

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

Reconcile?	Y
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Safety Issue?	N
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Thesis Report No.	
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**1. EXECUTIVE SUMMARY**

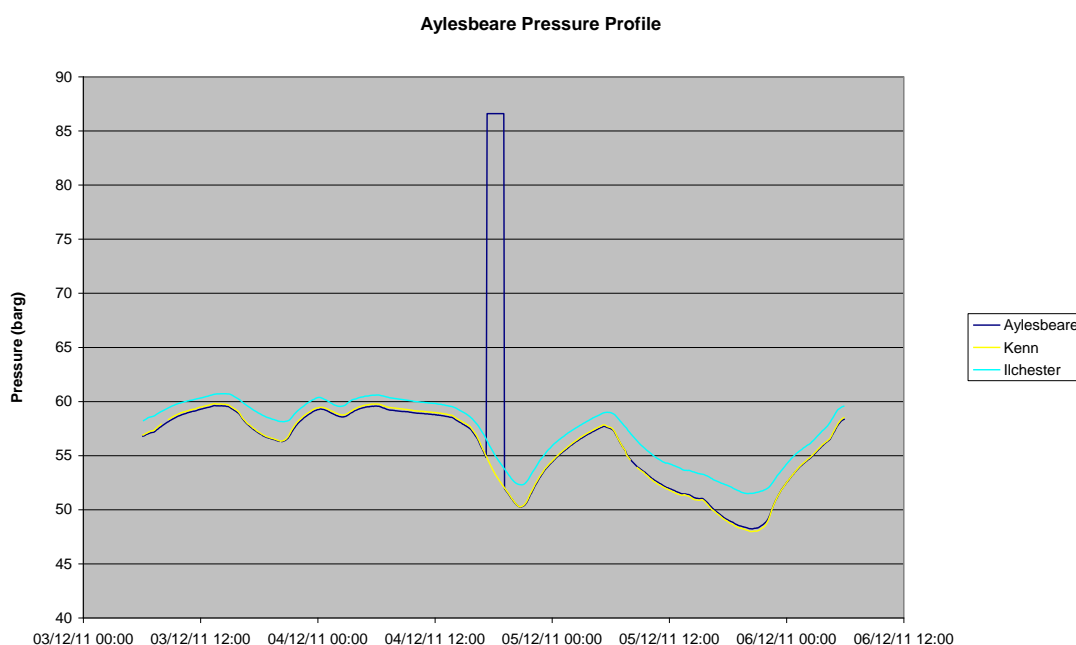
SITE NAME	Aylesbeare	
LDZ	SW (Wales & West)	
START DATE (actual)	4 <sup>th</sup> December 2011	
LAST GOOD DATE		
END DATE	4 <sup>th</sup> December 2011	
SIZE OF ERROR (No reconciliation required if under 0.1%)	4.0439 % over registration (360,240 kWh)	
ESTIMATE – Y/N?		
ROOT CAUSE	Pressure transmitter locked up	
ANALYSIS	Pressure corrected from nearby offtake (Kenn)	
METER TYPE	Orifice Plate	
AUTHOR	B. Kirkman	
CHECKED BY	S. Kimpton	
ACCEPTED BY NETWORK		
RECONCILIATION	Distribution	Transportation

## 2. BACKGROUND

Aylesbeare Offtake is a single orifice plate meter stream site using a gas chromatograph for RD and CV determination and PTZ correction. The pressure transmitter locked up at 17:20 until 19:03 on 4<sup>th</sup> December 2011. No in-day correction was made.

## 3. ERROR QUANTIFICATION AND IMPACT

The archived metering and gas quality data was downloaded from HPMIS. The pressure at Aylesbeare was compared to the nearby offtakes of Kenn and Ilchester (see Figure 1). The pressure at Aylesbeare and Kenn matched very closely with less than 0.1 bar offset near to the time of the error.



**Figure 1 - Site Pressure Comparison**

The small offset was corrected for using a linear interpolation of the pressure offset just before and after the error (see Figure 2). The corrected pressure was then used to recalculate the volume of gas metered for the duration of the error.

The flow rates were recalculated using both the recorded pressure readings (86.6 barg) and the corrected pressure readings (Kenn with offset) on a 4 minute basis. The volumetric error was calculated as the difference between the recorded and corrected volumes. A daily correction factor was then calculated to be applied to the Gemini billed volumes.

The overall error is an over-registration of 4.0439%.

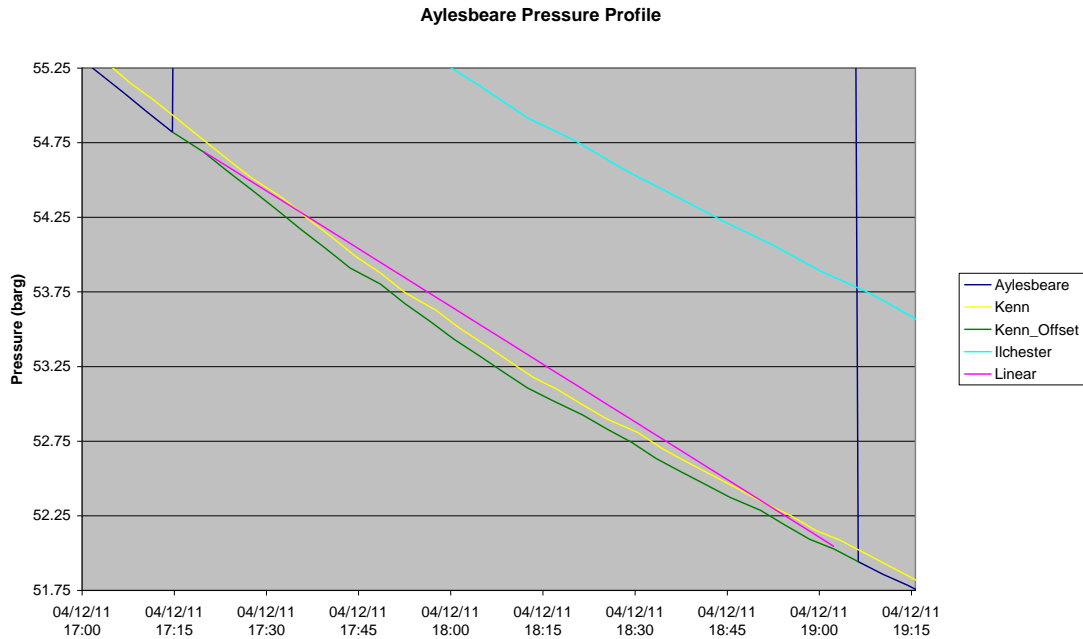


Figure 2 - Pressure Correction (detail)

**4. CAUSES**

The pressure transmitter locked up (failed high) at a value of 86.6 barg.

**5. RECOMMENDATIONS AND LEARNING**

The error should be reconciled using a daily correction factor of 0.959561 applied to the Gemini billed total (8,908,200 kWh).

**REFERENCES**

HPMIS Database

Aylesbeare\_PressureCorrection.xls – Spreadsheet showing pressure correction calculation

Aylesbeare\_ErrorCalculation.xls – Spreadsheet showing final volume error calculation

**VERSION HISTORY**

<i>Version</i>	<i>Changes</i>	<i>Author</i>	<i>Date</i>
<i>0</i>	<i>First Issue</i>	<i>B. Kirkman</i>	<i>13/04/12</i>

**DISTRIBUTION**

*Wales & West Utilities*