



VERITEK

Gas Meter Owner Audit Report

For

Nova Energy Ltd

Prepared by: Tara Gannon – Veritek Ltd

Date of Audit: 12/01/2021 – 19/01/2021

Date Audit Report Complete: 21/12/2021

Executive Summary

This Performance Audit was conducted at the request of the Gas Industry Company (GIC) in accordance with Rule 88 of the Gas (Switching Arrangements) Rules 2008 (GSAR) and rule 65 of the Gas (Downstream Reconciliation) Rules (GDRR), both in effect from 14 September 2015.

The purpose of this audit is to assess the systems, processes and performance of **Nova Energy Ltd (Nova)** in terms of compliance with these rules.

The audit was conducted in accordance with terms of reference prepared by GIC.

Nova uses their CMMS (Computerised Maintenance Management System) to store distributor and meter owner information. Not all meter owner maintained fields on the registry are recorded in CMMS. This means that full validation of Nova's records against the registry cannot be easily completed for all fields.

The summary of report findings in the table below shows that Nova's control environment is "effective" for four of the areas evaluated, and "not adequate" for two areas; accuracy of metering information and registry information management.

Accuracy of metering information

A small number of meters were not tested during the timeframes set out in NZS 5259. Nova's maintenance and testing process requires manual intervention to determine which meters are to be tested, and there are sometimes delays in completing testing.

Nova intends to review and update the maintenance cycles in CMMS to align with NZS 5259, which should eliminate the need for manual review of the maintenance lists and exclusion of ICPs from the field services requests and improve the controls to effective.

Registry information management

I found some incorrect information during the audit. Nova intends to improve accuracy by automating registry updates.

I viewed changes in the CMMS test system which will add the fields recorded on the registry which are not currently recorded in CMMS. Once the new fields are live, and data in all CMMS fields recorded on the registry has been populated and cleansed, Nova intends to create an extract to produce gas registry updates which will manually be transferred to the registry. These changes are expected to be material, and Nova is expected to undergo a major change audit before the changes are implemented.

Daily validation between CMMS and the registry is currently in place for selected meter owner maintained fields, and I recommend this is expanded to include all meter owner maintained fields once they have been added to CMMS.

Once these changes are completed the controls should improve to effective.

Non-conformances

The following non-conformances were identified:

Breach Allegation	Rules	Section in this report
Meter serial numbers 852249 and 8833860 did not have acceptance testing completed during the accepted testing interval specified in NZS 5259. Meter serial numbers 86S6358195 and 97Y624524 did not have acceptance testing completed during the accepted testing interval specified in NZS 5259, and a meter replacement field services request had been issued.	GD RR 27	3.2
The previous audit found that ICPs 0001433810QT879, 0002378286QT6AE, 0002378299QT3DD, 0002378313QTD02, 0002380261QT942 and 0002380803QTC3D had meters recorded in the registry but according to Nova's CMMS records the meters are removed. Nova intends to update these exceptions.	GSAR 58.1	5, 5.15
ICPs 0000920651QTA88 and 0002379337QT0FD had their meters removed, but the registry had not been updated. The mismatch was identified and corrected during the audit.	GSAR 58.1 GSAR 61.1	5, 5.15
ICP 0000073432NABCC meter 937723 was recorded with eight digits but should have had seven digits. The mismatch was identified and corrected during the audit.	GSAR 58.1	5, 5.6
2,122 ICPs with a metered status have no meter location recorded on the registry. Three of the affected ICPs had metering installed in the past three years and were updated during the audit.	GSAR 58.1	5.2
31 ICPs had an incorrectly recorded logger owner and were updated during the audit.	GSAR 58.	5.11
15 ICPs had an incorrectly recorded telemetry owner and were updated during the audit.	GSAR 58.1	5.13

Recommendations

As a result of this audit, I recommend the following:

- complete a major change audit prior to automation of the registry update process,
- check consistency between connection statuses and meter identifiers at least monthly and follow up any exceptions; any ICP with meter identifier = removed or no meter is expected to have a connection status indicating the meter is removed (GDE or a code ending in "M") and any ICP with meter identifier ≠ removed or no meter is expected to have a removed meter connection status indicating the meter is present (not GDE or a code ending in "M"),
- complete site visits to determine the correct metering details for the following ICPs, and update the registry and CMMS accordingly:

0000093051QTF7A,
0000106401QTFFB,
0000110771QT484,
0000126111QT99E,
0000127061QT467,
0000128611QTE5C,

0001447621QT9F6 (believed to be removed),
0002379337QT0FD (believed to be removed), and
0002341791QT940.

- the daily discrepancy report should be expanded to include discrepancies between CMMS and the registry for all meter owner-maintained fields, once these fields are live in CMMS,
- until the daily discrepancy report is expanded to include all fields and daily discrepancies are consistently resolved, the monthly meter owner registry report should be compared to CMMS and any discrepancies should be resolved by 4pm on the 15th business day of the month, and
- once the registry update process is partially automated (i.e., updates are no longer individually processed through the web interface), review acknowledgement files to confirm that the updates have been processed successfully.

Summary of Report Findings

Issue	Section	Control Rating (Refer to Appendix 1 for definitions)	Compliance Rating	Comments
General obligations	2	Effective	Compliant	Nova's Registry participant register information is correct. Based on the information provided, Nova has met their obligations to act reasonably and use Registry software competently.
Accuracy of meter information	3	Not adequate	Not compliant	The audit identified a small number of meters which were not tested during the timeframes set out in NZS 5259. Nova's maintenance and testing process requires manual intervention to determine which meters are to be tested, and there are sometimes delays in completing testing.
New connections	4	Effective	Compliant	Six new ICPs had metering installed, and the information provided was accurate and on time.
Registry information management	5	Not adequate	Not compliant	Some incorrect information was identified. Process improvements are being made which have resulted in a decrease in the volume of discrepancies. Controls are expected to improve to effective once Nova implements their planned improvements to the validation process which will allow automation of the registry update process and validation of all meter owner-maintained information stored in CMMS and the registry.
Metering price codes	6	Effective	Compliant	

Issue	Section	Control Rating (Refer to Appendix 1 for definitions)	Compliance Rating	Comments
Disclosure on application	7	Effective	Compliant	

Persons Involved in This Audit

Auditor:

Tara Gannon
Veritek Limited

Nova personnel assisting in this audit were.

