SAFETY ISN'T NEGOTIABLE

The Southern African Gas Association ensures the safe operation of industrial gas systems

South Africa has its fair share of gas-related incidents reporting fires and explosions costing domestic, commercial and industrial facilities millions of rands. However, these statistics say nothing of numerous other smaller events that occur and go unrecorded, such as boiler fires, process oven failures, piping ruptures, non-conforming installations, and non-suited/non-approved equipment among others. These have been the cause of unpublicised damages and injuries. Unfortunately, action is often only taken on these issues after some large and tragic event occurs.

The Pressure Equipment Regulations (PER) Reg. 17 states: "No person shall…

(a) handle, store or distribute any gas in any manner, which includes the filling of a container, other than in accordance with the relevant health and safety standard incorporated into these Regulations under section 44 of the Act;

(b) install or remove an appliance, pressure equipment or system for gas in any manner other than in accordance with the relevant safety standard incorporated into these Regulations under section 44 of the Act;

(c) install or remove a gas appliance, or a gas system or a gas reticulation system, unless such person is an authorised person."

Taking the above regulations into consideration, one needs to consider the experience, knowledge, qualification and competency of any person, whether internal or contracted, working in the gas industry or with gas-related equipment. Unless properly trained and qualified, no personnel or operator should be permitted to attempt repairing/replacing pipes or pressure equipment, tune burners, work on or replace burner management/control systems.

The intent of Reg. 17 is also to ensure all persons working on gas systems are registered and licensed with the registration body, namely the South African Qualification and Certification Committee for Gas (SAQCC Gas).

Combustion equipment safety is critical to the daily operation of all facilities and the safety of every employee, yet awareness on this topic is lacking simply because it is deemed too 'complicated'. It takes diligence and understanding to protect employees, facilities and industrial organisations from combustion-related incidents involving fuel-fired equipment. Being competent in only a specific field (silo approach) is not enough; persons working on gas systems should have a total understanding of the complete and integrated philosophy and functionality of gas systems (lateral approach).

Once again, understanding the gas system or specifically combustion equipment safety is very critical from a performance and maintenance perspective. An equal degree of emphasis should be placed on the importance of using compliant equipment, which also conforms to the required health and safety standards.

There is typically no screening for how far away from the most recent health and safety standards the old 'grandfathered' technology has become. Passing a statutory inspection sometimes means you could be 'technically' in compliance with archaic and antiquated equipment that is 50 or more years old. This could be equipment that requires many manual steps to operate safely and presents serious risk of improper manual startup or shutdown daily. Equipment could be 'in compliance' with this kind of inspection, but quite far from the current health and safety standards "level of safety".

Should grandfather equipment be progressively upgraded in line with newer technologies? Possibly. From a financial perspective, probably 'no or not now'; from a safety perspective, a definite 'yes'. The risk assessment of current gas equipment and gas systems needs to be ongoing and analytically direct the way to concrete affirmations of upgrading the site's equipment.

Once an incident occurs, it means years of court cases, job losses and changes, higher insurance rates, and maybe even criminal litigation. It also takes years to overcome the stigma of possible safety credibility to employees, industry and the community at large.

HOW SHOULD ONE ENSURE THE SAFE OPERATION OF GAS SYSTEMS?

Start with a review of the equipment's state of protection relative to current health and safety standards: an equipment gap analysis. Prioritise your needs and address them at a comfortable pace. Conduct a human gap

analysis to identify the state of knowledge and skills regarding your operations and maintenance staff. Make training a regular and serious effort.

The bottom line is that by ensuring persons are competent and implementing comprehensive equipment safety programmes, lives can be saved. The right thing to do is to be proactive and at the very least ensure persons working on gas systems are licensed to operate and that manufactured, imported and supplied equipment conforms to the required regulations. Ensure equipment permits are obtained from the required authority, in this case, the Southern African Gas Association (SAGA).

SAFE GAS EQUIPMENT

SAGA also verifies Natural and Liquefied Petroleum Gas Industrial Equipment locally manufactured, imported and supplied prior to being placed in the market. This covers all equipment operating above 0.5 GJ/h or 10 kg/h or 140kW in the commercial, industrial and specialised environments. It is being expanded to include natural gas vehicles (NGV), natural gas fuelling stations, compressed natural gas (CNG) and liquefied natural gas (LNG) industrial applications.

The intent is to prevent the import and supply of non-conforming equipment and that all equipment sold or placed in the market meets the Pressure Equipment Regulations.

AUTHORISED PERSONS FOR SAFE OPERATIONS

Using registered Gas Practitioners

Never do gas work on piping, appliances or equipment yourself—always use a registered Gas Practitioner. Unregistered gas work is illegal and can be extremely dangerous, resulting in serious injury or even death. Registered Gas Practitioners have the necessary experience, competency, equipment and system knowledge to do the necessary work safely.

