



Contact

Sustainable Hydropower Website
C/- Hydro Tasmania
4 Elizabeth St
Hobart TAS 7000
AUSTRALIA

sustainable.hydropower@hydro.com.au

Safety

Dam safety, together with the protection of life, property and the environment from the consequences of dam failure, is a major priority for any hydropower project.

Issue

Safety is an issue underpinning every stage of a hydropower development, from creating a stable and sustainable asset, to ensuring safety on the construction site, and creating and maintaining safe operational conditions for workers and the community.

A major risk for a hydropower development is dam failure, which may arise as a result of foundation problems, internal erosion or overtopping. Environmental, social and economic consequences of dam failure can be considerable, with potentially widespread detrimental impacts.

Management

Comprehensive dam safety risk assessments, including seismic risk, should be completed for all sites being assessed for hydropower development. Once a site has been selected, dam safety should be factored into all phases of the planning, design, construction and operation of a hydropower scheme.

Design and construction practices need to ensure that defined safety requirements, as identified in the risk assessment and agreed with appropriate regulatory authorities, are met. It needs to be recognized that changes in flood frequency may lead to changes in land-use activities and population distribution. These changes should be included in risk assessment.

All operating dams should have a dam safety management plan. This should define the scale, frequency and nature of monitoring requirements, including types of instrumentation required. The levels of expertise needed to implement the plan should also be specified in planning documentation.

Identification of potential problems during dam monitoring needs to be followed-up in a timely manner with detailed investigations and, where required, the rectification of the problem.

Dam safety programs need to include emergency response plans. These plans need to be developed in conjunction with relevant regulatory authorities and stakeholders – particularly downstream residents. They should clearly specify responsibilities for action and be supported by appropriate awareness and training programs.

Effective dam safety programs will ensure the community is not exposed to unacceptable risks and that the long-term value of the dam and its associated infrastructure is preserved.