

# **General beneficial use approval**

## Associated water (including coal seam gas water)



Prepared by: Energy Regulation and Implementation, Department of Environment and Heritage Protection

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May 2014

## Explanatory statement

This notice of general approval for associated water<sup>1</sup> was issued by the Department of Environment and Heritage Protection (the department) in accordance with section 163 of the *Waste Reduction and Recycling Act 2011* (Waste Act).

This general beneficial use approval (BUA) states the conditions for the following uses of associated water:

1. aquaculture
2. coal washing
3. dust suppression
4. construction
5. landscaping and revegetation
6. industrial and manufacturing operations
7. research and development
8. domestic, stock, stock intensive and incidental land management

Where these conditions can't be complied with, an application for a specific BUA must be made. In addition, another general beneficial use approval exists for the irrigation of associated water (including coal seam gas water). This approval can be found on the department's website [www.ehp.qld.gov.au](http://www.ehp.qld.gov.au).

This approval does not restrict the ability to use associated water if required under the *Fire and Rescue Service Act 1990*.

## Legislative framework

Waste is defined in the *Environmental Protection Act 1994* (EP Act) as including anything that is left over, or an unwanted by-product, from an industrial, commercial, or domestic activity. Under the EP Act, there are a range of requirements that are placed on the management of various waste types.

Under the Waste Act, a waste can be approved for use as a resource if the chief executive of the department ('the chief executive') considers that it has a beneficial use other than disposal. If a waste is approved as a resource, it is no longer considered a waste for the purposes of the EP Act as described in s.13 of that Act.

There are two types of approvals for a resource of beneficial use—a general BUA and a specific BUA.

A general BUA has clear standards which, if complied with, do not require individual assessment by the department. Anyone can operate under this type of approval provided they are conducting the use in accordance with the conditions of the BUA.

A specific BUA requires an individual assessment of what is being proposed, and only applies to the applicant after approval by the chief executive.



<sup>1</sup> Associated water is defined in the definitions section of this BUA. The term includes coal seam gas water.

## Associated water (including coal seam gas water)

Petroleum and gas operators have the right to take associated water under the *Petroleum and Gas (Production and Safety) Act 2004* or the *Petroleum Act 1923* as a necessary activity in the process of extracting petroleum and gas. This is because water is a by-product and is not used directly in the gas extraction process. The majority of associated water extracted as a result of petroleum and gas activities is a result of CSG activities.

The coal seams from which the CSG is obtained contain both water and natural gas—consisting primarily of methane—which is bonded to the coal. For CSG to be released, the water must be pumped from the coal seams to reduce pressure—thereby releasing gas that is bonded to the coal. A well is constructed and a pump installed to remove water and lower the water pressure in the coal seam. The released gas then travels to the surface via the well.

The quality of CSG water varies greatly, however it is generally rich in salts and other minerals. Where properly managed (and treated where necessary) CSG water can be reused in a range of different ways. The *Coal Seam Gas Water (CSG) Management Policy 2012* sets out the government's framework for the management of CSG water. The objective of the policy is:

*“to encourage the beneficial use of CSG water in a way that protects the environment and maximises its productive use as a valuable resource”.*

Water is an important resource for the entire community—particularly rural communities which are dependent upon it for agricultural production. It is for this reason that, wherever feasible, associated water should be reused for beneficial purposes rather than being disposed of as a waste.

This approval supports the objective of the CSG Water Management Policy 2012, by clearly stating what standards need to be met where associated water is to be used for beneficial purposes. Where these standards (and conditions) are complied with, no specific approval is required by the department.

## How this general BUA works

Unless otherwise agreed to in writing, the conditions of this general BUA apply to the producer and user of the resource, as explicitly stated in the approval<sup>2</sup>. The approval has three parts:

1. General conditions;
2. Requirements for use; and
3. General monitoring and operation conditions.

This general BUA, if complied with, approves that associated water is a resource and not a waste. However, the approval does not mean that the user of associated water does not need to carefully consider its ongoing use as a resource.

As with any activity, it is important that users of a water resource carefully consider issues like hydraulically overloading a natural system; eroding soil structures; or allowing water to runoff into surrounding waterways. Importantly, other approvals may also be necessary when using associated water as a resource, for example, a development permit or an environmental authority.

In using associated water, it is also important that the user is aware of their general environmental duty<sup>3</sup> under Chapter 7 Part 1 of the EP Act.

More information is available on the department's website [www.ehp.qld.gov.au](http://www.ehp.qld.gov.au).

## Projects under previous general BUA

This general BUA replaces the statutory notice, *Decision to approve a resource for beneficial use—associated water* (previous notice). Any person operating under the previous notice before the commencement of this general BUA can continue to operate under that notice, provided they notify the administering authority in accordance with condition 2 of this general BUA within three months after the commencement of this approval.

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<sup>2</sup> Written agreement must be between the producer and user.

<sup>3</sup> Refer to definitions.

