



Change in Application Requirements for Freshwater Storage Sites, and Responsibilities under Dam Safety Regulation

The BC Oil and Gas Commission (Commission) receives applications and issues approvals for the use of Crown land for the construction of Freshwater Storage Sites. Under the [Water Sustainability Act](#) (WSA), the storage of water from a groundwater source or a stream (which includes a lake, pond, river, creek, spring, ravine, gulch, wetland or glacier) requires an authorization. In addition, structures constructed for water storage above natural grade elevation behind a berm or a barrier (i.e., “live storage”) are dams under the [Dam Safety Regulation](#) (DSR) and require compliance with the construction and operational standards specified by the Ministry of Forests, Lands and Natural Resource Operations (FLNRO). Water storage behind a dam may also require a water licence.

This Industry Bulletin provides details on changes to the Crown land application requirements for Freshwater Storage Sites, and the specifications of dams in the DSR.

Crown Land Application Requirements

Operators applying for the use of Crown land for the construction and operation of a Freshwater Storage Site are required to provide the following information to the Commission, in addition to what is specified for a standard Crown land application:

- Type of proposed water storage infrastructure planned for the site (e.g. c-rings, tanks, earthen excavation, etc.).
- Should the water storage involve a berm or barrier, provide the:
 - Proposed maximum height of any berm or barrier above native grade elevation that enables the storage of water.
 - Total proposed water storage volume (cubic metres, m³).
 - Total proposed “live storage” volume (m³). Live storage is calculated as the volume of water stored above native grade elevation behind a berm or a barrier that would be released by a failure of the berm or barrier.
- If the structure is a dam other than a minor dam (see definition on following page), provide the anticipated classification of the dam, following the approach detailed in Schedule 1, Section 2, of the DSR.

Applicants are required to attach a document providing the above-noted information to any Crown land application for a Freshwater Storage Site submitted through the Commission’s Application Management System (AMS).

Dam Safety Regulation

Under the DSR, a “dam” means a **barrier constructed for the purpose** of enabling the storage or diversion of water diverted from a stream or an aquifer.

The DSR creates three categories of dams (refer to Attachments, Figure 1 and Figure 2):

1. **Minor dams.** Section 2 of the DSR specifies minor dams as:
 - Less than 7.5 m in height; and
 - Capable of impounding at full supply level a maximum total live storage volume of 10,000 m³ or less.Minor dams are exempted from the DSR, except in situations where the Comptroller or Water Manager believes the dam is hazardous to public safety, the environment, or land or other property.
2. **All dams except minor dams** must comply with all parts of the DSR except Part 3, which only applies to certain large dams.
3. **Large dams.** All parts of the DSR including Part 3 apply to certain “large” dams or dams with a significant or higher consequence classification. The regulatory requirements for dams to which Part 3 of the DSR applies are more substantial. These dams meet one or more of the following criteria:
 - 1 m or more in height, and live storage of >1,000,000 m³.
 - 2.5 m or more in height, and live storage of >30,000 m³.
 - 7.5 m or more in height (regardless of volume).
 - The dam has a consequence of failure classification of significant, high, very high or extreme.

Oil and gas operators who have authorization for a Freshwater Storage Site involving the storage of water above native grade behind a berm or a barrier are encouraged to review and understand, and must comply with, the [DSR](#).

The construction, operation, maintenance, surveillance and decommissioning of any Freshwater Storage Site that is a dam under the DSR must be consistent with the DSR and FLNRO’s dam safety guidelines. Applicants should refer to the FLNRO [Dam Safety Program](#) for detailed information.

Where the proposed Freshwater Storage Site is a dam, except for minor dams, applicants are required to:

- Follow FLNRO’s requirements specified in the [Plan Submission Requirements for the Construction and Rehabilitation of Dams](#).
- Complete a Schedule 2 - Dam and Reservoir Information Form and submit with the water licence application.
- Submit required plans and other information for the proposed dam to Dams@bcogc.ca.
- Obtain “leave to commence construction” from the Commission prior to the construction of the dam.

Authorization to Store Water

All Freshwater Storage Sites storing water from a stream or a groundwater source require authorization under the WSA for the storage. Section 3(2) of the [Water Sustainability Regulation](#) stipulates that a short term use approval cannot be used to authorize water storage by a dam to which Part 2 of the DSR applies, unless the dam is authorized by a water licence. Oil and gas operators who are proposing to store water from a stream or from a groundwater source in a Freshwater Storage Site can obtain the storage authorization in either of two ways:

1. Where the Freshwater Storage Site is a dam, except for a minor dam, the water storage must be associated with a water licence. Should an operator already have a water licence, it may be possible to amend the licence to add additional works to the licence, including a dam used to create the storage. Should an operator not have an existing water licence, the operator is required to apply for and obtain a water licence before a dam enabling live storage of water is constructed. Water licence applications are made to the Commission using the online [application portal](#).
2. Where the Freshwater Storage Site is a minor dam, or is an earthen excavation that is not a dam (i.e., with no live storage), authorization for water storage can be provided either with a short term use approval (Section 10 of the WSA), or with a water licence.