Insurance companies may not cover fire or public liability claims caused by do-it-yourself or non-registered persons, as the gas installations will be deemed illegal.

When using a Gas Practitioner, you need to ensure:

- the person is in possession of a licence issued by the registrar, being SAQCC Gas; and
- the person issues the correct Gas Certificate of Conformity (CoC) to the user on completion of all gas installation work. This applies to all gas work on your property, regardless of whether it is a residential, commercial or industrial property.

A Gas Practitioner is responsible for selective or all the work commencing at the gas meter outlet or reticulation shut-off valve and all the piping, safety and pressure accessories including the appliance/equipment downstream thereof.

If you notice something potentially dangerous, or any of the following, stop what you are doing and immediately call a registered Gas Practitioner or your gas distributor: Gas appliance/equipment burning incorrectly e.g. yellow or uneven flames, pungent odours, black carbon soot, appliance going out regularly, visible damage to gas pipes.

If you smell gas and you suspect it's a gas leak, or are unsure, shut off the main valve of the gas system, phone the Gas Practitioner and/or gas distributor of the gas to report the matter.

The main natural gas distributors in South Africa—Sasol (Gauteng, Mpumalanga, KZN), Spring Lights Gas (KZN) and Egoli Gas (Gauteng)—are responsible for work on gas meters and the gas distribution and reticulation system. Virtual piping networks also form part of the distribution system.

You can check if your Gas Practitioner is registered to work in South Africa by searching the register of SAQCC Gas at *www.saqccgas.co.za* or contact the registrar on +27 (0) 11 285 0038.

Receipt of a Gas Certificate of Conformity (CoC) by the user

- A Gas CoC is an assurance that:

the Gas Practitioner is appropriately registered;

- the work completed has been inspected and tested and is proven to be safe;
- the work complies with the requirements of South African legislation such as the Occupational Health and Safety Act, the Pressure Equipment Regulations and respective South African National Standards;
- the Gas Practitioner has officially informed you of the safety procedures as to your gas system; and
- you have met your legal obligation to own a safe gas installation and have a permanent legal record for the job done.

A Gas CoC shall be provided to you after commissioning of the gas system, but no later than 7 days after completion of the following gas work, but not limited to:

- installing new gas pipe work;
- extending or repairing existing gas pipe work;
- installing new appliances/equipment e.g. heaters, hot water units, stove tops, gas trains, burners;
- replacing an appliance/equipment;
- maintenance and/or repair to the pipe work, equipment and pressure accessories; and
- converting a gas system or appliance/equipment for use on another fuel e.g. from LPG to natural gas or vice versa.

A NEW FORM OF COC HAS EMERGED

The gas industry is moving away from the hard copy (pre-printed) CoC toward an electronic version that was phased in from 1 March 2021 over a six-month period, whereafter the hard copy will come to an end.

Bringing new technology to the gas industry adds a lot of value especially from a safety and compliance perspective, and ensures ease of doing business straight from a tablet or smartphone.

The CoC needs to be signed by both the Gas Practitioner and the user to be valid.

If you do not receive a Gas CoC, this could jeopardise your insurance if a gas-related incident subsequently causes fire or damage to the property or injury to a person.

If a Gas Practitioner fails to issue the user with a Gas CoC, or refuses to do so, contact the SAGA office. Always remember that Safety Isn't Negotiable. Ensure the right things are done right the first time.

ROLLOUT TO THE SOUTHERN AFRICAN DEVELOPMENT COMMUNITY

SAGA ensures all persons working in the methane-based environment are competent to undertake work that complies with the relevant legislation and national health and safety standards in order to provide safe and efficient operations from point of supply to users in the domestic, commercial and industrial markets within southern Africa.

It covers industrial thermoprocessing, CNG, LNG, NGV and biogas by:

- providing training to persons working in the gas industry to become competent gas practitioners;
- developing skills and competencies and ensuring knowledge sharing throughout the industry;
- assisting industry to comply with legislation;
- educating stakeholders in safety and standards;
- advocating the safe and efficient use of gas and pressure equipment; and
- interfacing with government on regulatory issues.

SADC PARTNERING PROSPECTIVE

- Establishment of bilateral partnerships;
- Involvement in the Southern African Development Community Co-operation in Standardisation (SADCSTAN);
- Expansion into NGV and industrial CNG/LNG/biogas environments;
- Collaboration with stakeholders on the adoption and development of Health and Safety Standards;
- Ensuring safety through training and skills upliftment;
- Registration of competent persons to work on gas systems; and
- Practical assessments of competencies and compliance requirements for gas systems: installation, operations, maintenance, commissioning, startup and shutdown activities and much more. ◆

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