

# Information sheet

## *Environmental Protection Act 1994 and Water Act 2000*

### **Integrated laws to manage water impacts**

*This factsheet provides information about the laws that are in place in Queensland to ensure that any potential water quality or quantity impacts from the petroleum and gas industry are appropriately managed.*

#### **Coordinated management**

Several key laws are in place to ensure that any potential water quality or quantity impacts from the petroleum and gas industry, including the coal seam gas (CSG) industry are appropriately managed.

The Department of Environment and Science (DES) is responsible for administering laws dealing with:

- the management of water (termed CSG water), extracted in the process of releasing CSG; and
- the water quantity and quality in surrounding bores and aquifers.

This administrative process delivers a seamless integrated approach to decision making, assessment and impact management, and a coordinated enforcement response.

The CSG Compliance Unit completes the picture, by providing a strong regional presence to oversee the implementation of this framework on the ground.

#### **Laws to manage potential water contamination – Environmental Protection Act 1994**

These laws cover a broad range of water contamination issues for both surface water (such as creeks and rivers) and groundwater. They require petroleum and gas operators to obtain an environmental authority (EA) before they are allowed to operate.

An EA includes strict operating conditions that must be complied with. These conditions include:

- treatment of waste water;
- monitoring of water quality; and
- ongoing assessment of fracking activities (including chemical use).

Failure to comply with these conditions is a criminal offence.

#### **Adaptive Management**

An adaptive management regime is in place to further ensure that any impacts from petroleum and gas activities are appropriately managed.

This regime enables the government to amend EA as needed, to respond to new technologies in the petroleum extraction process and to on the ground experiences.

#### **Tough enforcement for water contamination**

DES has the power to take a range of enforcement actions depending on the severity of the water contamination issue. The compliance and enforcement tools available to the government include:

- transitional environmental programs which provide an operator with a specified timeframe and series of milestones to comply with environmental requirements;
- environmental protection orders which can require operators to stop work or to cease committing environmental harm;
- clean up notices that require a person to take action to rehabilitate or restore the environment; and
- for a successful prosecution, fines of in excess of \$2million for companies and up to five years imprisonment for individuals can be imposed

Enforcement action is always taken in accordance with the DES Enforcement Guidelines, which can be found at [www.des.qld.gov.au](http://www.des.qld.gov.au), using 'enforcement guideline' as the search term.

### **Sample case study: Accidental water contamination from hydraulic fracturing**

A company's required water monitoring detects a chemical used in the hydraulic fracturing 'fracking' process at concentrations above the levels measured prior to fracking being undertaken.

The company notifies DES and the occupier of the land within 24 hours, as required by law. DES liaises with the company to gain details of the potential contamination including any private water bores nearby.

Preliminary investigations confirm that the contaminant was present in the frac fluid.

There is one private stock and domestic bore in the vicinity of the petroleum well that was fraced.

In this scenario, a range of tools may be utilised under the Environmental Protection Act 1994 to achieve a successful environmental outcome. These include:

- preventing or minimising any further contamination by prohibiting any more fracking until it can be demonstrated that there is no further risk (through an Environmental Protection Order or Court Order);
- requiring an investigation into the source of the potential contamination (through an Environmental Evaluation); or
- taking steps to mitigate or remedy the effect of the incident - such as removing contaminated water and the establishment of alternative water sources of an appropriate quality and quantity for the stock and domestic purposes authorised for the private water bore (through a Clean-up Notice).

DES may also conduct an investigation to determine the extent of any environmental harm or whether environmental authority conditions have been breached.

If an offence is evident, penalties may be imposed, or in serious cases, DES may prosecute.

### **Impacts on groundwater associated with the extraction of water from CSG operators – Water Act 2000**

These laws ensure that potential impacts on groundwater from the extraction of water are identified early and appropriately managed.

For areas where overlapping impacts from multiple petroleum and gas operators may occur, DES can declare a cumulative management area (CMA) such as the Surat CMA.

