




<b>POLICY</b>			
Policy Number	LM-P-011-09-08	Compiled by: B Beard	Signature: 
Effective Date	12 March 2007		
Version No:	1	Approved by: SH Carstens	Signature: 
File name:	LM-P-011-09-08-Reverification of electronic water meter components only		

## 1. Scope

When a laboratory only accredited to verify electronics on a prepayment system re-verifies or verifies water meters after repair.

## 2. Reference documents

SANS 1529-1: Clause 4

SANS 1529-9: Scope and definition of prepayment measuring system.

## 3. Policy

### CURRENT SITUATION:




1. Certain labs are accredited only to verify the accuracy of electronic components and therefore only do limited testing and can't be held ultimately responsible for meter accuracy. They are held responsible for seeing that a new initially verified mechanical meter is verified and sealed.
2. Certificates issued by the electronics lab contain reference to the initial verification certificate issued by the mechanical meter supplier and are considered as the final verification certificate for the system (including meter).
3. As there are no verification periods for water meters, once verified systems are installed and used until breakdown.
4. In this case the electronics is just a slave driven by the mechanical meter but with no means of adjusting accuracy of volumetric measurement.
5. There is a real possibility of electronic failure, or suspicion thereof, and labs have included re-verification of the electronic component in their scope of accreditation. A full verification certificate shall not be given as only the electronics are tested and the mechanical meter could be totally out of tolerance.

### POLICY:

The following policy will be applied until such time as experience indicates that an amendment is necessary.

When the electronics of a prepayment system fails and seals are broken in order to check or make repairs:

1. The whole system including mechanical meter, pulse generator and shut off valve, shall be made available for inspection by the verification officer responsible for verifying the electronics.
2. Verification of repaired electronics can only be done if mechanical meter verification seal is in place and the verification officer has no reason to believe that it has become inaccurate or defective. The onus will be on the verification officer to decide.
3. If the mechanical meter is still sealed and deemed to be within accuracy requirements but the original seal on the electronics is broken a supplementary certificate shall be issued. If the repairer has evidence that the repair did not affect the accuracy of electronic volume display or monetary calculations and display no testing is required. If necessary to obtain evidence of compliance some or all of the tests required by SANS 1529-9 may be done.
4. The supplementary certificate shall comply with requirements of SANS 10378 and include the following:
  - That the repair in no way compromised the metrological integrity of the prepayment system.

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- The serial number and date of the original verification certificate issued by the lab verifying the electronic component, shall be used.
5. If the accuracy of the mechanical meter is suspect or the meter is replaced, a full re-verification of the system (mechanical meter and electronics) shall be carried out and the necessary verification certificates issued. The verification certificate for the electronics shall contain a reference to the mechanical meter verification certificate as per the requirements of the quality system of the lab responsible for the verification of the electronics component. This means that even if the electronics is not suspect it must be re-verified when the mechanical meter is replaced in order for the verification of the system to be valid (i.e. certificate for the electronics component bears reference to the installed meter verification certificate number).
  6. If a new electronics module is fitted to the system (new serial number) a full system verification is required as for new systems. The mechanical meter shall be verified according to SANS 1529-1 and a certificate issued and all SANS 1529-9 tests shall be done on the electronics component, including the operation of the shut off valve, and a full verification certificate shall be issued. The verification certificate for the electronics shall contain a reference to the mechanical meter verification certificate as per the requirements of the quality system of the lab responsible for the verification of the electronics component.
  7. If the electronics was merely retested and no seals are broken then a new verification certificate may not be issued in terms of the accreditation as the mechanical meter will not have been verified. It will be acceptable in this case if another document is issued to say that the electronics components were tested and found to be within manufacturers specifications.