



## CPA Tech Note

### CPA Flow Conditioner as a Secondary Measurement Device

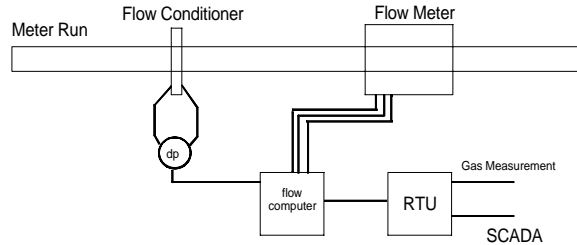
There is a direct improvement in measurement uncertainty of the metering system when a secondary meter is employed. Usually the costs of the secondary meter play heavily in the choice to install one.

The CPA 50E flow conditioner when used for flow conditioning service can be utilized as a secondary meter. Here is how it works:

The flow conditioner plate is tapped for differential pressure signals or the flanges holding the flow conditioner plate are tapped.

The differential pressure signals are sent to a differential pressure transducer and then to an open port of your flow computer. The flow computer carries out a simple orifice plate calculation. This calculation can then be used for a primary to secondary flow measurement comparison either at the station or via SCADA at your central offices.

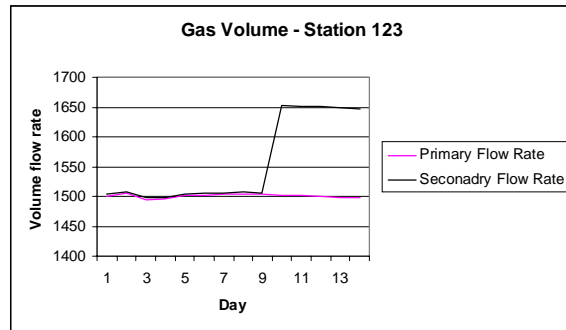
The differential pressure signals follow a square root relationship to flow rate. Calibrations at flow labs has shown the signal to be extremely linear and to deviate from reference meters throughout the flow range by no more than  $\pm 0.3$  percent.



The flow rate comparison can be set up utilizing:

$$\frac{A - B}{A} \times 100 = \text{Primary to Secondary Flow Rate}$$

With differences set to alarm when the difference exceeds operationally defined values. The comparison could look something like this:



On day nine of the month, something has gone wrong with the measurement and a measurement technician should investigate.



**For more information on how the CPA 50E Flow Conditioner can improve your orifice and ultrasonic measurement, contact Canada Pipeline Accessories at 1-888-FIX FLOW**

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