

NULL METER ERROR REPORT

FINAL

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

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

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

1. EXECUTIVE SUMMARY

| | |
|--|-----------------|
| SITE NAME | BRAISHFIELD A |
| LDZ | SOUTH |
| LAST GOOD DATE | 29/12/09 |
| START DATE | 29/12/09 |
| END DATE | 21/01/10 |
| SIZE OF ERROR (No reconciliation required if under 0.1%) | <0.1% |
| ESTIMATE – Y/N? | N |
| ROOT CAUSE | LDP loop errors |
| ANALYSIS | Appendix B |
| METER TYPE | ORIFICE |
| AUTHOR | T Roberts |
| CHECKED BY | |

2. BACKGROUND

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

Following a lightning strike on 23/12/09 that damaged a large amount of equipment a re-commissioning ME2 validation was carried out to validate the metering system on 29/12/09. Further calibrations were carried out in January 2010 which recorded as-found errors to the 0 – 50mbar LDP loop. As a consequence the LDP transmitter s/n 8950-00764690022 was replaced by s/n E24333.

3. ERROR QUANTIFICATION AND IMPACT

Calibration results 21 Jan 2010

| % Span | Tx error | ADC error | Loop error |
|--------|----------|-----------|------------|
| 0 | 0.52 | -0.64 | -0.13 |
| 25 | 0.89 | -0.07 | 0.82 |
| 50 | 0.98 | -0.07 | 0.91 |
| 75 | 1.00 | -0.09 | 0.91 |
| 100 | 1.05 | -0.10 | 0.95 |

Analysis of HPMIS data between 29/12/09 and 21/1/10 shows that on a number of Gasdays the low dp did not contribute to the in-use dp so these days have been excluded.

Four minute HPMIS data for the affected Gasdays was corrected for the LDP loop errors and then using GasVLe both uncorrected and corrected flow were calculated to provide the overall error for each Gasday.

Errors for all affected Gasdays were less than 0.1%, when divided by two as the timing of the drift is unknown. Results have been tabulated in Appendix A.

4. CAUSES

Calibration shift of both LDP transmitter and ADC in service following the lightning strike.

5. RECOMMENDATIONS AND LEARNING

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

REFERENCES

HPMIS records
Gemini records

ME2 calibrations

VERSION HISTORY

| <i>Version</i> | <i>Changes</i> | <i>Author</i> | <i>Date</i> |
|----------------|--------------------------|------------------|----------------|
| <i>Rev 0</i> | <i>First draft</i> | <i>T Roberts</i> | <i>16/3/12</i> |
| <i>Rev 1</i> | <i>Final, no changes</i> | <i>T Roberts</i> | <i>10.4.12</i> |
| | | | |

DISTRIBUTION

Joint Office of Gas Transporters
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Appendix A

| GAS_DATE | % error |
|------------|---------|
| 03/01/2010 | 0.0014 |
| 04/01/2010 | 0.0001 |
| 05/01/2010 | 0.0031 |
| 11/01/2010 | 0.0034 |
| 12/01/2010 | 0.0098 |
| 14/01/2010 | 0.0126 |
| 16/01/2010 | 0.0220 |
| 18/01/2010 | 0.0371 |
| 19/01/2010 | 0.0414 |
| 20/01/2010 | 0.0808 |