



SYSTEM CHANGE AUDIT TRANSGAS

Date of commencement: 10 September 2025

Report completed: 18 November 2025

Under the Gas (Downstream Reconciliation) Rules 2008 the Gas Industry Company commissioned Langford Consulting to undertake a performance audit of Transgas Ltd. The purpose of the audit is to assess whether, after the implementation of proposed system changes, the retailer will be able to be compliant with the rules.

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 Gas (Downstream Reconciliation) Rules 2008. The audit was commissioned under rule 65.5 and its scope was therefore limited by rule 65.6 to the impact of the system change proposed by Transgas Ltd (Transgas) on the allocation agent or allocation participant's systems, processes and procedures.

The audit was conducted 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 10 September 2025 and was conducted remotely without a site visit. Transgas contract Energybridge to provide day-to-day management services. Energybridge representatives were therefore the main point of contact for this audit.

The purpose of the audit is to assess whether, after the implementation of the intended change, Transgas will be able to be compliant with the rules, with particular emphasis on the production of GAS050 files.

The auditor found no issues during the audit that should prevent Transgas from using their new system. It is anticipated that the implementation of the system change will enable Transgas to be compliant with the rules. The proposed controls were expected to be effective.

The auditor made the following recommendations:

RECOMMENDATION: That Transgas establish a system for identifying if data has changed so that it can be reviewed and the best available data be used. This is likely to be the most recent data, but not necessarily.

Transgas implemented this recommendation during the course of the audit.

RECOMMENDATION: The Transgas validation process works well currently now because of the small amount of data being managed by a tight team with a close relationship to the business operations and the gas nominations. However, on the assumption that the system may be used for a larger number of sites in the future it is recommended that as the quantity of data managed is increased more formal systems and processes should be developed to validate the metering data.

Contents

Executive Summary	2
Contents	3
1. Pre-Audit and Operational Infrastructure Information	4
1.1 Proposed System Change and Scope of Audit	4
1.2 The current system	4
1.3 Provision of Information to the Auditor (rule 69)	5
2. System change	5
3. Conclusion	7
Appendix 1 – Control rating definitions	8
Appendix 2 – Impact rating definitions	9
Appendix 3 – Remedial rating definitions	10

1. Pre-Audit and Operational Infrastructure Information

1.1 Proposed System Change and Scope of Audit

Under the Gas (Downstream Reconciliation Rules) Rules 2008 (the Rules) the Gas Industry Company (GIC) has commissioned Langford Consulting to undertake a performance audit of Transgas Ltd (Transgas) in its role as retailer. The audit was commissioned under rule 65.5 and its scope was therefore limited by rule 65.6 to the impact of the proposed change on the allocation agent or allocation participant's systems, processes and procedures.

The purpose of the audit is to assess whether, after the implementation of the intended change, Transgas will be able to be compliant with the rules.

In preparing the report, the auditor used the processes set out in the guideline note issued on 1 June 2013: *Guideline note for rules 65 to 75: the commissioning and carrying out of performance audits and event audits, version 3.0* (<http://www.gasindustry.co.nz/dmsdocument/2858>).

Transgas informed the GIC that they proposed to make a system change that affects its processes for the supply of information to the allocation agent under the Rules. The GIC asked the auditor to make enquiries about the nature of the proposed change and assess the risks to be reviewed. Transgas had recently undergone routine audits for both the downstream reconciliation and switching and registry processes so this audit is contained to the risks associated to the system change. The change was to add a database into their processes for managing TOU data.

1.2 The current system

Transgas commenced as a registry participant 9 March 2022 and has been audited once in February 2025. All their ICPs are TOU so they only produce GAS050s.

The previous audit described the Transgas system as follows:

“All ICP data is held in a Master Metering Database, which is an Excel workbook. Pivot tables are used to interrogate the database. There is a separate workbook that uses the Master Metering Database data to create the GAS050 consumption information for submission. Metering data is handled by Bluecurrent and arrives via email as an HDR or DDR attachment.

Excel spreadsheets are however prone to human error – either through transposition errors when data is entered or in the ability of the user to change data without a record being maintained.

It should be emphasised that no instances of such errors occurring were found during this audit, but nonetheless the risk remains. The risks are mitigated by embedded checks and management review.

Transgas is actively working on a plan to develop a cloud based database system which would include having an audit trail. The auditor highlighted the need to notify GIC of the system change prior to implementation.

As data services are provided by Bluecurrent who have demonstrated in past audits that their systems have appropriate audit trails, the auditor judged Transgas processes sufficient for now, although recommended more robust audit trails be made a priority in the new system.”

