RECONCILIATION AUDIT

SWITCH UTILITIES LTD

Date of audit: 7, 8 and 14 October 2020

Report completed: 2 February 2021

Under the Gas (Downstream Reconciliation) Rules 2008 the Gas Industry Company commissioned Langford Consulting to undertake a performance audit of Switch Utilities Ltd. The purpose of the audit is to assess compliance with the rules and the systems and processes put in place to enable compliance.

Auditor Julie Langford

Executive Summary

This performance audit was conducted at the request of the Gas Industry Company (GIC) in accordance with rule 65 of the 2015 Amendment Version of the Gas (Downstream Reconciliation) Rules 2008 effective from September 2015.

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

The audit was conducted in accordance with terms of reference prepared by the GIC, and in accordance with the "Guideline note for rules 65 to 75 and 80: the commissioning and carrying out of performance audits and event audits, V3.0" which was published by the GIC in June 2013.

The summary of report findings in the table below shows that the Switch control environment is "effective" for eleven of the areas evaluated, "adequate" for four areas and three areas were not applicable. None were found to be "not adequate".

Twelve of the eighteen areas evaluated were found to be compliant, three were not complaint and three areas were not applicable. Switch has had 7 alleged breaches under the downstream reconciliation rules since the last audit. Five of these were under rule 37.2 (accuracy of initial consumption submitted versus final consumption); one under rule 33.4 (the provision of final consumption when due); one under rule 26.2 (the general obligation for information to be accurate, not misleading and timely).

The following additional alleged breaches are raised because of this audit:

Breach Allegation	Rules	Section in this report
33 ICPs were found to be in the wrong allocation group, 22 ICPs were moved from allocation group 6 to group 4 and 11 ICPs needed to be moved from group 4 to group 6	29.3	3.2
There were 6 ICPs where the last actual read date was more than 12 months ago and Switch had been the retailer for at least 12 months	29.4.3	3.3

In addition to recommending that Switch address the cause of the alleged breaches, the report also makes the following recommendations:

> RECOMMENDATION That Vector review their monthly process for validating allocation groups to see why these ICPs were missed and in particular review them to identify ICPs that should be moved down allocation groups as well as up.
>
> RECOMMENDATION: That Switch review how initial estimates are made with a view to improving the accuracy of initial submissions
>
> RECOMMENDATION: As the difference between billed and submitted figures is growing it is suggested Switch undertake a more detailed review of this data to establish why this trend is occurring

Summary of Report Findings

Issue	Section	Control Rating (Refer to Appendix 1 for definitions)	Compliance Rating	Comments
ICP set up information	2.1	Effective	Compliant	New ICPs were promptly included in submission files.
Metering set up information	2.2	Adequate	Compliant	Alignment of system data with the registry was mostly good with new processes in place. However, a few discrepancies in gas gate, meter pressure and altitude have led to inaccurate energy conversion, but within the allowable MPEs
Billing factors	2.3	Effective	Compliant	Temperature data had been updated to the new GIC data
Archiving of reading data	3.1	Effective	Compliant	Meter reading data is stored for 30 months.
Meter interrogation requirements	3.2	Adequate	Not Compliant	Some ICPs were identified as needing to be moved between allocation groups
Meter reading targets	3.3	Adequate	Not Compliant	There were some sites that had not been read in more than 12 months
Non TOU validation	3.4	Effective	Compliant	Multiple layers of validation are occurring
Non TOU error correction	3.5	Effective	Compliant	No issues were identified
TOU validation	3.6	n/a	n/a	Switch do not have any TOU sites
Energy consumption calculation	4	Effective	Compliant	Processes were reviewed and found to be accurate except as reported in section 2.2 regarding alignment with registry

TOU estimation and correction	5.1	n/a	n/a	Switch do not have any TOU sites
Provision of retailer consumption information	5.2	Effective	Compliant	
Initial submission accuracy	5.3	Adequate	Not compliant	Alleged breaches have been made for initial allocations not being within 10% of the final allocation figures.
Historic estimates	5.4	Effective	Compliant	Compliance was achieved for all relevant scenarios
Proportion of HE	5.5	Effective	Compliant	The correct proportion of HE is being reported.
Forward Estimates	5.6	Effective	Compliant	Processes were reviewed and no issues were identified.
Billed vs consumption comparison	5.7	Effective	Compliant	It is recommended an analysis is completed to establish why the difference between billed and consumption quantities is growing
Gas trading notifications	5.8	n/a	n/a	Switch have no supplementary agreements.

