

# Petroleum and Gas (Safety) and Other Legislation Amendment Regulation 2023

Explanatory notes for SL 2023 No. 102

made under the

*Petroleum and Gas (Production and Safety) Act 2004*

*Petroleum Act 1923*

*State Penalties Enforcement Act 1999*

## General Outline

### Short title

*Petroleum and Gas (Safety) and Other Legislation Amendment Regulation 2023*

### Authorising law

Sections 669 and 859 of the *Petroleum and Gas (Production and Safety) Act 2004*

Section 149 of the *Petroleum Act 1923*

Section 165 of the *State Penalties Enforcement Act 1999*

### Policy objectives and the reasons for them

The primary objective of the *Petroleum and Gas (Safety) and Other Legislation Amendment Regulation 2023* (Amendment Regulation) is to make several hydrogen-related amendments to the *Petroleum and Gas (Safety) Regulation 2018* (P&G Regulation) so that the regulation adequately covers safety issues relating to hydrogen and the rapidly developing hydrogen fuel applications, such as hydrogen fuel cells. The current safety requirements under the P&G Regulation mainly relate to traditional fuels such as natural gas and liquified petroleum gas (LPG). These hydrogen-related amendments include:

- prescribing relevant parts of the Hydrogen Safety Code of Practice (CoP) in the P&G Regulation as preferred standards for hydrogen-related activities;
- prescribing relevant local and international standards to apply as alternative standards where the current prescribed standard for fuel quality requirements cannot be satisfied; and
- minor amendments and definitions that ensure the current fuel gas requirements under the P&G Regulation include hydrogen fuel applications.

The secondary objective of the Amendment Regulation relates to servicing Type A gas devices (and is separate from the hydrogen-related amendments above). It will prescribe the Australian Standard *Gas appliances — Servicing of Type A appliances* (AS 4575) as

the preferred standard for repairing, servicing and testing Type A gas devices. Type A gas devices are natural gas or LPG appliances used in domestic or light commercial areas, such as cookers and heaters.

The Amendment Regulation will also make consequential amendments to the *State Penalties Enforcement Regulation 2014* (SPER) in relation to penalty infringement notices (PINs) for offences under the *Petroleum and Gas (Production and Safety) Act 2004* (P&G Act), that were affected by the commencement of the *Land, Explosives and Other Legislation Amendment Act 2019*.

### **Amendments to the P&G Regulation**

The P&G Regulation is made under the P&G Act to provide effective and relevant safety regulation for petroleum and gas industries in Queensland by prescribing technical standards and safety requirements to ensure the safety of operating plant, gas work and gas devices, including safe use by consumers. The safety related aspects of the P&G Act and the P&G Regulation are administered by Resources Safety and Health Queensland (RSHQ), the independent regulator of worker safety and health in Queensland's petroleum and gas, mining, quarrying and explosives sectors.

The P&G Regulation can make a requirement under the regulation, a standard, code, or other document mentioned in the regulation a safety requirement for the purposes of the P&G Act. Standards, codes or other documents can be prescribed in the P&G Regulation as either a 'mandatory standard' or a 'preferred standard' for particular safety requirements. Whilst a mandatory standard must be followed, a person does not need to comply with a preferred standard if the person has written evidence that their alternative safety requirements provide a level of risk that is equal or less than would be achieved by complying with the preferred standard and notifies the Chief Inspector.

Standards, codes or other documents prescribed in the P&G Regulation as safety requirements can be relied upon to effectively regulate Queensland's petroleum and gas industry. These documents are developed by industry experts and stakeholders and they incorporate best practices and comprehensively address potential risks. They provide clear technical guidelines and benchmarks for industry to follow, ensuring safety and quality standards are met. Many of these documents are also accepted locally (or otherwise internationally) and in some cases guarantee uniformity across the Australian jurisdictions, which heightens safety standards.

### **Hydrogen-related amendments**

The current safety requirements under the P&G Regulation mainly relate to traditional fuels such as natural gas and LPG and are not sufficiently tailored to adequately cover all the safety issues relating to hydrogen and the rapidly developing hydrogen fuel applications, such as hydrogen fuel cells. This means that safety risks in a developing hydrogen industry cannot currently be effectively addressed.

