



# ***Gas Practitioner Scope & Competency CNG and or LNG Applications***

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## ***Policy***

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## 1. INTRODUCTION

An Authorised Person as mentioned in the Pressure Equipment Regulations (PER) is referred to in the Gas Industry as a Gas Practitioner who is registered with the Southern African Gas Association (SAGA) and licensed via the South African Qualification and Certification Committee for Gas (SAQCC Gas) to conduct work in one or more areas whichever is applicable in the domestic, commercial, industrial and specialised gas environments:

- Design
- Installation
- Maintenance
- Repair
- Commissioning
- Recommissioning

***NB!** Kindly take notice that attendance and completion of the required training course is not in itself sufficient to obtain registration as an authorised gas practitioner in one or more of the various categories of registration. Accordingly, it is imperative that one read and be guided by this Gas Practitioner Scope and Competency Policy with regards to all registration requirements applicable. Should there be any outstanding documentation needed for the processing of the application not received within 3 months of date of receipt of the application, it will be deemed null and void and applicant will forfeit the full course and registration fee*

## 2. DEFINITIONS

Reference “Guidance Notes to the Pressure Equipment Regulations July 2009” as amended.

- 2.1 “Fluid”** means gases, liquids, vapours in pure phase and mixtures thereof and may contain solids in suspension.
- 2.2 “Gas”** means gases, liquefied gases, gases dissolved under pressure, vapours and those liquids whose vapour pressure at the design temperature is greater than 50 kPa above normal atmospheric pressure.
- 2.3 “Gas reticulation system”** means the conveyance of gas by pipeline from or within a property boundary up to and including the ultimate points of consumption
- 2.4 “Gas system”** means reticulation and or recirculation including all related **piping, pressure and safety accessories** excluding a transportable gas container connected to the system ...

### 3. ACRONYMS

ASME	American Society of Mechanical Engineers
CNG	Compressed Natural Gas
CoC	Certificate of Conformity
ISO	International Organisation for Standards
LNG	Liquefied Natural Gas
NG	Natural Gas
NGV	Natural Gas Vehicles
NQF's	National Qualifications Framework
OEM	Original Equipment Manufacturer
PER	Pressure Equipment Regulations
P & ID	Piping and Instrumentation Diagrams
PoE	Portfolio of Evidence
PRU	Pressure Reduction Unit
SAGA	Southern African Gas Association
SANS	South African National Standards
SAS	Safe Appliance Scheme
SAQCC	South African Qualification and Certification Committee
SGES	Safe Gas Equipment Scheme

### 4. PRE-REQUISITE REQUIREMENTS FOR REGISTRATION OF CNG or LNG INDUSTRIAL APPLICATIONS

Industrial Consumers CNG Trailer up to Pressure Reduction Unit for CNG and LNG tanker, Storage and Gasification Unit for LNG

Criteria for **CNG/LNG Industrial gas practitioners'** registration forming part of the Portfolio of Evidence (POE) included but not limited to:

- i) Minimum required period of years working on piping, pipelines, metering, gas installations, storage and where applicable fuel handling equipment and systems with sufficient exposure to and experience for 3 years in the applicable environment.
- ii) An acceptable standard of secondary education (NQF's) minimum level NQF1 (literacy & math's). Qualifications, technical education or achievements with reference to the natural gas industry with proof of all education provided.
- iii) Inform of past and present employment with a gas supply or industrial gas system installation company.

- iv) Confirmation of agreement of signature recommendation from present Line Manager or Supervisor in support of the application.
- v) Detailed description and applicable supporting documents of the last 5 category related CNG/LNG projects and or gas installations done by the applicant including the magnitude, scope and level of specific responsibility for actual installations need to be provided. If a practitioner designed the gas system, proof of designs. The assessment of at least 2 of these installations could be undertaken prior to registration.
- vi) Proof of supervision, under whose supervision did you work during the period of installation and provide proof of CoC's issued while under supervision substantiating your involvement
- vii) Course requirement of OEM "equipment specific" training, ASME B31Q, CNG or LNG industrial training course and passed.

