

Questionnaire of the ICOLD European Club working group on Management of incidents

The ICOLD European Club working group on Management of Dam Incidents started up in Venice 2013. The objectives of the questionnaire is to collect experiences and the best practices how to prepare ourselves and handle the dam incidents.

You are kindly requested to reply to the attached questionnaire.

Please submit your reply to

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INFORMATION OF THE RESPONDENT

Name of the respondent:	*
Country:	*
email:	*

LEGISLATION - GENERAL

- Next table is copied from a report (Recommendations for Operation, Maintenance and Rehabilitation) submitted by ICOLD technical committee (on Dam Safety) on 11 February 2014.

Is the table tenable with relation to your country?

Yes

No

Please, could you include edits into the table

If your Country is not included in the table, please fill the information in the last row.

Country	Legal or administrative regulation of dam safety		Technical Framework		Dam classification according to				Remarks
					Geometric criteria		Failure consequences		
	yes	No	yes	No	yes	no	yes	no	
Austria	x		x		x			x	
Bulgaria	x		x		x		x		
Czech Republic	x		x			x	x		
Finland	x (s)		x			x	x		(s) Act on dam safety
France	x (s)		x		x			x	(s) Law and decree on dam safety
Germany	x*	x*	x		x			x	
Great Britain (England,	x (s)		x			x	x		(s) Reservoirs act

Wales)									
Greece	x			X	x			x	
Iceland		X		X		x	x		
Italy	x (s)		x		x			x	
Netherlands	x (s)		x			x		x	(s) Act on flood defences
Norway	x (s)		x			x	x		(s) Regulations on dam safety
Poland	x		x		x		x		
Portugal	x (s)		x		x		x		(s) Decree on dam safety
Romania	x (s)		x		x		x		(s) Law on dam safety
Scotland	x (s)		x			x	x		(s) Reservoirs act
Serbia	x		x		x		(x)		(x) Unofficial classification
Slovakia	x		x		x		x		
Slovenia	x		x		x		(x)		(x) Unofficial classification
Spain	x (s)		x		x		x		(s) Regulations on dam safety
Sweden	x		x			x	x		
Switzerland	x (s)		x		x		x		(s) Law and decree on dam safety
Turkey	x		x		x		x		
Ukraine	x		x			x	x		

2. Do you have dam safety authority, who supervise your dams?

Yes

No

How the tasks and duties of the dam safety authority are determined in your legislation/guidelines/ technical framework? Give a list of the most substantial?

3. Are tailings dams and waste lagoons supervised according to the same legislation as watercourse dams? If not then what is the legislation by which tailings dams and waste lagoons are supervised?

4. Who is responsible for the official supervision of tailings dams and waste lagoons?

5. If there are separate authorities supervising dam safety of watercourse dams and dam safety of tailings dams and waste lagoons, do these authorities work in the same organization?

6. Can dam safety authority issue guidelines?

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LEGISLATION – MANAGEMENT OF INCIDENTS

1. Next table includes issues that can be part of the management of incidents and they can include into the act, degree or technical framework. Are these issues included in to act, degree or technical framework in your country?

	Act	Degree	Technical framework
General provision			
Instructions for designing and constructing of a dam			
Classification of a dam			
Obligation to keep dam in a good condition			
Communication			
Proactive measures			
Monitoring and inspections of a dam			
Dam break hazard analysis			
Emergency action plan			
Safety arrangements (public safety)			
Measures preventing accidents			
Updating documents			
In a case of an emergency			
Emergency action plan			
Rescue service plans			
Rescue operations			
Other			

2. How comprehensive do you think the legislation and frameworks are in your country? Are there any considerations of revising dam safety legislation?

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REPORTING INCIDENTS

1. Has the dam owner an obligation to give notice to the authority concerning exceptional situations? Is the obligation statutory?

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2. Does a dam safety authority (or some else) have a database on incidents?

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- When the collection of the incidents has started?

- Is the database public?

- Are the incidents on watercourse dams included into the database?

