

# **IMPLEMENTATION PROCEDURE OF CNG CYLINDER MANDATORY PERIODICAL INSPECTION**

## **1. PURPOSE**

To regulate the implementation procedure of the "Technical Specification for CNG seamless steel Cylinders Periodical Inspection, based on standard IRAM 2529" in full compliance with standards GE N° 1-115 to 1-119 and supplementary regulation.

## **2. SCOPE**

This procedure is applicable to all CNG storage cylinders, whether installed or not in vehicles, authorized by GAS DEL ESTADO, including the pertinent documentation crediting their correct and legal manufacturing and/ or installation.

## **3. RESPONSIBILITIES**

3.1 Inspection center: It shall be governed by the Regulation for Manufacturers and Importers, which is part of standard GE N°1-115 according to what is set forth in point 1.1

3.2 Filling station: for the implementation of the user's duty to comply with the Vehicle's Annual Inspection, the filling station personnel shall visually and rapidly verify, before filling, that the certification sticker with the expiration date of the last Annual Inspection, placed in the engine by the Installation workshop, has not been altered.

Until the use of this sticker is implemented or as long as there are doubts concerning it, the dispensing attendant shall request the user to show the updated conversion card. If the documents shown have expired, the vehicle shall not be refueled.

3.3 By complying with the Technical Specification for Cylinders Inspection, the Cylinder Inspection Center is certifying, with a high level of reliability, that the cylinder may be enabled for a new period, according to the applicable technology.

3.4 Gas del Estado and/ or Certification Organizations shall inspect Cylinder Inspection Centers and those inspections shall be recorded in a Book of Records numbered on each page, available at each Center.

Observations shall refer to:

- Inspections of operating cylinders on the date of the visit
- Condition of the equipment and skills of human resources
- Decision of whether to condemn refused cylinders or not
- Other considerations the inspector may deem convenient

3.5 When GAS DEL ESTADO acts as authority of the Inspection Center and as Certification Organization, apart from the regular reports, it shall register its observations in the same Book of Records with the pertinent references.

#### **4. CYLINDER'S EXPIRATION**

##### **4.1 CYLINDER UNINSTALLED OR TO BE RE-INSTALLED**

Before installation, cylinders of more than two years considered as of their manufacturing date or the last periodical inspection in the country shall be subjected to the Cylinder Mandatory Inspection, according to the Technical Specification stated in point 1, and verifications shall be performed to ensure their compliance with GAS DEL ESTADO'S requirement and Resolution SSE N° 84/90

##### **4.2 INSTALLED CYLINDER**

Any cylinder that upon vehicle's annual inspection date or within the following 6 months has completed its 5 year term considered as of its manufacturing date or the last mandatory inspection performed in the country and verification according to point 4.1, shall be considered expired.

##### **4.3 APPLICABLE EXCEPTION FOR SYSTEM STANDARDIZATION**

The following criteria to determine the expiration of the cylinders shall apply as of the date determined by GAS DEL ESTADO for the enforcement of the technical specification mentioned in point 1, and only for vehicles converted before the previously indicated date: a cylinder shall be considered expired if upon the Vehicle's Annual Inspection date, it is demonstrated that it has been installed 4 years ago or more, except that having complied with this condition, it is not within the indications of point 4.2

4.3.1 Besides the exception included in point 4.3, GAS DEL ESTADO may bring forward the marking and/ or series Cylinder Inspection, if deemed convenient and reasonable, based on local and/or international background.

#### **5 PROCEDURE**

##### **5.1 CYLINDER DISMOUNTING**

5.1.1 When performing maintenance operations, repairs, and/ or Periodical Annual Inspection and/ or modifications on a CNG vehicle, Installation workshops must verify that the storage cylinder has not expired according to point 4.

5.1.2 In case of detecting that one or more cylinders have extended over the period indicated in point 5.1.1, they shall be dismantled. In order to start the Cylinder Inspection Procedure, the Installation workshop shall make the user sign the Letter of Conformance on behalf of the cylinder's owner should the cylinder be condemned to destruction, according to the implementation of the standard indicated in point 1.

The letter shall include the price to pay in case the cylinder is approved or condemned.

5.1.3 Recommend the user that cylinder CNG content shall be the minimum possible before dismantling.

5.1.4 The procedure to be applied shall vary if:

a) The vehicle has no cylinder other than the one indicated in 5.1.2  
Installation workshop personnel must cross the yellow card with the word "VOID" and shall issue a duly signed voucher indicating:

- Installation workshop identification and person responsible.
- Date of cylinder's dismantling
- Complete identification of dismantled cylinder (make, number, etc)
- Vehicle make and license plate.
- CNG Fuel System make and Serial number.
- Name and document number and signature of the owner or authorized user.