## 5. PRE-REQUISITE REQUIREMENTS FOR RE-REGISTRATION OF CNG or LNG INDUSTRIAL APPLICATIONS

Criteria for re-registration of **CNG or LNG Industrial gas practitioners** include:

- i) Description of past and present employment with an existing gas supply or gas system installation company,
- ii) Confirmation of agreement of signature recommendation from present Line Manager or Supervisor in support of the respective licensing category applied for.
- iii) Motivation of additional category licensing, when requested.
- iv) List of last 5 projects supported by means of CoC's issued by the gas practitioner, where relevant. Magnitude, scope and level of specific responsibility as to the gas projects/actual gas installations to be provided. The assessment of at least 2 of these installations could be undertaken prior to re-registration should it be deemed necessary.
- v) It is imperative that gas practitioners build up their portfolio by keeping records of all gas work done so when applying for renewal of the gas licence the portfolio of evidence is reflective of the past three years ensuring efficient renewal of the gas licence. Failing to provide CoCs as supporting documentation may result in a shortcoming in the review process and delay in the renewal of the license
- vi) Attend required international and or national course and passed

## 6. CNG or LNG INDUSTRIAL GAS CATEGORIES

The following individual licensing categories are recorded for CNG or LNG Industrial Gas applications:

- **Design of CNG or LNG industrial gas system** - Design, planning and layout of the gas system inclusive the fuel and storage equipment and all required electrical/electronic control systems.
- **Installation of CNG or LNG industrial gas system** - Installation of fuel and storage equipment which operates on the gas supply equipment.

- **Commissioning of CNG or LNG industrial gas system** - Commissioning of the gas system from the supply point shut-off valve to the respective gas equipment after final inspection and testing and providing a Certificate of Conformity confirming the gas system conforms to the relevant PER Regulations and Health and Safety Standards and PER and is safe and fit for purpose. When a newly built / installed system is to be put into operation the commissioning of such a system will include the entire gas system as designed and constructed will require the verification of the all the pressure and safety accessories and controls on such a gas system. Commissioning can only be conducted by a competent commissioning gas practitioner.
- **Maintenance/Repair of CNG or LNG industrial gas system** – Maintaining and repair of piping including required gas system and fuel handling equipment. For example, when maintenance is performed on a gas system such as repairing piping, cleaning of an inline filter, removal of a valve or regulator and the replacement of any other gas equipment.
- **Re-Commissioning CNG or LNG industrial gas system** - When equipment is replaced, pipework done and after any maintenance, repair or modifications the system needs to be re-commissioned by a competent commissioning gas practitioner after final inspections and testing and providing a Certificate of Conformity confirming the gas system conforms to the relevant PER Regulations and Health and Safety Standards and PER and is safe and fit for purpose.

**Scope of Competency as per SAQCC Gas registration for CNG Industrial Gas Practitioner will be:** *“The holder of this card is authorised for design, installation, commissioning, maintenance and recommissioning as per PER, SANS 347 and all required Health and Safety Standards*

**Scope of Competency as per SAQCC Gas registration for LNG Industrial Gas Practitioner will be:** *“The holder of this card is authorised for design, installation, commissioning, maintenance and recommissioning as per PER, SANS 347 and all required Health and Safety Standards*

***NB! A single or combination of the categories could be granted depending on qualifications, knowledge, experience, expertise and work done as per your Portfolio of Evidence provided.***

**After replacement, repair, maintenance, modification, and commissioning/re-commissioning a Certificate of Conformity shall be issued for specific scope of work performed.**

**CNG or LNG Industrial Certificate of Conformity (CoC) is downloadable from the SAQCC Gas digital CoC App via Android, iOS and Huawei.**

