

Sluicer & Sediment Excluder

Laxá III Hydropower Plant, Iceland

Challenge

Laxá III is a 13.5 MW run-of-river hydropower plant in northern Iceland. During winter, ice formation and fluctuating flows mobilize previously deposited sediments and transport gravel, stones and ice towards the intake. Large particles entering the waterway could damage downstream equipment, while finer sediments accumulated in the intake system and desander. A reliable solution was required to manage both coarse and fine sediments.



SediCon Sediment Excluder installed at the intake



Sediment removed from the intake system

Solution

SediCon supplied an integrated sediment management system consisting of a Sediment Excluder at the intake and a Sluicer installed in the desander. Together, the systems remove both coarse and fine sediments before they reach downstream equipment. The Sediment Excluder removes gravel and rocks before they enter the waterway, while the Sluicer continuously removes finer sediments from the desander.

The installation also includes sediment level monitoring using pressure cells and piezometers, together with a horizontal trash rack to prevent oversized particles from entering the system.



Project Location

Project facts

Client: Landsvirkjun
Project: Laxá III HPP
Location: Iceland
Technology: Sediment Excluder & Sluicer
Installed capacity: 13.5 MW
Annual production: 92 GWh
Design discharge: 43 m³/s

Results and benefits

- Combined gravel and sediment removal
- Up to 300 m³/h gravel removal
- Up to 200 m³/h sediment removal
- Handles particles up to 550 mm
- Continuous sediment monitoring
- Protects turbines and waterways

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.