

## OIL OVERFLOW DETECTION IN HYDROELECTRIC PLANT

### K-Water, South Korea

K-water is one of the world's largest water utility company responsible for bulk supply of water to most of South Korea including treated water to 25 million people and raw water for industrial use.

### PROBLEM

Operated and managed by K-Water, Imha Dam and Daecheong Dam have 50 MW and 90 MW generating capacity, with two generators in each facility. The generators have oil filled bearings which, when not operating correctly, release oil into an overflow pit inside the plant. Oil overflow is an early indication that generators are not operating at full efficiency and that maintenance is required.

Inability of detecting this overflow leads to reduced lifetime of components, increased downtime and so reduced productivity of the plant.



**Imha Dam is located on the Banbyeoncheon River. With a capacity of 595 million cubic metres, it supplies water for 7.5 million people and industrial users.**



**Daecheong Dam is located on the Geum River. It withholds a reservoir of 1,490 million cubic metres and has a generating capacity of 90 MW.**

## SOLUTION

ROW was selected by K-Water and installed in Imha Dam and Daecheong Dam. Operators requested continuous monitoring of the plant that would alert them immediately of any potential incidents.

Enabling real-time monitoring and data analysis, the ROW system is part of K-Water's drive towards continuous improvement in its operations and implementation of innovation in ensuring high level of safety standards.

High efficiency and reliability alongside the easy integration into existing security system have convinced K-Water to roll out ROW oil detectors into their other facilities in line with their upgrade plan.

*"We are very satisfied with ROW stable performance against water level change, flow rate change and foreign object. Besides ROW can support to connect effectively to our PLC allowing for our system compatibility with ROW"*

**Changhyun Yoon, Korea Water Resources Corporation**



**First installation in 2013**

**Row O-2200A**



**Wired communication relay output, RS 485**

**System embedded into existing monitoring software**