Contents

1. Pre-Audit and Operational Infrastructure Information

1.1 Scope of Audit

This performance audit was conducted at the request of the Gas Industry Company (GIC) in accordance with rule 65 of the 2015 Amendment Version of the Gas (Downstream Reconciliation) Rules 2008 effective from September 2015.

65. Industry body to commission performance audits

65.1 The industry body must arrange at regular intervals performance audits of the allocation agent and allocation participants.

65.2 The purpose of a performance audit under this rule is to assess in relation to the allocation agent or an allocation participant, as the case may be, -

65.2.1 The performance of the allocation agent or that allocation participant in terms of compliance with these rules; and

65.2.2 The systems and processes of the allocation agent or that allocation participant that have been put in place to enable compliance with these rules.

The audit was conducted in accordance with terms of reference prepared by the GIC, and in accordance with the "Guideline note for rules 65 to 75 and 80: the commissioning and carrying out of performance audits and event audits, V3.0" which was published by the GIC in June 2013.

The engagement commenced on 15 January 2020. Switch Utilities Ltd (Switch) use Vector Data Services (Vector) as a service provider so the on-site part of this audit was completed at Vector's offices in New Plymouth and was done in parallel with the audits of other retailers who use Vector's services. Arrangements for site visits were made, but cancelled twice due to pandemic protocols, but were able to occur in October. Other aspects of this audit were conducted remotely.

The scope of the audit includes "downstream reconciliation" only. Switching and registry management functions were audited in conjunction with this audit but are included in a separate report.

1.2 General Compliance

1.2.1 Summary of Previous Audit

Switch started as a retailer on 1 May 2015 and were previously audited in August 2017. The summary of the findings of the last audit were as follows:

- A newly connected ICP was not included in the initial or interim submission files

This audit found new ICPs had been included in submission files

- The energy calculation for 1 ICP was inaccurate due to the wrong altitude factor

This audit found discrepancies in gas gate, meter pressure and altitude compared with the gas registry data which will have led to inaccurate energy conversion

- Accuracy level falls outside the standard required by NZS5259 when converting volume to energy because of inaccurate temperature factors that have not been recently reviewed

The GIC temperature table is now being used for energy conversion

- Incorrect GAS080s were submitted due to an incorrect SQL query

No GAS080 issues found during this audit

1.2.2 Breach Allegations

Switch has had 7 alleged breaches under the downstream reconciliation rules since the last audit. Five of these were under rule 37.2 (accuracy of initial consumption submitted versus final consumption); one under rule 33.4 (the provision of final consumption when due); one under rule 26.2 (the general obligation for information to be accurate, not misleading and timely).

The following additional alleged breaches are raised because of this audit:

Breach Allegation	Rules	Section in this report
33 ICPs were found to be in the wrong allocation group, 22 ICPs were moved from allocation group 6 to group 4 and 11 ICPs needed to be moved from group 4 to group 6	29.3	3.2
There were 6 ICPs where the last actual read date was more than 12 months ago and Switch had been the retailer for at least 12 months	29.4.3	3.3

1.3 Provision of Information to the Auditor (rule 69)

In conducting this audit, the auditor may request any information from Switch, the allocation agent and any allocation participant. Information was provided by Vector as Switch's data services agent.

Information was provided by Switch and Vector in a timely manner in accordance with this rule.

It is considered that all parties have complied with the requirements of this rule.

1.4 Transmission Methodology and Audit Trails (rule 28.4.1)

A complete audit trail was viewed for all data gathering, validation and processing functions. Compliance is confirmed with this rule, consumption information is transferred and stored in such a manner that it cannot be altered without leaving a detailed audit trail.

2. Set-up and Maintenance of Information in Systems (rule 28.2)

Every retailer must ensure the conversion of measured volume to volume at standard conditions and the conversion of volume at standard conditions to energy complies with NZS 5259:2015, for metering equipment installed at each consumer installation for which the retailer is the responsible retailer.