Environmental Assessment Act Requirement

Under Part 5 of the [Reviewable Projects Regulation](#), a Freshwater Storage Site that is a dam with a berm height that equals or exceeds 15 metres is a reviewable project under the [Environmental Assessment Act](#). The operator must contact the Environmental Assessment Office to determine whether an Environmental Assessment Certificate is required.

Existing Legacy Dams

Should an operator have already constructed, or has responsibility for, an existing water storage structure that is a dam, they are required to comply with the WSA, including the DSR, and obtain the proper authorization for the storage of water in a dam.

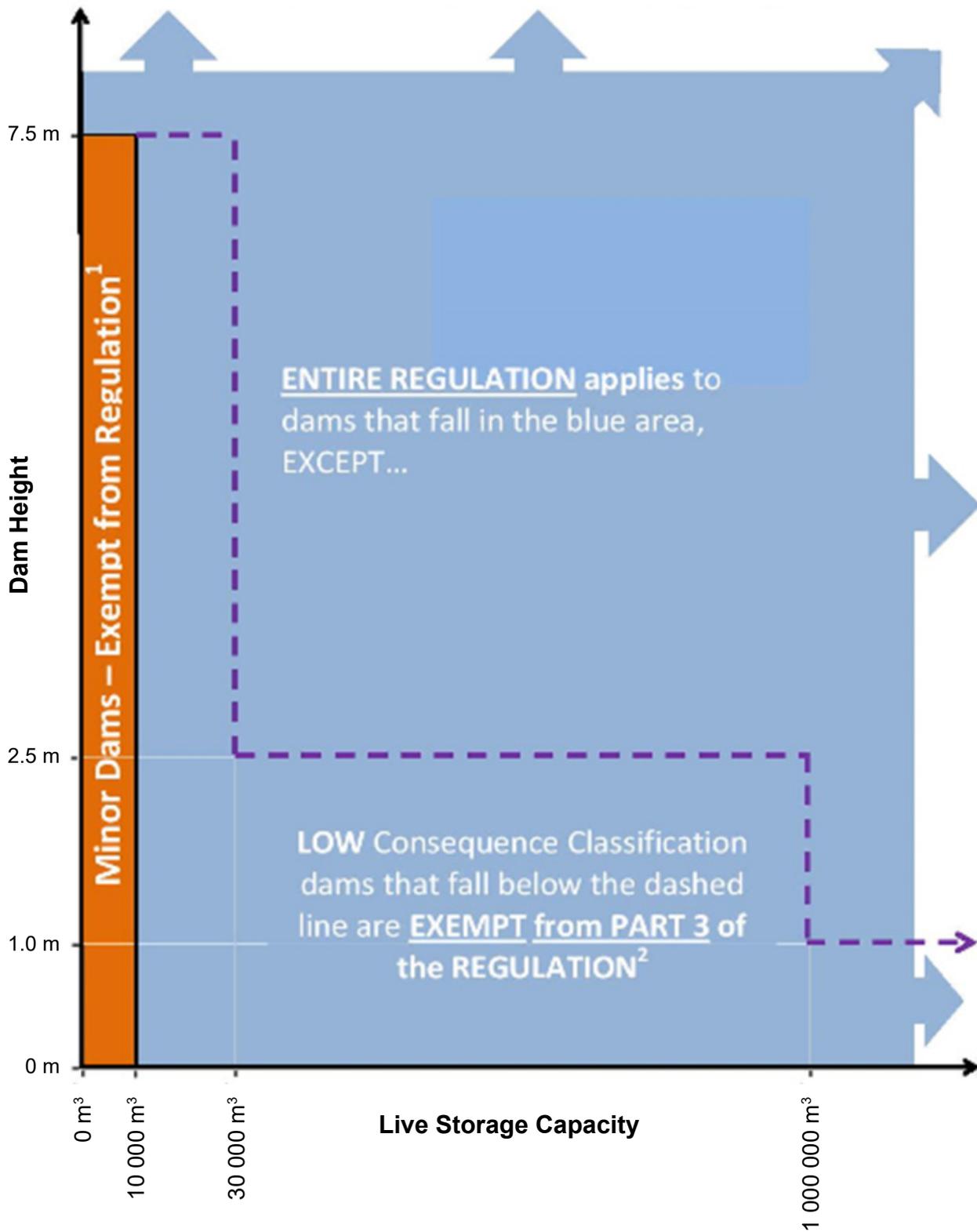
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Figure 1. Application of the Dam Safety Regulation to dams in British Columbia

Graph of dam height vs. dam storage capacity which, along with dam failure consequence classification, determines what parts of the Dam Safety Regulation applies.



1. Dam Safety Regulation 40/2016, Part 1, Section 2

2. Dam Safety Regulation 40/2016, Part 3, Section 7

Figure 2. Examples of Water Storage Sites that are dams or not dams:

