

DRIP: OPERATION & MAINTENANCE TRAINING IN CHENNAI, INDIA

DRIP (the Dam Rehabilitation and Improvement Project) aims to rehabilitate the 5,254 dams in India over the medium term. There is also a requirement to train engineers in the operation and maintenance of the works, a task which has been entrusted to HYDRO Exploitation.



India has the third highest number of dams in the world, after the United States (10,000) and China (7,000). Only around 20% of the dams are used for energy production. They are used principally for irrigation and flood control.

DRIP, 80 % funded by the World Bank, provides 2.2 billion dollars for maintenance and improvement of dams in India, some of which are over 100 years old. Training of engineers is also part of the project.

HYDRO Exploitation has been asked to deliver this training, on operation and maintenance of the dams in general and hydraulic and command and control systems in particular. The objective was to give an overview of the operation and maintenance of dams, mainly to young civil engineers. We met this objective through highly practical training, with many examples drawn from our rich experience.

The first week's training started with a day on dam safety, with a focus on dam instrumentation and presentation of the various functional tests.

Operation and maintenance of the mechanical equipment of dams were explained, using practical examples drawn from our facilities. Participants also did practical exercises.

The engineers, who had little or no experience with command and control systems, were given relevant explanations with the help of a model stop log created by our apprentices. The dam managers were thus able to see on SCADA what can be done with the command and control and how they could use the technology in their dams.

A visit to the Krishnagiri dam in Tamil Nadu took place on the fourth day of training. Krishnagiri is a gravity dam, built in 1957 from natural stone. Using the DRIP O&M assessment tool developed specifically for this training course,



participants were able to assess the dam in terms of the scope for improvements in safety, monitoring and crisis management.

Delivering training in English was both an interesting experience and a significant challenge for the trainers, Patrick Métrailler, Jean-Marie Pierroz and Elmar Kämpfen.

The participants in the two training sessions, each a week long, gave us very positive feedback and we hope that in the future we will again be able to transfer our knowledge and experience, in India and other emerging countries.