Compliance with this rule has been examined in relation to the set-up of ICP, metering and billing information. The "Gas (Downstream Reconciliation) Rules 2008 Billing factors guideline note, V2.0" (Billing Factors Guideline) published by GIC on 30/11/15 was also considered when examining the set up and maintenance of information.

Vector manage meter readings in an Excel workbook, which in turn pushes the information into Flow2E, a bespoke system based on OSIsoft PI. Flow2E is where the energy calculation happens and various validity checks occur, as well as trend data being visible and worklists being produced. The energy data is then pushed back out to the meter readings workbook and from here is sent on to Switch. The meter readings workbook also does a sanity check on the energy calculation and highlights anything unusual. The energy data is also pushed to a SQL database which has an Access front end. This is used to manage registry/switching activities and create allocation submissions.

2.1 ICP Set Up Information

2.1.1 New Connections Process

The process was examined for the connection and activation of new ICPs.

The switching and registry management audit that was completed alongside this audit, reports on the analysis of the new connections process with respect to the Gas (Switching Arrangements) Rules 2008 (the switching rules) and this is therefore not repeated here in full.

Switch has no ICPs that were created in 2019 and is currently the retailer for only 2 ICPs created in 2018. Of the 2018 ICPs it was the first retailer for only one of these. The new connections process for this ICP was therefore reviewed for compliance with both the switching and the reconciliation rules. Compliance with the switching rules is reported on in the associated audit report.

While on site it was confirmed that this new ICP was correctly included in the first initial file for August 2018.

The analysis of status updates in section 9 of the associated switching rules audit report identified an additional new ICP which had subsequently been switched out to another retailer. There had been some issues with the status update of this new ICP, noted in the associated switching rules report. As a part of the downstream audit it was verified that this new ICP, updated in the registry as active in March 2019, has been included in the March 2019 initial submission file and subsequent submissions.

2.1.2 Altitude Information

It is a distributor responsibility to populate the registry with correct altitude information to support compliance with NZS 5259:2015, and it is a retailer responsibility to comply with NZS 5259:2015 for the conversion of volume to energy.

The registry list file for Switch was reviewed for obvious outliers and sample checks made against Google Earth with an emphasis on newer ICPs set up since the last audit round. The data quality was good and no issues were found.

2.2 Metering Set-up Information

During the on-site audit Vector demonstrated they had processes for validating the alignment of data in their systems against the registry put in place since the last audit. However, it was noted there was no direct validation between Flow2E and the registry – Flow2E was instead validated against Vector's SQL database, which had in turn been checked against the registry. There was therefore opportunity for at least some temporary discrepancies to arise.

The records in the Vector system held for Switch were compared against the information in the registry for altitude; gas gate; meter pressure; dials and multiplier. Generally, there was good alignment, although some discrepancies were found for altitude, meter pressure and gas gate which are detailed in appendix 2. Errors in altitude, meter pressure and incorrect gas type information due to the gas gate discrepancies, have the potential to cause inaccurate energy conversion. However these discrepancies were investigated further and in these instances any inaccuracy was below the maximum permissible error allowed in NZS5259 so no breach is alleged.

It is recommended in section 10 of the associated switching audit report that the systems for ensuring alignment of internal systems and the registry be reviewed to ensure alignment between Vector system data and the registry and in particular extended to include a direct check between the registry and Flow2E. This recommendation is therefore not repeated here.

Some of these discrepancies were corrected while the auditor was on-site and this in turn helped to verify the time stamp aspect of the Vector system which shows the audit trail of data changes (see section 1.4).

2.3 Billing Factors

2.3.1 Temperature Information

The Gas Industry Company now provides a list of temperature data for all allocated gas gates. The data was created by NIWA and provides a 30 year average of ground temperature at 30cm depth. The data is presented in degrees Celsius and there is one number per month for each gas gate.

The purpose of this temperature information is for industry participants to use in their data conversion calculations if they wish. The Gas (Downstream Reconciliation) Rules 2008 (the DR rules) require that the data used in the conversion of volume to energy must comply with NZS 5259. Average ground temperature at 30cm depth is provided as an option under NZS 5259.

