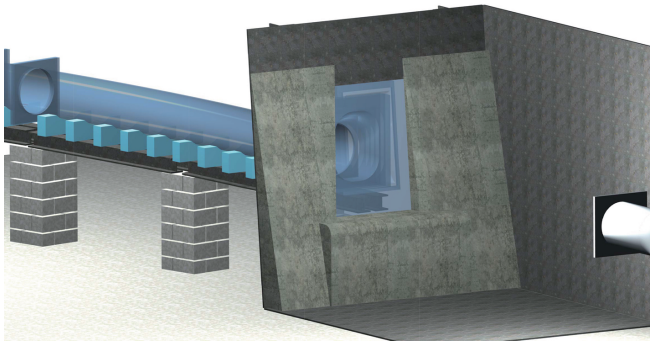
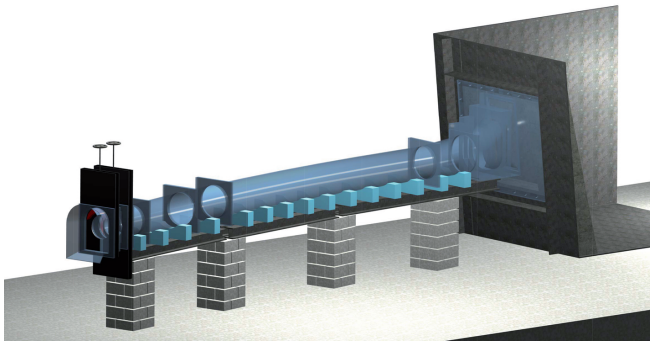
Physical model investigation of one of the middle outlet tunnels of the GIBE III HEP (2013)



Visualisation of the hydraulic model of the Gibe 3 middle outlet - intake area



Visualisation of the hydraulic model of the Gibe 3 middle outlet - general view

The Gibe III Hydroelectric Project is presently under construction in Ethiopia, approximately 470 km south west of Addis Ababa. It is situated along the lower course of the Omo River and is a part of the Gibe-Omo Cascade project.

The main component of the Gibe III project is a 240 m high RCC (roller compacted concrete) gravity dam, characterised by a central overflow block where the spillway structure with a discharge capacity of 18'000 m^3/s is located. Two specular middle outlets characterised by steel conduits of equal shape and layout are foreseen to be located under the spillway. Each middle outlet device is equipped with two ring gates near the outlet section. Both outlets are designed for a maximum head of 122 m and a discharge of 735 m^3/s.

VAW was commissioned to realise a physical hydraulic model of the right middle outlet to study its hydraulic behaviour and to optimise its design. The investigation will start in summer 2012.

Keywords:	middle outlet, steel conduit, ring gate, bell mouth intake, RCC
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