



# ***Gas Practitioner Scope & Competency***

***Revision no: 12  
Revision date: 1 November 2020  
To be reviewed: 1 December 2021  
This revision supersedes: 11***

## ***Policy***

***Compiled by:  
Elrien Boothe***

***Approved by:  
Roy Lubbe***

***Address written comments or suggestions to the  
Board of Directors***

<b>INDEX</b>		
	<b>Topic</b>	<b>Page</b>
	Introduction	3
1	Pre-Requisite of Natural Gas Practitioners – Domestic, Commercial & Industrial	4
2	Pre-Requisite of Natural Gas Practitioners – Specialised	4
3	Pre-Requisite for reregistration of Natural Gas Practitioners	5
4	Pre-Requisite of Natural Gas Vehicle Practitioners	5
5	Pre-Requisite for reregistration of Natural Gas Vehicle Practitioners	6
6	Gas Registration Categories	6
6.1	- Domestic	6
6.2	- Commercial	7
6.3	- Industrial	8
6.4	- Specialised	11
7	Natural Gas Vehicles	13
7.1	- BiFuel – Carburetor	13
7.2	- BiFuel – Fuel Injection	14
7.3	- DualFuel	14
7.4	- Specialised	15
8	Legislation and best practices	16
9	Related Documents	16

<b>AMENDMENT RECORD</b>			
REV. NO	PAGE	STATUS – CHANGE	DATE
001	N/A	Created the policy	15 Nov '11
002	10	Admin error and changes	25 Jul '12
003	All	Registration categories and changes	3 Nov'12
004	All	Registration categories and changes	21 Nov'12
005	All	Registration categories and changes	3 May'13
006	All	Registration categories and changes	25 May'13
007	All	Change of Company Name	1 Nov'13
008	11/12 & rest	Corrections to CNG registration categories and overall updates to various content	1 Jan '15
009	5 & 6	Domestic/Commercial Registration Categories	16 Sep'15
010	All	Registration categories and changes	22 Dec '16
011	All	Registration categories and changes	11 Dec '18
012	All	Registration categories and changes	2 Nov '20

## 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 listed below in the domestic, commercial, industrial and specialised gas environments:

- Design
- Construction
- Installation
- Maintenance
- Instrumentation
- Inspection
- 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 you 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 I forfeit the full course and registration fee*

### Definitions

1. **Gas reticulation system:** means the conveyance of gas by piping from or within a property boundary up to and including the ultimate points of consumption
2. **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. These include domestic, commercial, industrial and medical gas markets. Where technical competence is required for the design, construction, installation, maintenance, modification, repair, and commissioning of gas systems. These activities are to be carried out by an authorised person [aka Gas Practitioner]

## **1. PRE-REQUISITE REQUIREMENTS FOR FIRST TIME REGISTRATION OF NATURAL GAS PRACTITIONERS FOR DOMESTIC, COMMERCIAL AND INDUSTRIAL 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 gas and gas systems with sufficient exposure to and experience for Domestic 1 year; Commercial 2 years & Industrial 3 years in the applicable gas 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. LPG experience in domestic and commercial applications could be considered. LPG industrial experience based on SANS 10087-3 is excluded for the dual natural and LP gas industrial and thermoprocessing registration.
- iii) Past and present employment with an existing gas supply or gas system installation company.
- iv) 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 needs to be ensured prior to registration.
- v) Signature recommendation from present Line Manager or Supervisor in support of the respective licensing category applied for.
- vi) 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
- vii) Attend required training course and pass with an average of 80%

## **2. 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%

### **3. PRE-REQUISITE REQUIREMENTS FOR RE-REGISTRATION OF NATURAL GAS PRACTITIONERS (3 YEAR CYCLE) FOR DOMESTIC, COMMERCIAL, INDUSTRIAL AND SPECIALISED INDUSTRIES**

Criteria for re-registration of Natural Gas or LP 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) Attend required training course and pass with an average of 80%.

