

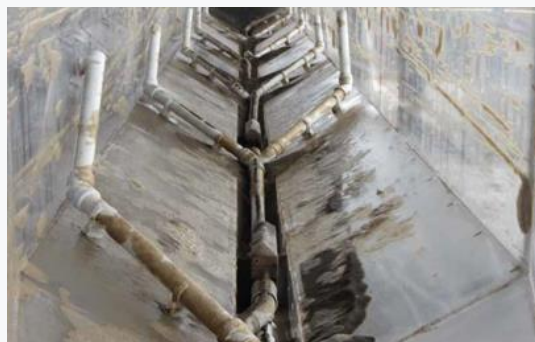
Sluicer

Coca Codo Sinclair

Hydraulic Model Validation

Challenge

The 1500 MW Coca Codo Sinclair Hydropower Project required hydraulic validation of eight 150 m long desanders protecting a 25 km headrace tunnel from exceptionally high sediment loads. Before construction, the sediment removal system had to be hydraulically verified to ensure efficient sediment transport while minimizing flushing water consumption.



1:20 hydraulic scale model equipped with SediCon Sluicers



Sediment outlet

Solution

SediCon equipped a 1:20 hydraulic scale model of the desanders with prototype SediCon Sluicer technology at the CFE Hydraulic Laboratory in Cuernavaca, Mexico. The testing program successfully validated sediment removal performance, demonstrating efficient removal of natural river sediments with substantially lower water consumption than conventional flushing methods.

Sediment deposits corresponding to more than 10 m in full scale were removed successfully during the verification program.



Project Location

Project facts

Client: Comisión Federal de Electricidad (CFE), Mexico
Project: Hydraulic Model Validation
Location: Cuernavaca, Mexico
Hydropower capacity: 1500 MW
Model scale: 1:20
Testing: August–September 2012

Results and benefits

- Validated Sluicer technology
- Successful hydraulic model testing
- Efficient removal of natural sediments
- Low flushing water consumption
- Verified deposits exceeding 10 m
- Reduced technical risk before construction

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.