

**MINISTRY OF THE ECONOMY, DIGITALISATION, ENTREPRENEURSHIP AND
TOURISM**

**State Inspection for the Control of Boilers, Pressure
Vessels and Lifting Equipment
- ISCIR -**

TECHNICAL PRESCRIPTION

HYDROGEN SUPPLY INSTALLATIONS

PT C 15-2025

CHAPTER I
GENERAL INFORMATION

SECTION 1

Scope

Article 1.1. This technical prescription establishes the technical conditions and requirements for the installation, assembly, commissioning, authorisation of operation, use / operating, servicing, surveillance, technical verification in service, repair, maintenance works, as well as technical verification in service to estimate the remaining lifetime of hydrogen supply installations.

2. The provisions of this technical prescription shall apply only if there are no other specific provisions (with the same objective) in Community harmonisation legislation.

SECTION 2

Scope

Article 2. The provisions of this technical regulation apply to hydrogen supply installations used to supply hydrogen as fuel for vehicles equipped with engines designed to run on this type of fuel, as provided for in Law No. 64/2008, as amended, on the safe operation of pressure equipment, lifting equipment, and fuel-consuming appliances, as subsequently amended and supplemented.

Article 3.1. The hydrogen supply installations covered by this technical specification are:

- a) stationary exclusively for hydrogen,
- b) stationary within multi-fuel stations.

(2) Hydrogen supply installations/their components can be built in an individual or container type system of various capacities.

(3) Hydrogen supply installations may include:

- a) private access,
- b) public access.

Article 4. The hydrogen supply installations covered by this technical specification consist of:

- c) container/containers/pressure cylinders/cylinder racks (batteries) used to store the hydrogen required to power the installation,
- d) hydrogen compression system and auxiliary equipment,
- e) the hydrogen storage cascade necessary to supply the vehicles,

- f) pipelines,
- g) high pressure compressed hydrogen pre-cooling system,
- h) distribution system,
- i) control and safety systems,
- j) foundations:
- k) buildings (structures) of the hydrogen supply installation.

Article 5. The hydrogen supply installation has the following technical characteristics:

- a) pressurized container(s) for the storage of the hydrogen necessary to supply the installation (number of containers/cylinders, pressure, volume),
- b) pipelines (pressure, nominal diameter),
- c) type of compressor,
- d) type of distributor,
- e) average flow rate (kg/h),
- f) suction and discharge pressure in MPa (bar),
- g) working pressure, in MPa (bar).

Article 6. The hydrogen supply installation and its components shall comply with the climate conditions in Romania, as follows:

- a) maximum allowed temperature: + 65 °C,
- b) minimum allowed temperature: 40 °C.

Article 7. Vehicles may only be refuelled with hydrogen at hydrogen fuel stations that have been authorized to operate in accordance with the provisions of this technical regulation.

Article 8. The provisions of this technical prescription shall not apply to installations for the production of hydrogen, such installations shall be subject to the provisions of other legislative acts.

SECTION 3

Normative references

Article 9. This technical regulation refers to the following normative acts:

- a) Law No. 64/2008 regarding the safe operation of pressure equipment, lifting equipment, and fuel-burning appliances, republished in the Official Gazette of Romania, Part I, No. 399 of 8 June 2015, as subsequently amended and supplemented,
- b) Government Emergency Ordinance No. 49/2009 regarding the freedom of establishment of service providers and the freedom to provide services in Romania, published in the Official Gazette of Romania, Part I, No. 366 of 1 June 2009, approved with amendments and additions by Law No. 68/2010, as subsequently amended and supplemented,
- c) Government Decision No. 1340/2001 regarding the organization and operation of the State Inspectorate for the Control of Boilers, Pressure Vessels, and Lifting Equipment, published in the Official Gazette of Romania, Part I, No. 37 of 21 January 2002, as subsequently amended and supplemented,
- d) Law No. 190/2018 laying down measures for the implementation of Regulation (EU) 2016/679 of the European Parliament and of the Council of 27 April 2016 on the protection of natural persons with regard to the processing of personal data and on the free movement of such data, and repealing Directive 95/46/EC (General Data Protection Regulation), published in the Official Gazette of Romania, Part I, No. 651 of 26 July 2018, as subsequently amended and supplemented,
- e) Law No. 10/1995 regarding the quality in construction, republished in the Official Gazette of Romania, Part I, No. 689 of 11 September 2015, as subsequently amended and supplemented,
- f) Law No. 307/2006 on Fire Safety, republished in the Official Gazette of Romania, Part I, No. 297 of 17 April 2019, as subsequently amended and supplemented,
- g) Law No. 319/2006 on safety and health at work, published in the Official Gazette of Romania, Part I, No. 646 of 26 July 2006, as subsequently amended and supplemented,
- h) Government Decision No. 123/2015 on establishing the conditions for making pressure equipment available on the market, published in the Official Gazette of Romania, Part I, No. 181 of 17 March 2015, as subsequently amended and supplemented,
- i) Government Emergency Ordinance No. 126/2011 on transportable pressure equipment, published in the Official Gazette of Romania, Part I, No. 941 of 30 December 2011,

j) Government Decision No. 2139/2004 for the approval of the Catalogue on the classification and normal operating times of fixed assets, published in the Official Gazette of Romania, Part I, No. 46 of 31 January 2005, as subsequently amended and supplemented,

k) Government Decision No. 1058/2006 on the minimum requirements for improving the safety and health protection of workers who may be exposed to a potential risk due to explosive atmospheres, published in the Official Gazette of Romania, Part I, No. 737 of 29 August 2006,

l) Government Decision No. 245/2016 establishing the conditions of placing on the market protective equipment and systems intended for use in potentially explosive atmospheres, published in the Official Gazette of Romania, Part I, No. 286 of 15 April 2016,

m) Order No. 1636/392/2007 of the Minister of Economy and Finance and the Minister of Labour, Family, and Equal Opportunities approving the technical regulation “Regulations on Explosion Prevention for the design, installation, commissioning, use, repair, and maintenance of technical installations operating in potentially explosive atmospheres,” reference NEx 01-06, published in the Official Gazette of Romania, Part I, No. 411 of 19 June 2007,

n) Order of the Minister of Regional Development and Tourism No. 2741/2011 approving the technical regulation “Standards for the Design, Construction, and Operation of Electrical Installations in Buildings,” reference I7 – 2011, published in the Official Gazette of Romania, Part I, No. 802 bis of 14 November 2011,

o) Order No. 401/2005 of the Chief State Inspector of the State Inspectorate for the Control of Boilers, Pressure Vessels, and Lifting Equipment regarding the application of seals to installations and equipment that are unauthorized or do not meet safety requirements for operation in accordance with technical regulations, ISCIR Collection, published in the Official Gazette of Romania, Part I, No. 726 of 10 August 2005.

SECTION 4

Terms, definitions and abbreviations

Article 10. For the purposes of this Technical Prescription, the terms and definitions shall have the following meaning:

a) ***accessibility for use and maintenance*** – a feature of the hydrogen supply system that allows service or maintenance personnel to access components during operation or maintenance,

b) ***security accessories*** – devices intended to protect the hydrogen supply installation against exceeding the permissible limits. These include:

1) direct pressure relief devices, such as: safety devices, controlled safety systems,

2) limiting devices acting as means of correction or closing and locking, as well as

measuring and checking devices with a security function,

c) **accident** – fortuitous event that interrupts the normal operation of a hydrogen supply installation, causing damage and/or affecting human life or health or the environment,

d) **explosive atmosphere** – a mixture with air, under atmospheric conditions, of flammable substances in the form of gases, vapours, fog or dust in which, after ignition, combustion propagates throughout the unburned mixture,

e) **potentially explosive atmosphere** – an atmosphere that could become explosive due to local and operational conditions,

f) **competent authority** – any body or authority of a Member State of the European Union or a signatory state to the Agreement on the European Economic Area having a supervisory or regulatory role regarding the service activities, in particular the administrative authorities, as well as the professional bodies and professional associations or other professional bodies which, in the exercise of their power of self-regulation, create the legal framework for the access to or the exercise of service activities,

g) **authorisation** – activity, carried out by ISCIR, assessing and certifying the competence and capability of a natural or legal person to perform the activities covered by this technical prescription,

h) **provisional operating authorisation (APF)** – an agreement permitting the operation of installations/equipment for a limited period of up to 90 days, drawn up in accordance with technical specifications,

i) **operating authorisation (AF)** – the agreement issued by ISCIR for the installation owners / users in order to certify that a hydrogen supply installation meets all the conditions and requirements to be safely put into service,

j) **authorisation** – administrative act certifying the right to exercise the authorised activity,

k) **assisted self-service** – filling activity that is performed by a trained person assisted by the fluid bottler under pressure in the dispatcher,

l) **breakdown** - damage to a hydrogen supply installation that leads to its decommissioning,

m) **mandatory notification for installation** – the agreement issued by ISCIR for the owners / users of hydrogen supply installations, as a result of the verification of the assembling / installation conditions according to the technical prescriptions, based on which the installation / assembling works can start,

n) **hydrogen storage cascade to power vehicles** – high pressure cylinder battery(s) located between the compressor and the pre-cooling system and the distribution system,

o) **requirement** – any rule, obligation, prohibition, condition or limitation imposed on authorised natural or legal persons or recipients of services, which is laid down in the regulatory or

administrative acts of the competent authorities, or resulting from case-law, administrative practices, rules of professional bodies or collective rules of professional associations or other professional organisations, adopted in the exercise of their self-regulatory powers, the provisions of collective bargaining agreements negotiated by the social partners are not, in and of themselves, considered requirements,

p) **piping** – tubular elements intended to carry fluids, when connected for integration into a pressure system, these include pipes or a pipe system, pipe installations, fittings, expansion compensators, hoses or, where applicable, other pressure-resistant components,

q) **CNCIR** – Compania Națională pentru Controlul Cazanelor, Instalațiilor de Ridicat și Recipientelor sub Presiune S.A. (National Company for Boilers Control, Lifting Installations and Pressure Vessels)

r) **owner** – natural or legal person who owns a hydrogen supply installation in operation, in any capacity,

s) **dispatching** – an office or room from which the hydrogen refuelling operator ensures that vehicle refuelling is carried out safely at the hydrogen refuelling station, which operates on an assisted self-service basis,

t) **technical documentation** – all documents and instructions drawn up in accordance with the provisions of the technical prescriptions by the manufacturer for the construction, installation, installation, commissioning, repair and/or maintenance of the installations, or all documents drawn up by the natural or legal persons authorised to carry out these activities in order to carry out their specific tasks, the technical documentation shall include, where appropriate, a general description of the installation, conceptual design and layouts, and circuits for the components of the installations, descriptions and explanations necessary for an understanding of these drawings and schemes, the results of design calculations, test and examination reports and the like,

u) **normal duration of operation** – the duration of use of the installation / equipment determined by the manufacturer, or, if not determined by the manufacturer, the one laid down in Government Decision No 2139/2004,

v) **technical expertise** – technical investigation / examination of a hydrogen supply installation,

w) **exploitation** – all activities including technical supervision, technical checks for the authorisation of operation and in service technical inspections, in service technical inspections to estimate the remaining lifespan, repairs, maintenance work, non-destructive testing and destructive testing, as well as welding operations and servicing of installations/equipment,

x) **specialised inspector from ISCIR** – natural person employed at ISCIR, who performs specific activities according to the provisions of this technical prescription and the legislation in force,

y) **installation** – the activity of fixing / locating an hydrogen supply installation at the place of use and / or connecting it to other installations or equipment, in order to ensure the operating conditions,

z) **placing on the market** – the action of making available, for the first time, against payment or free of charge, a hydrogen supply installation or components of the hydrogen supply installation, mounted at the place of operation, for distribution and/or use,

aa) **ISCIR** – State Inspection for the Control of Boilers, Pressure Vessels and Lifting Installations,

bb) **in-house tests** – checks carried out after operations of assembling, installation, repair and technical investigations / examination to demonstrate the proper functioning of the hydrogen supply installation,

cc) **maintenance** – all the operations that ensure the maintenance of the hydrogen supply installation in safe operating parameters,

dd) **assembly** – the activity of joining the components of a hydrogen supply installation according to the provisions of this Technical Prescription and the Technical Documentation, in order to operate it,

ee) **hydrogen container filling operator** – an individual authorised by ISCIR to carry out hydrogen refuelling of vehicles and to operate the relevant installations in accordance with the applicable technical regulations, through:

1) service in the hydrogen supply installation,

2) remote control from dispatch in case of assisted self-service,

ff) **RSVTI operator** – natural or legal person, responsible for the technical supervision of the ISCIR installations / equipment,

gg) **competent person** — the person designated by CNCIR to perform the specific activity,

hh) **technical prescription** – the technical norm developed by ISCIR and approved by order of the Minister of Economy, published in the Official Gazette of Romania, Part I, which contains, for clearly defined areas, technical conditions and requirements relating to installations/equipment, including their protection and safety distances, where applicable, and activities specific to the field of activity, provided for in Article 8 paragraph 1. of Law No. 64/2008, which is carried out in connection therewith, in order to place on the market, commission and use those installations/equipment safely in operation,

ii) **pressure** – relative pressure to the atmospheric pressure of 1.013 mbar, namely the measured pressure,

jj) **test pressure** – the pressure at which the container(s) and/or pipe systems in the hydrogen supply installations are tested, in order to check their strength and tightness, established by the manufacturer or according to the provisions of this Technical Prescription, as the case may be,

kk) **maximum allowable pressure (PS)** – the maximum pressure for which the vessel(s) and/or piping systems in hydrogen refuelling installations have been designed, as specified by the manufacturer, this pressure shall be measured at the location specified by the manufacturer,

ll) **manufacturer** – natural or legal person, responsible for the design and / or construction of an installation/equipment, for the purpose of placing on the market and / or commissioning, on its behalf, as well as any natural or legal person, who builds, mounts, installs, packages or labels an installation/equipment for the purpose of placing on the market and / or commissioning under its own name,

mm) **commissioning** – the action that takes place at the time of the first use of a hydrogen supply installation,

nn) **making available on the market** – the supply of a pressure equipment or assemblies for distribution or use on the Romanian market or in the other Member States of the European Union during a commercial activity, against payment or free of charge,

oo) **RADTE-IP** – specialized technical staff responsible for approving the technical documentation for technical investigations/examinations and supervising the technical verification works in use for estimating the remaining service life of pressure installations, certified according to the applicable technical prescription,

pp) **RADTP-IP** – specialized technical staff responsible for approving the preliminary technical documentation for mounting / repairing pressure installations, certified according to the provisions of the applicable technical prescription,

qq) **container** – an enclosure designed and manufactured to contain pressurized fluids, including the elements that are directly attached to it up to the device provided for connection with other equipment,

rr) **container (s)/cylinders/pressure cylinders frames (batteries) for storing hydrogen necessary to supply the installation** – container(s) or cylinders/ frames (batteries) of cylinders used/used for the purpose of storing compressed hydrogen to ensure a constant flow to the compressor,

ss) **repair** – set of works and operations that are performed by removing the non-conformities/defects found at a hydrogen supply installation, in order to bring it to the initial parameters or to other parameters that ensure its safe operation, according to the provisions of the applicable technical prescriptions,

- tt) **re-commissioning** – the action that takes place at the time of the first use of a hydrogen supply installation, after the repair or the technical checks in use to estimate the remaining life,
- uu) **RSL-IP** – specialized technical staff, responsible for the supervision of works on pressure installations, certified according to the provisions of the applicable technical prescription,
- vv) **RTEND** – specialized technical staff for non-destructive examinations, certified according to the applicable technical prescription,
- ww) **RTS** – specialized technical personnel, technically responsible for welding pressure installations and lifting installations, certified according to the provisions of the applicable technical prescription,
- xx) **control and safety system** – a system that responds to input signals from the process and/or an operator and generates output signals, ensuring that the process operates as intended and safely,
- yy) **compression system and auxiliary equipment** – a system comprising a compressor and the equipment required to raise the pressure of hydrogen to the level needed to refuel vehicles,
- zz) **distribution system** – a system downstream of the hydrogen supply system, comprising all the equipment necessary to refuel a vehicle, through which compressed hydrogen is supplied to the vehicle,
- aaa) **pre-cooling system** – a system designed to reduce the temperature of the hydrogen fuel prior to dispensing, so that the temperature in the vehicle's tank does not exceed the maximum permissible temperature,
- bbb) **technical supervision of installations / equipment** – the totality of the activities carried out to comply with the provisions of Law No 64 / 2008 and the applicable technical prescriptions, carried out by the ISCIR operator for the purposes of safe operation of ISCIR installations / equipment,
- ccc) **minimum / maximum allowable temperature (TS)** – the minimum/maximum temperature for which the hydrogen supply installation has been designed, as specified by the manufacturer,
- ddd) **user** – natural or legal person who uses a hydrogen supply installation,
- eee) **technical verification** – all the examinations and tests carried out on the hydrogen supply installations carried out during the installation, installation and repair activities of the installations, in accordance with the requirements of the technical documentation and/or the provisions of the technical prescriptions,
- fff) **technical verification in order to authorize the operation** – all the examinations and tests performed in order to authorize the operation of the hydrogen supply installation,
- ggg) **technical verification in use (VTU)** – all examinations and tests performed at a hydrogen supply installation periodically and whenever its configuration is changed based on which the operating authorization was granted, in order to ensure safe operating conditions,

hhh) *in service technical checks to estimate the remaining lifespan* – set of checks, examinations and tests performed to assess the technical condition, to estimate the remaining lifespan and the safe operating conditions on a hydrogen supply installation.

CHAPTER II

INSTALLATION / ASSEMBLY

SECTION 1

General provisions

Article 11. 1. If the conditions for placing on the market and commissioning, established by technical regulations transposing European regulations/directives, are not affected, hydrogen supply installations may be installed/mounted only if the provisions of this Technical Prescription are complied with.

(2) The installation / assembling of the hydrogen supply installations provided for in Article 3, shall be carried out by legal entities registered in the ISCIR Register of authorized legal entities provided for in the applicable technical prescription.

(3) When installing / assembling hydrogen supply installations, the provisions of the standards series SR ISO 19880 and SR EN 17127 shall be taken into account.

Article 12.1. To establish the location of the installation, the legislation in force must be complied with.

(2) Crossings of the hydrogen supply installation and of the areas with a potentially explosive atmosphere within the installations with water, gas, electrical, heating, sewerage networks, other than those belonging to the installation, are not allowed.

(3) Utility installations (electrical, sanitary, heating, ventilation-air conditioning, gas, automation, etc.) shall be designed, performed and operated according to the specific regulations in force.

Article 13.1. Hydrogen supply installations must be installed in such a way as to allow the use/operation, servicing, technical supervision, technical inspections to be carried out in good conditions in order to authorize operation, technical inspection in use, repair, maintenance works, as well as technical inspection in use to estimate the remaining life.

(2) The installation of hydrogen supply installations must be done in such a way that the stamp plate(s) and markings are visible, legible, legible, and the safety accessories, pressure adjustment

accessories and measuring means are accessible.

(3) In the case of outdoor hydrogen supply installations, measures must be taken so that metal parts, measuring instruments, as well as their safety devices are protected against degradation mechanisms due to weathering and/or access by persons not involved in their operation.

(4) It is not allowed to install electrical conductors or cables above hydrogen supply installations, except for those for lighting, in which case only electrical installations executed in accordance with the provisions of the rules on the requirements for electrical installations mounted in or above areas with potentially explosive atmosphere are allowed.

(5) The hydrogen supply installation must be designed in such a way that it stops safely in the event of power failure.

(6) The vessels shall be fixed to a foundation and the metal supports or concrete sockets shall be placed in such a way that the walls and joints of the vessels can be easily visible.

(7) The attachment of the vessels to metal supports or concrete sockets must be carried out in such a way as to allow expansion or thermal contraction, to ensure a uniform distribution of the load on the supports and not to cause additional stresses in the walls of the vessels.

Article 14.1. The following shall be taken into account in the design of the hydrogen fuelling installation:

- a) ensuring the necessary volume and pressure for the operation of the hydrogen refuelling installation,
- b) the availability of electrical power on site for the safe operation of the hydrogen supply installation,
- c) the method of coupling the distribution system of the hydrogen refuelling installation to the vehicle supply system,
- d) the filling rate of the hydrogen refuelling system for vehicles,

2. The design shall take into account the provisions of the SR ISO 19880 series of standards.

Article 15.1. The hydrogen supply installation must be equipped with safety accessories or protective measuring, control and adjustment accessories that prevent the pressure from rising above the maximum allowable pressure in the installation components, pipes or containers of the installation.

(2) The safety devices shall be fitted in such a way that the hydrogen is discharged freely, unobstructed, into the atmosphere according to the instructions in the technical documentation accompanying them.

Article 16. Additional safety measures at hydrogen supply installations are necessary when they are provided for in the legislation on fire safety, explosion safety as well as in other cases provided for in the technical documentation of the components of the installation.

Article 17.1. The pressurised components of the hydrogen supply installation must be cordoned off or fenced to prevent unauthorised access and must be marked with warning signs indicating the risks and hazards of the area, in accordance with the hydrogen safety data sheet.