Name	Title
Craig Muirhead	Health, Safety & Pipeline Manager
Helena Vimmars	Operations Technician

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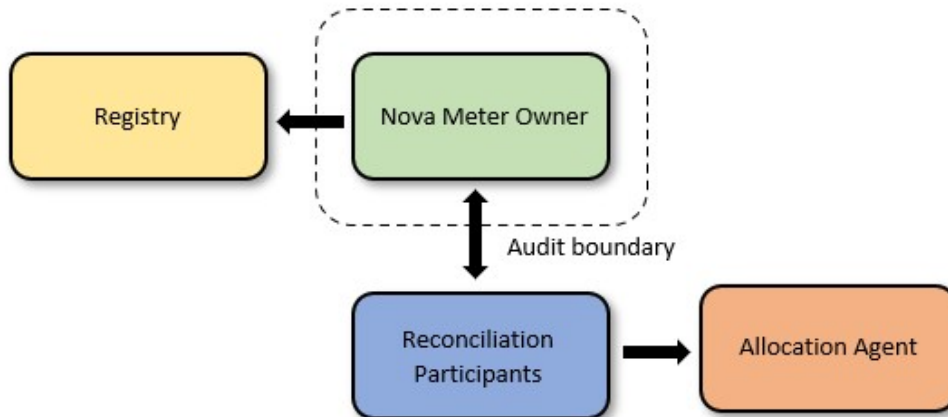
1. Pre-Audit and Operational Infrastructure Information

1.1 Scope of Audit

The purpose of this audit is to assess the systems, processes, and performance of Nova in terms of compliance with these rules. The audit was conducted using a guideline prepared by Veritek.

The audit was carried out remotely between 12 January 2021 and 19 January 2021 using Zoom.

The scope of the audit includes the Meter Owner responsibilities only, as shown in the diagram below.



1.2 Audit Approach

As mentioned in section 1.1 the purpose of this audit is to assess the performance of Nova in terms of compliance with the rules, and the systems and processes that have been put in place to enable compliance with the rules.

This audit has examined the effectiveness of the controls Nova has in place to achieve compliance, and where it has been considered appropriate sampling has been undertaken to determine compliance.

Where sampling has occurred, this has been conducted using the Auditing Standard 506 (AS-506) which was published by the Institute of Chartered Accountants of New Zealand. I have used my professional judgement to determine the audit method and to select sample sizes, with an objective of ensuring that the results are statistically significant.¹

Where compliance is reliant on manual processes, manual data entry for example, the sample size has been increased to a magnitude that, in my judgement, ensures the result has statistical significance.

¹ In statistics, a result is considered statistically significant if it is unlikely to have occurred by chance. (Wikipedia)

Where errors have been found or processes found not to be compliant the materiality of the error or non-conformance has been evaluated.

1.3 General Compliance

The Market Administrator confirmed that no alleged breaches have been recorded for Nova between January 2018 and September 2020, when this audit was commenced.

1.4 Provision of Information to the Auditor (GSAR r91)

In conducting this audit, the auditor may request any information from Nova, and any Registry participant or operator.

Information was provided by Nova in a timely manner in accordance with this rule.

Information was not required from any other participant in relation to this audit. I consider that Nova have complied with the requirements of this rule.

1.5 Breach allegations

As noted in the Summary of Report Findings, this audit has found two areas of non-conformance, relating to testing of meters and data accuracy. The following breach allegations are made in relation to these matters.

Breach Allegation	Rules	Section in this report
Meter serial numbers 852249 and 8833860 did not have in service testing completed during the accepted testing interval specified in NZS 5259. Meter serial numbers 86S6358195 and 97Y624524 did not have in service testing completed during the accepted testing interval specified in NZS 5259, and a meter replacement field services request had been issued.	GDRR 27	3.2
The previous audit found that ICPs 0001433810QT879, 0002378286QT6AE, 0002378299QT3DD, 0002378313QTD02, 0002380261QT942 and 0002380803QTC3D had meters recorded in the registry but according to Nova's CMMS records the meters are removed. Nova intends to update these exceptions.	GSAR 58.1	5, 5.15
ICPs 0000920651QTA88 and 0002379337QT0FD had their meters removed, but the registry had not been updated. The mismatch was identified and corrected during the audit.	GSAR 58.1 GSAR 61.1	5, 5.15
ICP 0000073432NABCC meter 937723 was recorded with eight digits but should have had seven digits. The mismatch was identified and corrected during the audit.	GSAR 58.1	5, 5.6

Breach Allegation	Rules	Section in this report
2,122 ICPs with a metered status have no meter location recorded on the registry. Three of the affected ICPs had metering installed in the past three years and were updated during the audit.	GSAR 58.1	5.2
31 ICPs had an incorrectly recorded logger owner and were updated during the audit.	GSAR 58.1	5.11
15 ICPs had an incorrectly recorded telemetry owner and were updated during the audit.	GSAR 58.1	5.13

Retailers must comply with rule 58.1 of the Gas (Switching Arrangements) Rules 2008, which requires them to ensure that any information on the registry is accurate. Two retailers had statuses indicating a meter was present recorded on the registry when Nova had confirmed the metering was removed. Two breaches are alleged against the retailers concerned in relation to this:

Breach Allegation	Participant	Rule	Section in this report
ICPs 0001423677QT4A9 and 0001443757QT2A0 have GPC status recorded, but Nova confirmed the meters are removed.	GNVG	GSAR 58.1	5
ICP 0002379318QT276 has GPC status recorded, but Nova confirmed the meter is removed.	MEEN	GSAR 58.1	5

Three alleged breaches were recorded in relation to the 2018 meter owner audit, and the outcomes are recorded in the table below.

Breach Allegation	Breach No.	Rule	Section in this report	Outcome
Registry not updated for Nova meters that have been removed: <ul style="list-style-type: none"> For two ICPs within a sample of 24 the registry is inaccurate – Nova is shown as the meter owner but their meter is thought to be removed. For 13 ICPs shown as active with a Nova meter on the registry there are no records in Nova’s CMMS system because it is suspected by 	2018-089	58.1	5	The Market Administrator did not raise any material issues.

Breach Allegation	Breach No.	Rule	Section in this report	Outcome
Nova that their meter has been removed.				
Inaccurate registry entries for meter pressure for 12 ICPs.	2018-090	58.1	5.3	The Market Administrator did not raise any material issues.
Inaccurate registry entries for register reading digits for 134 ICPs.	2018-091	58.1	5.6	The Market Administrator did not raise any material issues.

1.6 Draft Audit Report Comments

A draft audit report was provided to the industry body (GIC), the allocation agent, and allocation participants that I considered had an interest in the report. In accordance with rule 92 of the 2015 Amendment Version of the Gas (Switching Arrangements) Rules 2008, those parties were given an opportunity to comment on the draft audit report and indicate whether they would like their comments attached as an appendix to the final audit report. The following response was received.

Party	Response	Comments provided	Attached as appendix
Nova Energy	Yes	Yes	No. Comments have been added to the non conformance and recommendation boxes in the relevant sections of the report. Minor clarifications were made in sections 1.5 and 3.2 to confirm that the testing non conformance relates to in service testing.