Currently the use of this information is voluntary however, it is The Gas Industry Co's intent that the DR rules would be changed to incorporate this dataset in the future. If the Gas Industry Co were to do this then they would consult with industry.

It was confirmed with Vector that this temperature table is now being used in their Flow2E system, that performs the energy conversion for Switch ICPs.

2.3.2 Calorific Values

Overnight jobs requiring energy conversion in Flow2E are done using yesterday's gas type information. This allows the early availability of data and the running of the missing data report the next morning. Once available the gas type information for yesterday (including calorific values) is downloaded from OATIS, converted to Flow2E format and uploaded. This allows the energy conversions for yesterday to be updated using that day's values. This process was observed during the on-site audit.

At month end the data is extracted from OATIS again, to ensure any corrected gas type information is identified and used in Flow2E. Vector also validate the Wobbe and specific gravity values. Flow 2E time stamps both the upload of the gas type information and the trail of energy calculations.

The use of the correct calorific value and other gas type components within an example energy conversion calculation was also observed as a part of the audit, as noted in section 4.

3. Meter Reading and Validation

3.1 Archiving of Register Reading Data (rule 28.4.2)

Retailers are required to keep register reading data for a period of 30 months. Data was examined during the audit and it is confirmed that meter reads are available 30 months after their date of origin.

Sample meter read data was also verified against the data used as the meter read input for the energy calculation to prove the end-to-end process.

3.2 Metering Interrogation Requirements (rule 29)

Rule 29 specifies the type of metering (TOU or non-TOU) that must be installed at a consumer installation, the relevant allocation group that the consumer installation falls within and the interrogation requirements that apply depending on the type of metering and allocation group.

During the on-site audit Vector's monthly process for reviewing allocation groups was demonstrated. This checks for the 250 GJ and the 10 TJ thresholds. If an ICP needs to be changed an email is sent to advise the meter owner and the registry is updated directly by logging on via the front end.

Switch only has allocation group 4 and 6 ICPs. The auditor did a comparison of load shedding categories and allocation groups as a way of validating the allocation groups. Some anomalies were found and shared with Vector and these were all further reviewed. 22 ICPs needed to be switched from group 6 to group 4 and 11 ICPs needed to be changed from group 4 to group 6. Vector have actioned the changes. In particular the auditor noticed Vector's monthly process was checking for upward movements between allocation groups but not for situations where ICPs

should be moved down from group 4 to group 6. However, it is noted this has little practical consequence as all ICPs have been on a 20-day schedule with the meter reader since early 2020.

> ALLEGED BREACH 33 ICPs were found to be in the wrong allocation group, 22 ICPs were moved from allocation group 6 to group 4 and 11 ICPs needed to be moved from group 4 to group 6 (rule 29.3)
>
> RECOMMENDATION That Vector review their monthly process for validating allocation groups to see why these ICPs were missed and in particular review them to identify ICPs that should be moved down allocation groups as well as up.

3.3 Meter Reading Requirements (rules 29.4.3, 29.5 & 40.2)

All consumer installations with non-TOU meters must have register readings recorded at least once every 12 months unless exceptional circumstances prevent such an interrogation (rule 29.4.3).

Vector's policy since early 2020 is to manage all of Switch's ICPs on a 20-day schedule with the meter reader, regardless of allocation group. Problems with obtaining meter reads are therefore identified early by Vector and referred back to Switch to investigate and resolve. At the time of the audit however there were 6 ICPs where the last actual read date was over 12 months ago with the comment from the field technician being there was no access and no key provided. Details are provided in appendix 2.

> ALLEGED BREACH There were 6 ICPs where the last actual read date was more than 12 months ago and Switch had been the retailer for at least 12 months (rule 29.4.3)

A GAS080 file was reviewed and validated, no issues arose.

3.4 Non TOU Validation

Vector has a multi layered approach to validity checking. Meter reads are first loaded into a meter reads Excel workbook which performs basic checks such as identifying clocked and stopped meters.

