



**Southern Africa Compressed Gases Association**

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### **Design of Gas Systems**

In accordance with the OHS Act No 85 of 1993: Pressure Equipment Regulation, clause 17 (1)(2)(3) and SANS 347:2019, the legislation requires that all work on a gas system i.e., installation, maintenance and repair shall be carried out by a Registered Gas Practitioner (Authorised Person).

However, the design requirements of the Gas System need to meet the requirements of OHS Act No 85 of 1993: Pressure Equipment Regulation and SANS 347:2019 "Categorization and conformity assessment for all pressure equipment", Clause 4.1 Hazard Categories details the design requirements.

#### **Design requirements for Gas Systems falling within the Sound Engineering Practice (SEP) and Category 1 Hazard Category**

The design shall be in accordance with SANS 347:2019, in particular, clause 4.1.2 and Annex A. "Design and construction requirements for piping".

Clause A.1.2.1 states "For Category 1, the piping designer shall meet the qualification and experience requirements of the applicable health and safety standard(s)".

For Gas Practitioners, the Southern Africa Compressed Gases Association (SACGA) Working with SAQCC Gas, assesses the competence of Gas Practitioners registered with SAQCC Gas. The SACGA competence assessment of Gas Practitioners is based upon the type of work they wish to conduct and their theoretical and practical knowledge and experience i.e., Type of Gas System and the Scope of Work i.e., Design, Installation, Maintenance & Repair.

The Gas Practitioner can only apply for the design of Gas Systems that fall within SEP and Category I.

In the event of the piping designer being an appropriately registered professional person (for example. Registered Pr. Eng. Pr Technologist or Pr Cert. Eng.) they shall have a minimum of 2 years relevant experience in the design of related pressure piping in compliance with the appropriate health and safety standard(s).

The SACGA cannot issue a Design licence to Registered Pr. Eng. Pr Technologist or Pr Cert. Engineers.

## **Design requirements for Gas Systems that fall within Hazard Category 2 and higher**

The design shall be in accordance with SANS 347:2019, in particular, clause 4.1.4 and Annex A. "Design and construction requirements for piping".

A.1.2.2 states, For Cat II and higher, the piping designer shall be an appropriately registered professional person (for example. Registered Pr. Eng. Pr Technologist or Pr Cert. Eng.) with at least four years of relevant experience in the design of related pressure piping in compliance with the appropriate health and safety standard(s).

A Professional Engineer can also design and approve Gas Systems that fall within SEP & Hazard Category 1.

The above was originally drafted by BJ Little General Secretary/Technical Advisor Southern Africa Compressed Gases Association Nov 2022 and subsequently updated by J Park Technical Advisor Southern Africa Compressed Gases Association May 2025.