2. General obligations

2.1 Participant registration information (GSAR r7 and 10)

All Registry participants must supply registration information to the Registry operator. Registration information consists of:

- the name of the Registry participant, and
- the Registry participant's telephone number, physical address, facsimile number, email address, and postal address, and
- identification as to which class, or classes, of Registry participant (Retailer, distributor or Meter Owner) that the Registry participant belongs.

Registration information must be given in the form and manner required by the Registry operator as approved by the industry body. Every person who is a Registry participant at the commencement date must supply the registration information within 20 business days of the commencement date. A person who becomes a Registry participant after the commencement date must supply the registration information within 20 business days of becoming a Registry participant.

Nova's participant registration information was confirmed to be valid. Compliance is confirmed.

2.2 Obligation to act reasonably (GSAR r34)

Every Registry participant must act reasonably in relation to its dealings with the Registry and, in doing so, must use its reasonable endeavours to co-operate with other Registry participants.

Processes for managing queries and complaints about Registry information were reviewed. No examples of Nova acting unreasonably were found. Compliance is confirmed.

2.3 Obligation to use Registry software competently (GSAR r35)

Each Registry participant must ensure that any software for the Registry is used in a proper manner by competent employees or by persons under the supervision of those employees.

No Registry participant may request, permit, or authorise anyone other than the Registry operator to provide support services in respect of any software for the Registry.

Each Registry participant must appoint a nominated manager to be responsible for all that Registry participant's communications with the Registry.

No examples of Nova using Registry software incompetently were found. Access to modify Registry information is restricted and staff are appropriately trained. Nova only uses Jade for Registry support services. Compliance is confirmed.

3. Accuracy of meter information

3.1 TOU downloads (GDRR r26.5)

TOU meter downloads provided to Retailers should be complete, accurate and converted to energy in accordance with NZS5259:2015 (if applicable).

Nova has 40 TOU metered ICPs. 18 have telemetry and data is corrected for temperature and absolute pressure. 22 do not have telemetry and data is corrected for temperature and gauge pressure.

Nova is the retailer for all 18 TOU ICPs with telemetry. Nova's metering team completes a daily download for each ICP and provides a monthly download for each ICP to Nova retail on the first business day of each month. Nova does not convert the raw data to energy, and I confirmed that the data is not manipulated before being sent to Nova's retail team by viewing two examples. The TOU data is validated using Clariti's site dashboard, including charting consumption volumes, peak usage, temperatures, pressures, and identifying gaps in the data. Nova intends to automate some of the validation checks in Clariti.

Nova's retail team also have access to view the data in Clariti. No missing or inaccurate data was identified during the audit period, and Nova confirmed that if there was missing or inaccurate data, they would re-attempt to download the data and provide support with estimation as required.

Nova is the retailer for 19 of the TOU ICPs without telemetry, and GEND is the retailer for the other three ICPs. The retailer is responsible for completing manual downloads directly from the corrector/data logger.

Compliance is confirmed.

3.2 Meter accuracy (GDRR r26.5 and 27)

Processes must be in place to ensure meter accuracy, and compliance with NZS5259:2015.

Nova's processes for both new and existing GMS were reviewed, and a sample of meter paperwork, fault, and testing information was reviewed to confirm whether processes in the standard were being followed.

Faults

Faults identified by retailers are reported to Nova via email, phone or identified by Nova's technicians. Where a fault is identified Nova dispatches a field services request to the relevant contractor to check the meter.

Nova uses a job tracking system to manage field services requests. Team members monitor the jobs which they have dispatched and are responsible for, to ensure that they are completed. A BI reporting dashboard is used to monitor field services requests by type.

Nova reviews the job completion paperwork once received and advises the retailer of the outcome if the fault was reported by them, or a meter fault is found.

Nova confirmed that no meter accuracy faults were identified during the audit period. I walked through the faults process and viewed BI reporting and field services jobs to confirm that the process is operating as expected.

Meter selection process

Meters are selected as part of the application approval process based on requirements for the gas installation provided by the customer's gasfitter.

Nova has its own GMS specification which provides guidance on meter fabrication and construction, which is due to be reviewed. A small and experienced team is responsible for ensuring a compliant GMS is installed.

Maintenance and inspection processes

Nova intends to comply with the maintenance and inspection processes and timeframes set out in NZS 5259. The standard is readily available to the metering team.

Maintenance cycles are managed in the Maintenance Schedule Processing module in Ci Anywhere, a Technology One add on which interfaces with CMMS. Currently all meters are automatically scheduled for two yearly maintenance.

Monthly, the Health, Safety & Pipeline Manager runs a schedule of meters due for maintenance. The list is reviewed to exclude any maintenance schedule groups and individual meters which do not require maintenance under NZS 5259, before being imported into the job tracking system. The job tracking system assigns field services jobs for ICPs which are confirmed to require maintenance. Because most meters do not require two yearly maintenance under NZS 5259, some maintenance schedule groups and individual meters are excluded from the process, such as domestic meters which are intended to be replaced before their acceptance testing interval is exceeded. Nova has focussed on completing maintenance on the largest and oldest meters, and is working through replacing smaller domestic meters before they reach the end of their acceptance testing interval. Approximately 200 meters are replaced each year.

The field services jobs record test points which need to be completed, and I viewed examples which met the testing requirements of NZS 5259. Where defects are found during these inspection or maintenance processes, Nova's fault process is followed.

In addition, Nova is completing GMS and pressure checks as part of their process to upgrade signage and check safety. This work is being undertaken for Wellington meters first.

Daily reporting of all ICPs overdue for maintenance is also available but is not readily usable because the maintenance cycles do not align with the NZS 5259 timeframes for each meter type, and electricity meters are included in the list.

Nova is intending to review and update the maintenance cycles in CMMS to align with NZS 5259, which should eliminate the need for manual review of the maintenance lists and exclusion of ICPs from the field services requests.

Testing process

As explained above, Nova schedules testing as part of the maintenance and inspection process. In addition to this:

- acceptance testing is completed by the manufacturer before a GMS enters service, and by Nova when an event that may affect accuracy has occurred, and for meters in service at the testing intervals set out in NZS 5259, and
- as found testing applies for meters and TOU devices removed from service where the meter is intended to be re-used, or a request for testing has been received from the retailer; Nova's meters are usually scrapped on removal and no requests for testing on meter removal have been received from retailers - removed meters are held for three months before being scrapped in case a request for testing is received after meter removal.

Statistical sample testing is not used by Nova; they intend to replace meters before testing is required.

I reviewed a sample of tests conducted when meters were installed, changed, and removed and found that the testing process was being followed as expected. I viewed the information and reporting in the maintenance schedule processing system and walked through the job assignment and completion processes, including viewing inspection and testing results. I obtained information on the manufacture date (where available) for each meter and checked a sample to determine whether maintenance and testing requirements were met.