The metering information is then loaded into Flow2E which produces daily worklists for the Data Services team to review. They highlight things such as volume, specific gravity or Wobbe outside of expected parameters and also highlight file distribution problems. The team review data against site specific validation parameters.

The energy data returned by Flow2E is uploaded into the spreadsheet where a third stage of validation occurs on the energy values, pressure and CV.

A fourth layer of validation is done by Switch as retailer.

If it is identified there is no meter read this is also raised with Switch.

3.5 Non TOU Error Correction

Error correction was examined by a "walk through" of the process and by examining examples. No issues arose.

It was confirmed that the corrected quantities were included in the final submission files.

3.6 TOU Validation

Not applicable to Switch ICPs.

4. Energy Consumption Calculation (rule 28.2)

The data is converted to energy in the Flow2E system managed by the Data Services team in New Plymouth.

During the visit one ICP was selected and the calculation of the conversion factors was replicated to within the degree of accuracy required by NZS5259. Also, each item used in the calculation was traced back to source to verify that the calculation engine was correctly mapped to the relevant source data. For example, the pressure and altitude used were verified back to the gas registry, the temperature to the GIC table, the gas gate back to the First Gas table of gas gates and the gas type information back to the OATIS data table.

It was also verified that the energy data held was consistent between the different parts of Vector's systems, i.e. Flow2E, the SQL database and the meter reads spreadsheet.

No issues arose from these replications other than the registry data anomalies noted in section 2.2.

5. Estimation and Submission Information

5.1 TOU Estimation and Correction (rule 30.3)

Not applicable to Switch ICPs.

5.2 Provision of Retailer Consumption Information (rules 30 to 33)

During the on-site audit a sample GAS040 file was compared with Vector's system for one gas gate to demonstrate:

- That the GAS040 accurately reflects the data
- That the GAS040 is computed at an ICP level then aggregated
- That the aggregation is accurate

As a part of the audit INACT ICPs were reviewed for any that have had consumption to see if the consumption had been included in the submission file. One INACT ICP with consumption was identified and this consumption had been included in submission files.

5.3 Initial Submission Accuracy (rule 37.2)

Rule 37.2 requires that the accuracy of consumption information, for allocation groups 3 to 6, for initial allocation must be within a certain percentage of error published by the industry body. The published percentage for the months analysed is 10%.

Switch did not meet this requirement for some gas gates during the 12-month period reviewed. The results are summarised in the table below. In total over this period there were 3 instances of a gate exceeding the +/-10% test and exceeding the 200GJ materiality threshold.

Month	Total Gas Gates	Number Within +/- 10%	% Compliant	Within +/- 10% or < 200 GJ	% Compliant or immaterial
December 2017	23	15	65%	23	100%
January 2018	23	17	74%	23	100%
February 2018	24	23	96%	24	100%
March 2018	25	18	72%	25	100%
April 2018	25	21	84%	24	96%
May 2018	25	24	96%	25	100%
June 2018	26	25	96%	26	100%
July 2018	27	24	89%	27	100%
August 2018	28	24	86%	27	96%
September 2018	29	25	86%	28	97%
October 2018	30	28	93%	30	100%
November 2018	31	29	94%	31	100%

The following table shows the difference between consumption information for initial and final submissions at an aggregated level for all gas gates. This demonstrates compliance in 9 out of 12 months.

Month	Initial Submission All Gas Gates (GJ)	Final Submission All Gas Gates (GJ)	Percentage Variation
December 2017	6,403	6,388	0%

January 2018	6,267	6,046	4%
February 2018	6,150	6,437	-4%
March 2018	7,947	7,534	5%
April 2018	8,755	7,672	14%
May 2018	11,227	11,319	-1%
June 2018	12,159	12,400	-2%
July 2018	12,889	12,398	4%
August 2018	13,548	11,614	17%
September 2018	11,847	9,907	20%
October 2018	11,133	10,987	1%
November 2018	10,287	10,202	1%

An initial file and a final file for the same consumption month were compared at an ICP level. The list of ICPs was the same in both files, suggesting good process for identifying the complete list of ICPs that should be included in an initial file. The differences between initial and final figures are therefore caused by estimates. It is noted that typically the Switch consumption is overestimated (the initial submission exceeding the final submission). During the audit it was noted that some ICPs had estimated consumption in the initial file while the actual consumption in the final submission was nil.

