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**by e-mail**

Swiss Committee on Dams

To the attention of SwissCOLD and ICOLD members

File: BFE-E-15.05.2024/26

Business event: Working Group Directive Part F

Your reference: Met

**Ittigen, 17 May 2024**

**Call for applications from experts in order to elaborate the directive on the safety of water retaining facilities – Part F – Appurtenant installations**

**Summary**

The Federal Government directly supervises large water retaining facilities (art. 22, para. 2 of the [Federal Act on Water Retaining Facilities, WRFA; SR 721.101](#)). Accordingly, the construction or modification of a water retaining facility requires planning approval from the relevant licensing authority (art. 6, para. 1 of the [Federal Act on Water Retaining Facilities, WRFA](#)). In particular, a water retaining facility comprises a dam, the associated reservoir and the safety-relevant auxiliary installations (art. 1, para. 1 of [Water Retaining Facilities Ordinance, WRFO; SR 721.101.1](#)). For this reason, any modification to the dam, the associated reservoir and the safety-relevant auxiliary installations by adjoining appurtenant installations (e.g. floating photovoltaic platforms, heliports, wind turbines, bridges, antennas, photovoltaic panels, etc.) is considered to be a modification to the water retaining facility within the meaning of Article 6 of the Federal Act on Water Retaining Facilities. The planning approval must be granted if the technical safety requirements are complied with (art. 6, para. 3 of the [Federal Act on Water Retaining Facilities, WRFA](#)). It is the supervisory authority that examines the application, and if it is not the licensing authority, it informs the latter of the result of the technical safety assessment. If deemed necessary for ensuring the technical safety of the installation, the supervisory authority shall specify conditions concerning its construction. (art. 6, para. 5 of the [Federal Act on Water Retaining Facilities, WRFA](#)). For large dams, technical safety assessment is the responsibility of the Dam Supervision Section (TS) within the Swiss Federal Office of Energy (SFOE). Indeed the safety-relevant auxiliary installations, parts of the water retaining facilities, are designed and monitored according to the [existing directives for water retaining facilities](#). However, the SFOE has no directives or technical basis for appurtenant installations, whose failure could have consequences for the safety of the water retaining facility.

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## Description

With reference to art. 29, para. 2, let. c of the WRFA, the TS section of the SFOE wishes to set up a working group to comply with this obligation. The main objective is to lay the technical basis for a new directive defining the minimum recommendations to be followed to guarantee the safety of water retaining facilities equipped with appurtenant installations (floating or not) on the dam, on the associated reservoir or on the safety-relevant auxiliary installations. Indeed, the risks involved by these installations are still not yet well identified.

This call for experts concerns only the constitution of the working group responsible for drafting the directive. The control group responsible for evaluating the directive before its final validation by the SFOE and publication will be formed at a later time.

## Scope of services – General

The procedure for drafting the directive will be led by the SFOE and is split into three (3) distinct phases:

### 1. Determination of the structure of the Directive, the classification criteria and the requirements

This first phase will establish the structure and framework of the Directive, listing the hazards identified by risk analysis, which will be used to determine the technical criteria for classifying the appurtenant installations to be considered for design and monitoring requirements. The models of cross-border countries, where they exist, will be studied beforehand, and the Authorities consulted.

### 2. Drawing up the technical content of the draft Directive

Once the framework of the Directive has been established, it will be necessary to draw up the technical content of the various chapters of the Directive established in the previous phase, in terms of (list not necessarily exhaustive):

- a. introduction (legal basis and principles, scope, definitions, etc.);
- b. roles and responsibilities;
- c. clear definitions of appurtenant installations and associated risks;
- d. detailed classification procedures;
- e. safety objectives for the various phases in the life of the appurtenant installations (e.g. construction, commissioning, operation and decommissioning);
- f. minimum requirements for safety evidence to be provided in terms of, e.g., design, monitoring, emergency plan, maintenance plan, risk prevention organizations and procedures, incident/accident reporting, decommissioning etc. Design criteria can form an important part of this phase and will need to be detailed for each type of installation considered, possibly in direct relation to [existing guidelines C1 \(Design and construction\)](#), C2 ([Flood safety and lowering of water level](#)) and C3 (Earthquake safety).

As far as possible, sub-working groups could be formed by specialty, with the aim of providing drafts of parts of the Directive. The ultimate aim of Phase 2 is for SFOE-TS to be able to propose a draft Directive based on the working group's contributions.



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### 3. Finalization of the draft of the Directive

The aim of Phase 3 is to revise and finalize the overall draft of the Directive by the working group. At the end of Phase 3, the draft will be ready for review by the control group.

The specifications are preliminary and may evolve if necessary, depending on the working group's reflections.

### Profile requirements of the Experts

The following areas of expertise (not necessarily an exhaustive list) are sought, with proven experience and applications in connection with water retaining facilities:

- Anchoring and mooring lines;
- Dam design and monitoring;
- Floating structures;
- Geology, rock mechanics, geotechnics;
- Instrumentation and controls (dams, anchors, floating structures);
- Maritime civil engineering (extreme/nordic conditions);
- Meteorological engineering;
- Natural hazards;
- Risk analysis, assessment and management;
- Supervisory authority, dam operator.

If necessary, expertise from outside the working group may be called in as the project progresses. The working group will be made up of 10 to 15 external experts (in addition to SFOE specialists), depending on the service cost-expertise analysis of the applications. In addition to industry representatives (operators, manufacturers, consultants, etc.), representatives from universities and cantons are also called upon (art. 29, para. 2, let. c WRFA). In this sense, the SFOE also contacts experts not necessarily associated with the Swiss Dam Committee.

### Work schedule and Contract Duration

The preliminary program is presented in Appendix 1. The members of the working group should plan three (3) one-day face-to-face working sessions at the SFOE (Mühlestrasse 4, 3063 Ittigen), three (3) half-days online working session, and eleven and a half (11.5) working days from their respective places of work, making a total of sixteen working days (16.0 days).

The Contract duration shall not exceed 01.03.2026.

### Procedure and nomination of Experts

1. Applicants are invited to submit their curricula vitae and Offer of Expert Services in accordance with the work schedule in annex 1, directly to the undersigned person of the SFOE. The SFOE requires a fixed daily rate for services. One (1) working day is equal to 9 hours. Variable costs related to travel, accommodation and meals shall be invoiced separately to the SFOE upon the



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proof of purchase. European Standards shall apply to all variable costs and international flights shall be based on economy travel. A company wishing to submit an application for the working group that would be supported by one or more in-house experts must clearly state this in the service offer.

2. The SFOE welcomes applications from international experts.
3. The selection of candidates shall be based on the satisfaction of profile requirements and the best fixed-cost to quality ratio.

### **Deadline for the submittal of Offers**

Offers of Expert Services must be submitted in written form (letter and/or email) to the project coordinator at the following address no later than **12:00 hrs CET on June 30<sup>th</sup> 2024**.

#### **Thomas Menouillard**

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Kind regards

Swiss Federal Office of Energy SFOE

Milaine Côté  
Head of Dam Safety Officer

Appendix:

- *Work Schedule to elaborate the directive on the safety of water retaining facilities – Part F – Appurtenant installations*



## Appendix 1: Tentative Work Schedule to elaborate the directive on the safety of water retaining facilities – Part F – Appurtenant installations

Working group (WG) for the elaboration of the directive					2024												2025												2026							
ID	Task	Location	Resp.	day/expert	7*	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8						
1	Phase 1: Setting the framework																																			
1.1	Meeting 1: Start-up	Ittigen	TS	1.0		■																														
1.2	Preparation of risk concept-classification-requirements	-	TS/WG	1.0			■	■																												
1.3	Meeting 2: risk analysis, classification criteria and requirements	Ittigen	TS/WG	1.0					■																											
1.4	Project preparation based on discussions	-	TS	0.0						■																										
1.5	Project revision	-	WG	1.0							■																									
1.6	Meeting 3: Presentation and validation of structure, risks, classification criteria and requirements	Online	TS/WG	1.0								■																								
2	Phase 2: Development of technical content																																			
2.1	Meeting 4: Determination of technical content and formation of sub-working groups	Ittigen	TS/WG	1.0									■																							
2.2	Elaboration of guideline sections in sub-working groups	-	WG	6.0										■	■	■																				
2.3	Meeting 5: Progress and discussions	Online	TS/WG	1.0														■																		
2.4	Finalization of draft content	-	WG	2.5															■	■																
2.5	Proposal of draft Directive	-	TS	0.0																	■															
3	Phase 3: Finalization																																			
3.1	Revision of draft directive	-	WG	1.5																		■	■	■												
3.2	Meeting 6: Finalization of draft	Online	TS/WG	1.0																										■						
Total				16.0																																

\* Start scheduled for August 2024 on a provisional basis

**Nomenclature:**

WG Working group  
TS SFOE, Dam Supervision Section  
M1, M2, M3 "Milestones" 1, 2 and 3, indicating the end of the corresponding phases

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