The Amendment Regulation aims to address these issues by introducing the CoP and prescribing relevant parts of the CoP in the P&G Regulation as safety requirements. RSHQ developed the CoP in consultation with industry and government stakeholders,

which is designed to inform industry of approval pathways and safety requirements for operations that use hydrogen as a fuel. The CoP has been developed to provide a practical way to achieve an equal or lower level of risk for emerging hydrogen projects. The final draft of the CoP was released in September 2022 and received positive feedback from stakeholders.

The Amendment Regulation will introduce parts 7.1–7.3 of the CoP into the P&G Regulation. These parts of the CoP provide alternative processes for supplying unodourised hydrogen. Parts 7.2–7.3 will be introduced to schedule 2, parts 1–3 of the P&G Regulation as a preferred standard dealing with the supply of unodourised hydrogen to a consumer and the process for design and installation of a gas system using unodourised hydrogen and part 7.1 of the CoP will be introduced into section 73 to provide alternative means of satisfying the prescribed odour requirements. This amendment will continue to allow for the current safety requirements to apply to the supply, design and installation of gas systems for hydrogen fuel gas; however, where those requirements cannot be satisfied, the CoP will provide an alternative means that achieves an equivalent safety standard. These changes are important for hydrogen as they will enable new applications of the fuel gas, especially in relation to the application of hydrogen in fuel cells. Hydrogen may be used with odour – however, there are certain applications where the use of odour renders the fuel ineffective, this includes when used in fuel cells for electric vehicles. These parts of the CoP will allow such uses for hydrogen whilst meeting safety requirements.

Part 5.4.1 of the CoP will also be introduced into the design requirements of a distribution system. Section 81 of the P&G Regulation relates to the design, construction, operation, maintenance and abandonment requirements of the distribution system (within gas distribution networks). The current requirement is for these to comply with AS/NZS 4645 which applies to fuel gas with a hydrogen content of up to 15% by volume. This volume requirement limits the application of the standard, for example, in some instances hydrogen may be used at 100 percent. Where the hydrogen component of a fuel gas is outside the scope of AS/NZ 4645, the CoP will provide an alternative method of compliance in part 5.4.1 of the CoP. Part 5.4.1 provides that the operator may supply fuel gas with a hydrogen content of over 15% by giving notice that a formal safety assessment has been conducted ensuring that an equal or less level of risk has been achieved.

The Amendment Regulation will also introduce two new standards to prescribe fuel quality requirements that apply to hydrogen. The Amendment Regulation will allow for *AS/ISO 19880.8 Gaseous hydrogen fuelling stations Part 8: Fuel quality control clause 8 - Hydrogen quality assurance methodology*, and *SAE J2719 - Hydrogen Fuel Quality for Fuel Cell Vehicles* to apply. These are international standards for industry. If the supply does not conform to these prescribed qualities, a gas quality approval or gas quality agreement will need to be in place, as per existing requirements.

The Amendment Regulation will also clarify that certain existing safety requirements will not apply to vehicles that use hydrogen as fuel. The current P&G Regulation includes requirements that apply to traditional combustion engine vehicles, which would not be applicable to vehicles that use hydrogen as the fuel, including vehicles that use hydrogen fuel cells. The Amendment Regulation will clarify that the requirement to test for carbon monoxide will only apply for a vehicle that uses fuel gas

other than hydrogen fuel gas. There will also be an option to replace the requirement for a gas inspection or gas compliance certificate with certification by a recognised body to the United Nations Economic Commission for Europe Regulation No 134—Uniform provisions concerning the approval of motor vehicles and their components with regard to the safety-related performance of hydrogen-fuelled vehicles (HFCV) [2019/795] that ensures an acceptable level of safety is achieved.

The Amendment Regulation will also implement other minor changes, including adding hydrogen specific gauge pressure requirements that apply to a person who connects a consumer's gas system to a fuel gas network or supplies fuel gas to a consumer's gas system through a fuel gas network for the first time. The current definitions in the dictionary schedule will also now include reference to mobile fuel cells which is a specific type of fuel cell that is used in vehicles.

