

## SUPPORTING HYDROPOWER IN ZAMBIA

A large ORBINOX CH valve to be installed in Africa's oldest hydropower station, the Mulungushi Power Station.

### Application

- Replacement of an old needle valve in a free discharge application, connected to the end of a 130m-long Ø1600mm tunnel coming from the dam.

### Project requirements

- Maximum operating pressure: 23m water column
- Design pressure: 60m water column
- Atmospheric discharge with limited space at the stilling basin: hood required
- Discharge back into natural river course
- Electrical actuation for sleeve
- A20mA Position sensing required

Located near Kabwe in Central Province, Zambia, the Mulungushi Power Station is the oldest hydropower plant in Africa. It was formally opened in 1925. The project site is the dam for the station's main reservoir.

The client was clear that they did not require an in-line solution. Instead, a ORBINOX CH valve would allow them to maintain or even improve discharge levels, thereby maximising the flow range available for the downstream Mulungushi Hydropower plant.

### ORBINOX proposal

- CH fixed cone valve
- Size: DN1600
- Body: carbon Steel, 304ss main cylinder
- Sleeve: carbon Steel, 304ss rings
- Actuator: AUMA SA, AC control unit
- Prepared for emergency operation with portable electric drill

**Recent supplies also to Marovanyati Dam and Lake Mutirikwi hydropower station in Zimbabwe provided regionally relevant references for this project.**

