Regulation and monitoring

April 2013

Regulation of the coal seam gas industry in NSW

Primary responsibility for the regulation of the coal seam gas (CSG) industry in NSW rests with the Division of Resources and Energy in NSW Trade & Investment. Other government agencies also have significant roles including the NSW Office of Water.

CSG is a petroleum product and is regulated in the same way as other onshore petroleum activities. The exploration for and production of CSG requires authorisation under the Petroleum (Onshore) Act 1991 by the Minister for Resources and Energy.

More information on the role of the Division of Resources and Energy in the regulation of the CSG industry can be found on their website www.resources.nsw.gov.au, under Coal Seam Gas.

CSG activities classed as State Significant Development also require development approval under the Environmental Planning and Assessment Act 1979. This is administered by the NSW Department of Planning and Infrastructure. All CSG production and some CSG exploration activities are classed as State Significant Development.

CSG activities can require approvals under other legislation including:

- Water Management Act 2000 or Water Act 1912 (water licences)
- Protection of the Environment Operations Act 1997 (dealing with pollution)
- Environmental Protection and Biodiversity Conservation Act 1999 (Cth) (for matters of national environmental significance)
- Petroleum (Onshore) Act 1991 (disposal of returned fracking fluids)

Codes of practice for coal seam gas

The Division of Resources and Energy has developed two Codes of Practice for CSG. These cover hydraulic fracturing activities and CSG well integrity. They have been prepared to:

- strengthen the controls applying to CSG exploration and production
- ensure current best practices are adhered to.

Petroleum title holders are required to comply with the codes as a condition of their licence and these conditions are enforceable under the Petroleum (Onshore) Act 1991.

These codes contain many requirements designed to protect groundwater and surface water resources.

Water legislation and policy applying to coal seam gas activities in NSW

NSW Aquifer Interference Policy

The NSW Aquifer Interference Policy, developed by the NSW Office of Water, was released in September 2012.

This Policy applies to all coal seam gas activities both exploration and production. It sets out the requirements for assessing the impacts of aquifer interference activities on water resources. The Policy also describes the requirement for CSG activities to hold a water licence under the Water Management Act 2000 if the activity is undertaken in water sharing plan areas, or under the Water Act 1912 if the activity is undertaken elsewhere.
Licensing of water taken for coal seam gas in NSW

Water taken from a groundwater source needs to be accounted for and, apart from a limited number of exemptions, requires a licence.

Water licensing requirements apply to both water taken for consumptive use and water taken incidentally in the course of an activity, which is the case with most CSG activities.

Water taken as a result of CSG production requires a water licence. A water access licence is not required under the Water Management Act 2000 for an activity taking less than three megalitres of water per year during CSG exploration. This exemption is in clause 7 in Schedule 5 of the Water Management (General) Regulation 2011 and applies per authorisation, not per bore.

The licensing process allows the NSW Office of Water to scrutinise the take of water by CSG activities.

Proponents applying for or holding a water licence must comply with a number of conditions, examples of which include:

- identification of all water sources from which water will be taken
- a prediction or record of water to be taken from the water source and any adjacent connected water sources, including surface water, and how that might vary over time
- how relevant licence exemptions may apply
- the sufficiency and security of water supply and the availability of water entitlements and allocations, including impacts on existing users
- accounting for and managing any water take that continues after cessation of CSG activities
- identification of the potential for altering the hydraulic connection between water sources and how this will be monitored and managed.

Assessment process for aquifer interference activities

Some aquifer interference activities can have significant impacts on water. These activities require a comprehensive assessment beyond the usual water licensing process. CSG activities classed as State Significant Development on strategic agricultural land are required to go through a gateway panel process as well as the development application process under the Environmental Planning and Assessment Act 1979.

The process requires the Department of Planning and Infrastructure to receive advice from the NSW Office of Water. This advice is based on the minimal impact considerations for aquifer interference activities set out in the Aquifer Interference Policy and the advice must be made public.

Framework for aquifer impact assessment

The NSW Office of Water’s assessment of groundwater impact is based on an ‘account for, mitigate, avoid, prevent and remediate’ approach. In practice, this requires the proponent to demonstrate:

- an ability to estimate the volume of water likely to be taken and a capacity to acquire and hold water licences for that take
- or, an ability to avoid take, thus exempting the need for water licences.
- adequate arrangements to meet minimal impact considerations (these relate to impacts on groundwater dependant ecosystems, water table levels, groundwater pressures and groundwater quality and are defined in the Aquifer Interference Policy).
- that a suitable impact remediation strategy is in place in the event that impacts are greater than predicted.

The proponent must make sufficient information available to allow the NSW Office of Water to provide advice on groundwater impacts. This includes baseline groundwater condition information, predictions of water table and pressure level impacts, and potential for water quality impacts. These assessments are undertaken by skilled and experienced hydrogeologists and water quality scientists in the NSW Office of Water.

More detail of this assessment is in the Aquifer Interference Policy.
Monitoring

Monitoring of groundwater across NSW

The NSW Office of Water has information from 3,500 groundwater monitoring sites in NSW. There are multiple monitoring bores (‘nests’) at some of these sites which enable the groundwater levels and pressures at a range of depths to be monitored. The majority of bores are in shallow (20 metres to 150 metres) alluvial groundwater systems that are used for drinking water and irrigation. Bore data from over 300 of these sites is available via the Office of Water’s real time data site at www.water.nsw.gov.au. By logging on to this website, the groundwater levels and pressures can be seen in real time.

To see how to access this information, refer to Water and Coal Seam Gas fact sheet 6 Monitoring Groundwater Levels.

The NSW Office of Water is currently undertaking a drilling program to construct monitoring bores in sedimentary rock from which CSG is extracted. These bores will be installed at depths ranging between 100 and 1000 metres, depending on the depth of the coal seam. It is anticipated that by the end of 2013 there will be nests of groundwater monitoring bores established in the Sydney Basin (Hunter Valley) and in the Gunnedah Basin.

Data from these bores will provide real time information that the public will be able to access.

Compliance

Division of Resources and Energy

The conditions of approval for CSG exploration and production are given under the Petroleum (Onshore) Act 1991. The Act has powers of enforcement including penalties for a breach of condition.

The NSW Government has recently increased compliance activities including the establishment of 40 new positions to regulate mining including CSG activities.

NSW Office of Water

A key part of the NSW Office of Water’s responsibility for managing the state’s water resources is ensuring compliance with NSW water management legislation.

Penalties are defined in the Water Management Act 2000 for illegal take of water, examples of which include:

- unlicensed or unauthorised take of water (s. 60A)
- contravention of the terms and conditions of an access licence (s. 60B)
- taking water for which there is no or insufficient water allocation (s. 60C)
- taking water otherwise than by means of a nominated water supply work (s. 60D).

Penalties for these offences range between $1,100,000 and $2,200,000.

The CSG industry must comply with water legislation and the conditions on their water licences in the same way as all other water users.

The Office of Water has a Compliance Policy that explains how we prevent, detect and stop the illegal take of water.

More information

www.water.nsw.gov.au
www.resources.nsw.gov.au
www.environment.nsw.gov.au