



Regulation of natural gas from shale and tight rocks

Purpose

This document provides an introduction to the Department of Environment Regulation's (DER) role in the regulation of natural gas from shale and tight rocks.

Introduction

What is natural gas?

Natural gas⁽¹⁾ is a mixture of hydrocarbon gases that occurs naturally beneath the Earth's surface and is used as an energy source for heating, cooking and electricity generation.

Natural gas is extracted from different geological rock formations which each require different extraction methods to bring the gas to the surface.

Gas trapped in permeable rock formations such as limestone and sandstone usually flows freely when a well is drilled into the rock. This is known as 'conventional natural gas' and is commonly found in Australia and around the world.

Natural gas can also be found in harder, less permeable rock formations such as shale, compacted sandstone and limestone (tight rocks), and coal seams. Gas trapped within these rock formations needs help to allow it to be released. This is normally achieved using hydraulic fracture stimulation (also known as fracking), which uses fluids to fracture the rock formation and allow the gas to flow to the surface via a well.

Before the extracted gas can be used as a fuel it must be treated to remove impurities such as water that may also flow to the surface and then separated and processed to produce purified natural gas or liquefied natural gas (LNG).

What is DER's role in regulating natural gas from shale and tight rocks?

Environmental Protection Act 1986

DER administers Part V of the *Environmental Protection Act 1986* (EP Act).

Under Part V Division 3 of the EP Act, certain industrial premises with significant potential to cause emissions and discharges to air, land or water are known as 'prescribed premises' and trigger regulation by DER. Prescribed premises are listed in Schedule 1 of the *Environmental Protection Regulations 1987* (EP Regulations).

As defined by category 10 of Schedule 1 of the EP Regulations – Natural gas processing facilities become prescribed premises where they process more than 5,000 tonnes of gas per year:

Category 10:

Oil or gas production from wells: premises, whether on land or offshore, on which crude oil, natural gas or condensate is extracted from below the surface of the land or the seabed, as the case requires, and is treated or separated to produce stabilized crude oil, purified natural gas or liquefied hydrocarbon gases.

The role of DER is to regulate the construction and operation of the above-ground facilities that process natural gas to produce purified natural gas or liquefied hydrocarbon gases after it has been extracted from below the ground.

DER does not regulate the extraction of gas that occurs below the ground. This includes the construction and installation of gas wells, and the operation of any hydraulic fracture stimulation processes that may be required to extract the gas.

The Department of Mines and Petroleum (DMP) and the Department of Water (DoW) regulate these activities in accordance with the relevant legislation.

DMP is the lead agency for regulating the gas sector. This is done through the provisions of the *Dangerous Goods Safety Act 2004*, the *Petroleum and Geothermal Energy Resources Act 1967*, the *Petroleum Pipelines Act 1969* and the *Petroleum (Submerged Lands) Act 1982*.

Works approvals and licensing

In accordance with section (s) 52 of the EP Act, a works approval is required from DER to construct a gas processing facility with the capacity to process more than 5,000 tonnes of gas per year.

Natural gas processing facilities produce emissions and discharges that can present a risk to the environment, and therefore trigger the requirement to be regulated by a licence granted by DER under s 57 of the EP Act.

Works approvals and licences are granted with conditions that apply to the premises and are intended to prevent, control, abate or mitigate pollution or environmental harm that may occur due to emissions and discharges of waste to the environment from the premises.

More information

For advice on environment regulation, or related matters, please contact DER on +61 8 6467 5000.

Further information on industry regulation can be found on [DER's website](#).

Related documents and references

Additional publications about shale and tight gas are available online from [DMP's website](#).

1. Natural Gas from Shale and Tight Gas – An overview of Western Australia's regulatory framework, Department of Mines and Petroleum, February 2014.

Legislation

This document is provided for guidance only. It should not be relied upon to address every aspect of the relevant legislation. Please refer to the State Law Publisher (SLP) for copies of the relevant legislation, available electronically from the [SLP website](#).

This document is available in alternative formats and other languages on request.

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Legal advice

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