



APLMF Survey on the test procedure for the verification of CNG dispensers

Economy Name: _____

Name of person completing the survey: _____

Organisation responsible for the tests procedures within your economy: _____

- Please complete this survey to indicate how your economies current test procedures align with the test procedures described below.
- Only tick (✓) one box per test.
- Send your completed survey to Secretariat@aplmf.org by: _____

Survey

Test Name	Procedures Description	Fully aligns	Partially aligns	Does not align
Verification of CNG Dispensers	Process to inspect whether they comply with the approved pattern, to test to ensure that they are operating within the maximum permissible errors and finally to certify by marking them with a seal.			
Test Method	<p>While gravimetric testing of CNG dispensers is sometimes used for verification, the disposal of the dispensed gas after testing presents a problem and this method of testing requires the transport of heavy and bulky test cylinders and calibrated scales.</p> <p>If a master meter in series with the existing dispenser meter is used to meter the gas into a vehicle, the problem of gas disposal and the need to transport test cylinders and scales can be eliminated. The following information describes the master-meter method of CNG dispenser testing.</p>			

<p>General safety requirements</p>	<p>Due to the highly flammable nature of the CNG and the movement of vehicles during the test, the following preparation is recommended, as to reduce potential risk, before any testing is commenced:</p> <ol style="list-style-type: none"> 1. Ensure that a suitable fire extinguisher is available. 2. Keep ignition sources away e.g no smoking, engine and cell-phone off. 3. Allow proper ventilation at the vicinity of the test site 4. Position safety cones or bollards at suitable position at the test site 5. Ensure proper grounding if portable cylinder is used 			
<p>Required equipment</p>	<p>The following equipment is required to carry out verification of a CNG dispenser.</p> <ol style="list-style-type: none"> 1. Master meter, having a valid calibration certificate and traceable to the National Metrology Institute. 2. Data sheet, calculator 3. Appropriate hoses and fittings 			
<p>Visual Inspection</p>	<ol style="list-style-type: none"> 1. Check that access to the metrologically affected working parts, adjustments and programming are effectively prevented by sealing arrangements as approved by the authority 2. Check that the dispenser is using the International system of units for the register or display. The display of total delivery, total sale and unit price shall be fully visible. 3. Check that the hose is in reasonable condition and is not badly chafed, split, worn, collapsed or bulging. 4. Check that the dispenser is clearly and indelible marked in such a way as to be easily readable and the following information should be included: 			

	<ul style="list-style-type: none"> - manufacturer's name or registered trademark - model or type designation - serial number - approval number 			
<p>Performance test procedure</p>	<ol style="list-style-type: none"> 1. Turn the master meter on and allowed to warm up for about 15 minutes. 2. Check and adjust the master meter zero. Zero the dispenser totaliser by pushing the reset button on the display. 3. Plug the dispenser nozzle into the master meter 4. Fill the next vehicle available <ol style="list-style-type: none"> a. Note: minimum size of fill for a test is 3 kg 5. Record the measured value displayed on the dispenser and the value indicated by the master meter. Calculate error for dispenser as follows: $Error (E) = \frac{M_d - M_t}{M_t} \times 100$ <p>M_d = mass of CNG indicated by dispenser (kg) M_t = mass of CNG indicated by master meter (kg)</p> 6. Take at least 4 reading (4 runs); the minimum size of fill for a test is 3 kg. <p>The error must be within ± 2.0 %. If the dispenser flowmeter is to be adjusted, the new frequency (or K-factor) can be calculated using the following formula:</p> $New\ frequency = old\ frequency \times \frac{average\ (mass\ indicated)}{mass\ indicated}$			

Thank you for completing this Survey

Best Regards

APLMF SECRETARIAT

C/o Trading Standards

Ministry of Business, Innovation & Employment

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