

# Offtake Meter Performance Report – 2020/21

Northern Gas Networks July 2021

## 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 31<sup>st</sup> July 2021

### 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.

### 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.

## Offtake Meter Performance

### Requirements

#### Meter Error Reports

NO014 – Cowpen Bewley MTA

#### Regulatory Reporting Pack Meter Error Report

The following table 1 shows the RIIO-GD1 performance RRP 2020/2021 report for offtake meters energy contribution within the networks operated and maintained by Northern Gas Networks

LDZ	NE	NO	Network Total
Total Energy (GWh)	38246	32342	70588
Abs Error (Gwh)	0.0000	5.33	5.33
% Error	0.0000%	0.016480%	0.007551%

#### Annual ME2 Meter Validations

ME2 maintenance activities for the period April 2020 to March 2021. 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

23 individual metering streams were inspected and tested following the ME2 Maintenance Work Procedure. 1 metering stream was started outside of the 12-month validation window, either due to scheduling constraints or where other work prevented it. There was one meter error reported for Cowpen Bewley MTA due to possible ADC drift which required reconciliation.

## 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		31/10/19	21/10/20	29/10/20	Yes		
Elton	NO	Ultrasonic		27/09/19	28/09/20	03/10/20	Yes*		
Saltwick	NO	Ultrasonic		11/10/19	12/10/20	19/10/20	Yes*		
Wetheral	NO	Ultrasonic		17/10/19	06/10/20	12/10/20	Yes		
Pannal	NE	Ultrasonic		07/10/19	28/09/20	07/10/20	Yes		
Paull	NE	Ultrasonic		24/10/19	14/10/20	22/10/20	Yes		
Asselby	NE	Ultrasonic		10/05/19	05/05/20	13/05/20	Yes		
Corbridge	NO	Ultrasonic		21/05/19	18/05/20	22/05/20	Yes		
Humbleton	NO	Turbine		20/06/19	10/06/20	16/06/20	Yes		
Tow Law	NO	Turbine		11/06/19	02/06/20	08/06/20	Yes		
Baldersby	NE	Turbine		31/05/19	02/06/20	11/06/20	Yes		
Thrintoft	NO	Ultrasonic		28/06/19	16/06/20	19/06/20	Yes		
Rawcliffe	NE	Turbine		05/07/19	29/06/20	06/07/20	Yes		
Melkinthorpe	NO	Turbine		17/07/19	14/07/20	17/07/20	Yes		
Shap	NO	Turbine		02/08/19	27/07/20	30/07/20	Yes		
Ganstead	NE	Ultrasonic		15/08/19	03/08/20	07/08/20	Yes		
Cowpen Bewley	NO	Orifice Plate	Yes	23/08/19	18/08/20	21/08/21	Yes	Yes	MER logged on Joint Office
Pickering	NE	Orifice Plate		22/08/19	18/08/20	19/08/20	Yes		
Burley Bank	NE	Orifice Plate		04/09/19	08/09/20	10/09/20	Yes*		
Bishop Auckland	NO	Ultrasonic		12/09/19	09/09/20	16/09/20	Yes		
Towton	NE	Ultrasonic		17/09/21	15/09/20	18/09/20	Yes		
Coldstream	NO	Orifice Plate		17/09/19	21/09/20	24/09/20	No		4-day delay starting validation due to resource availability and other planned work.
Guyzance	NO	Turbine		11/03/19	04/03/20	12/03/20	Yes		