Excluding removed meters and meters sold to other parties, I found:

Comment	Count of GMS
Installed <15Y rotary meter	1
Installed <18Y diaphragm meter	33
Installed >18Y	165
No manufacture date	1690
Grand Total	1889

The meters with no installation date were expected to have been acquired from the Auckland Gas Company and be over ten years old. These meters are expected to be replaced before they are 18 years old, and testing was not expected to be completed. I checked a sample of eight meters, and found seven were installed within the last ten years, and one was installed within the last 12 years. Testing was not required and compliance is confirmed for the sample.

I checked a sample of eight meters installed for more than 18 years, based on the manufacture date recorded:

- four had passed testing which was completed in accordance with NZS 5259,
- two had open work orders for meter replacement, and no testing had been completed, and
- two had been installed for more than 18 years, no testing had been completed and no work orders were open.

Review of testing paperwork for a sample of TOU ICPs confirmed that correctors are tested in line with NZS 5259's requirements.

Non-Conformance	Description	Audited party comment
<p>Regarding: GDDR 271</p> <p>Control Rating: Not adequate</p>	<p>Meter serial numbers 852249 and 8833860 did not have in service testing completed during the accepted testing interval specified in NZS 5259.</p> <p>Meter serial numbers 86S6358195 and 97Y624524 did not have in service testing completed during the accepted testing interval specified in NZS 5259, and a meter replacement field services request had been issued.</p>	<p>Response: Agree</p> <p>Comments:</p> <ul style="list-style-type: none"> Agree in service testing not completed with testing interval

3.3 TOU upgrades (GDRR r29.1.1)

If a consumer installation is, or is expected to, consume more than 10 TJ per annum TOU metering should be installed. Under the Gas (Downstream Reconciliation) Rules 29.1 the Retailer must ensure that a TOU meter is installed as soon as practicable, and no more than three months after becoming aware that expected or actual consumption is over 10 TJ.

As part of Nova's audit, I examined how quickly TOU metering is installed after receiving a request from a Retailer. Upgrades from non TOU to TOU occur rarely, and no upgrades occurred between 19 September 2018 and 18 September 2020.

The 3-month timeframe specified in the rules is difficult to comply with. Nova normally has correctors in stock to complete upgrades and maintenance. In some cases, a TOU upgrade will be completed in parallel with a meter upgrade which could result in longer lead times.

4. New connections (GSAR r56)

Meter Owner information must be provided on the Registry within two business days of confirmation that a meter has been installed. If no responsible Meter Owner is populated, the Meter Owner who has installed the meter may populate the Registry to become the responsible Meter Owner.

Since September 15th, 2015, Meter Owners have been able to populate metering details without Retailer nomination of the responsible Meter Owner. However, if the Retailer has populated a different responsible Meter Owner, Nova will be unable to update any metering details until the responsible Meter Owner is changed to Nova.

Meters are selected as part of the application approval process based on requirements for the gas installation provided by the customer's gasfitter. Installation work is scheduled and completed by Nova's technicians and contractors, and work requests and completion paperwork are sent by email. The installation data is manually updated in CMMS and on the registry as soon as the paperwork is received.

According to the registry list, six new ICPs were created between 19 September 2018 and 18 September 2020. Five were connected to Nova’s bypass networks and one was connected to an open access network. All had metering installed.

I reviewed the metering events on the event detail report for the new ICPs and found that they were on time and accurate.

5. Registry information management (GDRR r26.5 and GSAR r58)

The Meter Owner must use its reasonable endeavours to maintain current and accurate information in the Registry in relation to the ICPs and the ICP parameters for which it has responsibility.

New connections and installation changes are completed by Nova’s contractors and technicians. Work requests and job completion details are transferred via email, and CMMS and the registry are updated on receipt of job completion details. The registry is usually updated first to ensure that the timeframes set out in the rules are met.

Nova’s meter owner information is updated manually using the registry web interface. Registry attributes and event dates are determined from paperwork returned from the field. As part of the update process the user confirms that the update is successful; acknowledgement files are not separately reviewed.

Some meter owner-maintained fields on the registry are excluded from CMMS. I viewed changes in the CMMS test system to add the fields recorded on the registry which are not currently recorded in CMMS. Once the new fields are live, and data in all CMMS fields recorded on the registry has been populated and cleansed, Nova intends to create an extract to produce gas registry updates which will manually be transferred to the registry. These changes are expected to be material, and Nova is expected to undergo a major change audit before the changes are implemented. The following fields are recorded on the registry but not in CMMS:

Registry field	Comment
Advanced meter and advanced meter owner	Derived from information held in the billing type field
Corrector owner	Derived from information held in the billing type field
Logger owner	Derived from information held in the billing type field
Meter pressure operating at network pressure	Derived from meter pressure, network pressure and meter type information which is recorded in CMMS
Metering details	Optional notes field on the registry
Prepay meter	“No” for all Nova meters
Telemetry owner	Derived from information held in the billing type field

A registry list is imported into CMMS daily. A daily discrepancy report is produced which shows differences in CMMS and registry data for the following fields:

- meter ID,
- retailer,
- meter owner,
- standard meter,

- TOU meter,
- meter pressure,
- meter digits, and
- meter multiplier.

ICPs only appear on the discrepancy report if there is a discrepancy between the values recorded in CMMS and on the registry, and the fields are compared by the report process. The following meter owner discrepancies were included in the reports provided for 27 November 2020 and 21 January 2021:

- meter ID,
- meter owner,
- meter pressure,
- register digits,
- standard meter,
- meter multiplier, and
- TOU meter.

Reported discrepancies are investigated to confirm the correct values before CMMS and/or the registry is updated as required. I saw evidence that the number of discrepancies is reducing over time.

I found that not all discrepancies are reviewed and resolved daily. The validation process and recommendations for improvement are discussed further in **section 5.15**.

Notification files are not reviewed, reliance is placed on the discrepancy report to identify updates made by other parties which affect Nova.

Recommendation	Audited party comment
Complete a major change audit prior to automation of the registry update process.	<p>Response: Agree</p> <p>Comments:</p> <ul style="list-style-type: none"> • Will carry change audit prior to automation of the registry update process

Each of the Meter Owner parameters are discussed individually in **sections 5.1 to 5.14** below.