**7. PRE-REQUISITE REQUIREMENTS FOR REGISTRATION OF CNG or LNG COMPRESSION AND LIQUEFACTION PLANT APPLICATIONS (*PRODUCE CNG or LNG*)**

*LNG Liquefaction, Storage, Compression and Distribution*

*CNG Production of CNG via Compression, Storage and Distribution*

Criteria for **CNG or LNG Compression and Liquefaction gas practitioners'** registration forming part of the Portfolio of Evidence (POE) included but not limited to:

- i) Minimum required period of years working on piping, pipelines, metering, gas installations, storage and where applicable fuel handling equipment and systems with sufficient exposure to and experience for 3 years in the applicable environment.
- ii) An acceptable standard of secondary education (NQF's) minimum level NQF1 (literacy & math's). Qualifications, technical education or achievements with reference to the natural gas industry with proof of all education provided.
- iii) Past and present employment with a gas supply or gas system installation company.
- iv) Confirmation of agreement of signature recommendation from present Line Manager or Supervisor in support of the application.
- v) Detailed description and applicable supporting documents of the last 5 category related CNG or LNG projects done by the applicant including the magnitude, scope and level of specific responsibility for actual installations need to be provided. If a practitioner designed the gas system, proof of designs. The assessment of at least 2 of these installations could be undertaken prior to registration.
- vi) Proof of supervision, under whose supervision did you work during the period of installation and provide proof of CoC's issued while under supervision substantiating your involvement
- vii) Course requirement of OEM equipment specific training, ASME B31Q, CNG or LNG Fuelling Station training course and passed.

## **8. PRE-REQUISITE REQUIREMENTS FOR RE-REGISTRATION OF CNG COMPRESSION or LNG COMPRESSION AND LIQUEFACTION PLANT APPLICATIONS**

Criteria for re-registration of **Compression and Liquefaction gas practitioners** include:

- i) Description of past and present employment with an existing gas supply or system installation company,
- ii) Confirmation of agreement of signature recommendation from present Line Manager or Supervisor in support of the respective licensing category applied for.
- iii) Motivation of additional category licensing, when requested.
- iv) List of last 5 projects supported by means of CoC's issued by the gas practitioner, where relevant. Magnitude, scope and level of specific responsibility as to the gas projects/actual gas installations to be provided. The assessment of at least 2 of these installations could be undertaken prior to re-registration should it be deemed necessary.
- v) It is imperative that gas practitioners build up their portfolio by keeping records of all gas work done so when applying for renewal of the gas licence the portfolio of evidence is reflective of the past three years ensuring efficient renewal of the gas licence. Failing to provide CoCs as supporting documentation may result in a shortcoming in the review process and delay in the renewal of the license.
- vi) Attend required international and or national course and passed

## 9. CNG COMPRESSION or LNG COMPRESSION AND LIQUEFACTION PLANT CATEGORIES

The following individual licensing categories are recorded for CNG or LNG Compression and Liquefaction plant applications:

- **Design of CNG Compression or LNG Compression and Liquefaction gas system**- Design, planning and layout of the gas system inclusive the fuel and storage equipment and all required electrical/electronic control systems.
- **Installation CNG Compression or LNG Compression and Liquefaction gas system** - Installation of fuel and storage equipment which operates on the gas supply equipment.
- **Commissioning CNG Compression or LNG Compression and Liquefaction gas system**  
Commissioning of the total gas system from the supply point shut-off valve to the respective gas equipment after final inspection and testing and providing a Certificate of Conformity confirming the gas system conforms to the relevant PER Regulations and Health and Safety Standards and PER and is safe and fit for purpose. When a newly built / installed system is to be put into operation the commissioning of such a system will include the entire gas system as designed and will require the verification of the all the pressure and safety accessories and controls on such a gas system. Commissioning can only be conducted by a competent commissioning gas practitioner.
- **Maintenance and Repair of CNG Compression or LNG Compression and Liquefaction gas system**– Maintaining and repair of piping including required gas system and fuel handling equipment. For example, when maintenance is performed on a gas system such as repairing piping, cleaning of an inline filter, removal of a valve or regulator and the replacement of any other gas equipment.
- **Re-Commissioning CNG Compression or LNG Compression and Liquefaction gas system**  
- When equipment is replaced, pipework done and after any maintenance, repair or modifications the system needs to be re-commissioned by a competent commissioning gas practitioner after final inspections and testing and providing a Certificate of Conformity confirming the gas system conforms to the relevant PER Regulations and Health and Safety Standards and PER and is safe and fit for purpose.

