



DecoTEC Installs Waterway Barrier System in Urrea Dam, South America

Client:	EMPRESA URRA S.A. E.S.P.
Location:	Urrea Dam, Colombia, South America
Project:	Urrea Dam Debris Barrier Installation

In 2009 DecoTEC removed 2,500 tonnes of concrete from the overspill crest of the Urrea Dam so that eleven fuse gates and two flap gates could be installed.

Due to the success of this work, DecoTEC was awarded further work in removing the wing wall, protecting the fuse gates and installing a waterway barrier system.

During the installation phase of the flap gates, a concrete wall was built to allow the water level to be raised by an additional 3ms so that Urrea Dam's power generating obligations could be met.

Once the flap gates had been installed the temporary 12m long walls which were 300mm thick with a double row of 16mm diameter reinforcing steel core were cut and removed.

The booms were required as the catchment area is mostly jungle, and a large amount of debris flows into the lake and makes its way toward the intake of the generating station.

The booms are located about 400ms upstream of the intake structure and is designed to trap any floating or under-surface debris. Every few weeks this debris is collected and disposed of on shore.

The barrier measures 600ms from shore anchor to shore anchor. To account for the rise and fall in the lake level which can be up to 20ms, 220 x 3m long booms were ordered. A 60mm deep fence, each piece being 3.2ms to allow for a 100mm overlap at either end, was manufactured in Colombia and these were hung off each buoy.

At the centre of the boom, an in-line anchor and an adjacent gate were installed to give access to the boats that clear away the debris.

Because the lake is accessible to the public and there is night fishing, solar-charge flashing lights which can be seen from a range of 1.8kms were installed at about 50m intervals. The buoys are made of UV resistant polyester, are impact

resistant and unsinkable. They have a steel structural member which the buoy is moulded around.

The 660ms of boom took four men three days to install, excluding forming and pouring the 15 tonne shore anchors which was completed a month earlier. The thirty inline anchors are made of 50kg concrete blocks.

For more information on our work in Urrea Dam, click on website and download the Urrea Dam: A Cut Above the Rest case study, or contact our Sydney head office to talk to a DecoTEC representative:

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