



Gas Practitioner Scope & Competency Domestic, Commercial & Thermoprocessing 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, distribution, transmission pipelines and process plants.

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 |
| LPG | Liquefied Petroleum Gas |
| LPGSA | Liquefied Petroleum Gas Association of South Africa |
| NG | Natural Gas |
| 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 FIRST TIME REGISTRATION OF GAS PRACTITIONERS WORKING IN DOMESTIC OR COMMERCIAL OR INDUSTRIAL THERMOPROCESSING APPLICATIONS USING NATURAL GAS (CNG/LNG), LP GAS, LIQUID FUELS AND BIOGAS (whichever fuel type is applicable):**

Criteria for **Gas Practitioners'** registration forming part of the Portfolio of Evidence (POE) included but not limited to:

- i) Minimum required period of years working on gas systems with sufficient exposure to and experience for Domestic 1 year; Commercial 2 years & Industrial 3 years in the required gas environment
- ii) An acceptable standard of secondary education minimum level NQF1 (literacy & math's). Qualifications, technical education, or achievements with reference to the natural gas industry with proof of all education provided. LPG and other gas experiences in domestic and commercial applications could be considered. LPG industrial experience based on SANS 10087-3 is excluded for the natural and LP gas industrial and thermoprocessing dual registration.

- iii) Past and present employment with gas system installation company.
- iv) Detailed description and applicable supporting documents of the last 5 category related 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 needs to be ensured prior to registration.
- v) 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.
- vi) Signature recommendation from present Line Manager or Supervisor in support of the respective licensing category applied for.
- vii) A single or combination of the registration categories applied for could be granted depending on qualifications, knowledge, experience, expertise and work done as per the Portfolio of Evidence provided.
- viii) Attend required training course and pass with an average of 80%.

5. PRE-REQUISITE REQUIREMENTS FOR FIRST TIME REGISTRATION OF NATURAL GAS PRACTITIONERS FOR THE SPECIALISED APPLICATIONS

Criteria for **Natural 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 and where applicable combustion and 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 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 natural gas and or LPG 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) Attend required training course and pass with an aggregate of 80%

6. PRE-REQUISITE REQUIREMENTS FOR RE-REGISTRATION OF GAS PRACTITIONERS (3 YEAR CYCLE) WORKING IN DOMESTIC OR COMMERCIAL OR INDUSTRIAL THERMOPROCESSING APPLICATIONS USING NATURAL GAS (CNG/LNG), LP GAS, LIQUID FUELS AND BIOGAS (whichever fuel type is applicable):

Criteria for re-registration of 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, 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 training course and pass with an average of 80%.

7. CATEGORIES FOR GAS PRACTITIONERS:

7.1 DOMESTIC

A Domestic natural gas practitioner is licensed to carry out installations at **domestic (residential) premises only**. **Natural Gas installations shall comply with SANS827**. The following individual categories are applicable for domestic applications:

- **Design of a gas system** - Design, layout and planning of the gas reticulation system.
- **Installation of gas system and appliances** – The installation of piping and appliances such as stoves, gas hobs, geysers, space heaters and fireplaces.
- **Maintenance and Repair of gas system and appliances** – All maintenance done on domestic appliances such as gas stoves, gas hobs, geysers, space heaters and fire places.
- **Commissioning of gas system and appliances** - Commissioning the new gas system from the meter to the installed appliances after being pressure tested and providing a Certificate of Conformity confirming the gas system and appliances comply to SANS 827/ are safe and fit for purpose.
- **Re-Commissioning of gas system and appliances** - When piping and or an appliance is replaced and the system restarted after alterations, maintenance or modifications has been done the system needs to be re-commissioned by a registered gas practitioner after being inspected and pressure tested and providing a Certificate of Conformity confirming the total gas system complies to SANS 827 and is safe and fit for purpose.

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

Natural Gas Domestic Certificate of Conformity (CoC) is downloadable from the SAQCC Gas digital CoC App via Android, iOS and Huawei

Excluded activities and not licensed within the scope of registration are

- any LP Gas and or Biogas domestic installations, or
- installation at any commercial or business premises of any type including;
 - restaurants, cafes, coffee shops, commercial kitchens, schools hospitals or care facilities or any such premises where gas is used for cooking or heating, or
 - business premises such as offices, shops, warehouses, or any premises in a shopping Centre or mall, or
 - multilevel /multi-occupancy residential dwelling (e.g. block of flats with a remote, communal or meter gas supply points.

Scope of Competency as per SAQCC Gas registration for domestic natural gas practitioners will be: *"The holder of this card is authorised for design, installation, maintenance, commissioning / re-commissioning of a gas system as per SANS 827. "*

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

7.2 COMMERCIAL

A Commercial gas practitioner is licensed to carry out **domestic (residential) installations and installations on commercial premises only**. Such installations shall comply with SANS827. The following individual categories are recorded for commercial applications:

- ***Design of a gas system*** - Design, layout and planning of the gas reticulation system.
- ***Installation of gas system and appliances*** – The installation of piping, valves, regulator and appliances such as stoves, gas hobs, geysers, space heaters and fireplaces.
- ***Maintenance and repair of gas system and appliances*** – All maintenance done on commercial appliances such as gas stoves, gas hobs, geysers, space heaters and fireplaces.
- ***Commissioning of gas system and appliances*** - Commissioning the total gas system from the meter to the respective burners of installed appliances after being pressure tested and providing a Certificate of Conformity confirming the total gas system and appliances comply to SANS 827 are safe and fit for purpose.
- ***Re-Commissioning of gas system and appliances*** - When piping and or an appliance is replaced and the system restarted after alterations, maintenance or modifications has been done the system needs to be re-commissioned by a registered gas practitioner after being pressure tested and providing a Certificate of Conformity confirming the total gas system complies to SANS 827 is safe and fit for purpose.