- Are the incidents on tailings dams and waste lagoons included into the database?

3. What has been typical incident in...

- the watercourse dam?

- the tailings dams and waste lagoons?

4. How are the incidents classified e.g. with severity?

EMERGENCY ACTION PLANS AND RESCUE SERVICE PLANS

1. Are emergency action plans and/or rescue service plans of a dam prepared?

2. How does the classification of a dam effect to the need of prepare emergency action plans and/or rescue service plans?

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3. What is the content of an emergency action plan and in a rescue service plan?

Evaluation of the failure type and failure mode	
Modeling dam breach and flood wave propagation	
Defining hazard areas and hazard to human life, property and the environment	
Confirming the incident situation and giving an alarm	
Emergency repair work	
Organization in an emergency (persons in charge) and securing the equipment and repair material	
Roles of dam safety authority and rescue authority in an emergency	
Other	

4. What are dam owner's responsibilities?

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5. What are the responsibilities of the authorities?

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6. How is the updating need of the plans defined?

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7. How are these plans approved?

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8. Does the legislation define, which are the responsibilities of the dam owner and authorities when preventing an incident, preparing for an incident and in an accident?

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THE ROLES OF THE AUTHORITIES AND RESCUE SITUATIONS

1. How are the rescue authorities assisted in planning rescue operations? Is there a steering mechanism for this?

2. How have the impacts of accidents or serious failures to the downstream waterway taken into consideration?

3. Who has the lead in an emergency?

4. What are the roles of the authorities in an emergency:

- Dam safety authority?

- Rescue authority

- others?

TRAINING OF THE EMERGENCY SITUATIONS

1. Is the training to a dam safety accident defined in the legislation?

2. Have you had any arranged exercises of dam accidents in your country?

3. What are your experiences of the training exercises?

4. How have you arranged these exercises?

5. Who is responsible for planning the exercise?

6. Who is responsible for running the exercise (authority/dam owner)?

7. Who is participating the exercises?

8. How do you review the exercises? Feedback? Targets for development?
Actions?

GOOD PRACTISES

1. How the storing of the dam safety documents is defined in the legislation? What is the current practice? (folder, data system, O&M folder)

2. Do you prepare a monitoring program for a dam, which includes e.g. the requirements for the inspections, monitoring and instrumentation?

3. Periodic inspections:

- Is it custom or obligation to organize periodic inspections?

- How often periodic inspections are carried out and who will attend the inspection?

- Who is responsible for conducting the inspection?

- What are the roles of the dam owner and of the authority in an inspection?

4. Is it custom or obligation to organize annual inspections?

5. What are the requirements for the dam monitoring?

6. Do you have requirements for the availability of the operating personnel or the consultants? (24/7 or less?)

7. What are the requirements for the spillway openings and other outlet works?
Design flood, hoisting equipment and their backup systems, water level measurement, other measuring equipment?

8. Are there special requirements for outlet works in case of an incident? For example bottom outlets or other arrangements?

9. How large portion of your dams is monitored remotely? What is typical information that is routed to the control room (dam data, water levels, security, etc.)?

10. Are there any requirements for the use of parallel system (redundancy)?

11. How the water balance is taken into account when reviewing dam safety of a mining area?

**MEASURES TO CONTROL ADVERSE (NATURAL) CONDITIONS
(STORMS, FLOODS, EARTHQUAKES, ETC)**

1. Are there general/common practices to control adverse (natural) conditions?
What are these?

2. Is there organized training for the controlling of adverse (natural) conditions?

3. Who is responsible for organizing the operation?

4. How the rescue and evacuation are arranged (experiences, good practices)?

SUCCESS STORIES – REPAIRING DAM DAMAGE

1. Has there been done repair work of a dam damage, in which dam accident has been able to prevent? Reference?

2. What measures were done in the reservoir / waterway to prevent the accident?

3. Which repair methods were used?

4. Have these incidents made change into legislation, technical framework or good practices?

5. Other