Accuracy of Registry information

The accuracy of information recorded on the registry was checked:

Meter event sample review	<p>To test the accuracy of Nova’s Registry information management, I checked the data for the following registry events against the source records, including meter field services paperwork and test results where available:</p> <ul style="list-style-type: none"> • one downgrade, • all six meter installations for new connections, • four meter reinstallations, • 18 meter changes, including all eight where a pressure change coincided with the meter change,
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	<ul style="list-style-type: none"> • all five meter pressure changes which did not coincide with a meter change, • ten meter removals², and • ten meters which had been in service for more than 10 years. <p>No meters were removed and then reinstalled at a different ICP, and there were no upgrades to TOU.</p> <p>I was unable to confirm the correct meter attributes for the following meters because paperwork was not available. Nova is intending to complete site verifications to confirm the correct details:</p> <ul style="list-style-type: none"> • 0000093051QTF7A meter N200012 (registry meter start date 26/02/2009), • 0000106401QTFFB meter 01C001978 (registry meter start date 26/02/2009), • 0000110771QT484 meter 01B830420 (registry meter start date 26/02/2009), • 0000126111QT99E meter 01B306401 (registry meter start date 26/02/2009), • 0000127061QT467 meter 12556 (registry meter start date 26/02/2009), and • 0000128611QTE5C meter 233151 (registry meter start date 26/02/2009). <p>Where paperwork was provided, the information recorded on the registry was complete, accurate, and testing was completed as expected.</p>
Registry list review	<p>I checked the registry list information as of 18 September 2020 for reasonableness and found:</p> <ul style="list-style-type: none"> • three meters with meter reading digits recorded as zero and multipliers recorded as zero; Nova confirmed that the meter for 0002379337QT0FD was removed and updated the registry during the audit, and the meters for ICPs 0001447621QT9F6 and 0002379337QT0FD are believed to be removed, but site visits will be completed to confirm this before the registry and CMMS are updated (two of the ICPs has connection statuses indicating that the meters were removed and would have been identified through consistency checks between ICP connection status and metering details), • ICP 0000073432NABCC meter 937723 was recorded with eight digits but should have had seven digits; the record was corrected during the audit, • no meters had multipliers greater than one, and Nova confirmed that this is as expected, • one ICP had a connection status indicating the meter was removed, but a meter was recorded; this was a timing difference, and the retailer updated the status to active after the registry list report was run, and • five ICPs had a connection status indicating that the meter was present, but the meter was recorded to be removed, two were timing differences and the status was updated to GPM or GNM status during the audit and Nova confirmed that the meters were removed for the other three ICPs, and the connection statuses were incorrect.

² Four of the meter removals were associated with ICPs which had been created in error for check meters. The correction to move the ICP status to GPM and remove the meter occurred prior to the audit, through Nova's normal validation processes.

Nova's daily discrepancy report review	<p>I reviewed matches between Nova's CMMS data and the Registry, identified through Nova's fortnightly reconciliation described in section 5.15 including:</p> <ul style="list-style-type: none"> • 29 meter serial number differences or ICP-meter serial number differences; 28 related to timing for meter installations, removals or exchanges and the registry was correctly updated before CMMS (assets for meters 0000071521NA7E5 and 1000513595PG89D were entered into CMMS during the audit) and a site visit is to be completed for ICP 0002341791QT940 to confirm metering details but has been delayed by COVID-19 restrictions, • two meter pressure exceptions; for one the meter pressure was correct on the registry but incorrect in CMMS and was updated during the audit, and the other meter had correct details recorded, and • Eight multiplier and meter type exceptions; it was found that in all cases the registry information was accurate, and CMMS was incorrect.
Review of previous audit issues	<p>I rechecked issues identified in the previous audit.</p> <ul style="list-style-type: none"> • The previous audit found that Nova meters are sometimes installed or removed without their knowledge by contractors who work for Nova and other meter owners. The incidence of this issue has improved during the audit period, by limiting stock provided to contractors and working with other meter owners in the area when issues occur. The previous audit found 13 Nova meters recorded on the registry where Nova did not believe one of their meters was installed, where Nova was still recorded as the meter owner at the time of this audit. For seven ICPs, Nova confirmed that they are the responsible meter owner and updated the registry. For the other six ICPs Nova confirmed that the GMS was removed, and Nova intends to update the registry. • All 13 meter pressure differences identified in the previous audit were resolved prior to the audit.

Recommendation	Audited party comment
<p>Check consistency between connection statuses and meter identifiers at least monthly and follow up any exceptions.</p> <p>Any ICP with meter identifier = removed or no meter is expected to have a connection status indicating the meter is removed (GDE or a code ending in "M").</p> <p>Any ICP with meter identifier ≠ removed or no meter is expected to have a removed meter connection status indicating the meter is present (not GDE or a code ending in "M").</p>	<p>Response: Agree</p> <p>Comments:</p> <ul style="list-style-type: none"> • Will be covered by discrepancy reporting

Recommendation	Audited party comment
<p>Complete site visits to determine the correct metering details for the following ICPs and update the registry and CMMS accordingly.</p> <ul style="list-style-type: none"> • 0000093051QTF7A, • 0000106401QTFFB, • 0000110771QT484, • 0000126111QT99E, • 0000127061QT467, • 0000128611QTE5C, • 0001447621QT9F6 (believed to be removed), • 0002379337QT0FD (believed to be removed), and • 0002341791QT940. 	<p>Response: Agree Comments:</p> <ul style="list-style-type: none"> • Underway

The data inaccuracies identified are recorded as non-conformance below.

Non-Conformance	Description	Audited party comment
<p>Regarding: GSAR 58.1</p> <p>Control Rating: Not adequate</p> <p><i>Controls are expected to improve to effective once all fields are included in the validation process.</i></p>	<p>The following data discrepancies had not been identified or corrected prior to the audit:</p> <p>The previous audit found that ICPs 0001433810QT879, 0002378286QT6AE, 0002378299QT3DD, 0002378313QTD02, 0002380261QT942 and 0002380803QTC3D had meters recorded in the registry but according to Nova's CMMS records the meters are removed. Nova intends to update these exceptions.</p> <p>ICPs 0000920651QTA88 and 0002379337QT0FD had their meters removed, but the registry had not been updated; the mismatch was identified and corrected during the audit.</p> <p>ICP 0000073432NABCC meter 937723 was recorded with eight digits but should have had seven digits; the mismatch was identified and corrected during the audit.</p>	<p>Response: Agree Comments:</p> <ul style="list-style-type: none"> • Underway

Retailers must comply with rule 58.1 of the Gas (Switching Arrangements) Rules 2008, which requires them to ensure that any information on the registry is accurate. Two retailers had statuses indicating a meter was present recorded on the registry when Nova had confirmed the metering was removed. The affected ICPs are:

ICP	Status	Retailer
0001423677QT4A9	GPC	GNVG
0001443757QT2A0	GPC	GNVG
0002379318QT276	GPC	MEEN

Timeliness of Registry information

The timeliness and accuracy of metering updates for new connections is discussed in section 4. I evaluated the timeliness and accuracy of event updates between 19 September 2018 and 18 September 2020 not relating to new connections or status in this section. The rules do not specify a clear timeframe for update of metering information not related to new connections.

