

**NULL METER ERROR REPORT****FINAL**

Reconcile?	N
------------	---

Safety Issue?	N
---------------	---

Thesis Report No.	N/A
-------------------	-----

**1. EXECUTIVE SUMMARY**

SITE NAME	HARDWICK OFFTAKE
LDZ	SOUTH
LAST GOOD DATE	08/06/11
START DATE	10/09/11
END DATE	15/09/11
SIZE OF ERROR (No reconciliation required if under 0.1%)	<0.1%
ESTIMATE – Y/N?	Y
ROOT CAUSE	Flowrate exceeded site maximum
ANALYSIS	N/A
METER TYPE	ORIFICE
AUTHOR	T Roberts
CHECKED BY	B Purl

## 2. BACKGROUND

Gas is supplied to part of the SoE network at Hardwick FWACV Offtake which employs an orifice plate meter to measure the volumetric flow rate in accordance with BS EN ISO 5167.

During an out of hours fault investigation the flowrate through the site exceeded the flowrate maximum range value for a short duration recorded on only one HPMIS 4 minute record.

## 3. ERROR QUANTIFICATION AND IMPACT

As a result of the high flowrate ME2 calibrations were carried out on all three dp transmitters on 15.9.11. Both the HDP and SDP failed tolerance above 75% fsd and were recalibrated successfully. These errors were not material to this report as the 'in use' dp transmitter throughout the period was the LDP transmitter which calibrated within tolerance.

The orifice plate was removed on 15.9.11 and sent for recalibration which recorded a fail due to damage to edges G, H, and I. An extract from the subsequent repair report is copied below.

***Fault Details:*** - *On inspection the orifice plates downstream surface has two small scratches, two minor nicks on edge 'I' and two minor nicks on edge 'H', the upstream surface has at least three significant damage marks as well as extensive small surface dents and pits all over and the upstream edge 'G' has numerous nicks around the entire circumference of the inner bore.*

It has not been possible to determine any errors resulting from the damage to the plate surfaces and edges for the small volumes passed on 11.9.11 and 15.9.11 (see below).

Volumes during period:

Gasday	HPMIS Volumes
10.9.11	Correction dealt with by System Operators
11.9.11	130,245 scm
12.9.11	0
13.9.11	0
14.9.11	0
15.9.11	40,000 scm (before transmitter calibrations and orifice plate changeout.

## 4. CAUSES

Inadvertent control response resulting in excess control valve movement.

## 5. RECOMMENDATIONS AND LEARNING

It is a recommendation of this report that a 'Null' result be recorded.

**REFERENCES**

ME2 results  
As-found orifice plate calibration certificate  
Orifice plate repair report

**VERSION HISTORY**

<i>Version</i>	<i>Changes</i>	<i>Author</i>	<i>Date</i>
<i>Rev 1</i>	<i>First draft</i>	<i>T Roberts</i>	<i>26/04/12</i>
<i>Rev 1</i>	<i>Final</i>	<i>T Roberts</i>	<i>03/05/12</i>

**DISTRIBUTION**

NG UKT Data assurance and Quality Team  
SGN S Skipp  
SGN E Melen  
SGN B Purl