

Desander Dredge

Chacabuquito Hydropower Plant, Chile

Challenge

Chacabuquito is a 29 MW run-of-river hydropower plant located on the Aconcagua River in Chile. Sediment transported from glaciers, snowmelt and steep mountain slopes accumulated in the forebay and required regular removal using mechanical equipment during plant shutdowns. A particular challenge was the high-water velocity in the forebay, exceeding 1.5 m/s.



Sediment accumulation in the forebay prior to installation



SediCon Desander Dredge installed in the forebay

Solution

SediCon supplied a Desander Dredge system for continuous sediment removal from the existing forebay. The dredge operates as a siphon over the spillway and is moved across the forebay by a travelling crane supplied as part of the system.

Specially designed hydrodynamic components allow efficient sediment removal under high-flow conditions while minimizing interference with normal plant operation. The complete system was installed without embedded parts and with minimal modifications to the existing structure.



Project Location

Project facts

Client: Colbún SA
Project: Chacabuquito HPP
Location: Chile
Technology: Desander Dredge
Installed capacity: 29 MW
Application: Forebay sediment removal
Installation: 2016-2017

Results and benefits

- Continuous sediment removal
- Operates at velocities >1.5 m/s
- Capacity exceeding 30 m³/h
- Installed without embedded parts
- Minimal operational interference
- Exceeds design capacity

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.