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Water Retaining Facilities Ordinance (WRFO)

of 17 October 2012 (Status as of 1 April 2018)

The Swiss Federal Council,

based on Articles 4, 5 paragraph 3, 12 paragraph 2, 22 paragraph 3, 31 paragraph 3 and 33 of the Water Retaining Facilities Act of 1 October 2010¹ (WRFA),
decrees

Chapter 1: General Provisions

Art. 1 Definitions (Art. 3, WRFA)

¹ A water retaining facility comprises the following components:

- a. a dam;
- b. the associated reservoir;
- c. auxiliary installations.

² Dams may take the following form:

- a. concrete or masonry dams;
- b. embankment dams;
- c. river impoundments with their side embankments.

³ A reservoir is a lake that is artificially formed by dams.

⁴ Auxiliary installations are structures and equipment installed on the reservoir and dam that are required for the safe operation of a water retaining facility, e.g. relief and outlet works.

⁵ The operator of a water retaining facility is the holder of the licence to put the facility into operation.

Art. 2 Water retaining facilities with high risk potential

(Art. 2 para. 2 let. a, WRFA)

¹ A high risk potential is deemed to exist if the collapse of a water retaining structure could endanger human lives and/or result in extensive property damage.

² The relevant cantonal authorities shall notify the federal supervisory authority (Swiss Federal Office of Energy, SFOE) about water retaining facilities which, in view of their size, are not governed by the provisions of the WRFA, but which could have a high risk potential.

³ Operators of such facilities are obliged to provide the SFOE with all the documentation that is required for performing its assessment.

⁴ Before it makes its decision, the SFOE shall consult the other cantons concerned.

Art. 3 Water retaining facilities without a high risk potential

(Art. 2 para. 2 let. b, WRFA)

¹ When submitting their application to exempt their water retaining facility from the scope of application of the WRFA, operators must submit all documentation that is required for assessing the risk potential.

² Before it makes its decision, the SFOE consults the cantons concerned.

Art. 4 Water retaining facilities on bodies of water bordering neighbouring countries

(Art. 4, WRFA)

¹ The SFOE specifies the safety requirements for the construction and operation of water retaining facilities on bodies of water bordering neighbouring countries, in cooperation with the relevant foreign supervisory authorities.

² For this purpose the SFOE shall as far as possible abide by the provisions of Swiss legislation on water retaining facilities, and in any case ensure a level of safety that is equivalent to that specified in the relevant legislation.

Chapter 2: Safety of Water Retaining Facilities**Section 1: Construction****Art. 5** Outlet works

(Art. 5 para. 3, WRFA)

In the case of water retention basins and structures for stabilising the beds of torrents, the installation of bottom outlets and bottom sluice gates may be dispensed with.

Art. 6 Planning approval

(Art. 6 para. 5, WRFA)

¹ The planning approval specifies the documentation to be submitted by the licence holder to the supervisory authority before and during construction, and on completion thereof.

² During the construction phase, the following documentation in particular may be requested:

- a. results of geological surveys and geotechnical tests;
- b. results of pressure grouting or other geotechnical measures carried out in order to stabilise and make the subsoil watertight;
- c. construction reports;
- d. results of material tests;
- d. findings from surveillance;
- f. reports on special occurrences.

³ The following documentation in particular may be requested on completion of the construction work:

- a. a summary and evaluation of the geological surveys and geotechnical tests;
- b. a summary and evaluation of the pressure grouting or other geotechnical measures carried out in order to stabilise and make the subsoil watertight;
- c. a list of the materials used during construction, and an evaluation of the material tests;
- d. modifications to the construction project;
- e. drawings of the completed structure (as-built drawings);
- f. types and locations of monitoring instruments.

Art. 7 Construction

(Art. 6 para. 8 and 25 let. a, WRFA)

¹ The supervisory authority monitors the construction. In particular, it verifies whether it complies with the approved plans.

² During the construction work, the holder of planning approval must submit the documentation specified therein to the supervisory authority (Art. 6 para. 1 and 2).

Art. 8 Modifications to the project

Any modifications to the project must be reported to the supervisory authority for approval in accordance with Article 6 WRFA.

Art. 9 Completion of construction work

(Art. 6 para. 8 and 25 let. a, WRFA)

¹ On completion of the construction work, the holder of planning approval must submit a final report to the supervisory authority.

² The final construction report must include the documentation specified in the planning approval (Art. 6 para. 1 and 3).

³ The supervisory authority verifies whether the construction work has been carried out in accordance with the approved plans and the specified requirements, and records its findings in an acceptance report.

Art. 10 Decommissioning

(Art. 6 para. 1, WRFA)

The decommissioning of a water retaining facility is equivalent to a modification.

Section 2: Commissioning and Operation**Art. 11** Requirements for commissioning the facility

(Art. 7, 8, 10 and 25 let. a, WRFA)

¹ Before commissioning the facility, the operator must produce the following regulations and submit them to the supervisory authority for approval:

- a. regulations governing the operation of gated relief and outlet works that are required for mastering floods (gate regulations);
- b. regulations governing the procedure for warning the authorities and the population in the event of an emergency, and for dealing with emergencies (emergency regulations).

² The operator must constantly review the regulations and submit any amendments thereto to the supervisory authority for approval. Amendments and updates to details that are not of relevance to safety (e.g. contact details or modifications relating to the operation of gated relief and outlet works in normal operation) must be submitted to the supervisory authority, but do not require the latter's approval.

Art. 12 Commissioning the facility

(Art. 7, WRFA)

¹ In the case of facilities where the initial filling of the reservoir can be carried out in a controlled manner, the operator must monitor the behaviour and status of the water retaining facility, notably with the aid of measurements, visual inspections and examinations of the relief and outlet works. The operator shall notify the supervisory authority about the result of its observations.

² The supervisory authority shall monitor the progress of the initial filling and verify that it is carried out in accordance with the licence granted.

³ Raising the normal water operating level following transformation work and refilling after completion of safety-relevant maintenance or repairs are equivalent to an initial filling of the reservoir.

Art. 13 Completion of commissioning

(Art. 7, 8 and 25 let. a, WRFA)

¹ After completion of the initial filling or refilling of the reservoir, the operator must submit a corresponding report to the supervisory authority.

² This report must contain the following items in particular:

- a. an overview of how the initial filling or refilling of the reservoir progressed;
- b. an analysis of the behaviour of the water retaining facility during the initial or subsequent putting into operation;
- c. the results of the function tests of the relief and outlet works.

Art. 14 Requirements for the operation of the facility

¹ A water retaining facility may only be operated if the result of the initial filling or refilling of the reservoir indicates that it may be operated safely.

² The operator shall produce regulations governing the surveillance of the facility in normal operation and during extraordinary events, and shall submit it to the supervisory authority for approval (surveillance regulations).

³ The operator must constantly review the regulations and submit any amendments thereto to the supervisory authority for approval. Amendments and updates to details that are not of relevance to safety (e.g. contact details of personnel responsible for monitoring the facility) must be submitted to the supervisory authority, but do not require the latter's approval.

Art. 15 Inspection of relief and outlet works

(Art. 8 para. 2, WRFA)

¹ The operator must carry out an annual inspection of the gated relief and outlet works in order to verify their safe and reliable function. The way the inspection progressed and the findings of the inspection must be recorded in a report.

² Each inspection must be carried out with a high water level in the reservoir and include a discharge test (wet function test).

³ The relief works may also be tested under dry conditions or in another suitable manner if the normal water level in the reservoir is below the level required for opening.

⁴ The outlet works installed in retention basins and in structures for stabilising the beds of torrents may be tested under dry conditions.