




<b>POLICY</b>		 <b>NRCS</b>   national regulator for compulsory specifications	
Policy Number	LM-P-021-08-10	Compiled by: SJ Hattingh	Signature: 
Effective Date	2010-08		
Revision No:	0	Approved by: K Temba	Signature: 
File name:	LM-P-021-08-10_TA and Verification Process for Gas Metering excluding meters for domestic use		

## 1. Background

As a result of a request from industry to regulate gas metering systems the Legal Metrology policy LM-P018-10-09 was developed whereby the OIML recommendations were accepted as an interim South African Standard. The need was then identified for a Legal Metrology policy to indicate a uniform course of action when gas measuring systems or modules are presented for type approval and verification. Gas meters/measuring systems for used in domestic households are excluded from this policy.

## 2. Scope

This policy describes the course of action when gas measuring instruments used for a prescribed purpose (trade use applications), are required to undergo type approval evaluation, initial verification or subsequent verification.

## 3. Reference documents

Trade Metrology Act 1973 (Act 77 of 1973)

OIML - R137 – Gas meters

OIML R140 – Measuring systems for gaseous fuel

SANS 1698 – Verification standards for the verification of volume measuring instruments, including commercial standards of volume.

## 4. Policy

### 4.1 Metrological Controls

Measuring systems subject to legal metrological control shall be subjected to:

- Type approval
- Initial Verification
- Subsequent verification (Not utility meters at this stage)

### 4.2 Type Approval

#### 4.2.1. General




The type approval of a measuring system is a general concept because a system may involve modules (components) located very far away from the meter, which may be shared with other systems. It may also involve approval against document evaluation. (e.g. Calorific values).

Type Approval shall consist of either measuring system approval or module (component) approvals.

Air may be used to conduct type approval tests provided that evidence can be presented that the use of air will not give a result different to that which will be obtained using the product for which type approval is sought.

#### **Measuring System Approval:**

Measuring system approval means that the whole of the measuring system is type approved and the SA number is allocated to the whole of the measuring system which means that when a module(component. e.g. Calculator) is replaced with a different make or model it shall constitute a modification.

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**Module (Component) Approval:**

Modules (components) may be individually type approved. The individual component will then be awarded a SA number. Individual type approved components may constitute a measuring system to be used for a prescribed purpose (trade).

Only type approved modules (components) may be used for a prescribed purpose (trade use/ custody transfer)

**4.2.2 Type Approval test results**

The following test results for measuring systems or modules will be considered towards Type Approval in South Africa:

- OIML Certificate of Conformity and associated test reports.
- Test results obtained from an accredited test laboratory. The laboratory responsible for the test results shall be currently accredited as a test laboratory (SANS/ISO 17025) specifically for the test requirements specified in the applicable normative references. Evidence of the accreditation to be submitted for inspection. Type approval of the instrument(s) is subject to the validation of the evidence submitted.
- Proof of results from tests performed with air and tests performed with gas shall be presented to establish whether the instrument may be verified using air only. This will be documented in the pattern description.

**4.3 Initial Verification**

**4.3.1 General**

The purpose of the initial verification is to verify whether the installation (various modules/components or a measuring system) complies with the applicable normative references and approval documents.

Initial verification shall only be performed by verification laboratories accredited in terms of SANS10378.

Initial verification shall be performed on:

- new installations,
- installations that have never been verified before as a complete measuring system;
- an installation where modules (components) have been replaced with modules that have never been verified in the applicable installation.

Initial verification consists of two stages:

- First stage of initial verification, and
- Final stage of initial verification

**First stage of initial verification**



All modules (components) shall be verified individually by an accredited laboratory (SANS10378), before the final stage of initial verification may take place.

**Final stage of initial verification**

The final stage of the initial verification shall be performed on a measuring system with all type approved modules (components) installed, in-situ (on site) with the product intended to be measured.

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Initial Verification Certificate to contain the names, models and approval mark of all modules (components) that make up the measuring system and the Certificate needs to be available until the next Initial verification.

#### 4.4 Subsequent Verification

Subsequent verification shall only be performed by verification laboratories accredited in terms of SANS10378.

Subsequent verification shall be performed on:

- complete measuring systems, or
- individual modules (components) in a laboratory.

Subsequent verification(s) shall be performed at intervals not exceeding twelve months for individual modules or measuring systems.