Because of the policy of having meters on a 20-day schedule there are few if any estimates by the time of the interim submission.

Breaches have already been alleged for differences between initial and final submission data so are not repeated here.

> RECOMMENDATION: That Switch review how initial estimates are made with a view to improving the accuracy of initial submissions

5.4 Historic Estimates (Rules 34 & 35)

To assist with determining compliance of the historic estimate processes, Vector was supplied with a list of scenarios. Vector provided an example for each relevant scenario and all examples were found to meet the test expectation.

HE Scenarios			
Test	**Scenario**	**Test Expectation**	**Result**

A	ICP becomes Active part way through a month	Consumption is only calculated for the Active portion of the month.	Compliant
B	ICP becomes Inactive part way through a month.	Consumption is only calculated for the Active portion of the month.	Compliant
C	ICP's become Inactive then Active within a month.	Consumption is only calculated for the Active portion of the month.	No examples
D	ICP switches in part way through a month	Consumption is calculated to include the 1st day of responsibility.	Compliant
E	ICP switches out part way through a month	Consumption is calculated to include the last day of responsibility.	Compliant
F	ICP switches out then back in within a month	Consumption is calculated for each day of responsibility.	No examples
G	Continuous ICP with a read during the month	Consumption is calculated assuming the readings are valid until the end of the day	Compliant
H	Continuous ICP without a read during the month	Consumption is calculated assuming the readings are valid until the end of the day	Compliant
I	Rollover Reads	Consumption is calculated correctly in the instance of meter rollovers.	Compliant

A manual calculation was also performed using the relevant seasonal adjustment shape files to verify Vector/Switch processes.

5.5 Proportion of Historic Estimates (rule 40.1)

This rule requires retailers to report to the allocation agent the proportion of historic estimates contained within the consumption information for the previous initial, interim and final allocations. The relevant files were examined and compliance is confirmed.

5.6 Forward Estimates (rules 34 & 36)

Allocation groups 3 to 6 have to use meter readings to predict consumption to the end of the month. The rules do not prescribe how forward estimates are to be calculated. Vector were able to explain in detail their processes for calculating forward estimates. They were also able to demonstrate that they retain the necessary information to identify historical and forward estimates.

No issues arose.

5.7 Billed vs Consumption Comparison (rule 52)

Switch send an "as billed" file to Vector who then create and submit the GAS070. While on site a recent GAS070 was verified back to the data supplied by the retailer, which in turn was verified back with Switch at an ICP level.

The table below shows a comparison between quantities billed and consumption information submitted to the allocation agent for three years. The consumption information submitted is higher than quantities billed in all three years and the difference is significantly more in the most recent period.

Billed vs Consumption				
Year ending	**Billed GJ**	**Submission GJ**	**Difference GJ**	**% Difference**
May 2020	46,352	49,728	-3,376	-6.8%
May 2019	108,535	111,717	-3,182	-2.8%
May 2018	94,937	97,251	-2,314	-2.4%
Total	**249,824**	**258,696**	**-8,872**	**-3.4%**

The largest discrepancy was in the year ending May 2020 and the largest difference by gas gate (in GJs) in that year was at GTA03610.

Extract from GAR080:

May-20 SULG GTA03610 25741.43 28337.9 -2596.47

RECOMMENDATION: As the difference between billed and submitted figures is growing it is suggested Switch undertake a more detailed review of this data to establish why this trend is occurring

5.8 Gas Trading Notifications (Rule 39)

A retailer must give notice to the allocation agent when they commence, amend or cease gas supply under a supplementary agreement to a transmission services agreement. They must do this by the third business day of the month following the relevant consumption month of the change.

Switch have no supplementary agreements to notify.

6. Conclusion

The audit found that the Switch control environment is "effective" for eleven of the areas evaluated, "adequate" for four areas and three areas were not applicable. None were found to be "not adequate".