That audit made the following observation and recommendation that were pertinent to this audit:

Observation

Transgas are planning system changes which will require notice to be given to GIC and an additional audit of the changes to occur.

Recommendation

The introduction of audit trails should be a priority for the system changes planned by Transgas.

The purpose of the system change was to introduce a database instead of relying on Excel to store and manage data.

1.3 Provision of Information to the Auditor (rule 69)

In conducting this audit, the auditor may request any information from Transgas, the Allocation Agent and any allocation participant.

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

The auditor considers that all parties have complied with the requirements of this rule.

2. System change

The proposed system change by Transgas was to establish a PostgreSQL database, rather than using Excel spreadsheets to manage the data. Other aspects of the system would stay the same.

Transgas would continue to receive HDRs and DDRs from Bluecurrent, so there is no requirement for the new system to begin doing data conversions.

The database has an Excel front end to enable more user friendly access, it enables users to both view and change data in the database. The new system was called DataBridge.

As the previous system had only just been audited this system change audit could focus on ensuring that the new system produces the same result as the established/audited system, with an improvement in robustness/resilience such as improved audit trails and reduced opportunity for human error.

Transgas had done a parallel run of the new system and the old system and made the results available to the auditor. They provided the auditor with an Excel file used to capture the parallel run of the old and new systems as well as the resulting GAS050s. Initially it could be seen that the test had demonstrated a tiny difference between the GAS050 produced by each system (a trivial difference in the third decimal place). Further analysis by Transgas

demonstrated this was the result of the new system using HDR data and aggregating to daily figures, compared to using the DDR supplied by Bluecurrent. Transgas concluded using the HDR data was the better option and the auditor agreed. No other issues arose from review of the parallel run.

The auditor asked what happened if Bluecurrent pushed new data to DataBridge for a period where data had already been provided. The outcome is that the earlier data would be overwritten on the assumption that the most recent data is the best data available.

OBSERVATION: That Bluecurrent data could be pushed to DataBridge and overwrite existing DataBridge data, the inherent assumption being that new data should be considered the best available data. However, it is possible this might not be the most desirable outcome.

RECOMMENDATION: That Transgas establish a system for identifying if data has changed so that it can be reviewed and the best available data be used. This is likely to be the most recent data, but not necessarily.

Transgas implemented this recommendation during the course of the audit.

The auditor discussed the backup arrangements for the new system with Transgas. There are two main components to the system: the PostgreSQL database hosted by Neon, and a set of Excel 365 front ends that live on Sharepoint. These Excel files interact with the database (in both directions - import and export), but all retailer data is stored in the database, there is no data stored in any Excel workbook.

The backup arrangements are:

- Database: an overnight job that takes a complete copy of the Neon database, compresses it and saves the compressed file elsewhere, so the risk is contained to losing no more than what happened that day. It has been verified that the restore process works as expected.
- Excel: the team are in the process of developing an automated job that will take a copy of the working set of folders on Sharepoint and saving all files locally, so that team members have independent copies of the Excel workbooks to restore from.

By coincidence a system incident occurred part way through the audit that required Transgas to implement its backup procedures. The controls put in place proved sufficient to reinstate the system, but the team obtained some learnings from the incident which will enable them to improve their systems to allow for two alternate backup approaches, depending on circumstances, making the controls stronger.

The auditor also discussed the audit trail arrangements for the new system. There are audit logs on the metering and allocation tables in DataBridge that log the exact date/time a file or piece of data was imported/exported/updated and can track both update and delete actions in all these tables. This means the state of the data can be reconstructed at any point in time and it is known who made any changes and when.

The auditor asked about the data validation processes. Bluecurrent perform some data validation, but Transgas do not have formal validation processes. Transgas are responsible for only a very small number of sites currently and are very familiar with the data. They have a strong sense of what they are expecting the data to be because of their close relationship with operational staff and their other responsibilities relating to gas nominations. The day's data is

added into a forecasting tool used for nominations so is always reviewed every day. The team are in regular contact with operations and have a very close understanding of expected gas use and any actual operational issues that might arise.

If the resulting data from the metering process was very different it would stand out to this small team.

RECOMMENDATIONS: The Transgas validation process works well currently because of the small amount of data being managed by a tight team with a close relationship to the business operations and the gas nominations. However, on the assumption that the system may be used for a larger number of sites in the future it is recommended that as the quantity of data managed is increased, more formal systems and processes should be developed to validate the metering data.

