CIGB ICOLD SUURPADOT - SUOMEN OSASTO ry
FINNISH COMMITTEE ON LARGE DAMS
FINCOLD

Navigating through current dam safety challenges

FINLAND

Current issues on dam safety

- Dam safety legislation report by consultant
  - No immediate action to be taken, but Dam Safety Guide updated
- Safety on the table
  - Datesystems
  - Information security
- Governmental reform 1.1.2026...
  - Dam safety authority Kainuu ELY Centre -> Lapin EVK (elinvoimakeskus)
- www.vesi.fi

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Current issues on FINCOLD

- Aim is to do more
- Increase students interest on dams and hydropower
- First thesis competition winner published
- FINCOLD is now in LinkedIn
- www.fincold.org

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Type	Class	Dam type	Description	Action
Other	E1	Tailings Dam, 1 Class	New Pumping station was being built. Ice cover was sawn. Ice pieces were pushed under the ice cover but the equipment sank into water.	Propably now harm.
Water level exceptionally high	T3	Water course Dam, 2 Class	Fast snowmelt and rain caused highwater level exceeding.	
Other		Levee, 1 Class	Water exceptionally high in ditch. Water flowing over boundary dam.	
Water level exceptionally high	T3	Water course Dam, 2 Class	Inflow about 50 % more than estimations were. Because of exceptional flows e.g. needle gates had to be opened.	Dam owner took immediate action that prevented further damage.
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Other	T3	Tailings Dam, 1 Class	Seepage ware pumpline was broken because of construction works.	Pumpline was repaired.
Erosion	V3	Waste Pond, 2 Class	Old waste pond suffered erosion because of strong rain. Dammed material got to dry slope of the dam.	No considerable harm for environment.
Erosion		Levee, 1 Class	Dam structure failed as someone walked there.	
Membrane feilure	V3	Tailings Dam, to be classified	20 cm dimensional hole was discovered above an embankment of a reservoir.	Water level was lowered. Hole was repaired as well as damage on the membrane.
Water level exceptionally high	T3	Water course Dam, 2 Class	Strong rain rose water level above HW.	Flood gates were opened fully. Water level kept rising for a while and then changed to lowering.
Erosion	V3	Waste Pond, 2 Class	Old waste pond suffered erosion because of strong rain. Dammed material got to dry slope of the dam.	Small amount of slurry flow out of pond.
Inlet pipe failure	T3	Waste Pond, 2 Class	Inlet water stopped because of electricity failure. Pressure got us and inlet pipe flange started leaking. This was discovered during monitoring.	Circulation was turned to spare pond.
Membrane feilure	V3	Waste Pond, 1 Class	Pumping of seapage water rose with stabil water level in pond. Test sample proved leakage. Misplaced nut screw had broken the membrane.	Repair of the membrane.
Erosion	V3	Tailings Dam, 1 Class	Inlet pumping line leakage.	Repairwork was started immediately. Surface erosion on service road as well as outer slope.
Membrane feilure	V3	Waste Pond, 1 Class	Deterioration ot pond embankment membrane. Propably because of sampling done by excavator.	Membrane was repaired.
Water level exceptionally high	T3	Tailings Dam, 1 Class	HW level was exceeded as one of the two pumping units was not working.	Pumping was restarted.
Water level exceptionally high	T3	Tailings Dam, 2 Class	Fast temperature ridsing lead to strong melting of snow while it was also raining. New pond had no pumping systems ready and therefore water level rose above HW.	Excess water (above HW level) flow to different pond as planned.
Other	V3	Levee, 1 Class	Assumption of leakage.	
Dam structure failure	V3	Levee, 1 Class	Erosion through flood embankment.	No accident as leakage water amount was small.
Freezing	T3	Tailings Dam, 2 Class	One pumping line frose and there fore the other was overused.	Exceptionally low temperature and only partly closed valve caused the situation. Defreezing of 900m pipeline.
Dam structure failure	V3	Tailings Dam, 2 Class	Pipeline connection had damage, and material was flowing out in any movement of the pipe. The other pipeline was blocked.	Damage was repaired same time with embankment raising project.
Freezing	T3	Tailings Dam, 1 Class	Dammed material between two ponds. Valve nearby was little bit open.	Stress to environment was minor. Leakage was at the area and water leaked back to the water circulation.
Erosion	V3	Water course Dam, 1 Class	Seapage water has grown.	Monitoring was increased.
Other	T3	Tailings Dam, 1 Class	Seepage through levels (staid inside the pond).	Stress to environment was minor. Leakage was at the area and water leaked back to the water circulation.
Water level exceptionally high	V3	Tailings Dam, 1 Class	Dammed material had accumulated so that it had was high against the embankment and then flow from HW pipes. It ended up on road and ditch.	Slurry discharge location was changed.
Dam structure failure	V2	Levee, 2 Class	Someone had dug a hole to the embankment.	


Thank You!
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