(2) The hydrogen supply installation must be installed in such a way as to prevent it from tipping over under the influence of dynamic and static loads, including seismic loads.

Article 18.1. Hydrogen supply installations where there is a danger of electrostatic discharges and those provided with electrically operated devices must be secured and earthed.

(2) All components of the hydrogen supply installation located in areas with a potentially explosive atmosphere (ATEX) must meet the requirements of industry norms and standards.

(3) The resistance at the point of measurement of the earth bond shall be in accordance with the provisions of the applicable hydrogen standards.

(4) The hydrogen supply installations must be provided with an appropriate lightning protection system.

Article 19.1. All components of the hydrogen supply installation (electrical, non-electric equipment and other components), located in areas with a potentially explosive atmosphere (ATEX) must meet the requirements of the rules and standards specific to the field, corresponding to the area in which they are located (SR EN 1127-1, SR EN 60079-10-1, SR EN 60079-0, SR EN 60079-14, SR EN ISO 80079-36).

(2) The electrical and non-electric equipment must meet the requirements for the group/sub-group and temperature class of hydrogen, if the explosive atmosphere is generated only by hydrogen.

(3) If part of the installation's equipment (e.g. distributor) is located in areas generated by other flammable substances, their group / subgroup and temperature class must also be taken into account.

Article 20. When installing hydrogen supply installations, additional safety measures established by the technical installation documentation must be taken, such as:

- a) provision of blast-resistant or fire-resistant protective walls, as appropriate,
- b) provision of protection against heating above the permitted limits,

c) compliance with the minimum safety distances from other objectives and between the hydrogen supply system components established following the risk assessment process, carried out in accordance with the provisions of SR ISO 19880-1. The minimum safety distances shall be approved by the local public authorities, the Ministry of the Environment, Water Resources and Forestry, the Ministry of Development, Public Works and Administration, the General Inspectorate for Emergency Situations and the National Research and Development Institute for Mining Security and Explosive Protection.

SECTION 2

Pressure vessel(s) to store the hydrogen needed to supply the installation

Article 21.1. The pressure vessel(s), cylinders or cylinder racks (batteries) used for storing the hydrogen required to supply the installation must be designed and manufactured in accordance with the provisions of the applicable European regulations/directives (European Directive 2014/68/EU, European Directive 2010/35/EU).

(2) For pressure vessels, cylinders or cylinder racks used for the storage of hydrogen, it is recommended that the provisions of standards SR EN 17533 and/or SR EN 17339 be followed, as appropriate.

Article 22. The layout of the container(s) and pipes shall take into account the risk of direct impact of flame jets from possible escape points. It is recommended that each group of containers be insulated with manual or automatic taps and equipped with automatic safety devices.

Article 23. The pressure vessel(s) for storing the hydrogen needed to supply the installation shall be installed above ground, mounted horizontally or vertically.

SECTION 3

Natural gas compression system and auxiliary equipment

Article 24. When designing the compression system, the environmental conditions of the location where the compressor is installed shall be taken into account: ambient temperature, atmospheric humidity, air flow, cooling air quality and plant power.

Article 25.1. The hydrogen compression system shall consist of multi-stage compressors operated by different types of engines designed and constructed in accordance with the requirements for use in potentially explosive atmospheres.

(2) The hydrogen compression system must be constructed in accordance with the essential health and safety requirements relating to industrial machinery and must comply with the technical specification and bear the CE conformity marking.

Article 26. The technical documentation of the compressor shall contain at least the following information:

- a) compressor data:
 - 1) name of the manufacturer,
 - 2) compressor model / type,
 - 3) number of rotations or cycles per minute,
 - 4) maximum suction pressure (MPa/bar),
 - 5) minimum suction pressure (MPa/bar),
 - 6) maximum discharge pressure (MPa/bar),
 - 7) number of compression steps,
 - 8) step pressure (MPa/bar),
 - 9) explosion protection.
- b) details of shutdown, alarms and signalling systems,
- c) information about compressor auxiliary equipment:
 - 1) the cooling system,
 - 2) the internal fire extinguishing system,
 - 3) the activation system of the fire extinguishing system,
 - 4) pulse dampening containers,
 - 5) type of anti-seismic and anti-vibration insulators,
 - 6) soundproofing systems,
 - 7) hydrogen detectors, high temperature detectors, etc.
- d) compressor drive system,
- e) information necessary for the maintenance and repair of the compressor and auxiliary equipment.

Article 27.1. The compressor and auxiliary equipment can be installed/mounted in a container.

(2) The container where the compressor is located is provided with hydrogen leak detectors that are calibrated to alarm visually (red light) and audibly when reaching 25% of the lower

flammability limit (LFL) and trigger shutdown when reaching 50% of the lower flammability limit (LFL).

Article 28. Ventilation systems may be natural or mechanical.

Article 29. The design of the ventilation system shall be carried out according to the degree of ventilation in accordance with the requirements of the standard SR EN 60079-10-1.

Article 30. When designing the ventilation installation, the use of fans designed according to requirements for use in potentially explosive atmospheres corresponding to the area in which they are installed must be taken into account, in compliance with the provisions of the standard SR EN 14986.

Article 31. Active ventilation must be provided within the premises to prevent hydrogen concentrations from exceeding 25% of the LFL; if this concentration is exceeded, an automatic emergency shutdown and decommissioning of the installation must be activated.

Article 32. The container of the compressor must be fitted with a static electricity discharge system and temperature sensors to indicate any unjustified rise in temperature within the premises.

Article 33.1. The auxiliary equipment must be properly fixed to the foundations according to the seismicity of the location, must be secured against accidental displacements and must be earthed.

(2) Compression systems operating in areas with high seismic activity must be equipped with seismic reinforcement that automatically shuts off process flows when an earthquake occurs.

Article 34. The electrical and control equipment must be suitable for use in hazardous areas, in accordance with the risk category.

Article 35. The compression system and auxiliary equipment must be fitted with safety interlock systems which shut down the compressor and the hydrogen supply in the event of a malfunction.

SECTION 4

The hydrogen storage cascade required to power vehicles

Article 36.1. The storage cascade shall consist of frames (batteries) of high-pressure cylinders.

2. In the storage cascade, the cylinder racks (batteries) may be installed horizontally or vertically.

Article 37.1. The cylinder racks (batteries) in the storage cascade for hydrogen used to fuel vehicles must be designed and manufactured in compliance with the provisions of the applicable European regulations/directives (European Directive 2014/68/EU, European Directive 2010/35/EU).

(2) For pressurised cylinders/cylinder frames (batteries) used for hydrogen storage, it is recommended that the provisions of standards SR EN 17533 and/or SR EN 17339 be followed, as appropriate.

SECTION 5

Piping

Article 38.1. When designing and executing the pipes, it must be ensured that there is no risk of overstressing the flanges, connections or hoses, due to an impermissible free movement or the production of excessively high forces, which must be adequately compensated by means of support, stiffening, anchoring, alignment or pre-tensioning.

(2) The pipe system within the hydrogen supply installation must be made of materials that ensure compatibility with hydrogen, according to the recommendations of SR EN ISO 11114-1, SR EN ISO 11114-2, SR EN ISO 11114-3, SR EN ISO 11114-4, SR ISO 19880-3.

(3) The pipe system within the hydrogen supply installation must comply with the requirements of the harmonized standards SR EN 13480 for operation at the maximum allowable design pressure in the temperature range from -40°C to +65°C for above-ground pipes and from -20°C to +65°C for buried or covered pipes.

(4) The components of the hydrogen supply installation installed on different foundations, which can have separate movements, must be connected by flexible elements.

(5) It is recommended that the pipe system of the above-ground hydrogen supply installation be installed in a technologically protected and reinforced trench, covered with a grid or perforated sheet and provided with the possibility of draining rainwater.

(6) The hydrogen supply piping system must allow all operating manoeuvres and maintenance and repair activities to be carried out.

(7) The number of all joints must be reduced to the minimum technically possible.

(8) When choosing the cathodic protection mode (with current injection or galvanic anodes), the following standards are recommended: SR EN 12954, SR EN 13636, SR EN 12499 and SR EN ISO 12944-1.

(9) The installation of the pipes in the hydrogen supply installation must take into account the following:

- a) when installing the pipes, the location at appropriate distances from other objectives must be taken into account, as well as other additional safety measures provided for in the fire prevention and extinguishing regulations and in the general and specific occupational safety rules,
- b) hydrogen supply installations shall be mounted in such a way that all pipe joints are accessible for technical examinations and checks, allow thermal expansion or contraction, ensure a uniform distribution of the load on the supports and do not produce additional stresses in the pipe walls,
- c) the pipe system of the hydrogen supply installation must be supported on a support system that ensures stability to operating loads and seismic loads,
- d) the piping system must be fitted in such a way as to prevent collision with vehicles coming for refuelling,
- e) ladders or access ways must be provided for servicing the fittings, where appropriate and for carrying out the technical inspection of the hydrogen supply installations,
- f) partially buried pipes must be provided with insulation elements to ensure that technical checks of the above-ground area are carried out,
- g) the pipes must be visibly and permanently marked in the – direction of circulation of the working fluid,
- h) pipes and fittings must be secured against disconnection during operation of the installation,
- i) pipes located in underground canals must be provided with ventilation and drainage to prevent any explosive mixtures in operation and be readily accessible for external verification,

Article 39.1. The buried pipes must not intersect other pipelines or electrical cables.

(2) The joining of pipes from areas with different pressure steps should be avoided. If these pipes are nevertheless joined, the maximum possible pressure of the collecting pipe must not exceed the maximum permissible operating pressure in the area with the lowest pressure step.

(3) Sealing materials must be hydrogen-compatible, shall comply with the recommendations of the SR EN 682 standard, and be accompanied by quality certification documents.

SECTION 6

High-pressure compressed hydrogen pre-cooling system

Article 40.1. The pre-cooling system consists of heat exchangers that reduce the temperature of the hydrogen to -40°C before refuelling the vehicle.

(2) The pre-cooling system is installed between the storage cascade and the hydrogen distribution system to the vehicle.

Article 41. The hydrogen pre-cooling system must be designed and manufactured in compliance with the provisions of the applicable European Directive (European Directive 2014/68 EU).

Article 42. The pre-cooling system shall be designed in such a way that, during refuelling, the temperature of hydrogen in the vehicle tank does not exceed 85 °C regardless of the environmental conditions of the location where it is installed, such as: ambient temperature, temperature of the vehicle tank, etc.

Article 43. The hydrogen pre-cooling system shall be designed and constructed in accordance with the requirements for use in potentially explosive atmospheres.

SECTION 7

Distribution system

Article 44.1. The distribution system includes all the equipment necessary to carry out the operation of fuelling the vehicle (distributor, fuel gun, hoses/hose assemblies, etc.) by means of which compressed hydrogen is supplied to the vehicle.

(2) The distribution system shall conform to the model approval and bear the CE conformity marking.

Article 45. The distribution system shall ensure the transfer of hydrogen to the vehicle without allowing the permissible temperature and pressure limits in the vehicle's hydrogen system to be exceeded during refuelling.

Article 46. The distribution system shall protect against failures of the control system which could lead to a hazardous situation in the distribution area or damage to the hydrogen system of the vehicle.

Article 47.1. The distribution system must be fitted with a refuelling nozzle and other associated components suitable for the pressure level of the hydrogen supply.

(2) The fuel gun shall comply with the provisions of standard SR EN ISO 17268.

Article 48. Hoses/hose assemblies of the distribution system shall comply with the provisions of standard SR ISO 19880-5.

Article 49.1. The distribution system must be equipped with an emergency shut-off system that activates in the event of a malfunction in any part of the hydrogen supply system.

2. The emergency stop system must operate automatically, but it must also be possible to activate it manually.

Article 50.1. The distributor shall be used to monitor the exact amount of hydrogen supplied to the vehicle.

(2) The distributor must measure the amount of hydrogen distributed, in kg, and meet the metrological and technical requirements set out in the national metrology legislation. The distributor must display the tax-related data (quantity dispensed, price per unit of measurement, and total amount due) on a display device and store the recorded data for the period required by applicable tax laws.

(3) The distributor must be designed to automatically reset to zero after sale.

Article 51.1. The distribution system can have one or more filling points fitted with special flexible hoses, with a retraction system at the completion of filling and emergency disconnection at the involuntary movement of the vehicle, with stopping the filling when the vehicle cylinders are full and have reached the maximum working pressure (35 MPa and 70 MPa, respectively) or when there has been a deterioration of the hoses.

(2) The distribution system must be fitted with a protective system capable of withstanding an accidental impact of 2,000 kg from vehicles travelling at a speed of 20 km/h.

(3) The dispenser and the filling nozzle must be identified by a warning sign accompanied by risk and hazard statements.

(4) The dispenser and the filling nozzle must be identified by a warning sign accompanied by risk and hazard statements.

(5) The dispenser and the fuel nozzle must be equipped with a panel that clearly and graphically illustrates the procedures for connecting and disconnecting the fuel nozzle from the vehicle's fuel system.

Article 52.1. The dispenser and the fuel nozzle must meet the essential safety requirements specific to industrial machinery, equipment and protective systems intended for use in potentially explosive

atmospheres, the general safety conditions of the products and comply with the requirements of the applicable standards.

(2) The periodic metrological verification must be carried out in accordance with the metrological and technical requirements laid down in the relevant legal metrology regulations and at the intervals specified by the metrology legislation in force.

SECTION 8

Control and safety systems

Article 53.1. The control and safety systems must allow the automatic operation of the hydrogen installation within the limits specified by the manufacturer.

(2) Control and safety systems must comply with the following:

- l) maintain operating conditions within safe limits,
- m) ensure that the hydrogen concentration in the air does not exceed 4% at windows, openings, air intakes, and in areas where people may be present,
- n) respond to any abnormal conditions by automatically activating mitigation measures as part of an emergency shutdown,
- o) consist of multiple safety systems that are activated manually or automatically,
- p) so that they can only be accessed by authorised personnel,
- q) be easy to maintain and handle,
- r) be equipped with compatible and calibrated control equipment for hydrogen,
- s) ensure that the compression, storage, and distribution of hydrogen are immediately halted whenever the installation's design parameters are exceeded.

(3) For control and safety systems, it is recommended to comply with the provisions of standards SR EN 61508 and SR EN ISO 13850.

SECTION 9

Foundations

Article 54.1. The foundations for equipment in the hydrogen supply installation must be designed in accordance with the requirements for the design of direct foundation structures, the principles, requirements and methods of geotechnical investigation of the foundation ground, and the seismic design of structures.

(2) The foundations must be made of quality reinforced concrete corresponding to the tasks specific to the operating conditions, the soil characteristics of the location and the seismic zoning so as to ensure the stability and integrity in operation of the hydrogen installation.

Article 55.1. The foundations of hydrogen compression systems and auxiliary equipment must be designed at appropriate loads and seismic loads, by providing anti-seismic dampers.

(2) The surfaces of floors in potentially explosive areas must be covered with materials that prevent the generation of sparks and electrostatic charging, with a surface resistance that must not exceed the value specified in standards SR EN 1081 and SR EN 61340-4-1.

Article 56. The materials used in the construction of the foundations must comply with the quality conditions according to the provisions of the standards SR EN 13501-1, SR EN 13501-2 and SR EN 13501-3.

SECTION 10

Buildings (structures) of the hydrogen refuelling installation

Article 57. The buildings (stations) of the hydrogen refuelling station shall be designed in accordance with national regulations governing the design, construction, operation, decommissioning, and post-use of installations specific to the distribution of vehicle fuels.

Article 58. The hydrogen refuelling station enclosure shall be designed and constructed using non-combustible materials, as well as construction materials selected on the basis of their fire performance, in accordance with the provisions of standards SR EN 13501-1, SR EN 13501-2 and SR EN 13501-3.

Article 59. The building (station) of the hydrogen refuelling installation shall be designed for fire safety in accordance with standards SR EN 1994-1-1, SR EN 1994-1-2, SR EN 1996-1 -1, and SR EN 1996-1-2, and shall be equipped with technical means for fire prevention and suppression in accordance with the provisions of the fire safety regulations in force, supplemented by general fire safety standards, ensuring in particular access for emergency services and the evacuation of persons via emergency routes.

Article 60.1. With the exception of the supply zone, access to the installation by persons not involved in the operation shall be prohibited.

(2) Any security perimeter (fence, walls, etc.) must meet the following conditions:

- a) be constructed of non-combustible materials,
- b) have a height of at least 1.5 m.

Article 61. Buildings within the hydrogen supply installation must be protected against lightning in accordance with standards SR EN 62305-1, SR EN 62305-2, SR EN 62305-3 and SR EN 62305-4.

SECTION 11

Classification of explosion-hazard areas

Article 62. Explosive hazard areas are defined as areas at risk of explosion where hazardous explosive atmosphere may occur. An area in which an explosive atmosphere is produced in quantities for which no special protective measures are required shall not be considered as an area exposed to explosion hazard.

Article 63. The classification of areas with explosive atmosphere hazard shall be done according to the requirements of SR EN IEC 60079-10-1 standards and other applicable regulations.

Article 64. The minimum safety distances for the components of the hydrogen refuelling installation shall be established in accordance with the provisions of Article 20(c).

Article 65.1. For hydrogen supply installations, a semi-quantitative and quantitative risk assessment shall be carried out to assess the safety of the hydrogen fuelling installation.

(2) The semi-quantitative and quantitative risk assessment focuses on the hazards associated with the release and ignition of hydrogen mixtures and the associated physical effects, taking into account the following factors:

- a) the nature of the hazards (heat, pressure, risk of suffocation, etc.),
- b) the behaviour of hydrogen under design and operating conditions,
- c) the design of the equipment and operating conditions,
- d) the design and location of the installation, including protective measures,
- e) objectives (persons, goods, equipment, etc.) which are protected from the effects of potential hazards,
- f) detailed procedures for the safe containment of the installation and for the application of security management.

Article 66. The methodology of semi-quantitative and quantitative risk assessment for assessing the safety of the hydrogen supply installation shall be carried out in accordance with the provisions of SR ISO 19880-1.

SECTION 12

Mandatory Installation Notice

Article 67.1. The hydrogen supply installations referred to in Article 3 may be installed/mounted only if the mandatory installation permit issued by ISCIR has been obtained.

(2) The start of the installation/mounting works of the hydrogen supply installations referred to in paragraph 1. before obtaining the mandatory installation permit is prohibited.

Article 68.1. The mandatory installation permit shall be issued for each hydrogen supply installation and the main technical characteristics shall be specified.

(2) In the case of the installation of pressure vessels for storing hydrogen required to supply the installation, hydrogen compression systems and auxiliary equipment, hydrogen storage cascades required to supply vehicles, pipelines, high-pressure compressed hydrogen pre-cooling systems, and distribution systems, a new mandatory installation permit is required for the entire hydrogen refuelling installation if the installation is installed at a different location or if the piping layout is changed.

(3) In case of changing the holder nominated in the mandatory installation approval, the new holder requests ISCIR to re-nominate him, submitting for this purpose the specific supporting documents.

(4) In order to renew the certification, the ISCIR technical inspector conducts an inspection to verify that the technical conditions on which the mandatory installation approval was based are still being met, if they are, ISCIR issues a document to that effect.

Article 69. In order to obtain the mandatory installation approval, the Licensee shall submit to ISCIR the following documents:

- a) the request for installation of the hydrogen supply installation according to the provisions of Article 70,
- b) the building permit, within its term of validity, issued according to the provisions of the legislation in force,
- c) the fire safety certificate issued according to the provisions of the legislation in force,

- d) semi-quantitative and quantitative risk assessment for the safety assessment of the hydrogen supply installation carried out in accordance with the provisions of SR ISO 19880-1,
- e) the document with the minimum safety distances for the components of the hydrogen supply installation established in accordance with the provisions of Article 20, letter c).
- f) the technical documentation accompanying the pressure components provided for in Article 81, (2) c) or the data sheets of the components of the new hydrogen supply installation, not delivered at the date of submission of the request,
- g) documents on the results of checks carried out during use, for pressure components within the old hydrogen supply installation (container books, technical documentation of containers with CE conformity marking, as appropriate, and technical documentation of pipelines),
- h) the preliminary technical documentation for installation/mounting according to the provisions of Article 71,
- i) instructions on how to commission the hydrogen supply installation,
- j) instructions on how to service the hydrogen supply installation.

Article 70. The application for installation of the hydrogen supply installation shall contain:

- a) the name and address of the owner/user,
- b) the place of installation of the hydrogen supply installation,
- c) data about the hydrogen supply installation: type, manufacturer of the components provided in Article 4, paragraph 1, letters a) - g), technical characteristics provided in Article 5.

Article 71.1. The content of the preliminary technical documentation for the installation of the hydrogen supply installation is provided in Annex No. 1.

(2) The preliminary technical installation documentation referred to in paragraph 1 shall be approved by RADTI-IP.

(3) The content of the preliminary technical documentation for mounting the hydrogen supply installation is set out in Annex No. 2.

(4) The preliminary technical mounting documentation referred to in paragraph 3 shall be approved by RADTP-IP.