3. Conclusion

The auditor found no issues during the audit that should prevent Transgas from using their new system. It is anticipated that the implementation of the system change will enable Transgas to be compliant with the rules. The proposed controls were expected to be effective.

It is noted that the current system is handling a very small number of ICPs and that the main user of the system is also the system developer, who therefore has a strong technical knowledge of the process and of the expected outcomes. It will be interesting to see how the system and processes develop should the size of the dataset increase and/or the team grow. It is likely that over time more controls will be required.

The auditor made the following recommendations:

RECOMMENDATION: That Transgas establish a system for identifying if data has changed so that it can be reviewed and the best available data be used. This is likely to be the most recent data, but not necessarily.

Transgas implemented this recommendation during the course of the audit.

RECOMMENDATION: The Transgas validation process works well currently now because of the small amount of data being managed by a tight team with a close relationship to the business operations and the gas nominations. However, on the assumption that the system may be used for a larger number of sites in the future it is recommended that as the quantity of data managed is increased more formal systems and processes should be developed to validate the metering data.

Appendix 1 – Control rating definitions¹

Rating	Definition
Ineffective	<ul style="list-style-type: none"> The design of controls <u>overall is ineffective</u> in addressing key causes and/or consequences. Documentation and/or communication of the controls <u>does not exist</u> (e.g. policies, procedures, etc.). The controls are <u>not in operation</u> or have not yet been implemented.
Needs improvement	<ul style="list-style-type: none"> The design of controls <u>only partially</u> addresses key causes and/or consequences. Documentation and/or communication of the controls (e.g. policies, procedures, etc.) are <u>incomplete, unclear, or inconsistent</u>. The controls are <u>not operating consistently</u> and/or effectively and have not been implemented in full.
Acceptable	<ul style="list-style-type: none"> The design of controls is <u>largely adequate and effective</u> in addressing key causes and/or consequences. The controls (e.g. policies, procedures, etc.) <u>have been formally documented</u> but <u>not proactively communicated</u> to relevant stakeholders. The controls are <u>largely operating in a satisfactory manner</u> and are providing some level of assurance.
Effective	<ul style="list-style-type: none"> The design of controls is <u>adequate and effective</u> in addressing the key causes and/or consequences. The controls (e.g. policies, procedures, etc.) have been <u>formally documented and proactively communicated</u> to relevant stakeholders. The controls overall, are <u>operating effectively</u> so as to manage the risk.

¹ All relevant systems and processes in place

Appendix 2 – Impact rating definitions²

Rating	Definition
Insignificant	<ul style="list-style-type: none"> • A <u>small number of issues</u> with registry file timeliness and/or accuracy. <u>Negligible impact</u> on other participants or consumers. <u>Did not prevent</u> the process completing. • A <u>small number of issues</u> with the accuracy and/or timeliness of files to the Allocation Agent. Corrections <u>were</u> made by the interim allocation. A <u>small number of issues</u> not related to registry or allocation information.
Minor	<ul style="list-style-type: none"> • <u>Some issues</u> with registry file timeliness and/or accuracy. <u>Minor impact</u> on other participants or consumers. <u>Did not prevent</u> the process completing. • <u>Some issues</u> with the accuracy and/or timeliness of files to the Allocation Agent. Corrections <u>were</u> made by the interim allocation. A <u>small number of issues</u> not related to registry or allocation information.
Moderate	<ul style="list-style-type: none"> • A <u>moderate number of issues</u> with registry file timeliness and/or accuracy. <u>Moderate impact</u> on other participants or consumers. <u>Did prevent</u> some processes completing. • A <u>moderate number of issues</u> with the accuracy and/or timeliness of files to the Allocation Agent. Corrections <u>were not</u> made by the interim allocation. A <u>moderate number of issues</u> not related to registry or allocation information.
Major	<ul style="list-style-type: none"> • A <u>significant number of issues</u> with registry file timeliness and/or accuracy. <u>Major impact</u> on other participants or consumers. <u>Did prevent</u> some processes completing. • A <u>significant number of issues</u> with the accuracy and/or timeliness of files to the Allocation Agent. Corrections <u>were not</u> made by the interim allocation. A <u>significant number of issues</u> not related to registry or allocation information.

² These ratings are indicative and will be used as a guide only, to aid the Market Administrator's assessment of alleged breaches.

Appendix 3 – Remedial rating definitions

Rating	Definition
Completed	The alleged breach and impact have been resolved. Systems and processes are now compliant.
In progress	Steps are being taken to resolve the alleged breach and impact and ensure systems and processes are compliant.
No action	Participant undertakes no action to resolve or address auditor controls or impact assessments for commercial reasons.