### **4. PRE-REQUISITE REQUIREMENTS FOR REGISTRATION OF NATURAL GAS VEHICLE (NGV) APPLICATIONS**

Criteria for NGV **practitioners** forming part of the Portfolio of Evidence (POE) included but not limited to:

- i) 3 years NGV gas experience including hands on proven technical experience as an auto mechanic - not 'kit' specific
- ii) Valid Driver's License
- iii) 1 Year welding experience (optional but advantage)
- iv) Experience on all the 3 categories (Bi fuel carburetor, Bi fuel injection, dual fuel, specialised)
- v) Five (5) hands on installations per required category within South Africa as applied for
- vi) An acceptable standard of secondary education (NQF's) equivalent minimum level NQF1 (literacy & math's) and provide proof of education levels achieved.
- vii) Proof of each "kit specific" training completed from OEM
- viii) Present and past employment with an existing gas supply or system installation company,
- ix) Attend local and/or international training course as prescribed or relevant.
- x) Signature recommendation from present Line Manager or Supervisor in support of the application.

## 5. PRE-REQUISITE REQUIREMENTS FOR RE-REGISTRATION OF NATURAL GAS VEHICLE (NGV) APPLICATIONS

- 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.

## 6. GAS REGISTRATION CATEGORIES

### Categories for Natural Gas Practitioners:

#### 6.1 Domestic

A Domestic natural gas practitioner is licensed to carry out installations at **domestic (residential) premises only**. **Such 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 systems and appliances** – The installation of domestic appliances such as stoves, gas hobs, geysers, space heaters and fire places.
- **Maintenance of gas systems and appliances** – All maintenance done on domestic appliances such as gas stoves, gas hobs, geysers, space heaters and fire places.
- **Commissioning of gas systems and appliances** - Commissioning the new gas system from the meter to the respective burners of installed appliances after being pressure tested and providing a Certificate of Conformance confirming the gas system and appliances comply to SANS 827 are safe and fit for purpose.
- **Re-Commissioning of gas systems 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 Conformance confirming the total gas system complies to SANS 827 and is safe and fit for purpose.

**Natural Gas Domestic Certificate of Conformity (CoC) books are available from SAGA.**

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

- any LPG 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.
- installation at any commercial or industrial premises of any type

**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. (Not authorised to work on any LP Gas installations as per SANS10087:1-8 unless separately registered as competent)”*

***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.***

## 6.2 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 systems and appliances*** – The installation of commercial appliances such as stoves, gas hobs, geysers, space heaters and fire places.
- ***Maintenance of gas systems and appliances*** – All maintenance done on commercial appliances such as gas stoves, gas hobs, geysers, space heaters and fire places.
- ***Commissioning of gas systems 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 Conformance confirming the total gas system and appliances comply to SANS 827 are safe and fit for purpose.
- ***Re-Commissioning of gas systems 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 Conformance confirming the total gas system complies to SANS 827 is safe and fit for purpose.

**Natural Gas Commercial Certificate of Conformity (CoC) books are available from SAGA.**



**Excluded activities are**

- any LPG commercial installations, or
- installation of bulk LPG tanks
- maintenance of bulk tanks and associated equipment
- installation at any industrial or business 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. (Not authorised to work on any LP Gas installations as per SANS 10087:1-8 unless separately registered as competent)”

***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.***

### **6.3 Industrial Thermoprocessing**

An Industrial Thermoprocessing Gas Practitioner is licensed to carry out industrial installations on business premises. Such installations shall comply with SANS 329.

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 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 Combustion and Fuel Handling Equipment*** – Installation of fuel and combustion equipment which operates in on thermoprocessing equipment.
- ***Maintenance of Piping and Combustion and Fuel Handling Equipment*** – Maintaining and repair of piping including required thermoprocessing combustion 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 thermoprocessing equipment. Burners included.

- **Commissioning of Combustion and Fuel Handling Equipment** - Commissioning of the total thermoprocessing system from the main plant shut off valve to the respective burners after final inspection and testing and providing a Certificate of Conformance confirming the gas system conforms to the relevant Health and Safety Standards, 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 Combustion and Fuel 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 Conformance confirming the gas system conforms to the relevant Health and Safety Standards, and is safe and fit for purpose.

