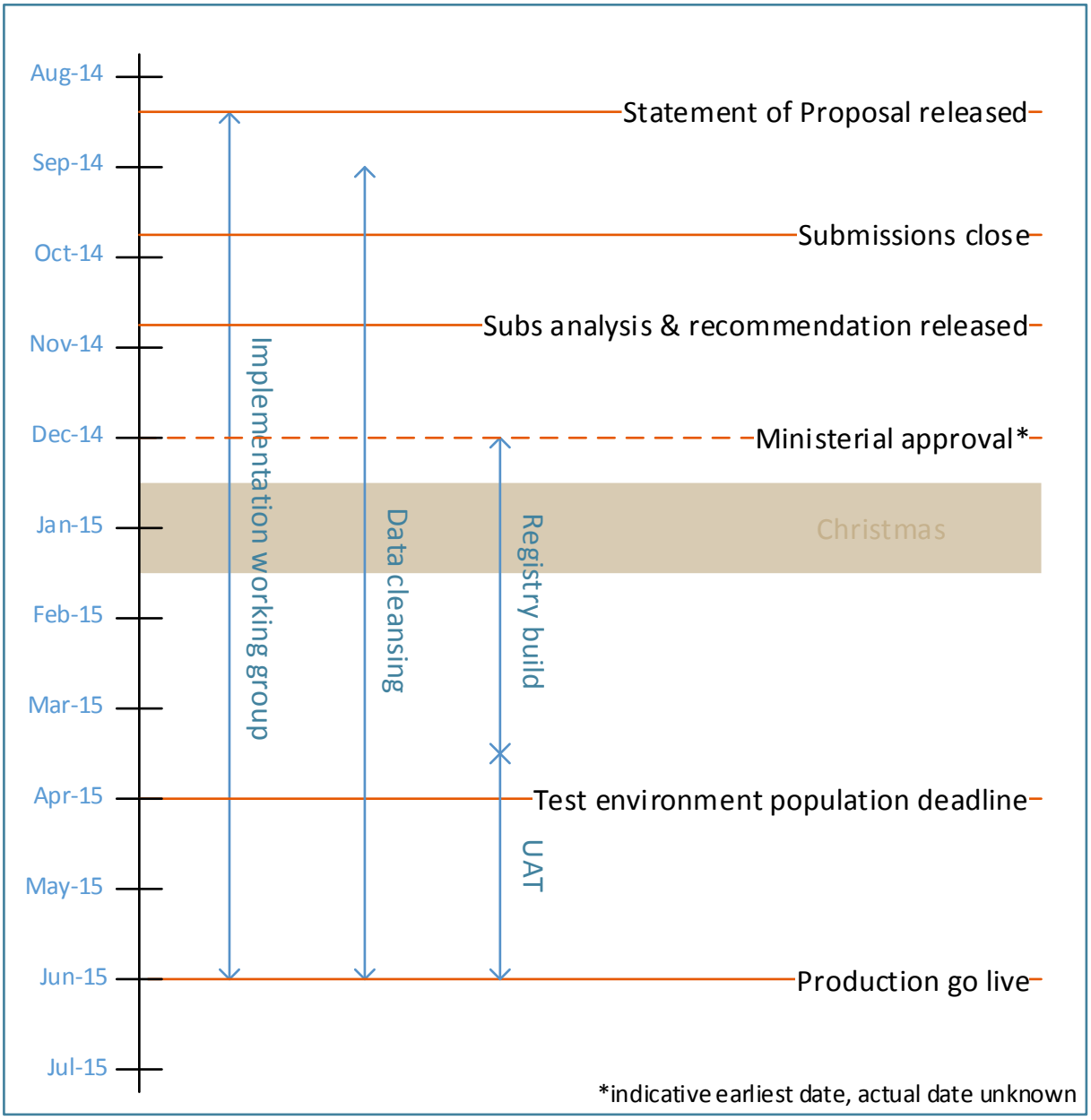

Figure 2 - Implementation timeline contingent on approval of Recommendation in December 2014

Appendix A: Marked up Rules

Refer to separate document

Appendix B: Marked up Functional Specification

Refer to separate document

Appendix C: Submissions template

Refer to separate document