(5) All the documents provided in paragraphs 1. and 3 must be signed and stamped on the last page of the written part before the submission of the annexes and on the site plan, by the legal representative of the owner/user of the hydrogen supply installation, who is responsible for complying with the conditions imposed for its construction and operation.

Article 72.1. The specialized inspector within ISCIR verifies the data contained in the preliminary technical documentation for the installation/mounting of the hydrogen supply installation and concludes a report according to the model provided in Annex No. 3.

(2) If the preliminary technical documentation for installation/assembly corresponds to the provisions of this Technical Prescription, ISCIR issues the mandatory approval for the installation of the hydrogen supply installation, according to the model provided in Annex No. 4.

Article 73.1. Installation/assembling of hydrogen supply installations shall be carried out in accordance with the requirements of the preliminary technical installation/assembly documentation and the mandatory permit for installation issued by ISCIR.

(2) If during the installation and assembly works, there is a need to make changes compared to the provisions of paragraph 1, these changes must be approved by RADTI-IP and RADTP-IP respectively and accepted by ISCIR under the same conditions as those provided for in Article 72.

(3) Supervision and verification during and at the end of the installation/assembly works shall be carried out by the RSL-IP nominated in the authorization of the legal entity referred to in Article 11, paragraph 2 and shall consist of:

- a) examination of the technical condition of the components of the hydrogen supply installation,
- b) examination of the technical condition of removable and non-removable joints and fittings,
- c) examination of the technical condition of support systems,
- d) checks and tests required by the accompanying technical documentation and the preliminary technical documentation for the installation of the pipes within the hydrogen supply installation.

(4) Upon completion of the installation/assembly work, the legal entity referred to in Article 11, paragraph 2, shall prepare the final technical installation/assembly documentation, the contents of which are set forth in Annex No. 5.

(5) The final technical installation/assembly documentation shall be reviewed and stamped by the specialized technical staff referred to in paragraph 3.

(6) Upon completion of the installation/assembly work, the legal entity referred to in Article 11, paragraph 2, shall draw up a declaration of conformity in accordance with the template provided in Annex 6.

(7) The declaration of conformity referred to in paragraph 6 shall be attached to the final technical installation/assembly documentation referred to in paragraph 4.

(8) Confirmation of the installation/assembly work is provided by the owner's/user's RSVTI operator by preparing a report in accordance with the template provided in Annex 7.

CHAPTER III

OPERATION AUTHORISATION

SECTION 1

General provisions

Article 74.1. Hydrogen supply installations covered by this technical regulation may be used only if the owner/user has obtained authorization to operate the system in accordance with the provisions of this technical regulation.

(2) The authorisation to operate the installation is obtained based on the operating authorisation for vessels and pipelines that require the CE conformity marking, the final technical installation/assembly documentation, and the appropriate operating instructions for pipelines that do not require the CE conformity marking, in accordance with the provisions of this technical specification.

(3) Operating authorization does not exempt the owner/user from the obligation to obtain all other authorizations or similar documents required by applicable law.

Article 75. Gas cylinders and cylinder frames (batteries) regulated under the provisions of Government Emergency Ordinance No. 126/2011 are not subject to the authorization and technical inspection regime.

Article 76.1. Technical inspections for the purpose of authorizing the operation of the pressure-retaining components referred to in Article 77 shall be conducted by CNCIR.

(2) The operating license is issued by ISCIR, in accordance with the provisions of Article 110, paragraph 1, and Article 111.

Article 77. Operating authorization is issued for:

a) the new pressure components of the hydrogen supply installation that comply with the requirements for placing on the market/making available on the market established by national regulations transposing the relevant European directives,

b) old pressure-bearing components of the hydrogen supply system that have previously been in service, and:

1) they originate from the European Union:

I) complying with the requirements for placing on the market or making available on the market established by the relevant European directives,

II) that were built before the entry into force of the relevant European directives and were placed on the market in compliance with the national regulations of the Member State.

2) they originate from outside the European Union:

I) that comply with the requirements for placing on the market or making available on the market established by the relevant European directives.

SECTION 2

Conditions regarding the authorisation to operate

Article 78. To obtain an operating permit, the owner/operator of a hydrogen supply installation must meet the following conditions:

- a) hold the required installation permit, and the installation/assembly must comply with this permit,
- b) to ensure that the hydrogen supply installation is maintained by legal entities registered in the ISCIR Registry of authorized legal entities as specified in the applicable technical regulation,
- c) to provide an authorised RSVTI operator according to the provisions of the applicable technical prescription,
- d) to ensure that service personnel comply with the provisions of this technical specification,
- e) to ensure the conditions necessary for conducting technical inspections.

Article 79. The components of the hydrogen supply installation must be accompanied by the following technical documentation, as applicable:

a) for new component parts, technical documentation that complies with the requirements for placing on the market or making available on the market established by national regulations transposing the applicable European directives or regulations,

b) for old components:

1) originating from the European Union:

I) built after the entry into force of the applicable European directives, the technical documentation prepared in accordance with them,

II) built prior to the entry into force of the applicable European directives, the technical documentation prepared in accordance with the national regulations applicable in the country of origin (similar requirements in the technical specifications are taken into account).

2) originating from outside the European Union, the technical documentation referred to under letter (a).

NOTES: 1) For pressure equipment components, Directive 2014/68/EU of the European Parliament and of the Council of May 15, 2014, on the harmonization of the laws of the Member States relating to the making available on the market of pressure equipment, transposed into national law by Government Decision No. 123/2015, or Directive 2010/35/EU of the European Parliament and of the Council on transportable pressure equipment and repealing Council Directives 76/767/EEC, 84/525/EEC, 84/526/EEC, 84/527/EEC, and 1999/36/EC, transposed into national law by Government Emergency Ordinance No. 126/2011 on transportable pressure equipment.

2) For pipelines that are not covered by Directive 2014/68/EU, the provisions of this technical regulation apply.

Article 80.1. If the technical documentation referred to in Article 79(b)1) for pressure-retaining components is missing or incomplete, such documentation shall be reconstructed following in-service technical inspections to estimate the remaining service life, in accordance with the provisions of this technical regulation.

(2) If the pressurised components of the hydrogen supply system have reached the end of their service life - as specified in the accompanying technical documentation - or upon the expiration of the normal operating life set forth in Government Decision No. 2139/2004, or when the accompanying technical documentation does not specify a service life, the accompanying technical documentation must be supplemented with the final technical report prepared following in-service technical inspections to estimate the remaining service life in accordance with the provisions of Chapter VIII.

*SECTION 3***Technical inspection for the authorization of operation**

Article 81.1. In order to carry out the technical inspections required to obtain the operating authorization for the hydrogen supply installation referred to in Article 3, the owner/operator shall request CNCIR to conduct the technical inspections in accordance with the provisions of this technical specification.

(2) The owner/user must submit the following documents:

- a) a copy of the mandatory installation permit for the hydrogen fuel station, as provided for in Article 72, paragraph 2,
- b) the final technical installation / assembly documentation, in accordance with the provisions of Article 73, paragraph 5,
- c) the technical documentation accompanying the pressure-bearing components of the hydrogen supply installation, which must include:
 - 1) EU (EC) declarations of conformity, where applicable,
 - 2) operating instructions for installation, commissioning, operation, and maintenance,
 - 3) safe operating limits and design bases, including anticipated operating conditions and permissible design conditions, estimated service life, the design code used, joint coefficients for pressure-retaining components, and their corrosion resistance, as applicable,
 - 4) design characteristics representing the service life, as applicable,
 - 5) potential hazards that are not prevented by design or protective measures and that may arise due to improper use, as applicable,
 - 6) technical documents, drawings, outlines, diagrams necessary for a complete understanding of the instructions referred to in point 2,
 - 7) information about parts that may be replaced, as applicable,
- d) certificates of safety device calibration at the pressure value specified in the technical documentation, if more than 1 (one) year has elapsed since the safety valve was last calibrated, it must be inspected in accordance with the provisions of the applicable technical regulation,
- e) the technical documentation referred to in Article 80, if applicable,
- f) a self-declaration of the applicant stating the last location where the pressure-bearing components of the hydrogen supply installation were in operation (only for those that have previously been in operation),
- g) copies of the authorizations/certificates of service personnel/internally trained personnel, as applicable,
- h) a copy of the RSVTI operator's license,

- i) photographs of the stamp plates or applied markings on the pressure-bearing components,
- (3) If the technical documentation referred to in paragraph (2) is incomplete, it shall be returned to the owner/user for completion.

Article 82.1. On the date set for the technical inspections, the owner / operator must prepare the pressure-bearing components of the hydrogen supply system, having, where applicable, conducted in-house tests with satisfactory results.

(2) The owner / user must also provide the auxiliary personnel necessary to carry out the technical inspections.

(3) The owner's or user's RSVTI operator and the representative of the legal entity referred to in Article 11, paragraph (2), must be present during the technical inspections.

(4) The technical inspection for the purpose of authorizing operation is conducted by a qualified representative of CNCIR.

Article 83.1. For the technical inspection required for the authorization of the operation of the hydrogen supply installation, the competent person from the CNCIR shall perform the following activities:

- a) verification of the existence of the technical documentation referred to in Article 81, paragraph (2),
- b) verification of installation/assembly conditions, in accordance with the provisions of Article 73,
- c) internal inspection of pressure vessels used to store hydrogen for fuelling the installation, the hydrogen storage cascade for vehicle refuelling, and the pre-cooling system for high-pressure compressed hydrogen, in accordance with the provisions of Article 86,
- d) external inspection of the pipes within the installation, in accordance with the provisions of Articles 87 and 88,
- e) pressure resistance test, according to the provisions of Article 89 - 104,
- f) verification of the adjustment of safety devices, in accordance with the provisions of Article 106,
- g) verifying the existence of specific technical instructions regarding the use of the hydrogen supply system,
- h) verification of the authorizations/certificates of service personnel/internally trained personnel, as applicable, in accordance with the provisions of the applicable technical regulation,
- i) checking the logbook documenting the operation of the hydrogen supply installation,

(2) After successfully completing the inspections specified in paragraph 1., the owner's/user's RSVTI operator shall perform the pneumatic leak test in accordance with the provisions of Article 105,

(3) Inspections are conducted at the site where the hydrogen supply system is in operation.

(4) If the applicable standards on the inspection and testing of pressure-retaining components contain other specific provisions, the provisions of paragraph 1. may be applied accordingly.

Article 84.1. In the case of a hydrogen supply installation or its components, which, due to their design, installation, or operation require additional inspections and tests (deformation measurements and the like), or when some of the inspections or tests provided for in this technical regulation cannot be performed, other inspections and tests may be established with the approval of ISCIR.

(2) These additional checks and tests may be performed only if they are specified in the technical documentation accompanying the pressure-retaining components of the hydrogen supply system, with details provided regarding the type, scope, conditions of performance, and acceptance criteria, as well as the frequency with which they are to be performed during operation.

Checking the installation/assembly conditions

Article 85. Checking the installation/assembly conditions involves verifying compliance with the installation/assembly requirements set forth in Chapter II.

Internal review for pressure equipment

Article 86.1. Internal inspection consists of the internal and external inspection of pressure vessels used to store the hydrogen needed to supply the installation, the hydrogen storage cascade used to supply vehicles, and the pre-cooling system for high-pressure compressed hydrogen, as follows:

a) internal inspection –an examination of the interior of equipment to assess the condition of its surfaces and their behaviour when exposed to the fluid contained within,

b) external inspection – a visual examination of the equipment to assess the condition of surfaces and removable/non-removable joints, and to identify any defects resulting from transport and installation/assembly operations, where applicable, as well as their performance under environmental conditions, and the provision of measurement and control equipment and safety devices, in accordance with the accompanying technical documentation and the final technical installation/assembly documentation,

c) the external inspection also includes checking the nameplates and/or markings, as applicable, examining the technical condition of the support systems and fasteners, and verifying the presence of the conformity marking, when the marking requirement applies.

(2) In the case of new pressure-bearing components of the hydrogen supply system, an internal inspection is not required, and only an external inspection may be performed, provided that no more than 2 (two) years have elapsed since the date of manufacture and that evidence of proper storage in accordance with the technical documentation accompanying the components is provided.

(3) In situations where, due to the design of the pressure vessels, an internal inspection (as part of the internal inspection) cannot be performed, it may be replaced by a hydraulic pressure test supplemented by other examinations and inspections, in accordance with the provisions of Article 140.

External verification of the pipelines

Article 87.1. The external inspection consists of examining the pipes to identify any defects resulting from transportation and installation/assembly operations.

(2) The external inspection also includes checking the nameplate, markings, and/or inscriptions, as applicable, as well as verifying the presence of the conformity marking, when the marking requirement applies to the pipe.

Article 88. During the external verification, the following shall be carried out:

- a) the inspection of the technical condition of the support systems and expansion joints,
- b) the inspection of the technical condition of safety devices and the installation of measuring and control equipment, in accordance with the technical documentation accompanying the piping system and the final technical installation/assembly documentation.

Pressure resistance test

Article 89.1. The pressure resistance test shall be performed only if the results of previous inspections were satisfactory.

(2) The pressure resistance test is performed on the pressure equipment in the hydrogen supply system.

(3) The pressure resistance test shall be performed hydraulically or pneumatically, in accordance with the requirements specified in the preliminary technical installation/assembly documentation.

Article 90. A pressure resistance test is not required if all of the following conditions are met:

- a) the pressure resistance test was performed by the manufacturer of the containers/cylinders/pipes, and no more than 2 (two) years have elapsed since the test was conducted, and the containers/cylinders/pipes within the hydrogen supply system were properly protected (preserved) (e.g., with inert gas) upon shipment from the manufacturer, so as to prevent the external environment from affecting their interior and exterior,
- b) the pressure-bearing components of the hydrogen supply system have not sustained any visible local deformation as a result of transport and installation/assembly operations, as applicable,
- c) no welding works were performed on the pressure-bearing parts of the hydrogen supply system during installation.

Article 91.1. The pressure resistance test shall be performed at a pressure determined in accordance with the preliminary technical installation/assembly documentation and in accordance with the technical documentation accompanying the pressure-bearing components of the hydrogen supply system.

(2) If the test pressure value is not specified in the technical documentation accompanying the components of the hydrogen supply system, the test shall be conducted:

- a) for the container(s)/cylinder(s)/pipes associated with the hydrogen supply installation, which have been constructed in accordance with the provisions of the applicable European directives and regulations, at the value specified in the applicable standard,
- b) for the container(s)/cylinder(s)/pipes associated with the hydrogen supply installation, which have been constructed in accordance with the applicable technical specification, at the value specified in the technical specification.

Article 92.1. The pressure resistance test shall be conducted in such a way that the pressure is raised and lowered continuously and without sudden changes.

(2) It is recommended that, for containers, cylinders, and pipes, pressures be recorded throughout the test, and that the pressure be increased in increments of approximately 10% of the test pressure.

Hydraulic pressure resistance test

Article 93. The hydraulic pressure resistance test shall be performed using a neutral liquid that does not affect the subsequent operation of the pressurized components of hydrogen supply systems, in accordance with the accompanying technical documentation provided by the manufacturer.

Article 94. The maximum temperature of the test fluid must not exceed +50°C, and the minimum temperature must not be less than +7°C.

Article 95.1. During filling with the test fluid, measures must be taken to completely remove air so that no air pockets form inside the pressurized components of the hydrogen supply system.

(2) The flow rate of the test fluid must be set so that the venting of air prevents a pressure greater than 0.5 bar from building up in the hydrogen supply installation during filling.

Article 96.1. During the hydraulic pressure resistance test of pressure-retaining components in the hydrogen supply system, a second pressure gauge (for monitoring) must be provided in addition to the test pressure gauge.

(2) The accuracy class of the test gauges must not exceed 2.5.

(3) Pressure gauges must be used in compliance with metrology regulations.

(4) Analogue pressure gauges must be selected so that the test pressure reading falls within the middle third of the scale.

Article 97. It is forbidden to perform any work to repair leaks while the pressurized components of the hydrogen supply system are under pressure.

Article 98.1. The duration for which the pressure-retaining components of the hydrogen supply system must be maintained at the test pressure is that specified in the technical documentation accompanying the pressure-retaining components, as applicable, however, it must not be less than 30 minutes.

(2) After the hydraulic pressure test has been performed, the surfaces of the pressurized components within the hydrogen supply system shall be inspected only after the pressure has been reduced to the maximum allowable value.

Article 99.1. The hydraulic pressure resistance test is considered successful if none of the following are observed:

- a) visible plastic deformation, cracks, or fissures in pressure-bearing components,
- b) leaks (dripping) or seepage at detachable joints, in the base material, or at welded joints,
- c) reductions in the test pressure value.

(2) In order to obtain reliable results, the external environment of the pressurized components must be as dry as possible to prevent water vapour condensation.

Article 100. After the hydraulic pressure test has been performed, no welding, cold working, or hot working shall be performed on the pressure-bearing components of the hydrogen supply system.

Pneumatic pressure resistance test

Article 101. The pneumatic pressure resistance test shall be performed using air or another neutral gas, preferably nitrogen, in accordance with the accompanying technical documentation provided by the manufacturer.

Article 102. The pneumatic pressure resistance test shall be conducted under the following conditions:

- a) welded joints in pressure-bearing components should be 100% inspected in advance using each of the following methods: visual inspection, liquid penetrant testing, and radiographic testing,
- b) the minimum test temperature must be at least equal to the minimum permissible temperature of the pressure-retaining components,
- c) the test pressure value is that specified in the technical documentation accompanying the pressure-retaining components,
- d) the test pressure must be increased uniformly and continuously to 50% of its value, after which it must be increased to the test pressure in increments of approximately 10% of its value,
- e) the duration for maintaining the test pressure shall be as specified in the technical documentation accompanying the pressure-retaining components, but shall not be less than 30 minutes, after which the pressure must be reduced to the maximum allowable pressure,
- f) the surfaces of pressure-bearing components must be inspected only after the test pressure has been reduced to the maximum allowable pressure.

Article 103. During the pneumatic pressure test, measures must be taken to maintain a constant temperature of the gas introduced into the pressure-bearing components, so that the gas temperature does not affect the pressure reading.

Article 104. The pneumatic pressure test is considered successful if none of the following are observed:

- a) visible plastic deformation, cracks, or fissures in pressure-bearing components,
- b) leaks at removable joints or welded joints, detected using foaming liquids or other methods specified in the technical documentation accompanying the pressure-retaining components.

Pneumatic leak test

Article 105.1. In addition to the pressure resistance test, the hydrogen supply system shall also undergo a pneumatic leak test.

(2) The pneumatic leak test shall be performed by the owner's or user's RSVTI operator prior to commissioning or re-commissioning the system, or after the removal or reinstallation of any of its components.

(3) The pneumatic leak test shall be performed using nitrogen or, where applicable, the fluid for which the hydrogen supply system is designed.

(4) The pneumatic leak test involves maintaining the maximum allowable pressure in the hydrogen supply system for at least 60 minutes (unless otherwise specified in the technical documentation for the hydrogen supply system) and is considered successful if no pressure drop or fluid leakage is observed.

(5) After conducting the pneumatic leak test, the RSVTI operator shall prepare a report in accordance with the template provided in Annex 7, which shall be attached to the hydrogen supply system logbook referred to in Article 111, paragraph (3).

Checking the adjustment of safety devices

Article 106.1. Safety devices for hydrogen supply systems must be placed on the market in compliance with the requirements of the applicable European directives or regulations.

(2) For the safety devices referred to in paragraph 1. shall be checked for the presence of safety device adjustment reports/certificates issued by the manufacturer or by legal entities authorized in accordance with the applicable technical regulation, if more than 1 (one) year has elapsed since the date of manufacture/adjustment and if the manufacturer of the safety devices does not specify a different validity period for the adjustment.

(3) The documentation accompanying the safety devices, including the inspection and calibration reports/certificates, shall be attached to the hydrogen supply system logbook.

*SECTION 4***Conclusions of the technical inspections for the purpose of authorizing operation**

Article 107. After conducting the technical inspections for the purpose of authorizing operation, the person referred to in Article 76, paragraph 1. shall prepare a technical inspection report for each of the pressure-retaining components of the hydrogen supply system, the minimum content of which is set forth in Annex No. 8.

Article 108.1. If the results of the technical inspections are satisfactory, the technical inspection report shall record the operating parameters and the date of the next periodic technical inspection (day, month, and year) in accordance with the provisions of Article 138, paragraph 1. and Article 142, paragraph 2.

(2) If the deadlines set for the next periodic technical inspection are shorter than those provided for in Article 138(1) and Article 142(2), the technical inspection report shall state the reasons for shortening these deadlines.

Article 109.1. If the results of the technical inspections are unsatisfactory, the deficiencies shall be recorded in the technical inspection report, and no operating authorization shall be granted.

(2) As an exception to the provisions of paragraph 1, where the conditions for placing on the market or making available on the market are not met, the technical inspections for the purpose of authorizing operation shall not proceed, and the registration form provided for in the applicable regulation shall be completed and submitted to ISCIR.

(3) It is prohibited to propose the granting of an operating permit for a hydrogen supply installation on the condition that certain provisions mentioned in the technical inspection report are met at a later date.