**Excluded activities are**

- 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

**Scope of Competency as per SAQCC Gas registration for an Industrial Natural Gas and Liquefied Petroleum Gas Practitioner will be:** *"The holder of this card is authorised to build a reticulation pipeline up to \*\*\* Bar, design, installation, maintenance, commissioning and or re-commissioning thermo processing equipment for gas system as per SANS329. (Not authorised to work on any domestic/commercial installations. May not install LP Gas installations as per SANS10087:1-8 unless separately registered as competent)"*

**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.**

**Natural Gas and Liquefied Petroleum Gas Industrial (dual registration) Certificate of Conformity (CoC) books are available from SAGA.**

**General aspects pertaining to SANS 329 dual registration**

- An Industrial gas practitioner is licensed to carry out industrial thermo processing equipment installations as from the main plant shut off valve to the burner tip. Such installations shall comply with SANS329.

- Natural Gas and LPG industrial practitioners who successfully completed the SANS 329 course can be registered for dual registration, if so required. The SAQCC Gas will reflect SAGA as the association that provides the registration applications to SAQCC Gas for dual processing.
- Under no circumstances whatsoever should there be an understanding, stated or implied, that LPG and Natural Gas practitioners who are SANS 329 registered are exempt for any other LPG pre-requisite qualification as per SANS 10087 should they deem to work in the LPG environment. Same said for NG practitioners who are SANS 329 registered may not work on or install LPG installations unless they have met LPGSASA requirements for industrial applications. Also said, by completing the SANS 329 course and receiving dual registration is only applicable to the defined intent and scope of SANS 329 which clearly states the boundaries of SANS 329 installations as made clear and emphasised during training.
- Therefore, SANS 329 registrations whether a LPG or NG installations define responsibility from main plant shut off valve to the burner tip. If it is a LPG gas system feeding the thermo processing equipment, then a registered LPG industrial practitioner within own registered scope of work as per SANS 10087-3 needs to be involved to assist the registered thermo processing practitioner to connect one system to the other.

**Scope of Competency as per SAQCC Gas registration for a Liquefied Petroleum Gas Thermo Processing Gas Practitioner will be:** *“The holder of this card is authorised to build a reticulation pipeline up to \*\*\* Bar, design, installation, maintenance, commissioning and or re-commissioning thermo processing equipment for gas system as per SANS329. (Not authorised to work on any domestic/commercial installations. May not install LP Gas installations as per SANS10087:1-8 unless separately registered as competent”*

***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.***

**Excluded activities are**

- 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 LPG domestic or commercial installation at any business premises of any type

**6.4 Specialised**

A Specialised Gas Practitioner is licensed to carry out specialised installations on business premises. Such installations shall comply with business own required standards for example ASME standards. The registrations categories are as per the practitioner's job description within own defined field of business:

***Transmission and Distribution Companies*** –The main business is to transport gas over large distances and ensuring security of supply to gas reticulation systems and end users of gas.

- Transmission pipelines operate at pressures > 15 Bar <125 Bar and therefore needs highly specialised equipment and competent personnel working on these pipelines.
- Distribution pipelines is classified in the range between >2 Bar <15 Bar. The same core personnel competencies are required as with the transmission pipelines.
- Registration of practitioners in this field will be limited to the person's job description and associated duties.
- Transmission and/or distribution companies operate these pipelines under licensed conditions as specified in the Gas Act (2001).

**Mechanical related activities as to Transmission and Distribution Companies:**

***Qualified Artisan***

Service of Pressure Protection Station (PPS), Pressure Reduction Station (PRS), High Pressure Customer Meter Station (HPCMS) & Customer Meter Station (CMS):

- *Service all valves, filters, regulators and Pressure Safety Valve (PSV)*
- *Refurbishing of equipment like slam shut valves*
- *Commission & de commission stations*
- *Attend to gas leaks and other fault finding*
- *Painting of stations*

- *Cleaning around stations & safety*
- *Maintaining all pipeline valves*
- *Do route maintenance*

**Meter Proving:**

- *Customer queries on volumes*
- *Meter changes*
- *Meter inspections and lubrications*