Twelve of the eighteen areas evaluated were found to be compliant, three were not complaint and three areas were not applicable. Switch has had seven alleged breaches under the downstream reconciliation rules since the last audit. Five of these were under rule 37.2 (accuracy of initial consumption submitted versus final consumption); one under rule 33.4 (the provision of final consumption when due); one under rule 26.2 (the general obligation for information to be accurate, not misleading and timely).

The following additional alleged breaches are raised because of this audit:

Breach Allegation	Rules	Section in this report
33 ICPs were found to be in the wrong allocation group, 22 ICPs were moved from allocation group 6 to group 4 and 11 ICPs needed to be moved from group 4 to group 6	29.3	3.2
There were 6 ICPs where the last actual read date was more than 12 months ago and Switch had been the retailer for at least 12 months	29.4.3	3.3

In addition to recommending that Switch address the cause of the alleged breaches, the report also makes the following recommendations:

> RECOMMENDATION That Vector review their monthly process for validating allocation groups to see why these ICPs were missed and in particular review them to identify ICPs that should be moved down allocation groups as well as up.
>
> RECOMMENDATION: That Switch review how initial estimates are made with a view to improving the accuracy of initial submissions
>
> RECOMMENDATION: As the difference between billed and submitted figures is growing it is suggested Switch undertake a more detailed review of this data to establish why this trend is occurring

Appendix 1 – Control Rating Definitions

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

Appendix 2 – Alleged Breach Detail

2.2 Metering set-up information

Altitude discrepancies between Vector systems and the registry:

Vector system	Registry	ICPNumber
12	1	0000005711QT0D9
0	66	0000141331QT8F4
5	6	0001407384QT236
18	43	0001435796QT673
3	13	0001661620PGBD8
160	162	0002062001QTE3C
30	38	1001111110QTA61
10	49	1001120649QT3B6
0	16	1001257549QT2D8

The largest discrepancy is 66, which would create inaccuracy of 0.8% in the energy calculation for ICP 0000141331QT8F4, less than the maximum permissible error of 1%.

Meter pressure

Vector system	Registry		ICPNumber
	1.5	2.5	0001775001QTC7D
	1.4	1.5	0004008863NG403

The largest discrepancy is 1.0, which will have created an inaccuracy for ICP 0001775001QTC7D of 0.99%.

Gas Gate discrepancies:

Vector system	Gas type	Registry	Gas Type	ICPNumber
HTV11301	R	HTK08301	R	0001033759NG4FB
HTL16601	X	NGW14501	X	0003028152NG65A
WST03610	X	HEN74101	X	1001258211QTEA6
WST03610	X	HEN74101	X	1001291986QT795

In these instances, the discrepancy in gas gate has not resulted in an incorrect gas type being used so won't have created inaccuracy in the energy calculation.

3.3 Meter reading requirements

ICP	Last Actual read Date
0002317761QTFE3	24/06/2019
0000338491QT128	25/03/2019

0000338511QTD66	25/03/2019
1000513993PG51E	24/05/2019
0000366211QT9D0	25/01/2019
0002264781QT96C	Always estimated

Appendix 3 – Responses to draft report

Vector Limited
101 Carlton Gore Road
PO Box 99882
Newmarket
Auckland 1149
+64 9 978 7788 / vector.co.nz

13 July 2021

Julie Langford
Langford Consulting

Sent by email

Dear Julie

Reconciliation Audit – Switch Utilities

1. Vector Gas Trading Limited *(Vector)* appreciates the opportunity to comment on the draft Reconciliation audit report for Switch Utilities *(Switch)* issued on 2 July 2021.

2. Vector believes that the report as drafted is a true reflection of the audit and our processes.

3. Following the reconciliation audit, we have reviewed our processes for reviewing the appropriate allocation group for ICPs. We hope that this will improve our decision making on the movement of ICPs to and from groups 6 and 4 and compliance with regulation 29.3.

4. We are however cognisant that seasonal variations can cause ICP's to seesaw between allocation groups. We will therefore have to continue making judgement calls on when to move an ICP between groups 4 and 6.

5. If you would like to discuss any of the above matters in greater detail then please do not hesitate to call me on 06 215 4427 or email at jim.raybould@vector.co.nz

Yours sincerely

Jim Raybould

Jim Raybould
Business Service Advisor