



Failure impact assessments—legal obligations of owners of existing dams

This fact sheet informs owners of dams in existence at 19 April 2002 of their legal obligations relating to dam failure impact assessments. The information is intended primarily for farm dam owners, however the legislation applies equally to other dams that meet the size criteria detailed within this fact sheet.

A separate fact sheet containing more general information about failure impact assessment (fact sheet W113) is available on the Department of Natural Resources and Water's (NRW) website <www.nrw.qld.gov.au>.

Significant changes to the regulation of referable dams occurred under the referable dam provisions of the *Water Act 2000* (the Act) which commenced on 19 April 2002.

Farm dams that are referable dams are regulated by the chief executive of the Department of Natural Resources and Water (NRW) through:

- safety conditions imposed on referable dams under the *Water Act 2000* (which are partly based on the failure impact rating of the dam)
- development permits containing conditions imposed under the *Integrated Planning Act 1997*, issued to approve the development of a dam (which are partly based on the failure impact rating of the dam)
- auditing of compliance with dam safety conditions (that is, safety conditions imposed under the *Water Act 2000* and development permit conditions imposed under the *Integrated Planning Act 1997*)
- emergency action provisions contained in the *Water Act 2000*.

What size dam?

Section 1067 of the Act applies to the owner of a farm dam in existence as at 19 April 2002 for which a licence was not granted under the repealed *Water Resources Act 1989*.

Section 1069 of the Act applies to the owner of a farm dam previously licensed as a referable dam under section 43 of the repealed *Water Resources Act 1989*.

Section 1067 and section 1069 of the Act apply to farm dams that meet the following height and volume criteria ('the defined size criteria'):

- more than eight metres in height

- having a storage capacity of more than 500 megalitres or
- more than eight metres in height
- having a storage capacity of more than 250 megalitres and a catchment area that is more than three times the dam's maximum surface area at full supply level.

The Act defines the terms 'height' and 'full supply level' as follows:

- Height—for a weir, barrage or dam, means the measurement of the difference in level between the natural bed of the watercourse at the downstream toe of the barrier or, if the barrier is not across a watercourse, between the lowest elevation of the outside limit of the barrier and the top of the barrier.
- Full supply level—means the level of the water surface when the water storage is at maximum operating level when not affected by flood.

On commencement of section 1069, dams meeting the defined size criteria were referable dams and licences authorising such dams, including the conditions that relate to the safety of those dams, were taken to be development permits under the *Integrated Planning Act 1997*.

What are my legal obligations?

Under section 1067(2), an owner of a farm dam meeting the defined size criteria must ensure a failure impact assessment for that dam is completed in accordance with Chapter 3, Part 6 of the Act and given to the chief executive no later than 19 April 2003 (that is, one year from the date of commencement of the Act).

However, section 1067(2) does not apply to the owner of a dam prescribed under a regulation.

Under section 1069(3), an owner of a farm dam meeting the defined size criteria must ensure a failure impact assessment for that dam is completed in accordance with Chapter 3, Part 6 of the Act and given to the chief executive of the NRW no later than 19 April 2007 (that is, five years from the date of commencement of the Act).

Any dam owner who fails to comply with sections 1067(2) or 1069(3) commits an offence against the Act and is liable to be prosecuted. The maximum penalty for such an offence is \$124 875.



What is a failure impact assessment?

A failure impact assessment evaluates the population at risk (that is, the number of people whose safety will be at risk) if there is a physical collapse of all or part of the dam or an uncontrolled release of water impounded by the dam.

The assessment must be completed in accordance with the NRW's *Guidelines for Failure Impact Assessment of Water Dams*, April 2002, be certified by a registered professional engineer of Queensland, and be submitted to the chief executive of NRW. The guideline is available on NRW's website <www.nrw.qld.gov.au>

Upon acceptance of the assessment by the chief executive, a failure impact rating for the dam is determined based on the population at risk. There are two ratings:

- Category 1—between two and 100 people at risk by the dam failing
- Category 2—more than 100 people at risk by the dam failing.

Population at risk is based on default populations for places of occupation in the risk area as defined in the Guidelines at Appendix 7.

The use of a failure impact assessment

All farm dams with Category 1 or Category 2 rating are referable dams under the Act. If a farm dam has a population at risk of less than two, it is not classified as a referable dam and any associated development permit is no longer subject to conditions about the safety of the dam.

Whilst a failure impact assessment must be undertaken in accordance with Chapter 3, Part 6 of the Act and the guidelines, these guidelines only require the assessment to be sufficient to reliably determine the failure impact rating of the dam.

How frequently must a failure impact assessment be done?

All farm dams that meet the defined size criteria, other than those having a Category 2 rating, must have a further failure impact assessment of the dam completed within five years after the last failure impact assessment was accepted.

For farm dams having a Category 2 rating, further failure impact assessments are not required as it is unlikely that such dams would be given a lower rating if reassessed. However, these dams are the subject of more rigorous regulatory controls imposed on the dam owner to ensure that the safety of the dam is maintained. Should circumstances change such that a dam owner believes a farm dam should no longer be given a Category 2 rating, it is possible for the owner to voluntarily submit a new failure impact assessment.

Further information

For more information about dam safety issues contact NRW.

The *Water Act 2000* and related regulations can be obtained from the Queensland Parliamentary Counsel website <www.legislation.qld.gov.au>.

July 2006

W118

For further information phone 13 13 04