



HELLENIC ELECTRICITY DISTRIBUTION NETWORK OPERATOR S.A.

NOTICE OF CALL FOR TENDERS No ND-207

PROJECT: "Pilot Telemetry and Management System for the Electric Power Supply Demand by Residential and Small Commercial Consumers and Implementation of Smart Grids"

**TECHNICAL DESCRIPTION FOR
SEALING OF THE METERING EQUIPMENT**

CONTENTS

1. SCOPE.....	3
2. METERS / INSTALLATION BOXES SEALING	3
3. SEAL MANAGEMENT	4
4. INSPECTION PROTOCOL	4
5. SUPPORT EQUIPMENT	4

TECHNICAL DESCRIPTION
FOR THE SEALING OF THE METERING EQUIPMENT

1. SCOPE

This description determines the sealing methodology for security and anti-tampering purposes of single-phase and three-phase Low Voltage (L.V.) meters. The primary purpose of sealing is to record any unauthorized intervention on metering equipment elements.

2. METERS / INSTALLATION BOXES SEALING

Additional security processes are required in order to be able to detect tampering in meters. In addition to internal tampering alarms inside the meters as specified elsewhere in the tender issues, external physical security in the form of meter seals is required. HEDNO's requirement is that meter seals should be easily validated concerning unauthorized substitution or any form of tampering with inspection, which can occur at any time. To achieve this, HEDNO is seeking a methodology to validate any tampering or modifications to the meter seal, such as:

1. Upon installation and successful testing of the meter and associated telemetry functions, the installer seals the meter with a bar-coded seal and reads this barcode, using a hand-held device.
2. The hand-held device, now containing the meter bar code and meter seal bar code, transmits or stores and later transmits these data to the asset management system.
3. Once the authorized personnel revisit the meter, both meter and seal are scanned with a handheld unit and this information is compared to the previous scan data. A comparison of the current scan to the previous scan will establish whether the seal is valid.

HEDNO presents this sample methodology only as a guideline. Vendors are encouraged to propose a methodology for sealing assets which can be easily verified upon inspection. Consequently, the following are the basic requirements:

1. The Contractor shall use a seal which has a unique bar code.
2. The Contractor shall associate a seal with a unique meter identification. This unique association of the meter may be established using a separate and unique bar code for the meter.
3. The Contractor shall use a handheld device to scan the seal bar code and the meter bar code.
4. The Contractor shall register the seal bar code and the meter bar code in an asset-management database.

3. SEAL MANAGEMENT

Seal management refers to safeguarding seals prior to use, so that they cannot be duplicated or otherwise tampered, as well as after the seal has been used. In this case, once a seal is removed from the meter, safe management for the disposal of the used seal and seal parts is required.

The seal security system will cover overall management processes and will help to ensure the prevention of unauthorized access.

5. The Contractor shall ensure that a process is in place which ensures that **seals**, as provided from a manufacturer, are unique and are not counterfeit.
6. The Contractor shall ensure that the seals are not patented.
7. The Contractor shall ensure that a process is in place which ensures that assigned **serial numbers to seals** are unique and cannot be duplicated.
8. The Contractor shall implement a process about seal management in order to, at a minimum:
 - a) Personnel having access to seals is authorized and strictly identified.
 - b) Ensure seals provision from the manufacturer to HEDNO's warehouses.
 - c) Seals can be color coded so that different division, group responsible, geographical area, etc. can be identified.
 - d) All seals and relevant files are kept in a controlled area to prevent access from unauthorized people.
9. The Contractor shall ensure that a process is in place that guarantees that seals that are removed from field use are protected until they can be registered as not in use and subsequently stored for later analysis or permanently destroyed.

These processes shall be fully described in the offer by the Tenderer.

4. INSPECTION PROTOCOL

Detection of tampering in the meter is performed by visual inspection of the meter seal. Consequently, personnel must receive adequate training with regard to the inspection of meter sealing.

10. The Contractor shall ensure personnel training as regards the inspection of seals.

5. SUPPORT EQUIPMENT

11. The Contractor shall provide the required handheld reading units that will be used for bar code scanning of the seals and the meters.
12. The Contractor shall provide all seals used to secure meters.