**Electrical related activities:**

***Instrumentation related activities:***

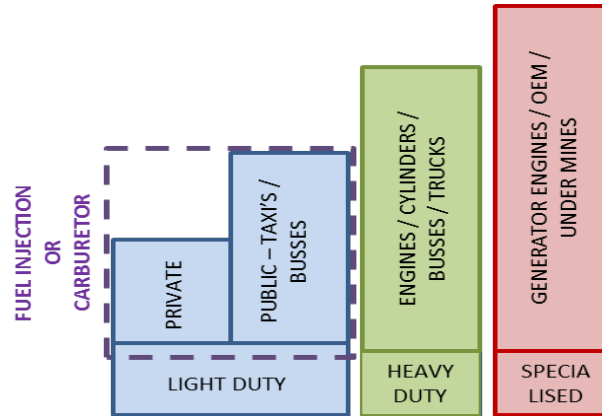
- *Faultfinding and calibration of various pressure, temperature and differential pressure transmitters.*
- *Faultfinding and calibration of volume correctors*
- *Faultfinding on RTU's*
- *Communication on SCADA and AMR repairs and maintenance e.g. routers, gsm modems etc.*
- *Upgrades of current technologies eg wireless technology, installation of tamper proof boxes,*
- *Inspections on current installations,*

***Reticulation Companies***

The main business is to transport gas to domestic homes, commercial and industrial businesses within the ensuring security of supply for users of gas.

**Scope of Competency as per SAQCC Gas registration for Specialised Natural Gas Practitioner will be:** *"The holder of this card is authorised as per a **Job description** (Millwright / Artisan / Operator / Team Leader / etc) to work in the (Mechanical / Electrical / Instrumentation / SHEQ / Production / Inspection) field of Pipeline Gas as per ASME B31Q. (Single or combination of these competencies, depending on your qualifications and application"*

## 7. Natural Gas Vehicles (NGV)



A NGV Practitioner is licensed to carry out any conversions done on BiFuel (carburetors, fuel injection) Dualfuel and Specialised systems. Pipeline category will be up to 200 bar gauge.

Such conversions shall comply with **SANS 10087-6 (SANS 1104)**, **SANS 20110** and **SANS15500:1-20**.

The following categories are recorded for NGV Gas installations and conversions:

### 7.1 **BiFuel - Carburetor (Option of 2 fuels separately and limited to 200 Bar pressure – old technology vehicles)** Example: vehicles and forklifts fitted with carburetor.

- **Installation** - Installation, modification of NGV equipment fitted to a carburetor engine.
- **Maintenance** – Maintaining all NGV equipment to the relevant installation. When any maintenance and repair is performed on a gas system such as the cleaning of a inline filter, removal of a valve the replacement of any conversion components
- **Commissioning** - Commissioning of the total NGV gas system after being inspected and pressure tested and providing a Certificate of Conformance confirming the gas system and equipment is safe and fit for purpose. When a newly built / installed NGV gas system is to be put into operation the commissioning of such a system will include the entire NGV gas system, and will require the verification of the all the pressure and safety devices and controls on such a system. Commissioning can only be conducted by a competent commissioning gas practitioner.
- **Re-Commissioning** When equipment is replaced after maintenance, repair or modifications it needs to be re-commissioned by a competent commissioning NGV gas practitioner duly appointed by his/her management to exercise the responsibility of commissioning the NGV gas system or part thereof including the electrical system.

**7.2 BiFuel - Fuel Injection (Option of 2 fuels separately and limited to 200 Bar pressure – new technology vehicles).** Example: vehicles and forklifts with fuel injection system.

- **Installation** – Installation and modification of NGV gas equipment fitted to a fuel injection engine.
- **Maintenance** – Maintaining all NGV gas equipment to the relevant installation. When any maintenance is performed on a gas system such as the cleaning of a inline filter, removal of a valve the replacement of any conversion components
- **Commissioning** - Commissioning of the total NGV gas system after being pressure tested and providing a Certificate of Conformance confirming the gas system and equipment is safe and fit for purpose. When a newly built / installed NGV gas system is to be put into operation the commissioning of such a system will include the entire NGV gas system, and will require the verification of the all the safety devices and controls on such a system. Commissioning can only be conducted by a competent commissioning NGV gas practitioner.
- **Re-Commissioning** When equipment is replaced after maintenance, repair or modifications it needs to be re-commissioned by a competent commissioning NGV gas practitioner duly appointed by his/her management to exercise the responsibility of commissioning the NGV gas system or part thereof including the electrical system.