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

Natural Gas Commercial Certificate of Conformity (CoC) is downloadable from the SAQCC Gas digital CoC App via Android, iOS and Huawei

Excluded activities are

- any LP Gas and or Biogas commercial installations, or
- installation of bulk LPG tanks
- maintenance of bulk tanks and associated equipment
- installation at any industrial premises of any type

Scope of Competency as per SAQCC Gas registration for Commercial Natural Gas Practitioner will be: “ ‘The holder of this card is authorised for design, installation, maintenance, commissioning / re-commissioning of a gas system as per SANS 827. ’

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

7.3 INDUSTRIAL THERMOPROCESSING

An Industrial Thermoprocessing Gas Practitioner licenced in Natural Gas (CNG/LNG), LP Gas, Biogas, and Liquid Fuels to carry out industrial installations on business premises. Such installations shall comply with SANS 13577

The following individual licensing categories are recorded for industrial gas applications:

- ***Design of an Industrial Thermoprocessing System*** - Design, planning and layout of the gas reticulation system inclusive the fuel and combustion handling equipment and all required burner management and electrical/electronic control systems.
- ***Build reticulation pipelines <2 Bar*** - Building of pipelines or the modification of pipelines which operates at a pressure less than 2 Bar gauge pressure.
- ***Build reticulation pipelines <15 Bar*** - Building of pipelines or the modification of pipelines which operates at a pressure between 2 and 15 Bar gauge pressure.
- ***Installation of Fuel and Combustion Handling Equipment*** – Installation of fuel and combustion equipment to operate as an assembly of equipment as per the design for the thermoprocessing system.
- ***Maintenance/Repair of Piping and Fuel and Combustion Handling Equipment*** – Maintaining and repair of piping including required thermoprocessing fuel and combustion 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 thermoprocessing equipment. Burners included.

- **Commissioning of Fuel and Combustion Handling Equipment** - Commissioning of the total thermoprocessing system from the main plant shut off valve to the respective burners whichever is part of the scope of work after final inspection and testing and providing a Certificate of Conformity confirming the gas system conforms to the relevant 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 thermo-processing 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.
- **Re-Commissioning of Fuel and Combustion Handling Equipment** - 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 in line with the relevant Health and Safety Standards and PER and is safe and fit for purpose.

Excluded activities are

- Applications upstream from the main plant shut-off valve as per SANS 13577-2
- the installation of bulk LPG tanks, associated pipework and equipment in accordance with the requirements of SANS10087-3 and any other applicable legislation, and
- fit and maintain required ancillary equipment to LPG road tankers in accordance with the requirements of SANS 10087-4 and any other applicable legislation.
- installation of any domestic or commercial installation at any business premises of any type
- installation of pipework and equipment in accordance with the requirements of ASME B31. Not authorised for signing off distribution and transmission piping under this license.
- the installation of CNG trailer up to Pressure Reducing Station
- installation of any LNG tanker, storage and regasification
- installation of any Biogas production, storage, treatment, compression and up to Pressure Reducing Station.

Scope of Competency as per SAQCC Gas registration for an Industrial (fuel type) Gas Practitioner will be: *“The holder of this card is authorised to design, build a reticulation pipeline up to *** Bar, installation, maintenance, commissioning and or re-commissioning thermoprocessing equipment for gas system as per SANS 13577*

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

Industrial Thermoprocessing (dual registrations) Certificate of Conformity (CoC) is downloadable from the SAQCC Gas digital CoC App via Android, iOS and Huawei.

General aspects pertaining to SANS 13577 for single/multiple registration

- An Industrial gas practitioner is licensed to carry out industrial thermoprocessing equipment installations as from the main plant shut off valve downstream piping, gas train up to and including the burner. Such installations shall comply with SANS 13577.
- Industrial gas practitioners who successfully completed the SANS 13577 course can be registered for single or multiple registrations. The SAQCC Gas will reflect SAGA as the association that provides the registration applications for processing.
- Under no circumstances whatsoever should there be an understanding, stated or implied, that LPG and Natural Gas practitioners who are SANS 13577 registered are exempt for any other LPG pre-requisite qualification as per SANS 10087 should they deem to work in the LPG environment. Natural Gas practitioners who are SANS 13577 registered may not work on or install LPG industrial installations unless they have met the LPGSA requirements for industrial applications. By completing the SANS 13577 course and receiving single or multiple gas or fuel type registration(s) is only applicable to the intent and scope of SANS 13577 which clearly states the boundaries of SANS 13577 installations as emphasised during training and upon registration.
- SANS 13577 thermoprocessing registrations for gas or fuel types being LPG, NG (CNG/LNG), Biogas or Liquid Fuels installations remain within the scope of the standard covering reticulation responsibilities from the main plant shut off valve up to and including the burner

8. 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. Rules Governing the Safe Gas Equipment Scheme (SGES)
- iv. Health and Safety Standards relevant to gas type applications
- v. SAGA Technical Bulletins
- vi. Code of Good Practice for Gas Practitioners
- vii. Terms & Conditions for Training
- viii. Antitrust Policy and Meeting Rules
- ix. Certificate of Conformity (CoC) per application level
- x. Pressure Test Certificate per application level



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9. RELATED DOCUMENTS

- i. Domestic/Commercial Gas Practitioner Application
- ii. Industrial Gas Practitioner Application
- iii. Specialised Gas Practitioner Application
- iv. Respective CoC's