### **Gas servicing (Type A gas devices) amendments**

The P&G Regulation establishes offence provisions for a holder of a gas work licence if they fail to ensure that gas work is carried out in a thorough and professional manner that complies with all applicable safety requirements. There are also provisions for a Chief Inspector to require that non-compliant work be remedied within 14 days of receiving notice. These offences carry a maximum penalty of 20 penalty units but can only be applied when a relevant standard or document is prescribed in the P&G Regulation.

Whilst the P&G Regulation prescribes standards for safety requirements for general gas systems and gas work, it does not include standards for repairing, servicing, or testing gas systems. As a result, RSHQ is limited in their ability to undertake enforcement action when substandard service and repairs are identified.

Proper maintenance and servicing of gas devices are critical to ensuring safety and health, as failure to do so can lead to serious risks of harm such as exposure to carbon monoxide, incomplete combustion and increased potential for leaks. In 2018, in Victoria, a coronial inquest was held into a fatality directly related to a faulty gas heater, underscoring the significant safety and health implications when gas devices are not maintained or serviced correctly.

The Amendment Regulation will prescribe AS 4575 as the preferred standard for repairing, servicing and testing Type A gas devices. This Australian Standard was updated in 2019 to address recommendations made by the Victorian coronial inquest and compliance with AS 4575 became mandatory in Victoria from 1 June 2022. AS 4575 is recommended (or preferred) as a servicing guide in Tasmania and Western Australia. AS 4575 has also been adopted by Queensland Registered Training Organisations that provide competency training for the service and maintenance of gas devices, a requirement to obtain a gas work licence.

The Amendment Regulation will also correct an error in Schedule 2, Part 2 of the P&G Regulation by re-arranging the standards and documents currently referenced, so that they are listed consistently in alphanumerical order. This amendment will not result in any change from the original effect of the legislation.

### **Amendments to the State Penalties Enforcement Regulation 2014**

There are 2 consequential amendments required for the SPER in Schedule 1 (Infringement notice offences and fines for nominated laws).

The first amendment relates to the entry in the SPER for section 733(1)(a) of the P&G Act. This section was omitted from the P&G Act in September 2020 and was replaced by new section 731AA, following the commencement of the *Land, Explosives and Other Legislation Amendment Act 2019*. Therefore, an amendment is required to the existing entry for the (repealed) 'section 733(1)(a)' to renumber it as 'section 731AA(1)(a)' under the P&G Act heading in Schedule 1 of the SPER.

The second amendment relates to which officers are authorised under the SPER to serve PINs for offences in the P&G Act and the P&G Regulation. The SPER currently allows an authorised officer or inspector appointed under section 735 of the P&G Act to serve these PINs. However, the commencement of the *Corrective Services and Other Legislation Amendment Act 2020* split the statutory functions of authorised officers under the P&G Act into 2 distinct roles—they are an:

- authorised officer (safety and health), appointed under section 735(1) of the P&G Act; and
- authorised officer (general), appointed under section 735(2) of the P&G Act.

Therefore, an amendment is required to the SPER to change both references of 'an authorised officer' appointed under the P&G Act to 'an authorised officer (safety and health)' instead.

### **Achievement of policy objectives**

The objective of the hydrogen-related changes to the P&G Regulation are achieved by removing ambiguity and adding clarification regarding the safety requirements that apply to hydrogen as a fuel gas, including by introducing the CoP.

The objective of the changes to the P&G Regulation for servicing Type A gas devices is achieved by prescribing technical standards and safety requirements to ensure that servicing of gas devices is undertaken to an acceptable standard, including safe use by consumers.

The objective of the changes to the SPER is to confirm consequential amendments that affected penalty infringement notices for offences under the P&G Act.

### **Consistency with policy objectives of authorising law**

The Amendment Regulation is consistent with the policy objectives of the *Petroleum and Gas (Production and Safety) Act 2004*, the *Petroleum Act 1923* and the *State Penalties Enforcement Act 1999*.

## **Inconsistency with policy objectives of other legislation**

The Amendment Regulation is not inconsistent with policy objectives of other legislation.