There were 143 meter events not relating to new ICPs. 115 updates were made within five business days of the event date, 124 within ten business days, 128 within 30 business days, all within 164 business days. I reviewed a sample of all 15 updates made more than 30 business days after the event to determine the reasons for the backdated updates:

- 11 were backdated corrections associated with ICPs which had been created in error for check meters; the correction to move the ICP status to GPM and remove the meter occurred prior to the audit, through Nova's normal validation processes,
- two were backdated meter removals following supply being moved from Nova's network to the local open access network, and
- two were backdated meter exchanges, delayed by late confirmation of the meter exchange details.

It is preferable to have a late update and correct information recorded on the Registry, to having no late updates with incorrect information recorded on the Registry.

Overall, my review of the update of registry information for existing connections has identified several instances where updates to existing connection information have taken a considerable amount of time. However, because the rules do not specify a timeframe for the update of this information, I have not alleged any breaches.

5.1 Meter Identifier

Meter identifier is held in CMMS. Meter identifier is recorded on the daily discrepancy report discussed in **section 5.15**, and exceptions are reported.

Meter identifier accuracy

I reviewed matches between Nova's CMMS data and the Registry for 27 November 2020 and found 29 meter serial number differences or ICP-meter serial number differences. 28 related to timing for meter installations, removals or exchanges and the registry was correctly updated before CMMS. Assets for meters 0000071521NA7E5 and 1000513595PG89D were entered into CMMS during the audit. A site visit is to be completed for ICP 0002341791QT940 to confirm metering details but has been delayed by COVID-19 restrictions. This is recorded as non-conformance in **section 5**.

Review of the event detail report found one example of a meter number correction for a new connection, which was updated to match the paperwork.

Review of the registry list as of 18 September 2020 found:

- five ICPs had a connection status indicating that the meter was present, but the meter was recorded to be removed; two were timing differences and the status was updated to GPM or GNM status during the audit and Nova confirmed that the meters were removed for the other three ICPs, and the connection statuses were incorrect, and
- one ICP had a connection status indicating the meter was removed, but a meter was recorded; this was a timing difference, and the retailer updated the status to active after the registry list report was run.

No multiplier identifier discrepancies were identified through review of metering paperwork.

5.2 Meter Location Code

CMMS contains a free text field for meter location against the meter asset, and meter locations are recorded on installation paperwork. Meter locations are not included in the daily discrepancy report discussed in section 5.15.

Accuracy of meter location codes

Review of the registry list as of 13 August 2020 found 67 ICPs with a metered status had meter locations recorded on the registry, and 2,122 ICPs had a meter location of “0” recorded. I checked all three meters which were installed in the last three years which did not have location information recorded and found the locations were available. The registry and CMMS were updated with the correct location codes during the audit.

Meter locations have not consistently been recorded in CMMS and/or the registry because:

- meters acquired from Auckland Gas Company did not have location information available,
- meters installed before Nova began using the gas registry did not have locations recorded when the data was initially migrated to the registry, and the locations have not been updated since, and
- recently installed meters do not consistently have location information entered into CMMS and/or the registry.

The registry meter location codes were provided to Nova during the audit, and Nova plans to populate the appropriate code in CMMS and the registry for all updates from now on. Nova intends to restrict the CMMS meter location field content to the valid registry codes.

Non-Conformance	Description	Audited party comment
<p>Regarding: GSAR 58.1</p> <p>Control Rating: Adequate</p>	<p>2,122 ICPs with a metered status have no meter location recorded on the registry. Three of the affected ICPs had metering installed in the past three years and were updated during the audit.</p>	<p>Response: Agree</p> <p>Comments:</p> <ul style="list-style-type: none"> • Historical data from previous owner not critical data

5.3 Meter Pressure

Meter pressure is held in CMMS. Meter pressure is recorded on the daily discrepancy report discussed in **section 5.15**, and exceptions are reported.

Accuracy of meter pressures

I reviewed matches between Nova's CMMS data and the Registry for 27 November 2020 and found two meter pressure exceptions. For one the meter pressure was correct on the registry but incorrect in CMMS and was updated during the audit. For the other meter the pressure was confirmed to be correct.

No meter pressure discrepancies were identified through review of metering paperwork.

5.4 Register Multiplier

Register multiplier is held in CMMS. Register multiplier is recorded on the daily discrepancy report discussed in **section 5.15**, and exceptions are reported.

Accuracy of meter multipliers

I reviewed matches between Nova's CMMS data and the Registry for 27 November 2020 and found three multiplier exceptions. In all cases the registry was correct, and CMMS had a multiplier of zero incorrectly recorded.

Multipliers were checked on the registry list as of 18 September 2020. Three meters had multipliers recorded as zero. Nova confirmed that the meter for 0002379337QT0FD was removed and updated the registry during the audit. The meters for ICPs 0001447621QT9F6 and 0002379337QT0FD are believed to be removed, and site visits will be completed to confirm this before the registry and CMMS are updated. Two of the ICPs has connection statuses indicating that the meters were removed and would have been identified through consistency checks between ICP connection status and metering details. A recommendation is made to complete this consistency check in **section 5**.

No multiplier discrepancies were identified through review of metering paperwork.

5.5 Meter Pressure Operating at Network Pressure Flag

Meter pressure operating at network pressure is not recorded in CMMS recorded on the daily discrepancy report discussed in **section 5.15**. Nova intends to add this field to CMMS, and I viewed it in the test system.

The meter pressure operating at network pressure value can be derived from the network pressure, meter pressure and meter type, which are recorded in CMMS.

Accuracy of meter pressure operating at network pressure

Review of the registry list as of 18 September 2020 found no ICPs with the same network and meter pressure. All TOU ICPs have the meter pressure operating at network pressure flag correctly set to yes based on their meter configuration.

5.6 Register Reading Digits

Register reading digits is held in CMMS. Register reading digits is recorded on the daily discrepancy report discussed in **section 5.15**, and exceptions are reported.

Accuracy of register reading digits

I checked the registry list information as of 18 September 2020 for reasonableness.

- Three meters with their meter reading digits and multiplier recorded as zero. Nova confirmed that the meter for 0002379337QT0FD was removed and updated the registry during the audit. The meters for ICPs 0001447621QT9F6 and 0002379337QT0FD are believed to be removed, and site visits will be completed to confirm this before the registry and CMMS are updated. Two of the ICPs has connection statuses indicating that the meters were removed and would have been identified through consistency checks between ICP connection status and metering details. A recommendation is made to complete this consistency check in **section 5**.
- ICP 0000073432NABCC meter 937723 was recorded with eight digits but should have had seven digits. The record was corrected during the audit.

No register digit exceptions were identified in the daily discrepancy reports provided for November 2020 and January 2021.

Digit discrepancies identified in the previous audit were rechecked and confirmed to be corrected in CMMS and on the registry.

No further register digit discrepancies were identified through review of metering paperwork.

