

Underground water management framework

Amendments to the *Water Act 2000* have introduced a new framework for managing impacts on groundwater from the extraction of underground water by petroleum tenure holders.

This extraction process can result in a lowering of water levels in adjacent aquifers which may impact upon water bores and natural springs in the surrounding area.

The underground water management framework provides a process for assessing, monitoring and making good any impacts on underground water.

What does the underground water management framework include?

The underground water management framework established in the Water Act:

- protects landholders' existing and new water supply bores from the impact of petroleum tenure holders extracting underground water, by establishing make good obligations for tenure holders - including the requirement for bore assessments
- introduces the requirement for petroleum tenure holders to undertake baseline assessments of water bores
- requires tenure holders to manage their impact on natural springs through the requirement for a spring impact management strategy
- provides for the management of cumulative impacts on underground water extraction by petroleum tenure holders by declaring cumulative management areas (CMA)
- expands the requirements for underground water impact reports (UWIR)
- expands the role of the Queensland Water Commission (QWC) as an independent body to oversee the groundwater impacts of the petroleum industry
- provides a dispute resolution process for the negotiation of make good agreements.

Managing cumulative management areas

The chief executive of the Department of Environment and Resource Management (DERM) may declare a CMA in an area that is likely to experience an impact on underground water, due to the exercise of underground water rights by two or more petroleum tenure holders.

When a CMA has been declared, the QWC becomes responsible for preparing an UWIR. The UWIR for the CMA will assign responsibilities to relevant petroleum tenure holders to undertake bore assessments and enter into make good agreements.

Baseline assessments

A baseline assessment is an assessment of a water bore undertaken by a petroleum tenure holder. It is carried out to obtain information about the bore – such as the level and quality of the water in the bore before testing or production commences.

What is a baseline assessment plan?

A baseline assessment plan is to be prepared by all petroleum tenure holders to set out a strategy for undertaking baseline assessments for water bores in the tenure area. Baseline assessment plans are submitted to the chief executive of DERM for approval. A baseline assessment plan must identify:

- all existing bores in the petroleum tenure area
- any bores in the petroleum tenure area for which a baseline assessment has already been undertaken
- each priority area of the petroleum tenure which contains bores for which a baseline assessment has not yet been completed
- a baseline assessment timetable for undertaking assessments in each priority area
- the rationale for the proposed baseline assessment timetable.

Who must prepare a plan?

The requirement to prepare a baseline assessment plan applies to petroleum tenure holders where production testing or production will, or is being, conducted.

Petroleum tenure holders are holders of an authority to prospect or petroleum lease under the *Petroleum and Gas (Production and Safety) Act 2004* or the *Petroleum Act 1923*.

When must a plan be submitted?

A baseline assessment plan must be submitted to the chief executive of DERM before petroleum testing or production commences on the tenure.

Underground water impact reports

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

An UWIR establishes responsibilities for petroleum tenure holders and ensures measures and programs are in place to respond to impacts on water bores and natural springs before the impacts occur.

When must an UWIR be submitted?

An UWIR must be submitted 14 months after:

- the day production testing or production started in the tenure area (this is the responsibility of the petroleum tenure holder)
- the day a renewal application for a tenure is granted (this is the responsibility of the petroleum tenure holder)
- the day a CMA is declared (this is the responsibility of the QWC)

Before submitting the report, the responsible entity must publish a notice about the proposed UWIR, and give a copy to each bore owner to which the report relates.

What must be included in the UWIR?

The key aspects of an UWIR are:

- a comprehensive water monitoring program (water monitoring strategy)
- projections of potential future water level impacts (including the immediately affected area which triggers the make good obligations)
- a spring impact management strategy.

The UWIR includes details about the amount of water taken or produced because of the extraction of water for petroleum and gas activities. It also identifies aquifers that may be

affected by the extraction (in both 'immediately affected areas' and 'long term affected areas'), and proposes water monitoring and spring impact management strategies.

What is a water monitoring strategy?

A water monitoring strategy includes a strategy for monitoring the extent of the impact on underground water from petroleum tenure holders exercising their water rights.

The water monitoring strategy must include a strategy for monitoring:

- the quantity of water taken or produced
- changes in the water level of aquifers
- changes in the water quality in aquifers resulting from water level decline.

What is a spring impact management strategy?

A spring impact management strategy ensures that petroleum tenure holders manage the predicted impacts on underground water when they exercise their water rights. The strategy must:

- identify potentially affected springs
- assess the connectivity between the spring and the aquifer
- assess the likely impacts and options to prevent or mitigate any impacts.

What if a bore is located in an immediately affected area or a long term affected area?

A bore assessment must be undertaken in an immediately affected area within 60 days of the UWIR taking effect.

If a petroleum tenure is going to end, a final report must be submitted. The final report will identify any make good obligations that have not yet been complied with. This will include undertaking bore assessment for bores in a long term affected areas.

Make good obligations

Make good obligations are established to ensure tenure holders manage the impact of their operations on water users in the area.

Make good obligations include:

- undertaking a bore assessment
- entering into a make good agreement with the bore owner
- complying with the make good agreement
- negotiating a variation to the agreement if requested

What is a make good agreement?

A make good agreement is an agreement between a petroleum tenure holder and water bore owner.

The purpose of a make good agreement is to ensure that owners of water bores that may be impacted by tenure operations are able to maintain access to a reasonable supply of water for the authorised use and purpose of their bore.

When is a make good agreement required?

A make good agreement must be prepared in one of four circumstances:

- if an underground water impact report (UWIR) has not taken effect, but the tenure holder believes the water bore has an 'impaired capacity'
- if an UWIR has taken effect, for water bores identified in an 'immediately affected area'
- if a final report has taken effect (when the tenure is about to cease) for water bores identified in a 'long term affected area'
- if the chief executive believes urgent action is necessary to restore water supply to a water bore or prevent a bore having an impaired capacity

What must be included in a make good agreement?

The make good agreement must provide for:

- the outcomes of water bore assessments undertaken by the petroleum tenure holder
- whether the water bore has or is likely to experience an impaired capacity
- the measures that the petroleum tenure holder will take if the bore has or is likely to have an impaired capacity.

An impaired capacity occurs where:

- there is a decline in the water level of an aquifer at the location of the bore because of extraction of water by the petroleum tenure holder
- the bore can no longer provide a reasonable quantity or quality of water for its authorised use or purpose.

What are make good measures?

Make good measures are measures that:

- ensure the bore owner has access to a reasonable quantity and quality of water for the water bore's authorised purpose for example:
 - bore enhancement by deepening the bore or improving its pumping capacity
 - constructing a new water bore
 - providing a supply of an equivalent amount of water of a suitable quality by piping it from an alternative source
 - carrying out a plan to monitor the water bore, for example, by undertaking periodic bore assessments
 - provide the water bore owner compensation (monetary or otherwise) for the bore's impaired capacity.

What if the parties of a make good agreement do not agree?

If the parties do not agree on the terms, or one party fails to comply with the agreement, a request can be made to the chief executive of DERM to negotiate a resolution.

Alternatively, either party may request agreement via an Alternative Dispute Resolution (ADR) process.

For general enquiries contact the Queensland Government call centre 13 74 68 (13 QGOV) or visit <www.derm.qld.gov.au>