Hi/Lo Validation Parameters — Worked Example

Hi/Lo Validation Parameters are utilised during the course of meter readings in the field. They were initially set at +/-25% applied to the estimated index value. In 2003, a sub-working group recommended to the Victorian Gas Retail Rules Committee (VGRCC), now the GRCF-V, to change this parameter to be: +100%/-10%. This recommendation was accepted as they would avoid the likelihood of frequent incidences of forced reads.

The new parameters for field validation of meter reads imply an upper limit of +100% of the point estimate derived in line with Attachment 4 of the Retail Market Procedures (Victoria) and a lower limit of 10% of the same estimate. A worked example will illustrate the application of the revised parameters. Assume a supply point with a Base Load of 50MJ per day and a Temperature Sensitivity Factor of 65MJ per EDD. There are 61 days in the current billing period and we have recorded 400 EDDs.

Example

Date	Reading (m^3)	Flow (m^3)	Energy (MJ)
4 Mar 01	7560	104	4,014.4
5 May 01	7868	308	11,888.8
4 Jul 01	?		?

Assume $1m^3$ = 38.6MJ

STEP 1 Calculate the point estimate, based on the BL and TSF for this supply point:

Estimated Consumption = 50 * 61 + 65 * 400 = 29,050MJ

STEP 2 Apply the parameters of 100% and 10% to calculate the High and Low Consumption limits:

High Consumption Limit = (1+1) * 29,050 = 58,100MJ
Low Consumption Limit = (1-0.9) * 29,050 = 2,905MJ

STEP 3 Divide the High and Low Consumption limits by the Heating Value and Pressure Correction Factor (PCF) to arrive at corresponding flows (m^3):

High Flow Limit = 58,100 ÷ 38.6 ÷ 1.0109 = $1,489m^3$
Low Flow Limit = 2,905 ÷ 38.6 ÷ 1.0109 = $74m^3$

STEP 4 Add the High and Low Flow Limits to the previous index reading:

High Index Limit = 7,868 + 1,489 = $9,357m^3$
Low Index Limit = 7,868 + 74 = $7,942m^3$

In this example, the High expected reading will be 9357 and the Low will be set at 7942. Any reading that is outside this range will cause the Portable Data Entry (PDE) to emit a warning sound to the meter reader. If the meter reader keys in the same index value, the number will be stored but with a flag to indicate that it has failed the Hi/Lo test.