Non-Conformance	Description	Audited party comment
Regarding: GSAR 58.1 Control Rating: Adequate	ICP 0000073432NABCC meter 937723 was recorded with eight digits but should have had seven digits. The record was corrected during the audit.	Response: Agree Comments: <ul style="list-style-type: none">• Completed

5.7 Standard Meter

All Nova meters are standard meters, and CMMS contains a field which records this. Standard meter is recorded on the daily discrepancy report discussed in **section 5.15**, and exceptions are reported.

Standard meter accuracy

The only standard meter exceptions identified in the daily discrepancy reports provided for November 2020 and January 2021 related to ICPs which correctly had the standard meter flag set to Y on the registry, but not in CMMS.

Review of the registry list as of 18 September 2020 found all metered ICPs had standard meter set to yes.

5.8 Prepay meter

Nova does not supply any ICPs with prepay meters. A prepay meter field is not recorded in CMMS or included in the daily discrepancy report discussed in **section 5.15**. Nova intends to add this field to CMMS, and I viewed it in the test system.

Prepay meter accuracy

Review of the registry list as of 18 September 2020 found all metered ICPs had prepay meter set to no.

5.9 Advanced Meter & Advanced Meter Owner

Nova supplies four ICPs with advanced meters as part of a metering trial, and they are expected to be removed in the near future now that the trial is complete. The advanced meter owner and advanced meter fields are not recorded in CMMS or included in the daily discrepancy report discussed in **section 5.15**. Nova intends to add these fields to CMMS, and I viewed them in the test system.

Advanced meter and advanced meter owner accuracy

Review of the registry list as of 18 September 2020 found four metered ICPs had advanced meter details correctly populated.

5.10 TOU Meter

CMMS contains a billing type field which records information on the type of meter installed, including whether it is TOU and its register content. TOU meter is recorded on the daily discrepancy report discussed in **section 5.15**, and exceptions are reported.

TOU meter accuracy

The only exceptions identified in the daily discrepancy reports provided for November 2020 and January 2021 related to ICPs missing the TOU flag in CMMS.

Review of the registry list as of 18 September 2020 found all 40 TOU metered ICPs had the TOU meter flag set to yes. There were no discrepancies between the allocation group field populated by the retailer and TOU meter flag, apart from 0001406092QTBB7 which had TOU flag and AG4, and I confirmed TOU metering is installed.

5.11 Logger Owner

Nova confirmed that all their TOU meters have a data logger and corrector combined in a single device and are expected to be recorded with Nova as the logger owner. Logger owner is not recorded in CMMS or included in the daily discrepancy report discussed in **section 5.15**. Nova intends to add this field to CMMS, and I viewed it in the test system.

Logger owner accuracy

Review of the registry list as of 18 September 2020 found nine of the 40 TOU metered ICPs had the logger owner code set to NOVA. The remaining 31 ICPs were updated during the audit. All non-TOU ICPs had the corrector owner set to NONE.

Nova has updated their processes to ensure that corrector owners are correctly recorded in the future.

Non-Conformance	Description	Audited party comment
<p>Regarding: GSAR 58.1</p> <p>Control Rating: Adequate</p>	<p>31 ICPs had an incorrectly recorded logger owner and were updated during the audit.</p>	<p>Response: Agree</p> <p>Comments:</p> <ul style="list-style-type: none"> Completed

5.12 Corrector Owner

Nova confirmed that all their TOU meters have a data logger and corrector combined in a single device and are expected to be recorded with Nova as the corrector owner. Corrector owner is not recorded in CMMS or included in the daily discrepancy report discussed in section 5.15. Nova intends to add this field to CMMS, and I viewed it in the test system.

Corrector owner accuracy

Review of the registry list as of 18 September 2020 found all 40 TOU metered ICPs had the logger owner code set to NOVA. All non-TOU ICPs had the corrector owner set to NONE. Compliance is confirmed.

5.13 Telemetry Owner

18 of Nova’s TOU ICPs have telemetry, and this can be determined from the billing type field which indicates that a corrector is installed and the register content. The telemetry owner field is not separately recorded in CMMS or included in the daily discrepancy report discussed in section 5.15. Nova intends to add this field to CMMS, and I viewed it in the test system.

Telemetry owner accuracy

Review of the registry list as of 18 September 2020 found the following exceptions, which were corrected during the audit:

- three advanced meters without telemetry had the telemetry owner incorrectly set to NOVA, and
- 12 TOU meters with telemetry had the telemetry owner incorrectly set to NONE.

Nova has updated their processes to ensure that corrector owners are correctly recorded in the future.

Non-Conformance	Description	Audited party comment
<p>Regarding: GSAR 58.1</p> <p>Control Rating: Adequate</p>	<p>15 ICPs had an incorrectly recorded telemetry owner and were updated during the audit.</p>	<p>Response: Agree</p> <p>Comments:</p> <ul style="list-style-type: none"> Completed

5.14 Metering Price Category

Metering price category is set based upon the meter type installed. Price category discrepancies are not checked as part of the discrepancy reporting process discussed in **section 5.15**.

Metering price category accuracy

I compared the network and meter pricing categories on the registry list as of 18 September 2020 and no incorrect meter price categories were identified. No meter price category discrepancies were identified through review of metering paperwork.

5.15 Registry validation and correction (GSAR r61.1, 61.2 and 62)

If the Meter Owner becomes aware that Registry information is incorrect or requires updating, the responsible Meter Owner must update or correct the Registry as soon as practicable.

The Meter Owner Registry report should be reviewed, and any corrections required should be entered on the Registry by 4pm on the 15th business day of the month.

Nova carries out a daily validation to identify and resolve discrepancies identified. As discussed in **section 5**, a registry list is imported into CMMS daily, and a daily discrepancy report for network and metering data is produced. ICPs only appear on the discrepancy report if there is a discrepancy between the values recorded in CMMS and on the registry, and the fields are compared by the report process.

The following meter owner discrepancies were included in the reports provided for 27 November 2020 and 21 January 2021:

- meter ID,
- meter owner,
- meter pressure,
- register digits,
- standard meter,
- meter multiplier, and
- TOU meter.

Reported discrepancies are investigated to confirm the correct values before CMMS and/or the registry is updated as required. I saw evidence that the number of discrepancies is reducing over time.

I found that not all discrepancies are reviewed and resolved daily, particularly meter identifier differences caused by meter installations, exchanges and removals sometimes being processed in the registry before CMMS. These appeared on the discrepancy report as ICP, meter, multiplier, and digit discrepancies. The monthly meter owner registry report is not separately reviewed.