The laws also deliver:

- a requirement for operators to undertake baseline assessments of private water bores located on their petroleum tenures
- a responsibility for the Office of Groundwater Impact Assessment (formally the Queensland Water Commission) and petroleum tenure holders to prepare an underground water impact report (UWIR) and
- a requirement for operators to undertake bore assessment and make good potential impacts to bore owners.

## **Baseline assessments**

A baseline assessment is an assessment undertaken by a petroleum tenure holder to obtain information about the bore – such as the level and quality of the water in the bore.

## **Underground water impact report**

An UWIR is prepared to model, make predictions and manage the impacts of extraction of underground water by petroleum tenure holders.

An UWIR establishes responsibilities for petroleum tenure holders and ensures measures and programs are in place to respond to and mitigate impacts on underground water.

The UWIR will identify the areas where it is predicted that water bores will experience a significant decline in water levels as a result of petroleum and gas operators extracting water. These predictions are used to determine if petroleum tenure holders are required to undertake bore assessments.

## **Bore assessments**

Bore assessments will establish whether, as a result of extracting water, a bore has, or is likely to start having, an impaired capacity to supply a reasonable quantity and quality of water for the bore's intended use and purpose. This data is considered in conjunction with the original baseline assessment in order to assist in determining the extent of any impact.

Bore assessments may also be required upon direction from DES.

## **Make good agreements**

Following a bore assessment, petroleum tenure holders are required to negotiate make good agreements with bore owner.

If the bore is determined to have an impaired capacity, the make good agreement must outline the make good measures that the tenure holder will implement.

Make good measures can include:

- deepening the bore or improving the pumping capacity;
- providing a supply of an equivalent amount of water of a suitable quality; or
- giving monetary or non-monetary compensation.

Further, in certain circumstances, DES may direct a tenure holder to take steps to restore the water supply.

If the tenure holder fails to comply with the direction, DES can take action to restore the water supply and recover the costs from the tenure holder as a debt. In addition, it is an offence for the tenure holder not to comply with the direction.

Further information in relation to underground water is available at the DES website [www.des.qld.gov.au](http://www.des.qld.gov.au), using 'underground water' as the search term.

## **Sample case study: Decline of water supply in a private water bore**

A bore assessment of a private water bore which was identified in an immediately affected area of the relevant underground water impact report (UWIR) is undertaken by a petroleum tenure holder

The petroleum tenure holder identifies that the quantity of water and quality of water in the private water bore has changed since the original baseline assessment of the bore.

Since the baseline assessment was undertaken, the petroleum tenure holder has extracted water in the area of the private water bore.

The petroleum tenure holder and the bore owner enter into a make good agreement. The make good agreement provides that the tenure holder will restore the bore's capacity to supply water by improving the pumping capacity.

### **Potential impacts on drinking water supplies – Water Supply (Safety and Reliability) Act 2008**

The Water Supply (Safety and Reliability) Act 2008 requires recycled water providers to have an approved recycled water management plan (RWMP) unless the recycled water provider has a granted exemption or transitional arrangements apply. CSG companies considering releasing treated CSG water in a way that may have a material impact on an urban community's drinking water supply source must submit a RWMP.

An RWMP is a documented, risk-based system for managing the production and supply of recycled water in a scheme. If the regulator declares a scheme critical, the RWMP must fulfil extra requirements.

The purpose of an RWMP is to protect public health and to ensure that critical recycled water schemes continue to operate.

Further information about the requirements for RWMPs is available on the Business Queensland website [www.business.qld.gov.au](http://www.business.qld.gov.au), using 'recycled water' as the search term.

### **Robust compliance**

To further protect the environment the government has developed a CSG compliance plan which targets high risk activities.

The plan includes a range of monitoring activities including:

- compliance inspections and audits of individual CSG operations; and
- response to community complaints.

The compliance and monitoring programs ensure that CSG activities are performed to a high standard and that any problems are identified and corrected as soon as possible.

These activities are supported and enhanced by a strong regional presence through the CSG Compliance Unit, ensuring that the government can respond quickly and thoroughly to enquiries, complaints or environmental incidents.

#### **Approved:**

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