**Scope of Competency as per SAQCC Gas registration for CNG Compression Gas Practitioner will be:** *“The holder of this card is authorised for design, installation, maintenance commissioning and recommissioning as per PER, SANS 347 and all required Health and Safety Standards.*

**Scope of Competency as per SAQCC Gas registration for LNG Compression and Liquefaction Gas Practitioner will be:** *“The holder of this card is authorised for design, installation, maintenance, commissioning and recommissioning as per PER, SANS 347 and all required Health and Safety Standards.*

***NB! A single or combination of the categories could be granted depending on qualifications, knowledge, experience, expertise and work done as per your Portfolio of Evidence provided.***

**After replacement, repair, modification, and commissioning/re-commissioning a Certificate of Conformity shall be issued for specific scope of work performed.**

**CNG Compression or LNG Compression and Liquefaction Certificate of Conformity (CoC) is downloadable from the SAQCC Gas digital CoC App via Android, iOS and Huawei.**

#### **10. PRE-REQUISITE REQUIREMENTS FOR REGISTRATION OF CNG or LNG FUELLING STATION APPLICATIONS (Daughter & Mother Station)**

Criteria for **CNG or LNG Fueling Station gas practitioners'** registration forming part of the Portfolio of Evidence (POE) included but not limited to:

- i) Minimum required period of years working on piping, pipelines, metering, gas installations, storage and where applicable fuel handling equipment and systems with sufficient exposure to and experience for 3 years in the applicable environment.
- ii) An acceptable minimum standard of secondary education (NQF's) minimum level NQF1 (literacy & math's). Qualifications, technical education or achievements with reference to the natural gas industry with proof of all education provided.
- iii) Inform of past and present employment with a gas supply or gas system installation company.
- iv) Signature recommendation from present Line Manager or Supervisor in support of the application.
- v) Detailed description and applicable supporting documents of the last 5 category related CNG or LNG projects done by the applicant including the magnitude, scope and level of specific responsibility for actual installations need to be provided. If a practitioner designed the gas system, proof of designs. The assessment of at least 2 of these installations could be undertaken prior to registration.
- vi) Proof of supervision, under whose supervision did you work during the period of installation and provide proof of CoC's issued while under supervision substantiating your involvement
- vii) Course requirement of OEM equipment specific training, ASME B31Q, CNG or LNG Fuelling Station training course and passed.

#### **11. PRE-REQUISITE REQUIREMENTS FOR RE-REGISTRATION OF CNG or LNG FUELLING STATION APPLICATIONS**

Criteria for re-registration of **CNG or LNG Fueling Station gas practitioners** include:

- i) Description of past and present employment with an existing gas supply or system installation company,
- ii) Signature recommendation from present Line Manager or Supervisor in support of the respective licensing category applied for.
- iii) Motivation of additional category licensing, when requested.
- iv) List of last 5 projects supported by means of CoC's issued by the gas practitioner. Magnitude, scope and level of specific responsibility as to the gas projects/actual gas installations to be provided. The assessment of at least 2 of these installations could be undertaken prior to re-registration should it be deemed necessary.
- v) It is imperative that gas practitioners build up their portfolio by keeping records of all gas work done so when applying for renewal of the gas licence the portfolio of evidence is reflective of the past three years ensuring efficient renewal of the gas licence. Failing to provide CoCs as supporting documentation may result in a shortcoming in the review process and delay in the renewal of the license.