(4) The technical inspection report shall be attached to the logbook for the pressurized component of the hydrogen supply system.

Article 110.1. For components under pressure that require the CE conformity marking for hydrogen supply systems, ISCIR grants authorization for operation in accordance with the provisions of the applicable technical regulation.

(2) For components under pressure, other than those referred to in paragraph 1, the owner/user shall compile the technical documentation for the component, which shall consist of:

- a) user instruction for pipes that do not require the CE conformity marking,

b) the technical verification report drawn up by the legal entity referred to in Article 76 paragraph (1).

Article 111.1. In order to authorise the operation of the hydrogen supply installation referred to in Article 3, the owner / user shall submit to ISCIR the following:

- a) a document showing the number assigned by the owner and the year of installation of the hydrogen supply installation,
- b) a document showing the number assigned by the owner and the year of installation of the hydrogen fuel station,
- c) copies of technical inspection reports for pipes that do not bear the CE marking,
- d) copies of the EU (CE) declarations of conformity for the components of the hydrogen supply installation, other than those referred to in Article 77, where applicable,
- e) a copy of the certificate for installations in Ex hazardous areas issued in accordance with applicable legislation, in the case of an installation operating under an assisted self-service regime, the document must specify this service regime,
- f) a copy of the fire safety permit issued in accordance with applicable law, in the case of a installation operating on an assisted self-service basis, the document must specify this service model,
- g) minutes of acceptance upon completion of the works for the installations/construction related to the hydrogen supply installation, carried out in accordance with the building permit,
- h) a document signed by the owner/operator certifying that the hydrogen supply installation has been put into operation in compliance with the provisions of Article 69(i).

(2) Following the review of the documents specified in paragraph (1), the ISCIR technical inspector shall draw up a technical inspection report, and if the provisions of this technical regulation are met, a registration number shall be assigned to each hydrogen fuel station and an operating permit shall be issued in accordance with the provisions of the applicable technical regulation.

(3) After obtaining the document referred to in paragraph (2), the owner/user shall prepare the hydrogen fuel station logbook, which consists of:

- a) the documentation for containers and pipes that require the CE conformity marking,
- b) the final technical installation/assembly documentation and the appropriate user instructions for pipes that do not require the CE conformity marking,
- c) the documents referred to in paragraph 1, (c) to (g).

4. The operation of the hydrogen supply installation shall be prohibited until the operation referred to in paragraph 2 has been authorised.

CHAPTER IV
USE AND EXPLOITATION

SECTION 1
General provisions

Article 112.1. The owner / user of the hydrogen supply installation is required to take all necessary measures to ensure compliance with the provisions of this technical regulation, with a view to the safe operation of the hydrogen refuelling station.

(2) To ensure safe operation, the owner / user is required to provide an RSVTI operator for the entire duration of the hydrogen supply installation's use.

(3) The RSVTI operator is jointly responsible with the owner/user for taking the necessary measures to ensure compliance with the provisions of this technical specification.

(4) Throughout the entire period of use of the hydrogen supply installation, the owner/operator is required to ensure its maintenance.

(5) The measuring instruments that are part of the hydrogen supply installation shall be inspected in accordance with the provisions of the applicable national metrology legislation.

Article 113.1. Within the premises of a privately accessible hydrogen supply installation, refuelling is permitted for vehicles owned or used by the owner/operator of the station that are equipped with a hydrogen refuelling system installed in accordance with applicable legislation, provided that the station is located in a secure area to which no other person not involved in the operation of the station has access.

(2) The refuelling of the vehicles referred to in paragraph 1 shall be carried out in accordance with the provisions of Article 122, paragraph 1.

Article 114.1. Within the premises of a publicly accessible hydrogen supply installation, refuelling is permitted for all vehicles equipped with a hydrogen refuelling system installed in accordance with the provisions of applicable legislation.

(2) The refuelling of the vehicles referred to in paragraph 1 shall be carried out in accordance with the provisions of Article 122, paragraph 3.

Article 115.1. The use and operation of the hydrogen supply installation shall be in accordance with the instructions for use/operation set forth in the technical documentation accompanying the pressure-containing components of the hydrogen supply installation, in the final technical

installation / assembly documentation, in the technical documentation accompanying the other components of the hydrogen supply installation, and in the specific technical instructions developed by the owner/operator of the station.

(2) Within the hydrogen supply installation, the refuelling pressure for vehicles must be maintained automatically.

(3) The owner / user must ensure that specific technical instructions for the operation of the hydrogen supply installation are available at each workplace, including the measures to be taken in the event of malfunctions, outages, or system failures.

(4) When drafting specific technical instructions, the instructions included in the final technical installation / assembly documentation shall be taken into account, these instructions establish the conditions and cycles for operation, maintenance, and repair, as well as for short- and long-term preservation, and specify the inspections and tests that must be performed by the owner/user using their own personnel, under the supervision of the RSVTI operator where applicable, during the periods between two periodic technical inspections.

(5) The specific technical instructions shall include information on the hydrogen supply system, the measures to be taken in the event of malfunctions, breakdowns, or fires, as well as occupational safety and health measures for maintenance personnel and service personnel/internally trained personnel, as applicable.

(6) A copy of the operating permit referred to in Article 111(2) shall be displayed in a conspicuous place at the hydrogen supply installation.

Article 116.1. The verification of the proper functioning of the safety devices shall be carried out in accordance with the provisions of the applicable technical prescription.

(2) The documents issued by the authorized legal entity, as a result of the verification of the safety devices, are attached to the book of the hydrogen supply installation.

(3) The replacement of the safety devices is allowed only with safety devices with similar characteristics, and the RSVTI operator of the holder/user records their replacement in a technical inspection report, according to the model provided in Annex No. 7, which is countersigned by the RSL-IP of the legal entity providing the maintenance.

(4) The document referred to in paragraph 3 shall be attached to the book of the hydrogen supply installation.

Article 117.1. In case of emergency shutdown, the restart of the hydrogen supply installation shall be carried out by the service personnel or by the internally trained personnel in compliance with the instructions provided in Article 115.

(2) It is forbidden to perform any work on the hydrogen supply installation when it is under pressure.

Article 118.1. Hydrogen supply shall be carried out only on vehicles equipped with hydrogen supply installations mentioned in the identity card/registration certificate and having the identification label "H₂ GAS" affixed to the vehicle.

(2) The model of the identification label "H₂ GAS" is provided in Annex No. 9.

Article 119. The movement within the hydrogen supply installation, to and from the supply site marked within the station perimeter, shall be made at a maximum speed of 5 km/h, inscribed on warning panels.

Article 120. For the transport of hydrogen to the fuel installation, vehicles equipped according to the European Agreement concerning the International Carriage of Dangerous Goods by Road (ADR) shall be used.

Article 121. Transport vehicles must be positioned at a safe distance from the compressor, with the engine turned off, in neutral, and secured with the parking brake and the provided wheel chocks, and all necessary safety measures must be taken.

SECTION 2

Operating staff

Article 122. Transport vehicles must be positioned at a safe distance from the compressor, with the engine turned off, in neutral, and secured with the parking brake and the provided wheel chocks, and all necessary safety measures must be taken.

(1) The fuelling of the vehicles in the hydrogen supply installations provided in Article 113, paragraph 2 shall be made by the operator of filling hydrogen containers authorized by ISCIR according to the provisions of the applicable technical prescription and/or by internally trained personnel.

(2) The training of the internal personnel referred to in paragraph 1 shall be carried out in accordance with the provisions of Annex No. 10.

(3) The refuelling of vehicles at the hydrogen fuel stations referred to in Article 114(2) shall be carried out by a hydrogen container filling operator authorised by ISCIR in accordance with the provisions of the applicable technical regulation.

(4) The self-service mode of supply of vehicles in the hydrogen supply installations provided in Article 114, paragraph 2 shall be carried out in compliance with the provisions of the technical documentation that were the basis for granting the authorization of their operation.

Article 123. The owner/user shall designate a hydrogen supply installation manager with appropriate technical training, who may be an engineer, sub-engineer, technician or specialized foreman (mechanical, electromechanical, transport, technological equipment, robotics, electrotechnics, electronics, energy, automation, informatics, construction, metallurgy, technological physics, industrial chemistry, installations, oil and gas or other related technical fields accepted by ISCIR).

Article 124. The service staff performs during the operation of the hydrogen supply installation only the tasks related to its operation.

SECTION 3

The location of the hydrogen supply installation,

Article 125.1. For each hydrogen supply installation there shall be a monitoring register for the operation.

(2) The register numbered, sealed and signed by the owner's/user's management shall be kept in good condition at each hydrogen supply installation.

(3) The entries in the register must be visible, legible and indelible, and no corrections or erasures are allowed, but only cancellations countersigned by the person who made them.

Article 126. The operator of the hydrogen containers, the internally trained staff, the plant manager, the RSVTI operator of the holder/user, the management of the holder/user and the persons authorized in writing by it, as well as other persons in operation, may make entries in the monitoring register, according to their duties under the specific technical instructions.

Article 127. The monitoring register for the operation of the hydrogen supply installation must contain at least the following:

- I. On the cover, on the outside, it is mentioned:
 - a) MONITORING REGISTER,
 - b) name and address of the owner / user,

c) the number assigned by the owner and the year of installation/mounting of the hydrogen fuel station,

d) the operating authorization number granted by ISCIR to the hydrogen supply installation,

e) the main technical characteristics of the hydrogen supply installation.

II. Inside, the following are recorded on the columns:

a) the current number,

b) the date,

c) the name and surname and signature of the person who found the deficiencies or defects,

d) the works carried out (assembly / repair / maintenance / in-service technical inspections to estimate the remaining lifespan) as well as, where appropriate, deficiencies or defects found during use,

e) name and surname and signature of the RSL-IP or of the person responsible for removing any deficiencies and defects found during use. If the maintenance works are carried out by the manufacturer of the pressure components, respectively by legal persons from a Member State of the European Union or a State signatory to the Agreement on the European Economic Area, authorized in equivalent fields of activity by the competent authority of the State of origin, the name and surname and signature of the personnel designated according to its internal procedures, respectively of the personnel with equivalent responsibilities RSL-IP nominated in the registration confirmation document,

f) date of verification and signature of the RSVTI operator,

g) comments.

CHAPTER V

MAINTENANCE

Article 128.1. The maintenance of hydrogen supply installations shall be carried out in compliance with the provisions of this Technical Prescription.

(2) The maintenance of the hydrogen supply installations shall be carried out by legal entities registered in the ISCIR Register of authorized legal entities provided for in the applicable technical prescription.

(3) Specific maintenance activities of the components of the hydrogen supply installations can also be carried out by their manufacturer.

(4) The authorization for the maintenance activity of the components of the hydrogen supply installations is not required when the maintenance is carried out by their manufacturer.

Article 129. The maintenance shall be carried out in a planned manner, according to the instructions in the technical documentation of the hydrogen supply installation or in the technical documentation for technical checks in use to estimate the remaining life, in order to ensure that the installation is kept within the safe operating parameters according to the provisions of this Technical Prescription.

Article 130.1. The maintenance is carried out in compliance with the schedule and list of maintenance works.

(2) The maintenance ensures the replacement of parts, devices or modules embedded in the hydrogen supply installation in order to ensure its maintenance in safe operating parameters, according to the provisions of this Technical Prescription.

(3) When establishing the schedule and the list of maintenance works for hydrogen supply installations, the provisions of the standard SR ISO 19880. are taken into account.

Article 131.1. The maintenance includes at least the following operations:

t) checking for leaks in the hydrogen pipes, the compression system and auxiliary equipment, the vessels, the pre-cooling system, the control and safety systems, and the distribution system,

u) checking the condition of the pressure gauges,

v) checking the tightness of the pressure components,

w) checking the status of the defenders and supports of the pipes adjacent to the compressor,

x) checking the Ex protection of all protected components, in compliance with SR EN 60079-17, SR EN 60079-19 and the manufacturer's instructions,

y) checking the reinforcements,

z) checking the condition of hoses and filling guns,

aa) other operations specified in the technical documentation accompanying the pressure components, in the final technical mounting documentation or in the technical documentation prepared when performing the technical checks in use to estimate the remaining life.

(2) The periodicity at which the operations referred to in paragraph 1 are carried out shall be specified in the specific technical instructions referred to in Article 115, paragraph 4.

Article 132.1. Annually, the following shall be carried out:

a) checking the tightness of the hydrogen supply installation in compliance with the requirements of Article 105, paragraphs 3 - 5.

b) checking the condition of the pressure components in compliance with the requirements of Article 87 and 88.

c) checking the safety devices in compliance with the requirements of Article 106,

(2) The checks provided for in paragraph 1 shall be carried out by the RSL-IP nominated in the authorization of the legal entity authorized for the maintenance activity.

(3) After carrying out the checks provided for in paragraph 1, the RSL-IP provided for in paragraph 2 shall draw up a document recording the results of the checks and which shall be attached to the hydrogen supply installation log book.

Article 133.1. The execution of the maintenance works shall be recorded by the RSL-IP of the legal entity nominated in Article 132, paragraph 2 in the register of supervision of the operation of the hydrogen supply installation provided in Article 127.

(2) The owner/user's RSVTI operator shall endorse the RSL-IP entries in the monitoring register for the operation of the hydrogen supply installation.

(3) If during the checks and tests referred to in paragraph 1 deficiencies are found that could endanger the operational safety of the hydrogen supply installation, the RSVTI operator shall order its shutdown and take the necessary measures, in accordance with the provisions of this Technical Prescription.

CHAPTER VI

PERIODIC TECHNICAL INSPECTION

SECTION 1

General provisions

Article 134.1. Hydrogen supply installations in operation are subject to periodic technical inspections, comprising: a review of the technical documentation, an internal inspection of the pressure vessels used to store the hydrogen required to supply the installation, the hydrogen storage cascade required to supply vehicles and the pre-cooling system for high-pressure compressed hydrogen, external inspection of the pipelines, pressure resistance tests, inspection of safety devices and leak tests. On this occasion, the technical condition of the hydrogen supply system is inspected in accordance with the provisions of this technical specification.

(2) If the applicable legislation contains other specific provisions regarding the inspection and testing of hydrogen supply installations, the provisions of paragraph 1 may be applied accordingly.

(3) The owner/user is required to request periodic technical inspections and to ensure that all necessary conditions for their performance are met.

Article 135.1. Periodic technical inspections of the pressure-retaining components referred to in Article 77 shall be carried out by CNCIR.

(2) The verification of components other than those referred to in paragraph 1 shall be carried out under the responsibility of the owner/user.

Article 136. The use of the hydrogen supply installation with an expired validity term of the operating authorization is prohibited.

Article 137. At the end of the service life specified in the technical documentation for the components under pressure of the hydrogen fuelling station, or after the expiration of the normal operating life specified in Government Decision No. 2139/2004, when the service life is not explicitly specified in the technical documentation, the periodic technical inspection of the hydrogen supply installations shall be performed after conducting in-service technical inspections to estimate the remaining service life.

SECTION 2

Internal inspection

Article 138.1. Internal inspection of pressure vessels used to store hydrogen for installation supply, the hydrogen storage cascade used to supply vehicles, and the pre-cooling system for high-pressure compressed hydrogen, as well as external inspection of pipelines, shall be performed at least once every 4 (four) years, in accordance with the provisions of Articles 86-88.

(2) In addition to the due date, the internal inspection shall also be carried out in the following cases:

- a) after a new installation / mounting,
- b) after a repair carried out in accordance with the provisions of Chapter VII,
- c) after an interruption of operation of more than 1 (one) year, before the hydrogen supply installation is re-commissioned.
- d) when the ISCIR specialist inspector (in the framework of scheduled and unscheduled controls) or the RSVTI operator have good reasons to consider such a verification necessary.

Article 139.1. The competent person within CNCIR may establish shorter deadlines for carrying out the interior overhaul depending on the technical condition and age in use of the hydrogen supply installation.

(2) The owner / user is solely responsible to meet the due deadlines for carrying out the internal inspection.

Article 140.1. In cases where, due to the design of the container(s) associated with the hydrogen supply installation, the internal inspection (as part of the internal inspection) cannot be performed, it may be replaced by a pressure resistance test, supplemented, where appropriate, by other examinations and inspections (e.g., non-destructive testing).

(2) The relevant inspections and checks (method, scope, acceptance criteria, and frequency) must be specified in technical documentation prepared by the owner/user and the legal entity authorized by ISCIR to perform in-service technical inspections for the purpose of estimating the remaining service life, in accordance with the provisions of the applicable technical regulation.

(3) The authorized legal entity referred to in paragraph 2 shall include in the technical documentation full details of the technical conditions for conducting the examinations and inspections, as well as the criteria for their acceptance.

(4) The technical documentation for carrying out the examinations and inspections referred to in paragraph 3 must be approved by RADTE-IP.

(5) After conducting the inspections and verifications in accordance with the provisions of the technical documentation referred to in paragraph (4), the legal entity referred to in paragraph (2) shall prepare a report, which shall be approved by RADTE-IP, specifying whether the results were satisfactory or not.

(6) The technical documentation referred to in paragraph 5 shall be submitted to the legal entity referred to in Article 135 at the time the test is conducted.

Article 141. For the containers/pipes within the hydrogen supply installation, annual cathodic protection inspection reports must be submitted, issued in accordance with the provisions of their technical documentation and the applicable specific regulations, where applicable.

SECTION 3

Pressure resistance test

Article 142.1. The pressure resistance test shall be performed only after an internal inspection with appropriate results.

(2) The pressure resistance test shall be carried out at least once every 8 (eight) years, in accordance with the provisions of Article 89 and Article 91 - 104, in order to check the strength and tightness of the hydrogen supply installation and to highlight any defects that could not be detected at the interior inspection of the pressure components.

(3) In the case of the container(s) referred to in Article 140, whose internal overhaul cannot be carried out, the pressure resistance test shall be carried out at least once every 4 (four) years.

Article 143. In addition to the due date verification, the pressure resistance test shall also be carried out in the following cases:

- a) after an interruption of the operation of the hydrogen supply installation for more than 1 (one) year, before its re-commissioning,
- b) after a new installation / mounting,
- c) after a repair carried out in accordance with the provisions of Chapter VII,
- d) when the ISCIR specialist inspector (in the framework of scheduled and unscheduled controls) or the RSVTI operator have good reasons to consider such a verification necessary.

Article 144.1. The person referred to in Article 139, paragraph 1. may set shorter deadlines for performing the hydraulic pressure test depending on the technical condition and age in use of the hydrogen supply installation.

- (2) The owner / user is solely responsible for meeting the due deadlines.

SECTION 4

Pneumatic leak test

Article 145.1. The pneumatic tightness test shall be performed after the pressure resistance test, under the conditions provided in Article 105.

- (2) The tightness shall be checked with the means provided in the technical documentation of the hydrogen supply installation.

SECTION 5

External inspection

Article 146.1. The external inspection is the technical inspection carried out by the ISCIR specialist inspector during the operation of the hydrogen supply installation and aims to establish its general condition.

(2) The results of the external inspection shall be recorded in a technical inspection report according to the template set out in Annex No. 3.

Article 147. During the external inspection, the following shall be checked:

- a) maintaining the conditions in accordance with the provisions of the technical installation/mounting documentation,
- b) the conditions regarding the access and service spaces, cleaning and others,
- c) the existence and proper functioning of safety devices and measuring and control devices,
- d) the existence of the contract for the maintenance of the hydrogen supply installation, in compliance with the provisions of the technical installation/mounting documentation,
- e) the condition of the hydrogen supply installation and of the joints (visible and accessible parts),
- f) service personnel, in connection with the existence and validity of the documents held and knowledge of the specific technical instructions for the use of the hydrogen supply installation,
- g) the existence of the monitoring register of the hydrogen supply installation, as well as the way in which the daily entries are made in it,
- h) the existence of specific technical instructions,
- i) integrity of the grounding plug binding system.

SECTION 6

Verification of the safety devices

Article 148. The verification of the proper functioning of the safety devices is carried out according to the provisions of Article 106.

SECTION 7

Other checks

Article 149.1. After the internal inspection and/or pressure resistance test has been performed, the owner/user is required to verify that the hydrogen supply installation is functioning properly.

(2) The maintenance of the hydrogen supply installation is conditioned by the existence of the document concluding the observance of the safe operation conditions provided in the technical documentation accompanying the component elements.

SECTION 8

Conclusions of periodic technical inspections

Article 150.1. After carrying out the technical inspections, the person referred to in Article 139, paragraph 1. draws up a technical inspection report, the minimum content of which is provided in Annex No. 8.

(2) If the results of the periodic technical inspection are appropriate, the authorization for further operation shall be granted, setting the date (day, month, year) of the next periodic technical inspection. This date shall be set according to the technical condition, complexity, installation site, environmental conditions, operating regime and age in use of the hydrogen supply installation and may not exceed the maximum period corresponding to each type of verification/test provided for in this Technical Prescription.

(3) If the deadlines set for the performance of the next periodic technical inspection are lower than those provided for in Article 138 paragraph 1 and Article 142, the technical inspection report shall state the reasons for the reduction of these deadlines.

(4) If the results of the periodic technical inspection are inadequate, authorization for further operation is not granted.

