



NSW AQUIFER INTERFERENCE POLICY | FACT SHEET 5

Risk mitigation

August 2013

Assessment and management of risk is one of the three key elements of the NSW Aquifer Interference Policy, along with accounting for water and considering impacts on aquifers. The Policy provides for up front assessment, ongoing monitoring, and development of mitigation strategies.

This fact sheet will focus on the Office of Water's assessment of an activity that requires approval under the *Environmental Planning and Assessment Act 1979*.

What is required by the Aquifer Interference Policy?

No assessment or prediction of the impacts of any future activity will be totally accurate. This applies to any project plan in any sphere of life. The Aquifer Interference Policy sets out a stepwise approach for proponents and the Office of Water to consider when assessing the risks of an aquifer interference activity.

What are the risks?

Consider where the main uncertainties are in the proponent's predictions, and what the impacts could be if any of the predictions were not correct, both during the operational phase, or following completion of the aquifer interference activity.

What strategies are in place to minimise these risks?

Once the risks and uncertainties are understood, the proponent must develop strategies to minimise these risks. These may include measures to avoid or prevent the risk arising in the first place, for example through modifying the activity or project design. The proponent may also develop strategies to mitigate these risks, such as acquiring additional water licences, or exploring possible offsets.

Proposed remedial actions

The proponent develops contingency plans and remedial measures in case impacts are greater than predicted, and the risk minimisation strategies fail. This allows assessment of how these risks can be managed if they arise, and ensures that plans are developed in consultation with relevant regulatory authorities, and are ready to be implemented rapidly if they are needed.

Ensuring appropriate conditions

The Aquifer Interference Policy requires that appropriate conditions are placed on an approval, including:

- details of an effective monitoring program through all phases of the activity
- details of the required devices or methods for measuring water that is taken by the activity
- details of appropriate reporting and notification procedures
- details of the contingency plans or remedial measures to be employed where it is found that take by, or impacts from the activity are not in accordance with the licensing and approval requirements of the Policy.

The importance of modelling in risk mitigation

In order to predict what future impacts might be, and where the risks lie, the modelling approach is very important. Modelling is the most reliable way of predicting what will happen to a groundwater or surface water system in the future.

The Aquifer Interference Policy sets out some basic minimum requirements that are expected of a proponent when they predict what impacts their activity will have on water sources and associated water dependent assets.

For higher risk activities, such as mining and gas extraction, the Office of Water requires the estimates to be based on a complex modelling platform that is consistent with the *Australian Groundwater Modelling Guidelines* (National Water Commission, 2012) and is independently peer-reviewed and determined to be robust, reliable and fit-for-purpose.

This approach to modelling allows the proponent, the Government and the community to understand where the biggest risks lie, and what the main uncertainties in the predictions are.

The Government will often require these models to be updated throughout the life of a project as additional information is obtained. This reduces uncertainties, and may provide an early warning if any additional risks arise.

Monitoring actual impacts

In order to understand how accurate the predictions were, the Government will require ongoing monitoring and reporting to ensure that the impacts are within the range predicted. A monitoring plan will be developed to provide the best information in relation to the biggest risks, and main areas of uncertainty.

For example, if a community is concerned about impacts on a high value aquifer that is above a deeper aquifer where an aquifer interference activity is occurring, then monitoring may focus mainly on the high value aquifer, to make sure that any impacts are detected as early as possible.

Trigger levels will be set, meaning that if the actual impacts start to get bigger than predicted, then the contingency plans developed up front can be put into place before the impacts become unmanageable.

Security deposits and penalties

While the most important consideration for the Government is to prevent adverse and unforeseen impacts from occurring, it is also important that there is a backup should things go wrong.

The Aquifer Interference Policy addresses the issue of security deposits to assign the risk of unforeseen and ongoing impacts to the proponent of an aquifer impact activity, and not other water users or the environment.

Also, there are significant penalties for offences under the *Water Management Act 2000*. These include up to \$1.1 million for individuals, \$2.2 million for corporations, and individuals can face prison for up to two years.

These financial arrangements have a two-fold effect of providing a strong incentive to a proponent to ensure that they manage a project to the required standard and do not understate the risks, and also providing the Government with the financial means to ensure remediation should it be required.

More information

www.water.nsw.gov.au

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