- vi) Attend required international and or national course and passed with an aggregate of 80%.

## 12. CNG or LNG FUELLING STATION CATEGORIES

The following individual licensing categories are recorded for CNG or LNG Fuelling Station applications:

- **Design of CNG or LNG Fuelling Station** - Design, planning and layout of the gas system inclusive the fuel and storage equipment and all required electrical/electronic control systems.
- **Installation of CNG or LNG Fuelling Station** - Installation of fuel and storage equipment which operates on the gas supply equipment.
- **Commissioning of CNG or LNG Fuelling Station** - Commissioning of the total gas system from the supply point shut-off valve to the respective gas equipment after final inspection and testing and providing a Certificate of Conformity confirming the gas system conforms to the relevant PER Regulations and Health and Safety Standards and PER and is safe and fit for purpose. When a newly built / installed system is to be put into operation the commissioning of such a system will include the entire gas system as designed and will require the verification of the all the pressure and safety accessories and controls on such a gas system. Commissioning can only be conducted by a competent commissioning gas practitioner.
- **Maintenance of CNG or LNG Fuelling Station** – Maintaining and repair of piping including required gas system and fuel handling equipment. For example, when maintenance is performed on a gas system such as repairing piping, cleaning of an inline filter, removal of a valve or regulator and the replacement of any other gas equipment.
- **Re-Commissioning CNG or LNG Fuelling Station** - When equipment is replaced, pipework done and after any maintenance, repair or modifications the system needs to be re-commissioned by a competent commissioning gas practitioner after final inspections and testing and providing a Certificate of Conformity confirming the gas system conforms to the relevant PER and Health and Safety Standards and is safe and fit for purpose.

**Scope of Competency as per SAQCC Gas registration for CNG Fuelling Station Gas Practitioner will be:** *“The holder of this card is authorised for design, installation, maintenance, commissioning and recommissioning as per ISO 16923*

**Scope of Competency as per SAQCC Gas registration for LNG Fuelling Station Gas Practitioner will be:** *“The holder of this card is authorised for design, installation, maintenance, commissioning and recommissioning as per ISO 16924*

**NB! A single or combination of the licence could be granted depending on qualifications, knowledge, experience, expertise and work done as per your Portfolio of Evidence provided.**

**Excluded activities and not licensed within the scope of registration are**

- Pressure Vessels

**After replacement, repair, modification, commissioning or re-commissioning a Certificate of Conformity shall be issued for specific scope of work performed.**

**CNG or LNG Fuelling Station Certificate of Conformity (CoC) is downloadable from the SAQCC Gas digital CoC App via Android, iOS and Huawei.**

### **13. ADDITIONAL CATEGORIES COVERED UNDER THE ROAD TRAFFIC ACT AND DANGEROUS GOODS TRANSPORT REGULATIONS**

- 13.1 Mobile Applications (NGV/PRU)
- 13.2 Dangerous Goods Transport CNG transport and Virtual Pipeline

### **14 LEGISLATION AND BEST PRACTICE**

The practitioner needs to clearly understand the content of the following:

- i. Occupational Health and Safety Act
- ii. Pressure Equipment Regulations R734 (PER)
- iii. ECE R110
- iv. ECE R115
- v. Rules Governing the Safe Gas Equipment Scheme (SGES)
- vi. Health and Safety Standards relevant to gas type applications
- vii. SAGA Technical Bulletins
- viii. Code of Good Practice for Gas Practitioners
- ix. Terms & Conditions for Training
- x. Competition and Antitrust Policy and Meeting Rules
- xi. Certificate of Conformity (CoC) per application level
- xii. Pressure Test Certificate per application level

### **15 RELATED DOCUMENTS**

- i. CNG/LNG Industrial Practitioner Application
- ii. CNG/LNG Compression and Liquefaction Practitioner Application
- iii. Fuelling Station Practitioner Application
- iv. Respective CoC's