METER ERROR REPORT

Final

Reconcile?	Y
Safety Issue?	N
Thesis Report No.	

1. EXECUTIVE SUMMARY

SITE NAME	TATSFIELD
LDZ	SOUTHEAST
START DATE (actual)	30/04/09
LAST GOOD DATE	
END DATE	30/04/09
SIZE OF ERROR (No reconciliation required if under 0.1%)	0.12 % UNDER REGISTRATION
ESTIMATE – Y/N?	N
ROOT CAUSE	LOW DP CELL ERROR
ANALYSIS	APPENDIX A
METER TYPE	ORIFICE
AUTHOR	T Roberts
CHECKED BY	B.Purl

2. BACKGROUND

Gas is supplied to part of the Southeast network at Tatsfield Offtake, which employs an orifice meter to measure the volumetric flow rate in accordance with BS5167.

At 19:04 on the 29/4/09 with the High cell selected the Low cell output reduced to approximately 95mbar (range 0-100mbar). This had no affect on 'Used' dp as the High cell remained above switchdown until 00:17 on 30/4/09 when the dp dipped below switchdown and then immediately above switchup leaving the in error Low cell fixed as the 'Used' dp, while the dp climbed above the Low cell range. This continued for approximately 25 minutes until Grid Control reduced the flowrate and the Low cell operated within an error free output band as the 'Used' dp.

3. ERROR QUANTIFICATION AND IMPACT

The error would have had an insignificant affect on odorisation.

Start and finish times for the error can be demonstrated by reference to HPMIS RBD records. Seven 4 minute records were in error and were recalculated using 'Used' dp and High cell dp to determine the error in measurement for Gas Day 29/4/09. The results of these calculations are tabulated in Appendix A.

4. CAUSES

Subsequent calibration of the Low dp cell failed to repeat the problem so at present cause is unknown.

5. RECOMMENDATIONS AND LEARNING

Thoroughly investigate Low cell loop and OMNI ADC, and check impulsing for contamination. Monitor performance of Low cell until planned replacement.

REFERENCES

HPMIS records
Grid Control log

VERSION HISTORY

Version	*Changes*	*Author*	*Date*
Rev O	*First draft*	*T Roberts*	*16/6/09*
Rev 1	*Final*	*B Purl*	*29/7/09*

DISTRIBUTION

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Appendix A

Record	GAS_DATE	TIME	LOW_MBAR	HIGH_MBAR	USED_MBAR	Flow @ Used scmd	Flow @ High scmd	Diff scmd	
262	29/04/2009	30/04/2009 00:21	94.43	107.04	94.40	9,643,259	10,267,784	-624,525	
263	29/04/2009		93.87	108.36	94.12	9,681,121	10,386,776	-705,654	
264	29/04/2009		92.51	108.04	92.65	9,601,552	10,367,389	-765,837	
265	29/04/2009		91.58	107.61	91.58	9,542,809	10,343,292	-800,483	
266	29/04/2009		91.98	108.42	92.01	9,558,985	10,375,391	-816,406	
267	29/04/2009		91.46	107.54	91.63	9,536,039	10,329,778	-793,739	
268	29/04/2009	30/04/2009 00:46	92.52	107.04	92.57	9,580,959	10,301,669	-720,710	
	Period	00:25					Av diff	-746,765	scmd
							25mins diff	-12,965	scm
							Recorded DVOL	10,542,350	scm
							Corrected DVOL	10,555,315	scm
							Error DVOL	-0.122826	%
							Correction Factor	1.001230	