Offtake Meter Performance Report – 2023/24

Northern Gas Networks November 2024

Offtake Meter Performance

Northern Gas Networks operates and maintains several exit points from the National Grid where offtake flow is measured and validated in accordance with the UNC and The Gas (Calculation of Thermal Energy) Regulations.

Report to the Performance Assurance Committee 2024

Requirements

1. Number and magnitude of Meter Error reports
2. Copy of Regulatory Reporting Pack Meter Error report.
3. Annual ME2 Meter Validation report.

Offtake Meter Performance

Introduction

This document has been written to demonstrate that instrumentation and equipment associated with measurement systems for the calculation of mass, volume or energy flow rate of gas are functioning correctly. The ME2 Part 3 Work Procedure for Flow Weighted Average Calorific Value (FWACV) Offtakes is used to ensure metering equipment at the offtakes are validated and maintained correctly, thus ensuring that the complete metering system continues to perform within the uncertainty requirements.

ME2 Part 3 - FWACV Offtakes

The ME2 Part 3 Work Procedure sets out a number of tests and calibrations designed to ensure all aspects of flow metering such as flow computers, pressures and temperatures are setup and working within tolerances.
All sites must be validated annually with a maximum interval of twelve (12) months between validations. To increase assurance and reduce the likelihood of an MER, Northern Gas Networks conduct ME2 validations on a 6 monthly basis.

Meter Errors

The Offtake Arrangements Document (OAD) requires the Offtake metering Measurement Equipment to be operating within its “Permitted Range” as indicated in the site specific “Supplemental Agreement”. If the Measurement Equipment is found to be operating outside its Permitted Range or with a systematic bias it is classed to be a “Fault”.
The Measurement Error Notification Guidelines only require the notification of faults which are likely to result in a systematic bias to the measured quantity. They do not cover faults associated with equipment operating outside its permitted range when the mismeasurement is of a random nature.
Systematic bias is deemed to be a bias resulting from the measurement system, leading on average to biases in measurement which results in measured values being systematically too high or too low.

Reconciliation

On identification of a possible meter error the Distribution Network is required to supply corrected readings for reconciliation only when the fault identified has a systematic bias of over 0.1% of the total offtake flow during the period of the error. These corrected readings are supplied as part of the “Measurement Error Report (MER)” or the “Significant Measurement Error Report (SMER)”. Where a SMER will be an error estimated to exceed 50 GWh.

Null Reports

Should the magnitude of the total error be calculated to at less than 0.1% of the total offtake flow during the period of the meter error then no reconciliation will be made for any day within the error duration and a null report written.

Requirements

Meter Error Reports

NO018 - Humbleton MTA
NO019 – Pickering MTA
NO020 – Cowpen Bewley MTB

Regulatory Reporting Pack Meter Error Report

The following table 1 shows the report for offtake meters energy contribution within the networks operated and maintained by Northern Gas Networks for the 2024 period.

LDZ	NE	NO	Network Total
Total Energy (GWh)	30,783	24,345	55,128
Abs Error (Gwh)	0.911	3.552	4.4632
% Error	0.00003249%	0.0001459%	0.00017839%

Annual ME2 Meter Validations

ME2 maintenance activities for the period February 2024 to November. NGN Conduct ME2 Validations every 6 months on directed offtakes and every 12 months on Tracker sites. ME2 validation dates are provided in the table below. Please note, any results recorded as Yes* indicate that although the 12-month ME2 fell outside the anniversary date, the site had already passed a 6-monthly validation.

Validation Summary

41 individual metering streams were inspected and tested following the ME2 Maintenance Work Procedure.

Northern Gas Networks

Offtake Meter Performance

Site Name	*LDZ*	*Meter Type*	*Open Meter Error Reports*	*Last Validation End Date*	*Validation Start Date*	*Validation End Date*	*Started Within 12 months of last?*	*Reconciliation required?*	*Comments*
Little Burdon	NO	Ultrasonic		20/10/23	16/10/24	22/10/24	Yes		
Elton	NO	Ultrasonic		29/09/23	30/09/24	04/10/24	Yes*		
Saltwick	NO	Ultrasonic		20/11/23	31/10/24	06/11/24	Yes		
Wetheral	NO	Ultrasonic		10/10/23	07/10/24	15/10/24	Yes		
Pannal	NE	Ultrasonic		29/09/23	20/09/24	27/09/24	Yes		
Paull	NE	Ultrasonic		13/10/23	14/10/2024	18/10/2024	Yes*		
Asselby	NE	Ultrasonic		11/05/23	29/04/24	07/05/24	Yes		
Corbridge	NO	Ultrasonic		25/05/23	07/04/24	13/04/24	Yes		
Humbleton	NO	Turbine	Yes	09/06/23	10/06/24	17/06/24	Yes	Yes	MER NO-018
Tow Law	NO	Turbine		13/06/23	03/06/24	07/06/24	Yes		
Baldersby	NE	Turbine		08/06/23	29/05/24	04/06/24	Yes		
Thrintoft	NO	Ultrasonic		22/06/23	10/06/24	12/06/24	Yes		
Rawcliffe	NE	Ultrasonic		30/09/23	24/06/24	28/06/24	Yes		
Melkinthorpe	NO	Ultrasonic		04/08/23	08/07/24	12/07/24	Yes		
Shap	NO	Turbine		27/07/23	22/07/24	25/07/24	Yes		
Ganstead	NE	Ultrasonic		11/08/23	29/07/24	01/08/24	Yes		
Cowpen Bewley	NO	Ultrasonic	Yes	22/02/23	05/03/2024	09/09/2024	Yes*	Yes	MER NO-020
Pickering	NE	Orifice Plate	Yes	21/08/23	13/08/24	19/08/24	Yes	Yes	MER NO-019
Burley Bank	NE	Ultrasonic		08/09/23	02/09/24	05/09/24	Yes		
Bishop Auckland	NO	Ultrasonic		10/11/23	04/09/24	13/09/24	Yes		
Towton	NE	Ultrasonic		20/09/23	16/09/24	20/09/24	Yes		
Coldstream	NO	Orifice Plate		21/09/23	16/09/24	20/09/24	Yes		

Offtake Meter Performance

Guyzance	NO	Turbine		08/03/22	01/06/24	03/06/24	Yes		