Some meter owner-maintained fields on the registry are excluded from CMMS. I viewed changes in the CMMS test system which will add the fields recorded on the registry which are not currently recorded in CMMS. Once the new fields are live, and data in all CMMS fields recorded on the registry has been populated and cleansed, Nova intends to create an extract to produce gas registry updates which will manually be transferred to the registry. These changes are expected to be material, and Nova is expected to undergo a major change audit before the changes are implemented. The following fields are recorded on the registry but not in CMMS:

Registry field	Comment
Advanced meter and advanced meter owner	Derived from information held in the billing type field
Corrector owner	Derived from information held in the billing type field
Logger owner	Derived from information held in the billing type field
Meter pressure operating at network pressure	Derived from meter pressure, network pressure and meter type information which is recorded in CMMS
Metering details	Optional notes field on the registry
Prepay meter	"No" for all Nova meters
Telemetry owner	Derived from information held in the billing type field

A registry list is imported into CMMS daily. A daily discrepancy report is produced which shows differences in CMMS and registry data for the following fields:

- meter ID,
- retailer,
- meter owner,
- standard meter,
- TOU meter,
- meter pressure,
- meter digits, and
- meter multiplier.

ICPs only appear on the discrepancy report if there is a discrepancy between the values recorded in CMMS and on the registry, and the fields are compared by the report process. The following meter owner discrepancies were included in the reports provided for 27 November 2020 and 21 January 2021:

- meter ID,
- meter owner,
- meter pressure,
- register digits,
- standard meter,
- meter multiplier, and
- TOU meter.

Reported discrepancies are investigated to confirm the correct values before CMMS and/or the registry is updated as required. I saw evidence that the number of discrepancies is reducing over time.

I found that not all discrepancies are reviewed and resolved daily. The validation process and recommendations for improvement are discussed further in **section 5.15**.

I recommend that Nova proceeds with their changes to add the missing registry fields to CMMS and cleanse the data to ensure that it is consistent with the registry requirements. I also recommend that:

Recommendation	Audited party comment
<p>The daily discrepancy report should be expanded to include discrepancies between CMMS and the registry for all meter owner-maintained fields, once these fields are live in CMMS.</p>	<p>Response: Agree Comments:</p> <ul style="list-style-type: none"> • Underway
<p>Until the daily discrepancy report is expanded to include all fields and daily discrepancies are consistently resolved, the monthly meter owner registry report should be compared to CMMS and any discrepancies should be resolved by 4pm on the 15th business day of the month.</p>	<p>Response: Agree Comments:</p> <ul style="list-style-type: none"> • Underway
<p>Once the registry update process is partially automated (i.e., updates are no longer individually processed through the web interface), review acknowledgement files to confirm that the updates have been processed successfully.</p>	<p>Response: Agree Comments:</p> <ul style="list-style-type: none"> • ok

Non-Conformance	Description	Audited party comment
<p>Regarding: GSAR Rule 61.1</p> <p>Control Rating: Adequate</p>	<p>Meter removals were not processed on the registry as soon as practicable for:</p> <ul style="list-style-type: none"> • ICPs 0001433810QT879, 0002378286QT6AE, 0002378299QT3DD, 0002378313QTD02, 0002380261QT942 and 0002380803QTC3D which had meters recorded in the registry but according to Nova's CMMS records the meters are removed. Nova intends to update these exceptions, and • ICPs 0000920651QTA88 and 0002379337QT0FD had their meters removed, but the registry had not been updated; the mismatch was identified and corrected during the audit. 	<p>Response: Agree</p> <p>Comments:</p> <ul style="list-style-type: none"> • Underway or completed

6. Metering Price Codes (GSAR r49)

Each Meter Owner must determine, publish, and maintain a schedule of its meter price categories and the respective meter price category codes and, except where the Meter Owner requires disclosure on application in accordance with rule 50, the charges associated with each of those codes.

Nova's meter price codes were last updated on the registry effective from 19 May 2014. Nova is intending to review its meter price categories, and as part of this process will advise affected retailers and update the registry.

I compared the meter price codes on the registry to Nova's current pricing list.

- Two meter price codes have been renamed by Nova internally, NVR100 on the registry is named NV100 and NVR250 on the registry is named NV200. Four active ICPs have NVR100 assigned and one active ICP has NVR250 assigned.
- The NVR100, NVR250, NV48, NVR100C, NVR40, NVR40C and NVR65C meter price codes are no longer actively used.

Nova intends to update the price categories on the registry once their pricing review is complete.

Compliance is confirmed.

7. Disclosure on application (GSAR r50)

Disclosure on application may only be used where the participant does not have a reasonably practicable alternative method of protecting its commercial interest in that information, and to the extent necessary to reasonably protect that interest.

217 ICPs with ACTC or ACTV status have their meter price code set to DOA (Disclosure on Application). Nova's policy is to provide information requested on application as soon as possible and provided examples which confirmed that the timeframes for information disclosure were met.

8. Recommendations

As a result of this audit, I recommend the following:

- complete a major change audit prior to automation of the registry update process,
- check consistency between connection statuses and meter identifiers at least monthly and follow up any exceptions; any ICP with meter identifier = removed or no meter is expected to have a connection status indicating the meter is removed (GDE or a code ending in "M") and any ICP with meter identifier ≠ removed or no meter is expected to have a removed meter connection status indicating the meter is present (not GDE or a code ending in "M"),
- complete site visits to determine the correct metering details for the following ICPs, and update the registry and CMMS accordingly:

0000093051QTF7A,

0000106401QTFFB,

0000110771QT484,

0000126111QT99E,

0000127061QT467,

0000128611QTE5C,

0001447621QT9F6 (believed to be removed),

0002379337QT0FD (believed to be removed), and

0002341791QT940.

- the daily discrepancy report should be expanded to include discrepancies between CMMS and the registry for all meter owner-maintained fields, once these fields are live in CMMS,
- until the daily discrepancy report is expanded to include all fields and daily discrepancies are consistently resolved, the monthly meter owner registry report should be compared to CMMS and any discrepancies should be resolved by 4pm on the 15th business day of the month, and
- once the registry update process is partially automated (i.e., updates are no longer individually processed through the web interface), review acknowledgement files to confirm that the updates have been processed successfully.

Appendix 1 – Control Rating Definitions

Control Rating	Definition
Control environment is not adequate	<p>Operating controls designed to mitigate key risks are not applied, or are ineffective, or do not exist.</p> <p>Controls designed to ensure compliance are not applied, or are ineffective, or do not exist.</p> <p>Efficiency/effectiveness of many key processes requires improvement.</p>
Control environment is adequate	<p>Operating controls designed to mitigate key risks are not consistently applied or are not fully effective.</p> <p>Controls designed to ensure compliance are not consistently applied or are not fully effective.</p> <p>Efficiency/effectiveness of some key processes requires improvement.</p>
Control environment is effective	<p>Isolated exceptions identified when testing the effectiveness of operating controls to mitigate key risks.</p> <p>Isolated exceptions identified when testing the effectiveness of controls to ensure compliance.</p> <p>Isolated exceptions where efficiency/effectiveness of key processes could be enhanced.</p>

Appendix 2 – Additional Nova comments

Nova's comments have been added to the non conformance and recommendation boxes in the relevant sections of the report.