## Conditions of approval

### 1. General conditions that apply to all uses of associated water under this approval

1. This approval applies to the resource identified as associated water where it is supplied directly to the user, but not where supplied indirectly via a stream, river, weir or any other natural watercourse.
2. This approval only applies where the producer has notified the chief executive in writing of the following:
  - a. contact details including the name and address of the user;
  - b. contact details including the name and address of the producer;
  - c. a statement from the user and producer of their intention to operate under this approval; and
  - d. the destination of the resource by real property description or tenure.
3. The resource must not be directly or indirectly released to any waters.
4. Prior to the initial supply of the resource to the user, the producer of the resource must make the user of the resource aware in writing of the quality of the resource.
5. The producer of the resource must cease the release of the resource immediately upon becoming aware that the water quality does not meet the water quality parameters for the relevant use as specified in Table 1 at or before the point of supply. The producer must also notify the administering authority upon becoming aware that the supplied water quality does not meet the water quality parameters.
6. The user of the resource must only use the resource, for the relevant uses as listed in Table 1.
7. Despite condition 5, the use of the resource may recommence where the cause for not complying with condition 5 has been identified and resolved.

### 2. Requirements for use

8. This approval authorises the use of the resource where it meets the requirements for the stated type of use prescribed in Table 1. Where the resource is used for more than one stated use, it must comply with all requirements for those uses.

**Table 1:** Requirements for stated types of uses

Use	Requirements of the Producer	Requirements of the User
<b>Aquaculture</b>	1. The water quality of the resource must comply with the Australian and New Zealand Guidelines for Fresh and Marine Water Quality Volume 1: Chapter 4.4 Table 4.4.2 and 4.4.3.	1. Aquaculture is limited to a culture of species groups mentioned in Table 4.4.1 of Australian and New Zealand Guidelines for Fresh and Marine Water Quality (ANZECC and ARMCANZ 2000) Volume 1: Chapter 4.4 which are cultivated or held in an enclosure on land. 2. The resource must not be directly or indirectly released to land.
<b>Coal washing</b>		1. The resource must not be directly or indirectly released to land.
<b>Dust suppression</b>		1. Use of the resource for dust suppression purposes must comply with the following: <ol style="list-style-type: none"> <li>a. the amount of dust suppressant applied should not exceed what is required to effectively suppress dust; and</li> <li>b. the application of dust suppressant must:                             <ol style="list-style-type: none"> <li>i. not cause on-site ponding or runoff;</li> <li>ii. be directly to the area being dust suppressed;</li> <li>iii. not harm vegetation surrounding the</li> </ol> </li> </ol>

Use	Requirements of the Producer	Requirements of the User
		<p>area being dust suppressed; and</p> <p>iv. not cause visible salting.</p> <p>2. if there is any indication that on-site ponding or runoff or vegetation die-off or visible salting is occurring, the application of dust suppressant must cease immediately, the administering authority must be notified as soon as possible, but within 48 hours of becoming aware and the affected area must be remediated without delay.</p>
<b>Construction</b>		<p>1. The use of the resource for construction purposes must comply with the following:</p> <p>a. The use of the resource must not result in runoff from the construction site; and</p> <p>b. the use of the resource must not harm vegetation surrounding the construction site.</p> <p>2. if there is any indication that point 1(a) or 1(b) is occurring the use must cease immediately, the administering authority must be notified as soon as possible, but within 48 hours of becoming aware and the affected area must be remediated without delay.</p>
<b>Landscaping and revegetation</b>	<p>1. The resource must comply with the following water quality criteria:</p> <p>a. total dissolved solids (TDS) &lt; 1000mg/L;</p> <p>b. pH range of 6.0 – 9.5; and</p> <p>c. must not contain any substances in concentrations that may be toxic to plant growth.</p>	<p>1. Use of the resource for landscaping and revegetation purposes must comply with the following:</p> <p>a. the amount of resource applied should not exceed what is required to effectively undertake landscaping or revegetation activities; and</p> <p>b. the application of the resource must:</p> <p>i. not cause on-site ponding or runoff;</p> <p>ii. be directly to the area being landscaped or revegetated;</p> <p>iii. not harm vegetation surrounding the area being landscaped or revegetated; and</p> <p>iv. not cause visible salting.</p> <p>2. if there is any indication that on-site ponding or runoff or vegetation die-off or visible salting is occurring, the application of resource must cease immediately, the administering authority must be notified as soon as possible, but within 48 hours of becoming aware and the affected area must be remediated without delay.</p>
<b>Industrial and manufacturing operations</b>	<p>1. The resource must have a pH range of 6.0-9.5.</p>	<p>1. The resource must not be directly or indirectly released to land.</p>
<b>Research and development</b>		<p>1. The resource must not be directly or indirectly released to land.</p>
<b>Domestic, stock, stock intensive and incidental land management</b>	<p>1. The water quality of the resource must comply with the Australian and New Zealand Guidelines for Fresh and Marine Water Quality (ANZECC and ARMCANZ 2000) Volume 1: Chapter 4.3 Table 4.3.1, 4.3.2, &amp; 4.3.3.</p>	<p>1. Stock and stock intensive drinking water is limited to watering livestock mentioned in Table 4.3.1 of Australian and New Zealand Guidelines for Fresh and Marine Water Quality (ANZECC and ARMCANZ 2000) Volume 1: Chapter 4.3;</p>