## **Benefits and costs of implementation**

The amendments regarding hydrogen as a fuel gas, will serve to enable effective, risk-based safety regulation that will support a sustainable and safe Queensland hydrogen industry. Removing ambiguity, adding clarity by tailoring the existing legislative framework to hydrogen fuel gas-specific activities will provide certainty to the industry. It is not expected that these amendments will incur additional costs of implementation.

Prescribing AS 4575 in the P&G Regulation as the preferred standard for repairing, servicing and testing Type A gas devices will have minimal cost impacts on licence holders and only on those who are not already following this Australian Standard. Competencies in servicing and maintenance are required to obtain a licence for servicing gas works. As such, licence holders should already be using AS 4575 as a guide when servicing gas devices. There would also be no additional costs for the regulator. As the requirements of AS 4575 are already widely adopted across the industry, the amendment to the P&G Regulation will provide the benefit of consistency across training program competencies, licencing requirements, and service standards for Type A gas devices.

The remaining amendments to the P&G Regulation are not expected to incur any additional costs of implementation as the amendment corrects technical errors. Similarly, the consequential amendments to the SPER are not expected to incur any additional costs of implementation as they are amendments that implement consequential changes. These changes will add certainty and clarity into the regulations.

## **Consistency with fundamental legislative principles**

The Amendment Regulation has been drafted with regard to fundamental legislative principles (FLPs) as defined in section 4 of the *Legislative Standards Act 1992*. The following FLP matters have been considered:

### ***Whether legislation has sufficient regard to individual rights and liberties– Section 4(2)(a) of the Legislative Standards Act 1992***

Upon implementation, the Amendment Regulation will introduce two new standards to allow for alternatives to meet the current fuel quality requirements that apply to hydrogen. Where the current standard prescribed in the P&G Regulation cannot be satisfied, the Amendment Regulation will allow for *AS/ISO 19880.8 Gaseous hydrogen fuelling stations Part 8: Fuel quality control clause 8 - Hydrogen quality assurance methodology*, and *SAE J2719 - Hydrogen Fuel Quality for Fuel Cell Vehicles* to apply. These are local and international standards for industry. The Amendment Regulation will also incorporate AS 4575 into the P&G Regulation as the preferred standard for repairing, servicing and testing Type A gas devices. All of these standards are not readily

available to the public since they require payment to be acquired from the publisher. The CoP is readily available on RSHQ's website free of charge.

Amending the P&G Regulation to add these preferred standards will exclusively affect specific individuals who are aware of the fees associated with obtaining these documents. In relation to AS 4575, it should be noted that competencies in servicing and maintenance are mandatory prerequisites for obtaining a gas works licence. As a result, it is justifiable to expect these licence holders to acquire the relevant standards to guarantee compliance with their regulatory obligations.

***Whether legislation has sufficient regard to the institution of Parliament—  
Section 4(5)(e)(i) of the Legislative Standards Act 1992***

The Amendment Regulation will incorporate the following non-legislative documents by reference—

- Part 1 (Gas fuel systems in vehicles, vessels and stationary engines) of the CoP will be referenced in s.73 (Prescribed odour for fuel gas);
- Parts 7.2–7.3 of the CoP dealing with the supply of unodourised hydrogen to a consumer and the process for design and installation of a gas system using unodourised hydrogen, will be introduced at schedule 2 (Mandatory and preferred standards for safety requirements);
- Part 5.4.1 of the CoP under the design requirements of a distribution system is referenced at section 81 (Design etc. of distribution system) of the P&G Regulation;
- AS 4575 as the preferred standard for repairing, servicing and testing Type A gas devices; and
- *AS/ISO 19880.8 Gaseous hydrogen fuelling stations Part 8: Fuel quality control clause 8 - Hydrogen quality assurance methodology* and *SAE J2719 - Hydrogen Fuel Quality for Fuel Cell Vehicles* are referenced under the prescribed quality provision at section 72 (Prescribed quality for fuel gas) of the P&G Regulation.

Incorporating a document by reference in this way, may be considered a sub-delegation of power as by incorporating a non-legislative document by reference, by a non-parliamentary body, such as Standards Australia and, for the CoP, RSHQ, is given the power to change the document without parliamentary oversight. Changes to the CoP are intended to be made using the same consultative process as during the development process.