A list of authorized Cylinder Inspection centers shall be attached to the voucher. This list shall be a copy of the one provided by GAS DEL ESTADO

b) The vehicle has another cylinder that may continue operating with CNG.

Installation workshop personnel must remove the yellow card and shall issue a new document as in the case of a modification.

Such documentation shall be drafted without changing the original control number.

This procedure shall be applicable as long as the remaining installation is conditioned so as to comply with the safety aspects of assembly standards.

For dismantled cylinders, a voucher shall be issued as indicated in 5.5.1.a)

5.1.5 The Installation workshop shall check the absence of leaks in the disassembled cylinder valve and shall secure its lock up device through a sealed fastening system for preventing valve free opening.

5.1.6 All the elements removed for cylinder dismantling shall be returned to the user.

## **5.2 CYLINDER TRANSPORTATION**

5.2.1 Cylinder may be transported as follows:

- a) By the user:
  - Transport from the Installation workshop to the Inspection Center according to the following additional conditions:
  - It shall be depressurized to atmospheric pressure eliminating all the gas in an installation at the Installation workshop, approved by Gas del Estado.
  - It shall be conveniently immobilized in the vehicle so as to avoid any type of movement during transportation.
- b) By the Installation workshop:

Same as previous point, or else, it may be performed even if the cylinder contains pressure gas, in a vehicle specially designed and approved by Gas del Estado.
- c) By the Inspection Center:

Same as previous point

5.2.2 When the Cylinder Inspection Center includes the Installation workshop of one or more equipment manufacturers and complies with the pertinent requirements, some of the represented companies may mount or dismantle the installed cylinder at that center, besides what is set forth in point 5.7

## **5.3 CYLINDER RECEPTION AT THE INSPECTION CENTER**

The Inspection Center shall only receive cylinders with the corresponding conversion documents and the voucher submitted by the Workshop upon dismantling, so as to guarantee that such cylinder is part of a conversion equipment and also, the Letter of Conformance according to point 5.1.2.

**5.4 The Inspection Center shall implement the procedure** according to the Technical Specification for seamless steel cylinder Periodical Inspection based on IRAM 2529 standard.

Results of tests and inspections shall be recorded in a registry and a certificate of these results including the following information shall be issued:

- Identification of the Center and signature of the technical responsible person.
- Complete cylinder identification according to IRAM 2526 standard or its standard of origin
- Inspection date
- Expiration date

## **5.5 INSPECTION RESULT**

### **5.5.1 SATISFACTORY RESULT**

The cylinder shall be returned to the user together with each certificate indicated in point 5.4 and its date, tare and seal of the Inspection Center and Certification Organization engraved in the ogive

### **5.5.2 UNSATISFACTORY RESULT**

The cylinder shall be made useless according to the "Technical specification for CNG seamless steel cylinder Periodical Inspection, based on IRAM standard 2529"

The user shall be provided with the corresponding certificate together with the useless cylinder. Gas del Estado may request user's authorization to perform, free of charge, supplementary tests before rendering the cylinder useless.

## **5.6 CYLINDER REINSTALLATION**

It must only be done at the Installation workshop authorized by GAS DEL ESTADO, according to standards GE N° 1-115 and 116.

During the authorization or re authorization of motor vehicle CNG Fuel System, the Installation workshop must verify leak absence and good conditions and operation of the cylinder valve under service conditions.

Once the cylinder is installed in the motor vehicle from which it was dismantled, a new set of documents shall be issued (card, conversion chart and motor sticker) without changing the original control number

## **5.7 REPLACEMENT OF CONDEMNED CYLINDERS**

It may be applied to a new cylinder or any other cylinder complying with the indications of point 4.1.

## **6. DEFINITIONS**

### **6.1 ANNUAL VEHICLE INSPECTION**

According to point 3.6.12 of standard GE N° 1-115, it shall be performed annually, as of the date in which the conversion equipment is mounted on the vehicle.

### **6.2 MODIFICATION**

Modification of a conversion equipment mounted on a motor vehicle and previously enabled implies replacing, removing or adding any of its main components, that is to say, the regulator and the CNG storage cylinder.

The Installation workshop shall issue a new set of documents without modifying the original control number of the cylinder.

## **7. FORMS**

Standardized forms and records used for the whole system to simplify the procedures of internal control and auditing shall be attached to this annex.