(5) It is forbidden to grant the authorization for the continued operation of the hydrogen supply installation under the conditions of the subsequent fulfilment of some provisions mentioned in the technical inspection report.

(6) The technical inspection report is attached to the hydrogen supply installation book.

SECTION 8

Extension of the authorization of operation and modification of the deadlines for carrying out the periodic technical inspections

Article 151.1. In technically justified cases, for hydrogen supply installations that cannot be shut down, the operating authorization may be extended and the deadlines for conducting periodic technical inspections may be modified by no more than 1 (one) year, based on a technical report assessing operational risks prepared by the owner/user and the legal entity authorized by ISCIR to perform in-service technical inspections for estimating the remaining service life, in accordance with the provisions of the applicable technical regulation.

(2) The technical report referred to in paragraph 1 shall include at least the following:

- a) presentation/description of the hydrogen supply installation (main technical characteristics),
- b) operation history (periodic technical checks, revisions, repairs, failures),

c) monitoring of operating parameters during the period since the last periodic technical inspection,

d) compensatory measures, where appropriate,

e) the fitting of safety devices and measuring, control devices,

f) the existence of specific technical instructions for use/operation,

g) conclusions on further safe operation.

(3) The technical report referred to in paragraph 2 must be approved by RADTE-IP.

(4) The technical report referred to in paragraph 3 shall be submitted to ISCIR for acceptance at least 30 calendar days before the due date.

(5) ISCIR analyses the submitted technical report and if it corresponds to the provisions of this Technical Prescription, accepts it and establishes the performance of the external revision according to the provisions of Articles 146 -147.

(6) If the results of the external inspection are appropriate, the ISCIR specialist inspector shall draw up the technical inspection report according to the template set out in Annex No. 3.

(7) The technical inspection report referred to in paragraph 6 and a copy of the technical report referred to in paragraph 5 shall be attached to the book of the hydrogen supply installation.

(8) Upon completion of the due date set out in the minutes referred to in paragraph 6, the periodic technical inspection must be carried out.-

Article 152.1. If the objective circumstances do not allow the hydrogen supply installation to be shut down on the due date for the internal inspection, an extension of the operating authorization and a change in the due date for the internal inspection may be granted until the due date for the internal inspection and the pressure resistance test.

(2) The extension of the operating authorization and the modification of the expiration date referred to in paragraph 1 shall be carried out in accordance with the methodology approved by order of the Chief State Inspector of ISCIR, which shall be published in the Official Gazette of Romania, Part I.

(3) The technical inspection report drawn up by the specialized ISCIR inspector and a copy of the study carried out according to the methodology provided in paragraph 2 shall be attached to the book of the hydrogen supply installation.

(4) Upon the expiry of the deadline set out in the minutes provided for in the methodology referred to in paragraph 2, the periodic technical inspection must be carried out.-

CHAPTER VII

REPAIR

SECTION 1

General provisions

Article 153.1. The repair of hydrogen supply installations shall be carried out in compliance with the provisions of this Technical Prescription.

(2) The repair of the pressure components of the hydrogen supply installation shall be carried out by their manufacturer or by legal entities registered in the ISCIR Register of authorized legal entities provided for in the applicable technical prescription.

(3) The authorization for the repair activity of the pressurized components of the hydrogen supply installation is not required when the maintenance is carried out by their manufacturer.

(4) The repair of the component elements not provided for in paragraph 2 shall be carried out by their manufacturer or by specialized legal entities, in compliance with the requirements of the accompanying technical documentation and the applicable technical regulations and shall be verified by the owner's/user's RSVTI operator.

Article 154.1. The repair of pressurized components of the hydrogen supply installation shall be carried out in the following cases:

- a) as a result of the findings of the owner's/user's RSVTI operator,
- b) as a result of carrying out periodic technical inspections, when it is needed,
- c) as a result of performing technical checks in use to estimate the remaining life, when it is needed.

(2) The repair of the pressure components of the hydrogen supply installation may be carried out following damage/accidents only if ISCIR has previously issued the damage/accident report and in compliance with Chapter VIII.

Article 155.1. Before starting the repair works, the RSVTI operator of the holder/user of the hydrogen supply installation, the competent person within CNCIR, the legal entity authorized to carry out the technical checks in use for the estimation of the remaining life or the specialized inspector within ISCIR, as the case may be, shall draw up the finding document in order to be put into repair.

(2) It is forbidden to start the repair work without the finding document referred to in paragraph 1.

Article 156.1. The repair works of the pressure components of the hydrogen supply installation shall be checked by CNCIR.

(2) The repair works to be checked according to the provisions of paragraph 1 are the following:

- a) replacement of pressure elements, which can be executed separately and assembled at the storage container and/or storage cascade containers within the hydrogen supply installation with other types of dimensions that differ from those provided in the initial project,
- b) replacing the safety fittings with other types of dimensions that differ from those provided in the initial project,
- c) replacement or repair of elements / fittings of the pipes related to the hydrogen supply installation, such as: elbows, curves, tees, expansion joints, sections and the like with other types of dimensions that differ from those provided in the initial project,
- d) execution of new welds to the pipes related to the hydrogen supply installation, restoration or remediation of existing ones,
- e) repair by welding of the pipes related to the hydrogen supply installation, which show corrosion, erosion or pores,
- f) repairing by welding cracks or cracks in the pipes related to the hydrogen supply installation.

(3) The repair works not provided for in paragraph 2 shall be verified by the RSVTI operator of the holder/user and RSL-IP nominated in the authorization of the legal entity provided for in Article 153, paragraph 2.

(4) It is not allowed to repair, either by hot or cold working, permanent deformations of pressure-bearing components, nor is it permitted to perform welding work on their bodies.

(5) Any repair work on components of the hydrogen supply installation not covered by paragraph 1. shall be carried out in accordance with the applicable technical regulations.

Article 157.1. The repair of the pressure components of the hydrogen supply installation shall be carried out on the basis of a preliminary technical repair documentation.

(2) The minimum content of the preliminary technical repair documentation is set out in Annex No. 11.

(3) The preliminary technical repair documentation shall be endorsed by RADTP-IP, unless the repair works to be carried out by the manufacturer of the pressure components.

Article 158.1. The repair works must be carried out in compliance with the regulations that were the basis for the construction of the components of the hydrogen supply installation, but solutions

may also be adopted based on other applicable technical standards and regulations, which ensure compliance with the essential safety requirements.

(2) Within the repair works, subassemblies/pressure components built by the legal entities provided in Article 153, paragraph 2 are used based on the preliminary technical repair documentation approved by RADTP-IP, except for the subassemblies/components regulated by the provisions of the European directives or the applicable European regulations.

(3) For the subassemblies/components not provided for in paragraph 2, subassemblies / components built by legal entities referred to in Article 153, paragraph 4 shall be used in the repair works, based on the technical documentation accompanying them or the applicable technical rules, except for subassemblies/components covered by the provisions of the applicable European Directives or European regulations.

(4) The owner / user must provide the technical documentation of the components of the hydrogen supply installation to allow the identification of all the technical data necessary to carry out the repair works on them.

SECTION 2

Stages of repair

Article 159.1. Before starting the repair works, the legal entity referred to in Article 153, paragraph 2, unless the repair works to be carried out by the manufacturer of the pressure components, with the written consent of the owner/user, draws up a technical report presenting the repair works, which must include at least the following:

- a) the assessment report for the purpose of initiating the repair process referred to in Article 155, paragraph 1,
- b) description of the hydrogen supply installation, indicating the operating parameters,
- c) the repair works to be carried out,
- d) the technical conditions for carrying out the maintenance works,
- e) the schedule of inspections, checks, and tests to be conducted during and upon completion of the repair work.

(2) The preliminary technical repair documentation provided in Article 157, is attached to the technical report for the presentation of the repair works.

Article 160.1. In order to obtain approval for the commencement of repair work on the pressure-retaining components of the hydrogen supply installation, the legal entity referred to in Article 153, paragraph 2, unless the repair work is performed by the manufacturer of the pressure-retaining

components, shall submit to ISCIR the application for approval of the repair work and the technical report describing the maintenance work referred to in Article 159.

(2) For the pressure components of the hydrogen supply installation referred to in paragraph 1, ISCIR may grant a power of attorney to the RSVTI operator of the holder/user of the installation to carry out the checks in order to accept the start of the repair works.

(3) In order to accept the start of the repair works for the pressure components of the hydrogen supply installation referred to in paragraph 2, the legal entity referred to in Article 153, paragraph 2, shall submit to the RSVTI operator of the holder/user of the hydrogen supply installation the application for acceptance of the start of the repair works and the technical report presenting the repair works referred to in Article 159.

Article 161.1. In the situation provided for in Article 160, paragraph 1. the ISCIR specialized inspector shall review the technical report provided for in Article 159 and if it corresponds to the provisions of this Technical Prescription, he shall approve the commencement of the repair works by drawing up a technical inspection report, according to the template provided for in Annex No. 3 and the application of the specific stamp on the last page of the written part, before the submission of the annexes.

(2) In the situation provided in Article 160, paragraph 3 the RSVTI operator of the holder/user analyses the technical report provided in Article 159 and if it corresponds to the provisions of this Technical Prescription, he/she accepts the start of the repair works by drawing up a technical inspection report, according to the template provided in Annex No. 7 and applying his/her own stamp on the last page of the written part, before submitting the annexes.

(3) In the case of the pressure components of the hydrogen supply installation referred to in Article 160, paragraph 2, the RSVTI operator of the Licensee/User shall send to ISCIR a notification accompanied by the report referred to in paragraph (2) within a maximum of 5 (five) working days from its preparation.

Article 162. Starting the repair works without the existence of the approval documents, respectively the acceptance of the commencement of the maintenance works, provided in Article 161, paragraphs 1 and 2, is prohibited.

Article 163.1. During the repair works, the requirements of the approved technical report provided for in Article 161, paragraph 1, respectively accepted provided for in Article 161, paragraph 2 must be complied with.

(2) If during the repair works it is necessary to make changes compared to the provisions of paragraph 1, these changes must be approved by RADTP-IP and accepted under the same conditions as those provided for in Article 161, as the case may be.

(3) Supervision and inspection during and upon completion of the repair work shall be carried out by the RSL-IP designated in the authorization of the legal entity referred to in article 153, paragraph 2.

(4) The confirmation of the repair works is carried out by the owner/user's RSVTI operator, by drawing up a report according to the template provided in Annex No. 7.

Article 164.1. After the completion of the repair works, the legal entity referred to in Article 153, paragraph 2 shall draw up the final technical repair documentation.

(2) The minimum content of the final repair technical documentation is set out in Annex No. 12.

(3) The final technical repair documentation shall be endorsed by the specialized technical staff provided for in Article 163, paragraph 3.

(4) At the end of the repair works, the legal entity referred to in Article 153, paragraph 2 draws up the declaration of conformity, according to the model provided in Annex No. 6.

(5) The declaration of conformity referred to in paragraph 4 shall be attached to the final technical repair documentation referred to in paragraph 3.

(6) The final technical repair documentation shall be attached to the hydrogen supply installation book.

SECTION 3

Final provisions on repairs

Article 165. Technical inspections following repair, for the purpose of re-commissioning, shall be conducted at the location where the hydrogen supply installation is in operation.

Article 166. In order to perform technical inspections following repairs, for the purpose of re-commissioning the hydrogen supply installation, the owner/user must request the legal entity referred to in Article 156, paragraph 1 to perform the inspections in accordance with the provisions of this technical regulation, submitting the final technical repair documentation.

Article 167.1. In order to carry out technical inspections following repair, on the scheduled date, the owner/user must prepare the hydrogen fuel system, having carried out, where applicable, in-house tests with satisfactory results, as documented in a report.

(2) The owner / user must also provide the auxiliary personnel necessary to carry out the technical inspections.

(3) The owner / user's RSVTI operator, the plant manager and the representative of the legal entity referred to in Article 153, paragraph 2 must participate in the technical inspections.

Article 168.1. For the technical inspection after repair, in order to re-commission the hydrogen supply installation, the competent person shall perform the following activities:

- a) verification of the final technical repair documentation provided for in Annex No. 12,
- b) interior inspection of the storage container, of the storage cascade containers, as the case may be, according to the provisions of Article 138, paragraph 1,
- c) external verification of pipes, as appropriate, according to the provisions of Article 138, paragraph 1,
- d) the pressure resistance test, according to the provisions of Articles 142 - 144,
- e) verification of the adjustment of the safety devices, according to the provisions of Article 148.

(2) After carrying out the checks referred to in paragraph 1 with the appropriate result, the RSVTI operator of the owner / user shall carry out the pneumatic sealing test, according to the provisions of Article 145.

(3) After the inspections referred to in paragraph 2 have been carried out with appropriate results, the activities referred to in Article 149 shall be carried out.

Article 169.1. After carrying out the technical inspections after the maintenance, in order to re-commission the legal entity referred to in Article 156, paragraph 1 draws up a technical inspection report, the minimum content of which is provided in Annex No. 8.

(2) If the results of the post repair technical inspection, for the purpose of re-commissioning are appropriate, the authorization of further operation shall be granted, setting the date (day, month, year) of the next periodic technical inspection in compliance with the provisions of Article 138, paragraph 1 and Article 142. This date shall be determined according to the technical condition, complexity, installation site, environmental conditions, operating mode and age in service of the hydrogen supply installation and may not exceed the maximum period corresponding to each type of verification/test provided for in this Technical Prescription.

(3) If the deadlines set for the performance of the next periodic technical inspection are lower than those provided for in Article 138, paragraph 1 and Article 142 in the technical inspection report, the reasons for the reduction of these deadlines shall be stated.

(4) If the results of the post repair technical inspection, for the purpose of re-commissioning are inadequate, the authorization for further operation shall not be granted.

(5) It is forbidden to grant the authorization for the continued operation of the hydrogen supply installation under the conditions of the subsequent fulfilment of some provisions mentioned in the technical inspection report.

(6) The technical inspection report is attached to the hydrogen supply installation book.

(7) The repair works shall be recorded by the owner's/user's RSVTI operator in the hydrogen supply installation supervision register.

Article 170.1. When repairing pressure-bearing components of a hydrogen supply installation that, due to their design, installation, or operation, require additional inspections and tests (measurement of deformations and the like), or when some of the inspections and tests specified in this technical regulation cannot be performed, other inspections and tests may be performed. They are provided in the preliminary technical repair documentation, specifying the type, volume, technical conditions of execution and acceptance criteria, as well as the periodicity of their performance during the use of the hydrogen supply installation.

(2) In the case of repair works carried out in the event of drawing up the preliminary technical report provided for in Article 179, paragraph 1, the activities provided for in Article 168 shall be carried out after the approval of the final technical report according to the provisions of Article 180.

CHAPTER VIII

IN-SERVICE TECHNICAL INSPECTIONS FOR THE ESTIMATION OF THE REMAINING SERVICE LIFE

SECTION 1

Scope

Article 171.1. In-service technical inspections to estimate the remaining service life of the pressure-bearing components of the hydrogen supply installation shall be carried out in accordance with the provisions of this technical specification.

(2) In-service technical inspections to estimate the remaining service life of the pressure-bearing components of the hydrogen supply installation shall be performed by legal entities listed in the ISCIR Register of Authorized Legal Entities, as provided for in the applicable technical regulation.

(3) Components of the hydrogen supply installation not provided for in paragraph 1 shall be used in accordance with the requirements of the technical documentation, the provisions of the applicable technical prescriptions and the applicable legislation in force.

Article 172. In-service technical inspections to estimate the remaining service life of the pressure-bearing components of the hydrogen supply installation shall be carried out for the purpose of assessing their technical condition, estimating their remaining service life, and evaluating their safe operating conditions.

Article 173. In-service technical inspections to estimate the remaining service life of the pressure-bearing components of the hydrogen supply installation shall be performed in the following cases:

- a) if damage and / or accidents have occurred,
- b) if, following technical inspections during operation, unsatisfactory results are obtained that can endanger continued safe operation,
- c) if during the authorized operation the hydrogen supply installation is no longer safe in operation,
- d) if its elements/components show areas of oxidation/corrosion and/or other consequences of material degradation mechanisms that endanger further safe operation,
- e) when the hydrogen supply installation is re-commissioned after a period of time in which it has been shut down, without being properly preserved, according to the technical documentation/specific technical conservation instructions, and its re-commissioning endangers its continued safe operation,
- f) at the end of the service life of the pressure components of the hydrogen supply installation, when it is established by the technical documentation, or at the latest 1 (one) year before its end, based on the written motivation of the holder/user,
- g) at the end of the normal service life specified in Government Decision No. 2139/2004, when the technical documentation does not specify the service life of the pressure-bearing components of the hydrogen supply installation, or no later than 1 (one) year prior to its expiration, based on a written justification from the owner/user,
- h) when the technical documentation of the pressure components of the hydrogen supply installation is missing or incomplete.

SECTION 2

Conditions regarding the performance of technical inspections in use to assess the remaining lifespan

Article 174.1. In-service technical inspections to estimate the remaining lifespan shall be carried out according to the following steps:

- a) drawing up the schedule of technical investigations/inspections,

- b) carrying out the examinations / inspections / tests provided for in the programme under point (a),
- c) drawing up the preliminary technical report, where appropriate,
- d) drawing up the final technical report.

(2) The steps referred to in paragraph 1 shall be carried out by the same legal person referred to in Article 171, paragraph 2.

Article 175.1. The legal entity referred to in Article 171, paragraph 2 draws up a programme of investigations/examinations of a technical nature, in compliance with the specific conditions set out in Annex No. 13.

(2) If technical inspections have already been performed on the hydrogen supply installation while it was in operation to estimate its remaining lifespan, the schedule may only be drawn up to the extent that the calculation summary and the conclusions of the most recent final technical report, together with the operating conditions from the date of its acceptance until the date the schedule are drawn up, allow for the estimation of a new remaining lifespan that ensures safe operation.

(3) The complexity of the technical investigation / inspection program is determined by the operational history of the hydrogen supply installation, the history of any maintenance work, the operating parameters, the various mechanisms of material degradation caused by operating parameters, the availability of all or part of the technical documentation, and the availability of operational monitoring records.

(4) The owner / operator shall make available user manual of the hydrogen supply system, which shall allow the technical data needed to draft the technical inspection/examination program.

(5) The minimum content of the technical investigation/examination program is specified in Annex No. 14.

(6) The program of technical investigations/examinations shall be approved by the RADTE-IP designated in the authorization of the legal entity referred to in Article 171, paragraph 2.

Article 176.1. In order to approve the programme of technical investigations/examinations of the pressure-bearing components of the hydrogen supply installation referred to in Article 4, the legal entity referred to in Article 171, paragraph 2, shall submit to ISCIR the application for approval and the programme referred to in Article 175, paragraph 5.

(2) The ISCIR technical inspector reviews the program referred to in paragraph 1 and, if it complies with the provisions of this technical regulation, approves it by preparing a document and stamping the last written page with the specific stamp, before submitting the annexes.

Article 177.1. Supervision and verification during and upon completion of the approved program referred to in Article 176, paragraph 2 shall be carried out by the RADTE-IP designated in the authorization of the legal entity referred to in Article 171, paragraph 2, and confirmation of the performance of examinations, measurements, inspections, and tests shall be carried out by the RSVTI operator of the holder/user.

(2) Non-destructive tests shall be performed by legal entities authorized by ISCIR in accordance with the provisions of the applicable technical regulation.

(3) ISCIR may require that certain examinations, measurements, inspections or tests be carried out in the presence of the specialist inspector within ISCIR.

(4) The legal person referred to in Article 171, paragraph 2 has the obligation to request, at least 5 (five) working days before the start of the examinations, measurements, inspections and tests, the participation of the specialized inspector within ISCIR, specifying the legal persons who will perform them.

(5) When carrying out the examinations, measurements, inspections and tests provided for in the approved programme, the legal entity referred to in Article 171, paragraph 2 must provide the ISCIR Specialist Inspector with a copy of the investigation/examination programme of a technical nature accepted by ISCIR, as well as the endorsement document.

Article 178. During the supervision and verification of the performance of the approved program, the RADTE-IP nominated in the authorization of the legal entity referred to in Article 171, paragraph 2, shall perform at least the following:

a) verify the existence of the supporting documents regarding the operating regime from the date of approval of the program until the date of commencement of the examinations, measurements, inspections and tests, drawn up by the RSVTI operator and assumed by the legal representative of the Licensee/User.

b) verify the condition of the installation for the hydrogen supply installation and, if there have been changes in its situation leading to the need to modify the examinations, measurements, checks and tests and / or the conditions of their execution, proposed in the approved examination, suspend their execution, analyse the findings and propose a new programme of technical investigations / examinations, in compliance with the provisions of this technical prescription,

c) visual inspection of the pressure components of the hydrogen supply installation including the supporting metal structure, where applicable,

d) be present during the examinations, measurements, inspections, and tests specified in the approved program and shall ensure that at least the following requirements are met:

1) in the case of non-destructive volumetric testing using one of the RT(x) or RT(γ) methods/specialties, the existence of documents issued by CNCAN authorizing the laboratory to work with the radiation source outside the installation, within the perimeter where the hydrogen supply installation is located,

2) in the case of non-destructive volume testing using the UT(s) method/specialty for material thicknesses under 8 mm, the existence of the laboratory's authorization demonstrating that it is permitted to perform non-destructive testing under these conditions, as well as a copy of the technical verification report on which the granting or renewal of the authorization was based, indicating the names of the operators authorized to perform this type of testing,

3) if the non-destructive testing procedures proposed in the approved program reveal unacceptable discontinuities relative to the proposed acceptance level, the scope of the non-destructive testing shall be expanded as follows: unacceptable defects found in more than 10% of the samples shall result in the inspection coverage being increased by an additional 50% of the initial percentage, and if unacceptable defects are again found in more than 10% of the samples, the inspection coverage shall be increased to 100%.