**7.3 DualFuel (Operating on NGV with diesel simultaneously and limited to 200 Bar pressure)**

Example: vehicles fitted with mixed fuel/dual fuel with new technology trucks/busses/locomotives

- **Installation** – Installation and modification of NGV gas equipment fitted to a mixed fuel injection engine.
- **Maintenance** – Maintaining all NGV gas equipment to the relevant installation. When any maintenance is performed on a gas system such as the cleaning of a inline filter, removal of a valve the replacement of any conversion components
- **Commissioning** - Commissioning of the total NGV gas system after being pressure tested and providing a Certificate of Conformance confirming the gas system and equipment is safe and fit for purpose. When a newly built / installed NGV gas system is to be put into operation the commissioning of such a system will include the entire NGV gas system, and will require the verification of the all the safety devices and controls on such a system. Commissioning can only be conducted by a competent commissioning NGV gas practitioner.
- **Re-Commissioning** When equipment is replaced after maintenance, repair or modifications it needs to be re-commissioned by a competent commissioning NGV gas practitioner duly appointed by his/her management to exercise the responsibility of commissioning the NGV gas system or part thereof including the electrical system.

## 7.4 Specialised

Example: Generators only (stationary)

### Specialised environment will be:

- Working Pressure up to 250Bar
- Has fixed internal combustion engines (stationary CNG applications)
- Internal combustion engines using CNG gas applicable other than automotive applications (Generators/pump/compressors)
- Only internal combustion applications meaning pressured spark or compression ignition
- Dedicated NGV applications as supplied by OEM and local manufacturing
- Completed SANS329 training where industrial thermoprocessing is part of the gas system

### Excluded activities are

- CNG automotive application for Sea and Air usage
- CNG Fueling Stations
- Specialised CNG installations
- **Installation** – Installation and modification of CNG gas equipment fitted to an alternative application e.g. CNG internal combustion engine. Including stationary engines and generators. Dedicated CNG engines not being Bi-Fuel or Dual Fuel. Specialised use internal combustion engines and CNG engines supplied by OEM (Original Equipment Manufacturer). Internal combustion engines supplied with CNG above 200 Bar pressure. Any CNG application of internal combustion excluding automotive application. The application of CNG system that is not applicable to above 3 categories i.e. no modification or conversion but new independent system. The use of any mixed or synthetic methane based gas with methane content below 87% for example biogas in internal combustion engine.
- **Maintenance** – Maintaining all CNG equipment to the relevant installation. When any maintenance is performed on a gas system such as the cleaning of a inline filter, removal of a valve the replacement of any conversion components
- **Commissioning** - Commissioning of the total CNG gas system after being pressure tested and providing a Certificate of Conformance confirming the gas system and equipment is safe and fit for purpose. When a newly built / installed CNG gas system is to be put into operation the commissioning of such a system will include the entire CNG gas system, and will require the verification of the all the safety devices and controls on such a system. Commissioning can only be conducted by a competent commissioning gas practitioner.
- **Re-Commissioning** When equipment is replaced after maintenance, repair or modifications has been done the system needs to be commissioned by a registered CNG gas practitioner duly appointed by his/her management to exercise the responsibility of commissioning the CNG gas system or part thereof including the electrical system.



**Scope of Competency as per SAQCC Gas registration for NGV Gas Practitioner will be:** "The holder of this card is authorised for **BiFuel** (carburetor/fuel injection) and **Dualfuel** conversions (installation / maintenance / commissioning / recommissioning) as per SANS 20110; SANS 15500 & SANS 10087-6 (SANS 1104),

OR

"The holder of this card is authorised for **specialised** CNG conversions (installation / maintenance / commissioning / recommissioning) as per SANS 20110; SANS 15500 & SANS 10087-6 (SANS 1104),.

**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.**

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

## 9 RELATED DOCUMENTS

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