



## **Regulatory Framework for Fresh Water Dams in British Columbia**

**Legislation:** The *Water Sustainability Act (WSA)*, originally established as the *Water Act* in 1909, is the principal authority for dam safety in B.C. and holds owners of dams liable for any damage caused by the construction, operation or failure of their dam. Dams used to divert and/or store fresh water in British Columbia are regulated by the Ministry of Forests, Lands, Natural Resource Operations and Rural Development (MFLNRO) under the Dam Safety Regulation (Regulation), *WSA*.

**Provincial Dam Safety Program:** In 1967 a Provincial Dam Safety Program (DS Program) was established by the Comptroller of Water Rights to ensure that dams are designed, constructed, operated and maintained to acceptable standards for public safety. In 1986 the Comptroller of Water Rights created a policy emphasizing that owners of dams are responsible for the safety of their dam and that the Comptroller of Water Rights would provide a provincial Dam Inspection Program.

On February 11, 2000, the Dam Safety Regulation was passed into law under the then *Water Act*. The objective of the Regulation is to mitigate loss of life and damage to property and the environment from a dam breach by requiring dam owners inspect their own dams, undertake proper maintenance on them, and ensure their dams meet ongoing engineering standards. The requirements under the Regulation are proportional to the complexity of the dam and the potential downstream consequences. Dam owners must satisfy all ongoing regulatory requirements and may also be required to meet special and/or additional requirements.

**Provincial Strategy:** To assist dam owners in their effort to comply with the Regulation and to keep track of overall regulatory compliance levels, the DS Program developed a compliance strategy with the key goals of; educating dam owners, developing and maintaining a dam registry, monitoring dam owner regulatory compliance and auditing dam owners' dam safety programs.

The Regulation is considered to be non-prescriptive because it does not specify how dams are to be designed or constructed, rather it depends on other guidelines and best practice for those details. When a new dam, alteration of a dam or dam safety assessment is proposed, the DS Program requires the information be based on traditional standards-based engineering and often refers them to the Canadian Dam Association's (CDA) *Dam Safety Guidelines* and other national and international guidelines on dam safety.

**Provincial Guidelines:** To further assist dam owners with their regulatory responsibilities the DS Program has developed the following guidelines; *Inspection and Maintenance of Dams, Plan Submission Requirements for the Construction and Rehabilitation of Dams, Failure Consequence Classification and Dam Decommissioning*. As well the Engineers and Geoscientists British Columbia has developed the following guidelines; *Legislated Dam Safety Reviews in B.C. and Site Characterization for Dam Foundations*.

Regulatory responsibility for dams located on a mine sites in British Columbia is clarified in a memorandum of understanding developed between MFLNRO, Ministry of Energy and Mines and the Ministry of Environment. Dams that are constructed on mine sites to store or divert clean (non-contact)

water require a water license under the WSA. Once a water licence is issued the dam safety regulatory responsibility is shared with the DS Program.

*Regulatory Priorities:* The key requirements of dam owners in the Regulation include the safe day to day operation and maintenance of their dam, undertaking regular inspections of their dam, preparing, reviewing and updating their dam's Operation, Maintenance and Surveillance manual and Dam Emergency Plan, ensuring an engineering professional carries out periodic dam safety reviews, reporting any significant findings resulting from inspections and dam safety reviews, annually redetermine their dam's consequence classification and reporting any changes.

*Compliance:* The DS Program, through the *Dam Safety Audit Program* policy, audits owners of high, very high and extreme consequence classification dams at least once every 5 years and owners of significant consequence classification dams at least once every 10 years. These audits are done to verify dam owner regulatory compliance *not* as a replacement for the dam owner's responsibility under the Regulation.

Under the authority of the Regulation, all owners of high, very high or extreme consequence classified dams are required to complete an annual status report form to confirm the status of their dam safety program. The results of the status report form are used by the DS Program as a performance measure to determine whether dams are being inspected and maintained by the owners as required. The DS Program produces an annual report to summarize activities of the program and the progress of dam owners in achieving compliance with the Regulation.

*Enforcement:* The DS Program seeks to achieve a high rate of regulatory compliance by dam owners. If it becomes clear that a dam owner is not attempting to comply with the Regulation enforcement action may be undertaken by the Compliance and Enforcement Branch of MFLNRO. The DS Program focuses compliance and enforcement resources on dams that have higher consequence classifications and takes prescribed compliance actions with these dam owners. This compliance and enforcement action contributes to public safety and environmental protection and provides public assurance that dam safety legislation is being implemented effectively by government.

*Education:* The DS Program maintains a website to provide information to dam owners and their consultants. This website includes DS Program emergency contact information, guidelines, technical resources, governing legislation, DS Program annual reports, general information, web links and compliance & enforcement information. This website can be found at: [www.gov.bc.ca/damsafety](http://www.gov.bc.ca/damsafety). The DS Program is also committed to the development and delivery of workshops for owners of dams on the basics of operation, inspection and maintenance of dams.

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*January 30, 2018*