Article 179.1. If, during the course of the technical investigation/examination program, it is determined that repair work is necessary, the legal entity referred to in Article 171, paragraph 2 shall prepare a preliminary technical report.

(2) The preliminary technical report shall be approved by the RADTE-IP designated in the authorization of the legal entity referred to in paragraph 1.

(3) Based on the conclusions of the preliminary technical report referred to in paragraph (2), repairs to the hydrogen supply installation shall be carried out in accordance with the requirements of Chapter VII.

Article 180.1. Based on the results obtained from the examinations, measurements, checks and tests carried out and, as the case may be, the repair works carried out according to the provisions of Article 179, paragraph 3, the legal entity referred to in Article 171, paragraph 2 draws up the final technical report.

(2) When drawing up the final technical report, the specific conditions set out in Annex No. 15. must be taken into account.

(3) The minimum content of the final technical report is set out in Annex No. 16.

(4) At the end of the works of technical checks in use for the estimation of the remaining life, the legal entity referred to in Article 171, paragraph 2 draws up the declaration of conformity, according to the model provided in Annex No. 6, which is attached to the final technical report.

(5) The final technical report referred to in paragraph 1 shall be endorsed by the RADTE-IP nominated in the authorization of the legal entity referred to in Article 171, paragraph 2.

(6) The final technical report referred to in paragraph (5) shall be endorsed by ISCIR.

Article 181.1. In order to approve the final technical report, the legal entity referred to in Article 171, paragraph 2, submits to ISCIR the request for approval and the report.

2. The ISCIR Specialized Inspector shall analyse the final technical report provided for in paragraph 1 and, if it complies with the provisions of this technical prescription, shall endorse it by drawing up a document and applying the specific stamp on the page containing the conclusions and possible compensatory measures, before submitting the annexes.

Article 182.1. After approving the final technical report, the legal entity referred to in Article 171, paragraph 2 sends to the owner/user the following:

- e) the approved technical investigation/inspection program,
- f) the preliminary technical report, where applicable,
- g) the final approved technical report.

(2) Based on the documents referred to in paragraph 1, as the case may be, the owner/user shall take the steps provided for in this technical prescription for:

- a) the authorisation of operation,
- b) the periodic technical inspection,
- c) the post maintenance technical inspection for re-commissioning.

(3) The absence of any of the documents referred to in paragraph 1, as the case may be, shall not entitle the activities referred to in paragraph 2 to be carried out.

CHAPTER IX

STAMPING AND RE-STAMPING

Article 183.1. Pressure-retaining components whose installation, assembly, use, maintenance, repair, and inspection are carried out in accordance with the provisions of this technical regulation, and which are in operation without a stamp or markings applied, must be stamped or marked in accordance with the provisions of this technical regulation.

(2) Stamp plates or markings shall be applied to the equipment in operation referred to in paragraph 1. if they are missing, damaged, or illegible.

(3) Pressure-retaining components referred to in paragraph 1 are exempted if their technical documentation does not specify a stamp plate, provided that the information required is marked by

stamping on the body of the vessel or by labelling, and they are authorized to operate under these conditions.

Article 184.1. For pressure-bearing components of hydrogen supply installations authorized to operate or inspected in accordance with the provisions of this technical regulation, where the stamp plate or markings are missing or damaged, they shall be restored by the owner based on the existing technical documentation (which must indicate the operating parameters, serial number/year, manufacturer, etc.).

(2) The stamp plate may be attached only if the components of the hydrogen supply installation are marked (by stamping) with the necessary information stating that the technical documentation is related to them (manufacturer's serial number/year and name of the manufacturer).

(3) The stamp plate or markings must be attached by the owner/user's RSVTI operator, who must prepare a report to be attached to the hydrogen supply installation manual.

(4) The stamp plate shall be manufactured in accordance with the requirements of the applicable standards and must include at least the following:

- a) No. of manufacture/year of manufacture,
- b) name of the manufacturer,
- c) operating parameters (flow, PS, TS, working fluid, etc.).

(5) The markings must contain at least the following:

- a) No. of manufacture/year of manufacture,
- b) name of the manufacturer,
- c) operating parameters (flow, PS, TS, working fluid, etc.).

CHAPTER X

MALFUNCTIONS AND ACCIDENTS

Article 185. In the event of malfunctions that cause the hydrogen supply installations to cease operation or operate under unsafe conditions, as well as in cases of accidents involving the hydrogen supply installation, the owner/operator of the hydrogen supply installation is required to shut down the station and immediately notify ISCIR of the incident, At that time, the following information must be provided: the first and last name and position of the person making the report, contact information for any additional details, the date, time, and location of the malfunction or accident, the type of hydrogen supply installation, and the consequences of the malfunction or accident.

Article 186. The owner / user of the hydrogen supply installation that was damaged or where the accident occurred has the following responsibilities to fulfil through the RSVTI operator:

- a) to take the necessary measures so that the situation caused by the damage or during the accident remains unchanged until the arrival of the ISCIR specialized inspectors, unless that situation would constitute a danger to the life and health of persons,
- b) take all measures to ensure safety conditions, including shutting off the power and fuel supply,
- c) to isolate as far as possible the working area of the damaged hydrogen supply installation or where the accident occurred,
- d) to draw up a technical report of the hydrogen supply installation immediately after the breakdown/accident, which must also include photos of the damaged hydrogen supply installation, allowing its identification and the areas affected by the breakdown, as well as the interventions carried out until the arrival of the ISCIR specialist inspector,
- e) to provide the ISCIR specialist inspector with parameter records (where applicable) and video recordings containing relevant data regarding the malfunction/accident,
- f) to provide the ISCIR specialist inspector with the hydrogen supply installation manual and the report referred to under point d).

Article 187. The specialist inspector from ISCIR must prepare a report documenting the damage or accident.

Article 188.1. Pressure-bearing components of the hydrogen supply installation that have sustained damage or been involved in accidents resulting in compromised operational safety must undergo in-service technical inspections to estimate their remaining service life, conducted in accordance with the provisions of this technical specification.

(2) The inspections provided for in paragraph 1 are not required if the owner/user ceases to use the damaged hydrogen supply installation and decides to decommission and dispose it.

CHAPTER XI

DECOMMISSIONING AND DISPOSAL

Article 189.1. The owner / user may decommission the hydrogen supply installation in the following cases:

- a) if, after the inspections and tests performed on the hydrogen supply installation in accordance with the provisions of this technical specification - whether during periodic technical inspections or following repairs, it is determined that the system is no longer safe to operate,
 - b) if, as a result of technical inspections during operation to estimate the remaining service life of the pressure-bearing components of the hydrogen supply installations, it is determined that they can no longer operate safely,
 - c) if the hydrogen supply installation has suffered a failure as a result of which it can no longer be used safely,
 - d) when compliance with the conditions for placing the components of the hydrogen supply installation on the market cannot be demonstrated,
 - e) when the owner/user voluntarily discontinues use of the hydrogen supply installation.
- (2) Shutting down and preserving the hydrogen supply installation does not mean decommissioning it.

Article 190.1. Components of a hydrogen supply installation that are no longer in use must be disposed of by the owner/user.

(2) The stamp plate(s) must be removed from the components of the hydrogen supply installation and destroyed in the presence of the owner's or user's RSVTI operator.

(3) The disposal of the components of the hydrogen supply installation shall be recorded in a report prepared by the RSVTI operator and signed by the representative of the owner/user.

(4) The report referred to in paragraph 3 shall be attached to the user manual of the hydrogen supply installation.

Article 191.1. The owner / operator shall notify ISCIR in writing of the decommissioning and disposing of the hydrogen supply installation, so that it may be removed from ISCIR's records.

(2) The notification shall be submitted to ISCIR within 15 days of the preparation of the minutes referred to in Article 190, paragraph (3).

Article 192. It is forbidden to re-commission or operate components or hydrogen supply installation that have been decommissioned and disposed.

CHAPTER XII

OBLIGATIONS AND RESPONSIBILITIES

SECTION 1

General provisions

Article 193. Natural or legal persons authorized by ISCIR and the owner / operator of the hydrogen supply installation must comply with the provisions of Law No. 64/2008.

SECTION 2

Obligations and responsibilities of owners / users

Article 194. The owner / user of the hydrogen supply installation has the following obligations and responsibilities:

- a) not to allow any changes to the requirements and conditions set out in the mandatory installation notice and operating permit,
- b) not to allow the supply of other consumers from the electrical installation of the hydrogen supply installation,
- c) to comply with the provisions set forth in the inspection reports prepared by ISCIR's specialized inspectors or by the RSVTI operator, or with those set forth in the technical inspection reports prepared in accordance with the provisions of this technical specification,
- d) through the person in charge of the hydrogen supply installation:
 - 1) to assign tasks to service staff and monitors how they are carried out,
 - 2) to inform the owner's/operator's management of the possibility of operating the hydrogen supply installation, taking into account its condition and downtime for maintenance, technical inspections, repairs, and technical checks,
 - 3) to determine the start and stop times of the hydrogen supply installation and record them in the system monitoring register,
 - 4) to monitor the operation of the hydrogen supply installation and, where necessary, takes measures to correct any defects,
 - 5) to conduct routine technical inspections and participate in the technical inspections carried out,
 - 6) to be responsible for preparing the hydrogen supply installation for the necessary technical inspections,

7) to enter in the register the data regarding the operation of the hydrogen supply installation referred to in Article 127,

8) to be a member of the committee appointed by the owner/user that organizes the annual training and assessment of the theoretical and practical knowledge of the service staff,

9) to be responsible for ensuring compliance with the duties set forth in the specific technical instructions.

e) to keep the supervision register for a period of at least 2 (two) years from the date of the last entry,

f) to retain the hydrogen supply installation register for a period of at least 2 (two) years from the date of its decommissioning.

SECTION 3

Obligations and responsibilities of natural or legal persons certified/authorized by ISCIR

Article 195. In addition to the provisions of the applicable technical regulation, the obligations and responsibilities of RADTI/RADTP-IP are as follows:

a) to specify the procedures used to conduct strength and leak-tightness tests, in accordance with the requirements set forth in the accompanying technical documentation,

b) to establish the method of marking pressure-retaining components that do not require the CE conformity marking.

Article 196. In addition to the provisions of the applicable technical regulation, the obligations and responsibilities of legal entities registered in the ISCIR Register of Authorized Legal Entities, as provided for in the applicable technical regulation, that perform installation, assembly, or repair activities are as follows:

a) to carry out installation/assembly/repair work according to the preliminary technical documentation for installation/assembly/repair approved by RADTI-IP and/or RADTP-IP, as applicable, and approved/accepted in accordance with the provisions of these technical specifications,

b) to begin installation/repair work only after the technical inspection report or the acceptance document authorizing the commencement of such work has been issued,

c) to submit any changes to the preliminary technical documentation for installation/assembly/repair to RADTI-IP and/or RADTP-IP for review, should the need for such changes arise during the course of the installation/assembly/repair work, and to submit them for review and/or approval,

d) to carry out non-destructive testing in collaboration with legal entities and ISCIR-authorized personnel, and visual inspections with authorized personnel in accordance with the provisions of the applicable technical regulation,

e) to request that the hydrogen supply installation be inspected in accordance with the provisions of this technical specification during installation, assembly, or repair work, and at stages when such inspection is feasible, in cases where subsequent inspection is no longer possible due to the system's design.

Article 197. In addition to the provisions of the applicable technical prescription, the obligations and responsibilities of the legal entities registered in the ISCIR Register of authorized legal entities provided for in the applicable technical prescription, performing the maintenance activities are as follows:

- a) perform the maintenance work according to the provisions of the technical documentation,
- b) display, in a visible, legible, and durable manner, its identification details, the phone number of its own dispatch centre, and the date of the next technical inspection of the hydrogen supply installation, as well as a list of emergency situations requiring immediate intervention,
- c) to organize and maintain its own dispatch centre during the operating hours of the hydrogen supply installation to handle emergency calls, and to maintain a rapid response team equipped with appropriate communication devices to ensure a response in emergency situations,
- d) after the emergency calls referred to in point (c) have been confirmed, the intervention time shall not exceed 90 minutes,
- e) to maintain a special log for recording incoming calls regarding emergency reports,
- f) to ensure that measures are taken to drain the hydrogen supply installation when necessary,
- g) to prepare, maintain, and submit quarterly to ISCIR, in electronic format, an updated report on the record-keeping register for the hydrogen supply installation for which it provides maintenance, in accordance with the template provided in the applicable technical regulation.

Article 198. In addition to the provisions of the applicable technical regulations, the obligations and responsibilities of the RSL-IP are as follows:

- a) to monitor the performance of installation/assembly/repair work in accordance with the preliminary technical documentation for installation/assembly/repair approved by RADTI-IP and/or RADTP-IP, as applicable, and approved/accepted in accordance with the provisions of this technical specification,

b) to monitor the execution of installation, assembly, repair, commissioning, and maintenance work at each stage to ensure compliance with the provisions of these technical specifications and the approved technical documentation, and test the hydrogen supply system,

c) to prepare inspection reports documenting the findings and results of inspections, examinations, tests, and measurements, as well as any mandatory requirements.

Article 199. In addition to the provisions of the applicable technical regulation, the obligations and responsibilities of legal entities registered in the ISCIR Register of Authorized Legal Entities, as provided for in the applicable technical regulation, which carry out in-service inspections to estimate the remaining service life, are as follows:

a) to draw up the schedule of investigations/examinations of a technical nature in compliance with the provisions of this technical prescription,

b) to start the technical checks in use for the estimation of the remaining life only after obtaining the approval of the technical investigation/examination program, according to the provisions of this technical prescription,

c) to carry out non-destructive inspections with legal entities and ISCIR authorized personnel and visual examinations with authorized personnel in accordance with the provisions of the applicable technical prescription,

d) to submit to ISCIR for acceptance the request for supplementing/completing the program, if it finds that the situation of the pressurized components of the hydrogen supply installation differs from that presented in the approved program, by submitting documents/evidence regarding the differences occurred.

e) to draw up the preliminary technical report and the final technical report according to the provisions of this technical prescription,

f) in case of modification of the hydrogen supply installation, to provide in the final technical reports new instructions for operation, operation and maintenance as well as compensatory measures, as appropriate, regarding operation and technical verification, in order to ensure the safe operation of the installation.

Article 200.1. RADTE-IP shall have the obligations and responsibilities set out in the applicable technical prescription.

(2) The RTS shall have the obligations and responsibilities set out in the applicable technical prescription.

Article 201. For the purposes of the provisions of this technical prescription, during the performance of an activity at the same hydrogen supply installation, the following categories of certified/authorized personnel cannot simultaneously meet the following qualities:

- a) RADTI-IP and RSL-IP,
- b) RADTP-IP and RSL-IP,
- c) RADTP-IP and RTS,
- d) RADTP-IP and RSVTI operator,
- e) RADTP-IP and RSVTI operator,
- f) RSL-IP and the competent person,
- g) RSVTI operator and the competent person,
- h) RSL-IP and the RSVTI operator.
- i) Hydrogen container filling operator and RSVTI operator,
- j) Hydrogen container filling operator and RSL-IP.

SECTION 4

Obligations and responsibilities of the RSVTI operator

Article 202. In addition to the provisions of the technical prescription applicable to the RSVTI operator, its duties and responsibilities are as follows:

- a) to sign and stamp the supervision register on a monthly basis,
- b) check the operation of safety devices at least once every 3 (three) months and record this in the inspection register, if structurally possible,
- c) to train annually together with the RSL-IP of the legal entity from Article 128, paragraph 2 the personnel provided in Article 122, paragraph 1,
- d) to participate and certify, together with the owner/user, the commissioning of the hydrogen supply installation in accordance with the provisions of Article 69(i).

SECTION 5

Obligations and responsibilities of the service staff

Article 203.1. In addition to the provisions of the applicable technical regulation, the obligations and responsibilities of the hydrogen supply installation operator are as follows:

- a) be familiar with the hydrogen supply installation and its proper operation, continuously monitoring its normal functioning,

- b) check the tightness of all relevant connections and open the valves (safety valves and the remotely operated valve) to verify the tightness of the other connections,
 - c) if leaks are detected, the hydrogen supply installation refuelling operator shall shut down the installation and notify the station manager and the RSVTI operator,
 - d) to hand over and take over the shift only after verifying that the hydrogen supply system is functioning properly, the result of the handover shall be recorded in the supervision log and signed by both hydrogen container refuelling operators,
 - e) not to hand over or take over a shift while performing procedures to resolve malfunctions in the hydrogen supply installation,
 - f) after an emergency shutdown and once the emergency conditions have been resolved, the hydrogen supply installation is restarted manually by authorized personnel.
 - g) shall, together with the person in charge of the hydrogen supply installation, ensure that all necessary measures are taken to ensure the safe operation of the installation, as follows:
 - 1) is responsible for performing operational procedures safely in all situations dictated by the condition of the installation,
 - 2) in the event of accidental hydrogen leaks, carry out the special procedures specified in the relevant protocol,
 - 3) is responsible for hydrogen management and permits distribution only to vehicles that are certified in accordance with applicable national legislation,
 - 4) records in the monitoring register all incidents that occurred during the shift, as well as the condition in which the hydrogen supply installation was handed over to the hydrogen cylinder refuelling operator for the next shift.
- (2) In addition to the obligations and responsibilities set forth in paragraph 1 (a), (c) through (g), the responsibilities of the hydrogen container refuelling operator, who carries out their activities within the control room of a hydrogen supply installation operating on an assisted self-service basis, are as follows:
- a) to allow refuelling only for vehicles equipped with hydrogen supply installations that comply with applicable regulations and have a valid periodic technical inspection,
 - b) to allow only trained personnel who have taken responsibility for understanding and following the operating procedures to operate the equipment,

CHAPTER XIII

ADMINISTRATIVE MEASURES

Article 204.1. In the event of failure to comply with the obligations and responsibilities set forth in this technical regulation by natural and legal persons authorized by ISCIR and by technical personnel certified by ISCIR, the following administrative measures shall be applied to them, depending on the nature of the violation:

a) warning for breaching the provisions of article 198(b), article 202(a) and (b), and article 203(a),

b) suspension for a period of up to 3 (three) months of the authorization of the natural/legal person or the certificate of the specialized technical staff, for violation of the provisions of Article 196, letters a), b), d) and e), Article 197, letters a), b), e) - g), Article 198, letters a) and c), Article 199, letters a) - f), Article 202, letters c) and d) and Article 203, letters b), d) and f),

c) suspension for a period of 3 (three) to 6 (six) months of the authorization of the natural or legal person or of the certification of the specialized technical staff, for violation of the provisions of Article 195 letters a) and b), Article 196(c), Article 201 letters a) - j) and Article 203, letters c), e), and g),

d) withdrawal of the authorization of authorized natural/legal persons or of the certificate of specialized technical personnel, for violation of the provisions of Article 197, letters c) and d),

e) violation of the provisions of Article 194 leads to the application of the administrative measures provided in Law No. 64/2008.

(2) The application within 3 (three) months of two administrative measures provided in paragraph 1, letter a) leads to the application of the administrative measure provided in paragraph 1, letter b).

(3) The application within 1 (one) year of two administrative measures provided in paragraph 1, letter b) or letter c) leads to the application of the administrative measure provided in paragraph 1, letter d).

4. The administrative measures provided for in paragraph 1, letters b) and c) shall be applied in compliance with the legal provisions in force and the principle of proportionality.

(5) The administrative measures shall be ordered by ISCIR, by reasoned decision, based on the report concluded by the specialized inspector within ISCIR upon the verification carried out.

(6) Against the decision ordering the application of the administrative measure, the natural and legal persons authorized by ISCIR or the specialized technical staff certified by ISCIR may file an appeal with the competent court in compliance with the procedure provided for in the law on administrative-contentious.

(7) The suspension of authorizations/attestations shall be terminated in accordance with the provisions of the applicable technical prescriptions.