The sub-delegation is considered to be justified for several reasons. The key justification for incorporating these documents, including the CoP, by reference is that they provide the safety requirements affecting industry. Any need to change the safety requirements is likely to be pressing for safety reasons and the regulation making process would be time prohibitive. Incorporating these documents into the P&G Regulation as drafted provides the ability to quickly apply any safety improvements in Queensland. Incorporating the documents by reference allows for the simplest and the most effective, efficient and timely means of making and amending safety requirements that are highly technical and complex.

In relation to the standards, these standards and requirements are well-established and accepted by the Australian petroleum and gas industry. Additionally, in relation to prescribing AS 4575 as the preferred standard for repairing, servicing and testing Type A gas devices, possessing competencies in servicing and maintenance is already a mandatory prerequisite for obtaining a gas works licence. This also applies to the nature of the CoP, which can be readily updated to provide for improvements in safety requirements, particularly as the industry matures. It is envisaged that any changes to the CoP will be consequential to a national approach developed in the future.

Additionally, the intricacy, technical nature and length of the standards and CoP make it impractical to reproduce them in the P&G Regulation so that they receive Parliamentary scrutiny for each amendment. Instead, reliance on these locally (or otherwise internationally) accepted documents guarantees uniformity across the Australian jurisdictions and heightens safety standards. Further, the P&G Regulation already includes multiple standards as safety requirements to ensure consistency with other jurisdictions where the same standards are followed or endorsed. The departure from this FLP is justified.

Providing for the CoP by reference is consistent with the existing codes and standards in the legislation. Specifically in relation to adopting the CoP by reference, this has been identified as a practical, and accessible means of providing industry with guidance about regulatory compliance and approval processes and safety requirements for emerging applications. The Petroleum and Gas Inspectorate, within RSHQ, uses existing Codes of Practice to regulate safety requirements across the petroleum and gas industry, for example the 'Code of practice for the construction and abandonment of petroleum wells and associated bores in Queensland'. The use of Codes such as this one, have proven to be an effective regulatory instrument used by industry and other stakeholders. Also, this is the most effective approach as the CoP is providing for an industry that is developing and emerging, there is potential for urgent changes to the document as the industry evolves.

## **Consultation**

RSHQ has worked with government and industry stakeholders in developing the proposed changes relating to hydrogen as a fuel gas, including drafting of the CoP. Consultation with key government agencies and registered industry participants occurred through a Discussion Paper (October 2021). A draft CoP was released for public consultation (May 2022) and an accompanying webinar was attended by 160 participants. There were 23 responses to the consultation draft from a range of stakeholders including the Australian Hydrogen Council, Master Plumbers' Association of Queensland, Plumbing and Pipe Trades Employees Union Qld and the Federal Chamber of Automotive Industries; feedback indicated a general level of support with some adjustments recommended. RSHQ has considered all feedback and incorporated further changes into the final draft which was released in September 2022.

RSHQ has consulted with relevant industry stakeholders about AS 4575 becoming prescribed as the preferred standard for repairing, servicing and testing Type A gas devices, including through RSHQ's program of Gas Awareness Sessions. This change



was supported by the Master Plumbers' Association of Queensland and the Queensland Gas Association. RSHQ intends to deliver a communications campaign to ensure industry is made aware that AS 4575 has been prescribed into the P&G Regulation.

In accordance with the *Queensland Government Guide to Better Regulation* (the guidelines), the Office of Best Practice Regulation (OBPR) was consulted regarding the hydrogen related amendments and advised that it considers the proposals will not add to the burden of regulation and appear unlikely to result in significant adverse impacts. OBPR was also consulted about the need to undertake further regulatory impact analysis for the proposed amendment to prescribe AS 4575 to the P&G Regulation. The OBPR advised that proposal is unlikely to result in significant adverse impacts and unlikely to add to the regulatory burden and is therefore excluded from further regulatory impact analysis under the guidelines.

For the remaining amendments to the P&G Regulation and the SPER, RSHQ has determined that the following agency-assessed exclusions apply: Category (a) – Regulatory proposals that make consequential amendments; and Category (f) – Regulatory proposals that correct technical errors or amend legislation to take account of current Queensland drafting practice.