### 3. General monitoring and operating conditions

9. Monitoring for the water quality criteria listed in condition 8 must be undertaken by the producer and include, at a minimum:
  - a. fortnightly sampling for pH and TDS; and
  - b. initially monthly for other water quality parameters, and then six monthly after three consecutive detects which are less than 50 per cent of the relevant parameter.
10. All plant and equipment necessary for complying with this approval must be installed, maintained and operated in proper and effective condition.
11. All monitoring must be undertaken by a suitably qualified person.
12. As relevant to the sampling being undertaken, monitoring and sampling must be carried out in accordance with the requirements of the following documents:
  - a. for waters and aquatic environments, the Queensland Government's Monitoring and Sampling Manual 2009—Environmental Protection (Water) Policy 2009;
  - b. for groundwater, Groundwater Sampling and Analysis—A Field Guide (2009:27 GeoCat #6890.1); and
  - c. for soil, the Guidelines for Surveying Soil and Land Resources, 2nd edition (McKenzie et al. 2008), and/or the Australian Soil and Land Survey Handbook, 3rd edition (National Committee on Soil and Terrain, 2009).
13. All laboratory analyses and tests must be undertaken by a laboratory that has National Association of Testing Authorities, Australia (NATA) accreditation for such analyses and tests.
14. Notwithstanding condition 13, where there are no laboratories that have NATA accreditation for a specific analyte or substance, then duplicate samples must be sent to at least two separate laboratories for independent testing or evaluation.
15. Despite condition 13 and 14, on-line monitoring equipment is appropriate for pH and total dissolved solids (TDS) measurements where they are operated in accordance with condition 10.
16. All plans, procedures, reports and monitoring results required to be made or completed under this approval must be kept on record for a minimum of five years by the person or entity that is required to make or complete the plan, procedure, report or monitoring.

### Approval Period

This approval takes effect from **16 May 2014** and remains in force for a period of five (5) years until **16 May 2019**.

## Definitions

**ANZECC guidelines** refers to: ANZECC 2000, Australian Water Quality Guidelines for Fresh and Marine Waters, Australian and New Zealand Environment and Conservation Council, Kingston.

**associated water** means underground water taken or interfered with, if the taking or interference happens during the course of, or results from, the carrying out of another authorised activity under a petroleum authority, such as a petroleum well, and includes waters also known as produced formation water. The term includes all contaminants suspended or dissolved within the water.

**beneficial use** includes reusing or recycling a resource.

**domestic** includes activities such as:

- irrigating a garden, not exceeding 0.25ha, being a garden cultivated for domestic use and not for the sale, barter or exchange of goods produced in the garden;
- vehicle wash down; or
- storing water or conducting fire prevention activities for example under a Bushfire Survival Plan.

**general approval** means an approval of a stated type of resource, of which anyone can have the benefit.

**general environmental duty** is defined under section 319 of the *Environmental Protection Act 1994*. In summary, to fulfil this duty a person must not carry out any activity that causes, or is likely to cause, environmental harm unless the person takes all reasonable and practicable measures to prevent or minimise the harm.

**incidental land management** includes occasional uses of the resource that are associated with stock, stock intensive or irrigation uses authorised under this or another general beneficial use approval, where the resource has been or is likely to be mixed with other types of water (e.g. an off-stream storage), and includes only the volumes of water necessary to undertake land management activities. Examples of suitable activities include vehicle wash down and fire prevention.

**measures** include plant, equipment, physical objects, monitoring, procedures, actions, directions and competency.

**producer** means the holder of the petroleum authority on which petroleum activities are authorised.

**research and development** means a research and development activity for the purpose of generating new knowledge (particularly regarding the advancement of petroleum associated water and brine management). The research and development activity must involve:

- a technical problem that cannot be resolved on the basis of publically available information;
- an original idea to solve the technical problem; and
- systematic experimentation (for example, testing or trial) to resolve the technical uncertainty.

**resource** means associated water for which a beneficial use has been approved.

**stock intensive** means intensive animal feedlotting, pig keeping and poultry farming as defined in Schedule 2 Part 1 of the Environmental Protection Regulation 2008.

**stock** means watering stock of a number that would normally be depastured on the land on which the water is, or is to be, used or watering travelling stock on a stock route as defined in Schedule 4 of the *Water Act 2000*.

**suitably qualified person** means a person who has qualifications, training, skills and experience relevant to the nominated subject matter and can give authoritative assessment, advice and analysis to performance relative to the subject matter using the relevant protocols, standards, methods or literature.

**user** means a person who has entered into a written agreement with a producer to use associated water, for a stated use or the holder of a relevant environmental authority.

**waters** includes all or any part of a creek, river, stream, lake, lagoon, swamp, wetland, spring, unconfined surface water, unconfined water in natural or artificial watercourses, bed and bank of any waters, non-tidal or tidal waters (including the sea), stormwater channel, stormwater drain, roadside gutter, stormwater run-off, and underground water. To clarify for aquaculture purposes, waters does not include drains or channels for the purpose of aquaculture activities which are isolated from other waters