Article 205.1. In case of non-compliance with the obligations and responsibilities provided by this Technical Prescription by natural and legal persons authorized in equivalent fields of activity, by the competent authorities of a Member State of the European Union or signatory state of the Agreement on the European Economic Area and registered in the ISCIR Register of authorized legal persons, administrative measures may be applied to them, depending on their nature:

a) warning for violation of the provisions of Article 198, letter b), Article 202, letter a) and b) and Article 203, letter a),

b) the suspension for a period of up to 3 (three) months of the right to carry out the activity of the natural/legal person and the notification of the competent authority that issued the authorization for the application of the measures provided for in Directive 2006/123/EC, provided that Articles 18, 39 and 40 of the Government Emergency Ordinance No. 49/2009 on services in the internal market are complied with, for violation of the provisions of Articles 196, letters a), b), d) and e), 197, letters a), b) and e) to g) and 199, letters a) to f),

c) the suspension for a period of 3 (three) months to 6 (six) months of the right to carry out the activity of the natural/legal person and the notification of the competent authority that issued the authorization for the application of the measures provided for in Directive 2006/123/EC, provided that Article 18, Article 39 and Article 40 of the Government Emergency Ordinance No. 49/2009 on services within the internal market for violation of the provisions of Article 196, letter c) are complied with.

d) the removal from the Register provided for in Article 1, paragraph 2 and the notification to the competent authority that issued the authorization for the application of the measures provided for in Directive 2006/123/EC, provided that Article 18, Article 39 and Article 40 of the Government Emergency Ordinance No. 49/2009 on services within the internal market to authorized natural/legal persons are complied with, for violation of the provisions of Article 197, letters c) and d).

(2) The application within 3 (three) months of two administrative measures provided in paragraph 1, letter a) leads to the application of the administrative measure provided in paragraph 1, letter b).

(3) The application within 1 (one) year of two administrative measures provided in paragraph 1, letter b) or c) leads to the application of the administrative measure provided in paragraph 1, letter d).

(4) The administrative measures provided for in paragraph 1, letters b) and c) shall be applied in compliance with the legal provisions in force and the principle of proportionality.

(5) The administrative measures shall be ordered by ISCIR, by reasoned decision, based on the report concluded by the specialized inspector within ISCIR upon the verification carried out.

(6) Natural or legal persons may file an appeal with the competent court against the decision ordering the application of the administrative measure, in accordance with the procedure set forth in the Administrative Litigation Law.

(7) A legal entity authorized in equivalent fields of activity by the competent authorities of a Member State of the European Union or a signatory state to the Agreement on the European Economic Area and registered in the ISCIR Register of Authorized Legal Entities, whose right to carry out its activities has been suspended, may, after rectifying the non-conformities that led to the imposition of the administrative measure, submit a written request to ISCIR for the suspension to be lifted.

(8) Following the request referred to in paragraph 7, the ISCIR specialist inspector shall verify, confirm, and record in a report that the nonconformities that led to the imposition of the administrative measure have been rectified, and shall propose the termination of the sanction.

(9) A legal entity authorized in equivalent fields of activity by the competent authorities of a Member State of the European Union or a signatory state to the Agreement on the European Economic Area and registered in the ISCIR Register of Authorized Legal Entities, from which the right to carry out the activity has been revoked and which has been removed from the ISCIR Register, may apply for registration in the ISCIR Register of Authorized Legal Entities, in compliance with the requirements of this technical regulation, at least 1 (one) year after the date of the administrative measure.

CHAPTER XIV

FEES

Article 206.1. The fees charged for activities performed by ISCIR in accordance with the provisions of this technical regulation are those set forth in the fee schedule approved under applicable law.

(2) ISCIR performs the activities set forth in this technical specification only for individuals and legal entities against whom no debt collection proceedings have been initiated under applicable law.

CHAPTER XV

FINAL PROVISIONS

Article 207.1. Documents submitted to ISCIR must be drafted or translated into Romanian by a certified translator.

(2) The copies of the documents to be submitted to ISCIR must be marked "According to the original" and signed by the designated person.

Article 208. The specialized inspectors within ISCIR have the right to carry out unscheduled verifications regarding the manner in which the holders/users, authorized natural and legal persons, the certified specialized technical personnel and the personnel responsible for the certified verifications carry out their activities, taking, as the case may be, the necessary measures to comply with the legal provisions.

Article 209. The documents may also be submitted to ISCIR in electronic format, after the operationalization of the Single Electronic Contact Point (PCU), provided for in Article 6 of the Government Emergency Ordinance No. 49/2009 on the freedom of establishment of service providers and the freedom to provide services in Romania, as subsequently amended and supplemented.

Article 210.1. In the case of installation/assembly works provided for in Chapter II that are carried out by legal persons from a Member State of the European Union or a State signatory to the Agreement on the European Economic Area, authorized in equivalent fields of activity by the competent authority of the State of origin, the activities carried out by the personnel with equivalent responsibilities RSL-IP and RTS nominated in the registration confirmation document shall be assimilated to those carried out by RSL-IP and RTS of the legal person authorized by ISCIR.

(2) In the case of maintenance work referred to in Chapter V and repair work referred to in Chapter VII carried out by the manufacturer of the pressure equipment or by legal entities from a Member State of the European Union or a signatory state to the Agreement on the European Economic Area, authorized in equivalent fields of activity by the competent authority of the country of origin, the activities performed by personnel designated in accordance with the legal entity's internal procedures or by personnel with equivalent responsibilities to RSL-IP and RTS as specified in the registration confirmation document shall be deemed equivalent to those performed by the RSL-IP and RTS of the legal entity authorized by ISCIR.

(3) In the case of in-service technical inspections for the estimation of the remaining service life referred to in Chapter VIII, which are carried out by legal entities from a Member State of the European Union or a signatory state to the Agreement on the European Economic Area, authorized

in equivalent fields of activity by the competent authority of the home state, the activities performed by personnel with equivalent RADTE-IP responsibilities as specified in the registration confirmation document shall be deemed equivalent to those performed by the RADTE-IP of the legal entity authorized by ISCIR.

Article 211. The periodic technical inspections provided for in this technical regulation, as well as the deadlines for their performance, may be amended in accordance with the provisions of the applicable technical regulation.

Article 212. In the case of installations and equipment that are not authorized for operation or that are unsafe to operate, ISCIR technical inspectors have the right to apply seals, in accordance with legal provisions.

Article 213. Throughout the entire period of operation, it is prohibited to cross or pass beneath the hydrogen supply installation and areas with a potentially explosive atmosphere within the premises of installations containing water, gas, electrical, heating, and sewer systems, other than those belonging to the installation itself, as well as failure to comply with the minimum safety distances provided for in Article 20, letter c).

Article 214.1. If the records for the pressure-bearing components of the hydrogen supply installation are damaged or lost, CNCIR shall, at the request of the owner/user, issue a duplicate to the operating entity, attaching the relevant technical inspection reports.

(2) The owner's/user's request must be accompanied by the technical documentation for the pressure-bearing components of the hydrogen supply system or, in the absence thereof, by technical documentation prepared by a legal entity authorized to perform in-service technical inspections for technical examinations/investigations, in accordance with Article 174 letter d).

Article 215.1. To obtain exemptions from the provisions of this technical regulation, the applicant shall submit the following to ISCIR:

- a) application requesting an exemption from the provisions of the technical regulation,
- b) a supporting memorandum containing a description of the situation (information about the installation, location, and service), drawings, calculations, and proposed compensatory measures,
- c) certificates, as applicable, from the installer/plumber, or from a person certified by ISCIR to approve documentation related to installation, assembly, repair, etc.,
- d) other documents supporting the request, as appropriate.

(2) Based on the submitted documentation, ISCIR will either approve or reject the request, providing a written explanation.

Article 216. An illustrative list of the standards used in this technical specification is provided in Annex 17.

Article 217. Annexes 1 to 17 are integral part of this technical prescription.

Minimum content of the preliminary technical installation documentation

The preliminary technical documentation for the installation of the hydrogen supply installation must include at least the following:

- 1) the technical report with the general description of the hydrogen supply installation specifying the following data:
 - a) general data (holder/user name and location),
 - b) information regarding the hydrogen supply installation (main characteristics of the hydrogen supply installation and its components: piping systems, type, manufacturer, key parameters, number of containers, number of tanks and their total volume, number of cylinders and their total volume, number of dispensers, number of compressors, and others),
 - c) the number and date of the most recent technical inspection report documenting the internal inspection and pressure test, establishing the maximum working pressure, and specifying the date of the next periodic technical inspection for the container(s), the cylinders and/or piping systems comprising the hydrogen supply system that have been mounted and/or reinstalled at another location,
 - d) technical specifications: required floor space, fixtures and fittings, safety distances, construction solutions,
 - e) the location, which must comply with the distances provided in Article 20, letter c),
 - f) perimeter lighting in public spaces for hydrogen supply installations,
 - g) safety systems for hydrogen supply installations,
 - h) the technology and mode of operation of the hydrogen supply installations, for assisted self-service installations, the following conditions must additionally be met:
 - I. the manner in which the owner / user ensures that only vehicles equipped with a hydrogen supply installations that comply with the provisions of the applicable legislation and that have the periodic technical inspection within the validity period are supplied,
 - II. the way in which the owner / user ensures that the supply is carried out only by persons trained and who have assumed the responsibility of knowing and observing the supply mode,
 - III. description of the video recording system demonstrating that the provisions of section I and II, the records shall be kept for a minimum of 20 days and shall be made available to ISCIR upon request,

- IV. description of the system by which the unblocking of the distributor is carried out when the conditions of section I and II,
- V. the way in which the owner / user carries out the daily checks of the hydrogen supply installation,
- VI. the location of the dispatcher who ensures the safe performance of the vehicle refuelling activity within the hydrogen supply installation, the dispatcher must be located on the territory of Romania,
- VII. how the supervision of the hydrogen supply installation by the RSVTI operator is ensured, throughout its use,
- VIII. the way in which the re-commissioning is carried out after the emergency stop (interruption of the power supply, accident caused by the impact of the vehicle with the hydrogen distributor, fire within the station, malfunction of the hydrogen supply installation, failure/accident at the hydrogen supply installation or other situations highlighted in the risk analysis of the installation),
 - i) how to perform the strength and tightness tests, in compliance with the requirements established by the manufacturer of the pressure components of the hydrogen supply installation, taking into account the need for ventilation, emptying and drying,
 - j) data on the operation of the hydrogen supply installation,
 - k) the need for personnel authorized by ISCIR or internally trained personnel for the safe operation of hydrogen supply installations,
 - l) intervention in case of emergency, breakdown and accident,
 - m) operational safety measures,
 - n) conservation instructions,
 - o) instructions on the prevention and extinguishing of fires at the hydrogen supply installations,
 - p) instructions on occupational safety and hygiene at the hydrogen supply installation
- 2) the drawn part containing at least:
 - a) the isometric diagram of the pipelines of the hydrogen supply installation,
 - b) the automation scheme, showing the operation of the hydrogen supply installation and its equipment with measuring, control and protection equipment,
 - c) site plan (scale: 1:100, 1:200, or 1:500, as appropriate), the site plan (scale: (1:1000 or 1:2000, as applicable) showing the purpose and type of construction of neighbouring buildings and installations, including all dimensions between the structural elements and the location of the hydrogen supply installation, with the sections relating to the location of the hydrogen supply installation verified and approved in accordance with applicable legislation,

d) the “Ex” zoning plan for the hydrogen supply installation verified and approved in accordance with applicable legislation.

3) Risk analysis prepared in accordance with the provisions of SR EN ISO 19880 vol. II.

4) In addition, the following should be mentioned:

- a) measures to ensure safe handling/operation and operation,
- b) appropriate means for emptying and venting the pressure equipment,
- c) measures regarding the protection against exceeding the permissible operating limits of the pressure equipment.

Minimum content of preliminary technical mounting documentation

The preliminary technical mounting documentation must contain at least the following:

- 1) data on how to identify the pipes,
- 2) operating parameters (pressure, temperature, dimensions, working fluid), functional technical characteristics, constructive technical characteristics specific to each type of pipe,
- 3) operating history of the components of the hydrogen supply installation, if they have previously operated,
- 4) a description of the installation work, specifying the subassemblies/components of the hydrogen supply installation and the order in which they are to be installed,
- 5) the technical conditions for the execution of the mounting works,
- 6) the schedule of inspections, checks, and tests to be conducted during and upon completion of the installation work,
- 7) list of approved welding procedures to be used,
- 8) non-destructive testing methods/specialties used, their percentage share, the areas where they will be performed, with reference to the standards that establish the testing technique and the acceptance criteria for non-destructive testing, corresponding to quality level B,
- 9) information about the components used to create detachable joints (materials, shapes, and dimensions),
- 10) isometric diagram, which must include:
 - I) the shape and position of the components,
 - II) list of basic and additional materials used in the installation,
 - III) details of welded joints (materials, shapes and dimensions),
 - IV) strength coefficients of welded joints,
 - V) overall dimensions, connection dimensions, functional dimensions, and installation dimensions,
 - VI) the location of the inspected areas, the percentage of non-destructive testing performed, and the inspection method or specialty used during installation.
- 11) inspection and testing plans to be carried out during the installation work,
- 12) the procedure for conducting strength and leak tests, taking into account the need for ventilation, draining, and drying,

13) marking the branch points and indicating the fluid they contain, relief valves must be installed between branches equipped with shut-off valves to accommodate the thermal expansion of hydrogen during hot weather.

ANNEX No. 3
to the Technical Prescription

Report drawn up by the specialist inspector from ISCIR

	Technical inspection report No.	ISCIR ¹⁾ Address Telephone Fax:
---	--	---

Concluded today on the occasion of the carried out on the basis of the provisions of²⁾ and the applicable technical prescriptions³⁾ for type with manufacturing number/year and installation book no with the parameters of the last inspection

Owner / Applicant from str.
 No. county/sector tax registration number
 /J.....
 legal representative

User from str.
 No. county/sector tax registration number
 /J.....
 legal representative

The verification was carried out on in str.
 nr. county/sector tel./fax

I, the undersigned⁴⁾..... have found the following:

.....
 ...

I have issued the following instructions:

.....
 Following this inspection, it was allowed⁵⁾

The next inspection is scheduled for

For this verification, the amount of lei shall be paid in accordance with annex point by from the city str.
 No. county/sector in account..... opened at Bank/Treasury branch

I have read and understood

Representative ISCIR	Holder/ User/ Solicitant	RSVTI Operator	Person delegate authorized legal entities
.....			

-
- ¹⁾ It is specified that: ISCIR or ISCIR Territorial Inspection.
- ²⁾ It is specified the normative act in force at the date of drawing up the minutes (Law No. 64/2008 on the safe operation of pressure installations, lifting installations and fuel-consuming appliances), which was the basis for the technical verification.
- ³⁾ The applicable technical standard on which the technical inspection was based shall be specified.
- ⁴⁾ Position, name and surname.
- ⁵⁾ The operating parameters of the system/equipment are specified, depending on its type.

to the Technical Prescription

ISCIR HEADER

No/.....¹⁾**MANDATORY INSTALLATION NOTICE
HYDROGEN SUPPLY INSTALLATION**

According to the Law No. 64/2008 on the safe operation of installations under pressure, lifting installations and fuel-consuming appliances, republished, as subsequently amended and supplemented, of the provisions of the Technical Prescription PT C 15 -2025 approved by Order of the Minister of Economy, Digitalization, Entrepreneurship and Tourism No..... and the report No.....of..... is granted for the following hydrogen supply installation:

Installation type		
Service mode		
H2 containers	installation supply storage	storage cascade
Number of containers		
Total volume (litres)		
Pressure (bar)		
Min./max. temperature (°C)		

Owner:

Designation

Registered office address:

Registration No. Trade Com:/...../.....

Tax registration number:

Tel./fax/email:

User:

Designation

Registered office address:

Registration No. Trade Com:/...../.....

Tax registration number:

Tel./fax/email:

The hydrogen supply installation is installed according to the preliminary technical documentation for installation/mounting at the location address....., in str. district/countyNo.....

Observations: Any change that results in non-compliance with the requirements on the basis of which the mandatory installation permit was granted must be reported to ISCIR by the owner/user within 15 days of the date on which the change occurred, otherwise, the mandatory installation permit shall be deemed suspended.

CHIEF INSPECTOR,
(Name and surname,
signature and stamp)

.....

¹⁾ The code of the approval according to the ISCIR internal regulations and the date of its issuance.

The mandatory installation permit must be issued on white A4-size paper.

Minimum content of the final technical documentation for installation / assembly

The final technical installation / assembly documentation must contain at least the following:

- 1) the preliminary technical documentation for installation/assembly and the mandatory notice for the installation of the hydrogen supply installation,
- 2) the amendments under Article 73, paragraph 2, if applicable,
- 3) documents demonstrating compliance with the requirements under paragraph 2,
- 4) material inspection certificates of base and filler materials used in the construction of subassemblies/elements used in installation/assembly,
- 5) the nominal list of welders authorized by ISCIR, who performed the welding works, the number of authorizations and the number of their punches, drawn up by RTS. If the installation/assembly works are carried out by legal persons from a Member State of the European Union or a State signatory to the Agreement on the European Economic Area, authorized in equivalent fields of activity by the competent authority of the State of origin, the list of welders who carried out the works must contain the name and surname, the number of authorizations/certificates and the number of their identification punches/marks, drawn up by the personnel with equivalent responsibilities RTS nominated in the registration confirmation document,
- 6) the list of approved welding procedures used in the execution of welded joints and the specifications of the welding procedures, drawn up by the WTO, to which the approval sheets are attached, in copy, in accordance with the provisions of the applicable technical prescription. If the installation/assembly works are carried out by legal persons from a Member State of the European Union or a State signatory to the Agreement on the European Economic Area, authorized in equivalent fields of activity by the competent authority of the State of origin, the list of approved welding procedures used in the execution of welded joints and the specifications of welding procedures, drawn up by the personnel with equivalent responsibilities RTS nominated in the registration confirmation document,
- 7) the map of markings for welded joints executed, indicating and positioning the numbers of the welders' punches/markings,
- 8) documents resulting from the performance of non-destructive examinations/tests issued by legal entities authorized by ISCIR,
- 9) copy of the technical inspection reports drawn up by the RSVTI operator during the installation/assembly of the hydrogen supply installation, as the case may be,

10) the report in which the results of the cash tests drawn up by RSL-IP of the authorized legal entity that carried out the installation works and assumed by the Licensee/User through the RSVTI operator are recorded,

- 11) the sheet of dimensional measurements made after assembly,
- 12) the map of the markings applied to the pressure components,
- 13) copies of other documents drawn up during installation/mounting, as appropriate,
- 14) declaration of conformity on installation/mounting.

to the Technical Prescription

DECLARATION OF CONFORMITY

No.

We,,
(full name of the authorized legal entity)

.....,
(premises)

with Registration Certificate/Authorization No. /,
we ensure, warrant and represent under our sole responsibility that the product/service

.....
(name, type or model, batch, batch or serial number, possibly sources and number of copies)

to which this declaration refers does not endanger life, health, or workplace safety, does not have a
negative impact on the environment, and complies

with:
(title and/or number and date of publication
regulatory documents)

.....
(place and date of issue) (printed surname and first name and stamp)

ANNEX No. 7
to the Technical Prescription

Technical inspection report drawn up by the RSVTI operator

Name of the employer of the operator RSVTI or Name of the self-employed person/legal entity authorized as an RSVTI operator and authorization number (if applicable)	Technical inspection report No.	RSVTI operator authorization No./expiration date ISCIR Power of Attorney No. (if applicable)
---	--	--

Signed today in connection with carried out pursuant to the provisions of¹⁾ and the applicable technical requirements²⁾, for type with serial number/year and the installation logbook with ISCIR registration/operational approval number having the parameters of the last inspection

The owner of the property located in

str. No. county/district tax registration number/J.....

legal representative

User from the locality of

str. No. county/district tax registration number/J.....

legal representative

The inspection was conducted at in the town of

..... street, No., county/district Tel./Fax

I, the undersigned³⁾..... have found the following:

.....
.....
.....
.....

I have issued the following instructions:

.....
.....
.....

Following this review,⁴⁾ was accepted

.....
.....
The next inspection is scheduled for, according to the technical inspection report

I have read and understood

RSVTI Operator

Owner

User

Delegate of the
legal entity

.....
.....

.....
.....

.....
.....

.....
.....

-
- ¹⁾ It is specified the normative act in force at the date of drawing up the minutes (Law No. 64/2008 on the safe operation of pressure installations, lifting installations and fuel-consuming appliances), which was the basis for the technical verification.
- ²⁾ The applicable technical standard, which was used as the basis for the technical inspection, is specified.
- ³⁾ Position, name and surname.
- ⁴⁾ The operating parameters of the installation/equipment shall be specified, depending on its type.

Minimum content of the technical inspection report

The technical inspection report shall include at least the following:

- 1) the identification of the designated legal entity,
- 2) the identification of the technical inspection report (No./drafting date),
- 3) the identification of the holder: name, address, tax identification No. Trade Register No. (J) and telephone, fax, e-mail No.,
- 4) user identification: name, address, tax identification number Trade Register No. (J) and telephone, fax, e-mail,
- 5) specifying the place of operation of the hydrogen supply installation,
- 6) specification of the RSVTI operator providing technical supervision and authorization number,
- 7) data on the pressure components of the hydrogen supply installation:
 - a) name of the manufacturer,
 - b) type/model,
 - c) serial number/year of manufacture,
 - d) operating parameters as specified in the technical documentation (V, PS, TS, DN),
- 8) information on installation, assembly, maintenance, repair, and in-service technical inspections for estimating the remaining service life, where applicable:
 - a) approval/acceptance number, in accordance with the provisions of this technical specification,
 - b) the name of the authorized legal entity that performed the installation/assembly/maintenance/repair/in-service technical inspection for the purpose of estimating the remaining service life, as applicable,
- 9) the type of technical inspections performed: operational authorization (OA)/in-service technical inspection (ISTI), etc., in accordance with the provisions of this technical specification,
- 10) a description of the technical inspections carried out under point 9), in accordance with the provisions of this technical specification,
- 11) equipment and accessories used to perform in-service technical inspections,
- 12) the findings of the inspections carried out in accordance with the provisions of this technical specification,

NOTE: If, following the inspections, the provisions of this technical specification are not met, the articles that have not been complied with shall be specified.

