

Sediment Removal Feasibility Study

Sandsavatnet Intake Tunnel, Norway

Challenge

At the Sandsavatnet intake tunnel in the Ulla-Førre hydropower system, significant deposits of gravel and stones had accumulated on both sides of the trash rack between the inspection shaft and the main gate. The deposits were estimated at approximately 150 m³, with stone sizes up to 250 mm. Conventional dry access was not possible because the inspection hatch was not approved for full reservoir pressure. Statkraft therefore needed a solution capable of removing the sediment while the tunnel remained flooded.



Accumulated gravel and stones at the intake trash rack, highlighting the need for underwater sediment removal



ROV-operated Ejector Dredge in a similar application

Solution

SediCon and NTI developed a concept for underwater removal of accumulated sediments from the Sandsavatnet intake tunnel. The proposed system utilizes a ROV-operated Ejector Dredge supplied by a surface pumping unit, allowing gravel and stones to be removed while the tunnel remains flooded.

The study verified the technical feasibility of the concept and established a practical methodology for future implementation.



Project Location

Project facts

Client: Statkraft Energi AS
Project: Sandsavatnet, Ulla-Førre
Location: Rogaland, Norway
Technology: Feasibility study - ROV-operated Ejector Dredge
Estimated sediment volume: ~150 m³
Maximum stone size: ~250 mm

Results and benefits

- Feasibility verified
- No tunnel dewatering
- ROV-operated dredging
- Reduced outage risk
- Reusable equipment
- Basis for investment decisions

For more than 30 years, SediCon has developed and supplied proprietary sediment handling technologies from Trondheim, Norway. Our solutions for reservoirs, intakes, desanders and tunnels have been successfully implemented in hydropower projects in more than 20 countries across five continents.