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TECH TALK 0086
WEIGHTS & MEASURES REGULATIONS
02/09/2008

1.0 Introduction

At present, the state governments of Australia can each have their own detail requirements for W&M: for example, NSW requires lead seals on all critical components which may affect accuracy, Queensland does not.

By 2011, all weights and measures will come under a single department such as NMI and uniform requirements will apply throughout Australia. In preparation, the following documents have been issued by NMI in collaboration with industry:

NMI V0	Uniform test procedures: General information
NMI V9 – 1	Uniform test procedures: Bulk meters, liquid hydrocarbons
NMI V9 – 2	(In preparation) Uniform test procedures: Bulk meters, LPG
NMI V16	Uniform test procedures: Vehicle tanks

Others will follow as they are written.

Following is a summary of current requirements as applied in NSW. There will still be variations on these inter-state, you must know your own local requirements until that happy day when uniformity reigns.
Also, as always, there will be variations in interpretation of detail by individuals in Authority.

2.0 Terminology

The terminology is incredibly confusing and many of those within the government departments and industry will occasionally use an incorrect term – so beware!

"Calibration" is the act of establishing accuracy. "Calibration" is not a legal term

"Certification" and "Verification" are the acts of examining the equipment (including its accuracy) to ensure it complies with all requirements.

"Certification" is reserved for licensed industry personnel (e.g. Liquip certifiers).

"Verification" is reserved for government inspectors.

<u>Certification and Verification Marks (Stamp)</u>

(a) Every system must have only one *"Stamp"* which is the legal display that a certifier or inspector has declared the system to conform with all requirements and accuracy.

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(b) This legal Stamp must have:

- Company (or department) code mark
- Individual's identification code
- Date code

"Sealing Seals" these are all the other lead seals installed on a system to prevent tampering, removal etc. These seals require:

- Company (or department) code mark
- Individual's identification code
- NO date code. This goes only on the main legal *"Stamp Seal"*

A system can have only one legal *"Stamp"* seal but any number of sealing seals.

"In – Service Inspection" is the act of checking a system, including its accuracy, but without disturbing any of the seals. Seals are disturbed only if the system is found to be at fault. If a fault, such as inaccuracy, is found, the main Stamp must be removed or defaced then the fault is fixed and a new Stamp is fitted and marked.

3.0 Specific Examples

3.1 Electronic register with remote pulser

In this case the legal Stamp seal will be on the register with a sealing seal on the remote pulser.

3.1.1 Register faulty

In this case, remove the Stamp seal from the register and the sealing seal from the pulser. Fix or replace the register, re-certify (re-calibrate) and fix and mark a new Stamp seal to the register and sealing seal to the pulser *even though it was not disturbed.*

Records of the repairs must be retained and fees may be payable to W & M.

3.1.2 Pulser faulty

Exactly as above. All seals and the main Stamp must be re-made after repairing and certifying (re-calibrating) even though the register was not disturbed.

3.2 Diptronic with several compartments – current system, no multiple stamping plate

3.2.1 Single compartment faulty

In this case the legal Stamp seal will be on the DIP200 CPU calibrator with sealing seals on each of the compartment sticks and the front cover of the CPU.

The main Stamp mark and the single faulty stick seal must be removed and the stick repaired. That single compartment only must then be re-certified (calibrated) before the new legal Stamp

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is fitted to the CPU calibration plate and a new sealing seal to the single stick. All un-touched sticks retain their (un-touched) sealing seals.
(This is not a strictly correct procedure but as the approval was given on this understanding, it is being treated as allowable until the current review with a Stamping plate system is introduced for new units).
Records of the repair must be retained and fees may be payable to W&M department in some states.

3.2.2 CPU faulty

In this case, the main Stamp seal ***AND ALL OTHER SEALING SEALS*** must be removed. After repairing or replacing the CPU, ***all*** compartments must be re-certified (calibrated) then a new main Stamp fitted to the CPU calibrator plate and new sealing seals to all sticks and the CPU front plate.
Again, records must be retained and fees may be payable.

3.3 Diptronic with several compartments – future system with stamping plate for individual compartments

Future Diptronic systems will require a stamping plate at ground level which will show a symbolic lead seal for each compartment. Details are yet to be received from NMI regarding the operation of this system but it is likely that sealing seals will be required on the stick heads but on the ground-level stamping plate it will have multiple legal Stamps one for each compartment and the CPU calibrator plate will then revert to a simple sealing seal. This will clarify the legal implications of the current single Stamp for the whole system as the new method will treat each compartment as a separate system.
Strictly speaking, if one stick goes faulty at present then the whole tanker should be re-certified (re-calibrated).

3.4 Converting current simple Diptronic to COPS by changing Eprom.

Remove the Stamp seal and the front cover sealing seal to change eprom etc.
When re-assembled, carry out volume reading accuracy checks at several points in all compartments before re-Stamping and re-sealing the CPU. Stick seals are not touched.

Future Diptronic CPU's will contain the COPS software as standard and seals will not need to be broken.

3.5 Visibility of labels

It is a requirement that the W & M inspector or the company certifier record the make, model, serial number and NMI approval number off the data plate plus any other information relevant to the testing procedure.
Some registers have been defected as they had been mounted in such a way that the data could not be read without removing a seal to move the register.

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3.6 Labelling

This is not to do with sealing but is listed as a common omission:

Each register shall show the Minimum Delivery and the Product name.
For Diptronic, in addition the Min Volume and Max Volume.
These labels are frequently omitted and can be cause for an Inspector to fail a system.

DG 02/09/08