13) the date of the next periodic technical inspection,

NOTE: If the deadlines set for the next in-service technical inspection are shorter than those specified in this technical regulation, the reasons for shortening these deadlines must be stated.

14) identification of the person responsible who performed the inspection,

15) signed and stamped by:

- a) the authorized person who conducted the inspection,
- b) the legal representative of the owner/user,
- c) the RSVTI operator,
- d) a representative of the authorized legal entity that performed the installation, assembly, maintenance, repair, or in-service technical inspection for the purpose of estimating the remaining service life, as applicable.

Identification label template H2



Internal staff training

A. Training for internal staff responsible for refuelling at privately accessible hydrogen supply installation shall be conducted as follows:

- 1) the training is organized by the RSVTI operator of the owner/user of the hydrogen supply installation,
- 2) training is conducted by the RSVTI operator of the owner/user of the hydrogen supply installation in conjunction with the RSL-IP of the legal entity authorized to perform maintenance activities,
- 3) the training program is outlined in the following table:

Topic	Number of hours	
	Theory	Practice
Legislation, regulations, norms, instructions	2	-
General information about hydrogen: - physical-chemical properties: - risks that may arise from use	2	-
Compressed hydrogen: definition, properties	1	-
Hydrogen supply installation: - components - operating mode - operation, maintenance, inspections	3	1
Storage cascade: - construction, markings, operation - maintenance and inspection	2	2

Topic	Number of hours	
	Theory	Practice
Safe operation of the hydrogen supply installation: - manoeuvres - maintenance and operation	3	2
Damages, accidents and fires in the hydrogen supply installation, during repair and supply: - possible causes of damage, accidents and fires - measures to avoid and prevent damage, accidents and fires - mode of action in case of fire	2	2
First aid measures in case of malfunction/accident.	1	1
TOTAL	16	8

B. The examination and issuance of the certificate is carried out as follows:

- 1) upon completion of the training, an examination is taken to verify theoretical and practical knowledge,
- 2) to participate in the exam, candidates must hold a valid occupational health certificate stating “Fit to perform the job of hydrogen container refuelling operator”,
- 3) a candidate who scores at least a 6 (six) is deemed to have “passed” the written exam and may take the practical exam,
- 4) a candidate who does not achieve a minimum score of 6 (six) on both tests is deemed to have “failed”,
- 5) the results of the examination shall be recorded by the RSVTI operator in a report prepared in accordance with the template below,

OWNER / USER HEADER

.....

MINUTES No. from

with the results of the internal review of the following candidates:

No.	First and last name	Personal number	Installation type/ equipment	Result of the examination Admitted (A) Rejected (R)	Candidate signature	Remarks
0	1	2	3	4	5	6

RSVTI operator

.....
(Name and surname,
signature and stamp)

Legal representative of the
holder / user

.....
(Name and surname,
signature and stamp)

RSL-IP of the authorized
legal entity

.....
(Name and surname,
signature and stamp)

6) The persons declared "admitted" after the examination are issued certificates, according to the template below:

OWNER / USER HEADER

.....

TRAINING CERTIFICATE

No

This is to certify that Mr (Mrs)

Personal Identification Number..... has been trained according to the provisions of the Technical Prescription PT C 15-2025 as internal personnel who perform the supply within the hydrogen supply installations with private access.

Issued on

Valid for 1 (one) year from the date of issue.

Legal representative of
the legal entity

.....

(Name and surname,
signature and stamp)

RSVTI operator

.....

(Name and surname,
signature and stamp)

7) The certificate is valid for 1 (one) year from the date of issue, only for the service of hydrogen supply installations for which the holder has been declared "admitted".

8) The internal personnel records shall be kept by the owner's/user's RSVTI operator.

9) The time provided for the training of internal staff serving for the second consecutive year is reduced proportionally to 8 hours.

Minimum content of preliminary repair technical documentation

The preliminary technical repair documentation must contain, depending on the specifics of the work performed, at least the following:

- 1) general identification data on the hydrogen supply installation, operating parameters, functional technical characteristics, specific constructive technical characteristics of the pressure components of the hydrogen supply installation,
- 2) the document motivating the maintenance,
- 3) operating history of the hydrogen supply installation,
- 4) presentation of the maintenance works, mentioning the subassemblies/elements that need to be repaired or replaced,
- 5) methods/specialties of non-destructive examinations used, their percentage volume, the areas where they will be performed, indicating the standards establishing the examination technique and the acceptance levels of non-destructive examinations, corresponding to the B quality level,
- 6) the strength calculation summary in case of replacement of subassemblies/elements with other types of dimensions or made of materials other than the original ones, in order to bring the hydrogen supply installation to the initial parameters that ensure safe operation,
- 7) the type overall drawing of the storage cascade which must contain:
 - a) the shape and position of the component elements,
 - b) the list of materials, basic and additional, used in construction or determined on the occasion of the restoration of the documentation, as the case may be,
 - c) the list of materials, basic and filler, to be used in the repair,
 - d) the way to assemble the containers within the storage cascade,
 - e) overall dimensions, connection dimensions, functional dimensions and mounting dimensions,
 - f) the location of the areas to be examined during the repair, the percentage volume of non-destructive examination and the examination method/specialty used,
- 8) the isometric diagram of the pipe system related to the hydrogen supply installation, specifying the areas/subassemblies/elements to be repaired or replaced, which must contain at least the following:
 - a) the types, dimensions and position of the component elements,

- b) the list of materials, basic and additional, used in construction or determined on the occasion of the restoration of the documentation, as the case may be,
 - c) the list of materials, basic and filler, to be used in the repair,
 - d) the way to assemble the subassemblies/elements of the pipeline system,
 - e) overall dimensions, connection dimensions, functional dimensions and mounting dimensions,
 - f) the location of the examined areas, the percentage volume of non-destructive examination and the examination method/specialty used in the construction/installation of the pipeline system,
 - g) the location of the areas to be examined during the repair, the percentage volume of non-destructive examination and the examination method/specialty used,
- 9) Plans of inspections and tests to be carried out during the repair works.

NOTE: The type drawing of the assembly/isometric diagram must contain the indication of the repaired areas and the delimitation between the initial area and the repaired/replaced area, as the case may be.

Minimum content of the final repair technical documentation

The final repair technical documentation must contain at least the following:

- 1) the preliminary technical documentation for repair, approved/accepted, as the case may be,
- 2) the amendments provided for in Article 163, paragraph 2, as the case may be,
- 3) material inspection certificates of base and filler materials used in the construction of subassemblies/elements used for repair,
- 4) the nominal list of welders authorized by ISCIR, who performed the welding works, the number of authorizations and the number of their punches, drawn up by RTS. If the repair works are carried out by the manufacturer of the pressure components, respectively by legal entities from a Member State of the European Union or a State signatory to the Agreement on the European Economic Area, authorized in equivalent fields of activity by the competent authority of the State of origin, the list of welders who carried out the works must contain the name and surname, the number of authorizations/certificates and the number of their identification punches/marks, drawn up by the personnel designated according to its internal procedures respectively by the personnel with equivalent responsibilities RTS nominated in the registration confirmation document,
- 5) the list of approved welding procedures used in the execution of welded joints and the specifications of the welding procedures, drawn up by the WTO, to which the approval sheets are attached, in copy, in accordance with the provisions of the applicable technical prescription. If the repair works are carried out by the manufacturer of the pressure components respectively by legal persons from a Member State of the European Union or a State signatory to the Agreement on the European Economic Area, authorized in equivalent fields of activity by the competent authority of the State of origin, the list of approved welding procedures used in the execution of the welded joints and the specifications of the welding procedures, drawn up by the personnel designated according to its internal procedures respectively by the personnel with equivalent responsibilities RTS nominated in the registration confirmation document,
- 6) the technology of manufacturing the replaced subassemblies/elements, except for those made available on the market according to the applicable legislation,
- 7) the map of markings for welded joints executed, indicating and positioning the numbers of the welders' punches/markings,
- 8) the sheet of dimensional measurements made after the repair,

9) documents resulting from the performance of non-destructive examinations/tests issued by legal entities authorized by ISCIR. If the repair works are carried out by the manufacturer of the pressure components, the documents resulting from the non-destructive examinations/tests issued by accredited/certified entities according to the applicable European regulations/standards,

10) copies of the documents drawn up during the repair, as the case may be,

11) the report recording the results of the house tests performed at the hydrogen supply installation, at the maximum allowable pressure, specifying that it may be subject to technical checks for re-commissioning prepared by RSL-IP of the authorized legal entity that carried out the repair works and assumed by the Licensee/User through the RSVTI operator,

12) the Declaration of Conformity regarding the repair.

**Specific conditions regarding the preparation of the programme of investigations /
examinations of a technical nature**

The schedule of investigations / examinations of a technical nature must be drawn up in compliance with the following specific conditions:

- 1) the percentage of visual examination VT of all accessible welded joints must be 100% of their number and length,
- 2) welded joints proposed to be examined non-destructively by one of the volume methods/specialties (UT(s), RT(x) or RT(y)) must also be examined cumulatively by one of the surface methods (MT or PT),
- 3) non-destructive examinations of welded joints must be proposed considering as quality level for imperfections, in accordance with the provisions of SR EN ISO 5817, quality level B, and by applying the standard SR EN ISO 17635 on the correlation between quality level, technique and examination level, respectively the appropriate acceptance level for the applied examination methods: RT method - level 1, UT(s) method/specialty - level 2, MT and PT methods - level 2X, VT method - level B,
- 4) the examination by the UT(s) method must be proposed if the conditions for its performance are complied with by the specific standard on the examination technique,
- 5) for pressurized components of the hydrogen supply installation that do not have technical documentation, the percentage of examination of welded joints must be 100% of the number and length of accessible welded joints,
- 6) the clamping welds to the pressure system of the external arrangements (reinforcements, supports, stairs, platforms, railings, etc.), as the case may be, must be examined non-destructively by the VT method and one of the MT or PT methods,
- 7) measurements of material thicknesses by the method/specialty UT(g) must be carried out at the pressure components of the hydrogen supply installation, where applicable.

Minimum content of the investigation/examination programme of a technical nature

The schedule of technical investigations/examinations must contain at least the following:

- 1) identification of the equipment with indication of the operating parameters,
- 2) the document assumed by the representative and the RSVTI operator of the holder/user of the pressure components of the hydrogen supply installation by which the performance of the technical verification in use for the estimation of the remaining life is included in the cases provided in Article 173,
- 3) supporting documents regarding the conclusions of the last final technical report, the compensatory measures if provided and the manner of their fulfilment, if the pressure components of the hydrogen supply installation have been subject to technical checks in use to estimate the remaining life,
- 4) supporting documents regarding the operating regime from the date of acceptance of the last final technical report, if technical checks have been carried out on the pressure components of the hydrogen supply installation to estimate the remaining life, until the date of the current program, which lead to the possibility of establishing a new remaining life for safe operation.
- 5) documents regarding the compliance with the marketing requirements, depending on the year of manufacture,
- 6) general description from a constructive and functional point of view,
- 7) presentation of the operating history,
- 8) presentation of any repair works that have been carried out,
- 9) presentation of possible damages or accidents,
- 10) copy of the overall drawing, according to the technical documentation,
- 11) the standard overall drawing drawn up by the legal entity referred to in Article 171(2), which must include:
 - a) the shape and position of the component elements,
 - b) list of basic materials, according to the technical documentation,
 - c) how to assemble the components of the hydrogen supply installation,
 - d) details of welded joints (materials, shapes and dimensions),
 - e) overall dimensions, connection dimensions, functional dimensions and mounting dimensions,

- 12) presentation of the examinations, checks, tests and measurements proposed to be performed as well as their percentage volume, adequate and relevant in estimating the remaining life,
- 13) presentation of the degradation mechanisms of the metallic materials of the pressure components of the hydrogen supply installation,
- 14) presentation of the examinations, checks, tests and measurements proposed to be performed as well as their percentage volume, adequate in relation to the degradation mechanisms and relevant in the estimation of the remaining life,
- 15) indication of the standards establishing the examination technique and the acceptance levels of the non-destructive examinations, corresponding to the B quality level,
- 16) the scheme for increasing the percentage volume of non-destructive examinations to be performed, in case of inadequate results,
- 17) other checks / examinations according to the specific operating characteristics that lead to the degradation of the pressure components of the hydrogen supply installation,
- 18) the calculation method by which the remaining life is estimated,
- 19) plans containing the examinations, checks and tests to be carried out,
- 20) drawings indicating the exact positioning of the points, areas where non-destructive examinations are to be carried out.

Specific conditions regarding the preparation of the final technical report

The final technical report must be drawn up in compliance with the following specific requirements:

- a) meeting the requirements set out in the documents referred to in Annex No. 14, point 3) and point 4), regarding the minimum content of the programme of investigations/examinations of a technical nature, undertaken by the owner / user, if technical checks have been carried out on the pressure components of the hydrogen supply installation in use to estimate the remaining life,
- b) when the technical checks in use for the estimation of the remaining service life are carried out if the technical documentation of the pressure components of the hydrogen supply installation is missing or incomplete, the technical documentation resulting from the preparation of the final technical report must meet the conditions for authorization of operation, set out in this Technical Prescription,
- c) the calculation summary submitted in the final technical report must be consistent with the one existing in the technical documentation of the pressure components of the hydrogen supply installation or, in its absence, with a calculation summary drawn from a current design standard and applicable to the pressure components,
- d) the remaining life is estimated from the date of the measurements, examinations, checks and tests the results of which are the basis for its calculation.

Minimum content of the final technical report

The final technical report must contain at least the following:

- 1) identification of the pressure components of the hydrogen supply installation,
- 2) a presentation of how the requirements set forth in the technical investigation/examination program are being met,
- 3) the preliminary technical report, where applicable,
- 4) the final maintenance technical documentation, if applicable,
- 5) the reports/certificates prepared as a result of the examinations, inspections, tests, and measurements carried out, in compliance with the provisions of the applicable technical regulation and specific standards, accompanied by annexes containing a sketch of the pressure-bearing components of the installation and the exact location of the points, areas, and welded joints where measurements and non-destructive testing were performed,
- 6) a list of authorized/certified individuals who performed the inspections, inspections, tests, and measurements specified in the approved program,
- 7) interpretation of the results obtained as a result of the examinations, inspections, tests and measurements carried out,
- 8) the records of attendance during examinations, inspections, tests, and measurements prepared by the ISCIR specialist inspector or the owner's/user's RSVTI operator, as applicable,
- 9) the structural analysis manual prepared for the purpose of estimating the remaining service life,
- 10) other relevant documents,
- 11) compensatory measures, if any,
- 12) conclusions,
- 13) declaration of conformity regarding the performance of technical checks in use for the estimation of the remaining life.

Indicative list of standards

SR ISO 19880-1: Gaseous hydrogen: Fuelling stations. Part 1: General requirements

SR ISO 19880-3: Gaseous hydrogen: Fuelling stations. Part 3: Fittings.

SR ISO 19880-5: Gaseous hydrogen: Fuelling stations. Part 5: Hoses and hose assemblies for the dispenser.

SR EN 17127: Outdoor hydrogen refuelling points dispensing gaseous hydrogen and incorporating filling protocols.

SR EN 1127-1: Explosive atmospheres. Explosion prevention and protection. Part 1: Fundamental concepts and methodology.

SR EN 60079-10-1: Explosive atmospheres. Part 10-1: Classification of areas. Explosive gas atmospheres.

SR EN 60079-0: Explosive atmospheres. Part 0: Equipment. General requirements

SR EN ISO 80079-36: Explosive atmospheres. Part 36: Non-electrical equipment for explosive atmospheres. Method and basic requirements.

SR EN 60079-14: Explosive atmospheres. Part 14: Design, selection and construction of electrical installations.

SR EN 17339: Transportable gas cylinders. Fully wrapped carbon composite cylinders and tubes for hydrogen.

SR EN 17533: Gaseous hydrogen: Cylinders and tubes for stationary storage.

SR EN ISO 16852: Flame arresters. Performance requirements, test methods and limits of use.

SR EN 14986: Design of fans working in potentially explosive atmospheres

SR EN 1089-3: Transportable gas cylinders. Identification of gas cylinders (excluding LPG). Part 3: Colour code.

SR EN ISO 11114-1: Transportable gas cylinders. Compatibility of cylinder and valve materials with gas content. Part 1: Metallic materials.

SR EN ISO 11114-2: Gas cylinders. Compatibility between the contained gas and the material of the cylinders and valves. Part 2: Non-metallic materials.

SR EN ISO 11114-3: Gas cylinders. Compatibility between the contained gas and the material of the cylinders and valves. Part 3: Oxygen atmosphere self-ignition test for non-metallic materials.

SR EN ISO 11114-4: Transportable gas cylinders. Compatibility between the contained gas and the material of the cylinders and valves. Part 4: Test methods for choosing steels resistant to hydrogen embrittlement.

SR EN 13480: Metallic industrial pipes.

SR EN 12499: Inner cathodic protection of metal structures.

SR EN ISO 12944-1: Paints and varnishes. Corrosion protection of steel structures by protective paint systems. Part 1: General introduction

SR EN 682: Rubber seals. Technical specifications for sealing materials used to seal sewer pipes and connections through which gases and liquid hydrocarbons are transported.

SR EN 1081: Impact-resistant, laminated, and modular multi-layer flooring. Determination of electrical resistance.

SR EN 61340-4-1: Electrostatic. Part 4-1: Standardized test methods for specific applications. Electrical resistance of floors and coatings.

SR EN 13501-1: Fire classification of construction products and elements. Part 1: Classification using the results of the reaction to fire tests.

SR EN 13501-2: Fire classification of construction products and elements. Part 2: Classification using the results of fire resistance tests, except for products used in ventilation systems.

SR EN 13501-3: Fire classification of construction products and elements. Part 3: Classification based on the results of fire resistance tests for products and elements used in technical installations of constructions: Fire resistant pipes and flaps.

SR EN ISO 3740: Acoustics. Determination of sound power levels of noise sources. Guidelines for the use of basic standards.

SR EN ISO 11689: Acoustics. Procedure for the comparison of noise-emission data for machinery and equipment

SR EN ISO 10052: Acoustics. Field measurements of airborne and impact sound insulation and of service equipment sound. Survey method Control method.

SR EN 62305-1: Lightning protection. Part 1: General principles.

SR EN 62305-2: Lightning protection. Part 2: Assessing Risk.

SR EN 62305-3: Lightning protection. Part 3: Physical damage to structures and life-threatening situations.

SR EN 62305-4: Lightning protection. Part 4: Electrical and electronic systems within the structures.

SR EN 1994-1-1: Eurocode 4: Design of composite steel and concrete structures. Part 1-1: General rules and rules for buildings.

SR EN 1994-1-2: Eurocode 4: Design of composite steel and concrete structures. Part 1-2: General requirements. Calculation of fire structures.

SR EN 1996-1-1: Eurocode 6: Design of brickwork structures. Part 1-1: General rules for reinforced and non-reinforced brickwork constructions.

SR EN 1996-1-2: Eurocode 6: Design of brickwork structures. Part 1-2: General requirements. Calculation of fire structures.

SR EN 60079-29-2: Explosive atmospheres. Part 29-2: Gas detectors. Selection, installation, use and maintenance of flammable gas and oxygen detectors.

STAS 697: Fire extinguishing machine. Portable hydrant with taps.

STAS 698: Fire extinguishing machine. Portable hydrant.

STAS 696: Fire extinguishing machine. Underground hydrant wrench.

SR EN 60079-17: Explosive atmospheres. Part 17: Inspection and maintenance of electrical equipment.

SR EN IEC 60079-19: Explosive atmospheres. Part 19: Repair, overhaul and reconditioning of equipment.

SR EN ISO 5817: Welding. Melt welded joints of steel, nickel, titanium and their alloys (excluding energy beam welding). Quality levels for imperfections.

SR EN ISO 17635: Non-destructive testing of welds. General rules for metal materials.

SR EN ISO 17268: Gaseous hydrogen land vehicle refuelling connection devices

SR EN 61508: Functional safety of electrical, electronic and programmable electronic safety-related systems.

SR EN ISO 13850: Security of machines. Emergency stop equipment. Design principles.

SR EN IEC 60079-10-1: Explosive atmospheres. Part 10-1: Classification of areas. Explosive gas atmospheres.

ISO 16111: Transportable gas storage devices - Hydrogen stored in reversible metal hydride

ISO 14687: Hydrogen fuel quality – Product specification
