

Storlivatnet Reservoir

High-precision water level measurement

Scope of service

- Planning
- Project management
- Delivery, installation
- Training

Customer

AS Saudefaldene, Norway

Implementation

November 2016

Specifications

Measurement

Pneumatic water level measurement with remote monitoring in real time via IEC 60870-5-104

Reservoir

Storage volume: 9.7 million m³

Facility description

The Storlivatnet Reservoir is located in the Rogaland region in the southwest of Norway and, as many inland lakes in Scandinavia, is used for power generation. It is operated by the energy supplier AS Saudefaldene that generates roughly 1.85TWh annually with seven lakes. Although the reservoir is only about 300 m above sea level, it is heavily covered with snow in the winter and inaccessible. In the summer the lake is used for swimming.

Project scope

Distinct requirements

Reservoirs can only guarantee maximum power generation if they are filled to peak level. However, if too much water is fed into the lake, the pressure on the dam wall increases and the dam safety is at risk. The energy supplier Saudefaldene requested a water level measurement system for the Storlivatnet Reservoir able to determine the level drift-free and with centimeter accuracy. Since the measuring point is rarely accessible in the winter, remote diagnostics capabilities were a key criterion for the operator as well.



Suitable solution

With the RIPRESS premium measuring system installed and commissioned by Rittmeyer, Saudefaldene found the right solution. The system offers precision, long-term stability, durability, and low maintenance.

RIPRESS premium supports the Ethernet-based IEC 60870-5-104 transmission protocol and directly connects to the local process network without requiring an additional converter, thus providing Saudefaldene with a variety of measured values in real time. Remote

diagnostics and remote access to RIPRESS premium are possible as well, i. e. any interference can be remotely analyzed and solved. Thanks to Rittmeyer's in-depth post-installation training, Saudefaldene can manage system maintenance without any outside help.



«BESIDES THE PRECISE LOGGING OF THE WATER LEVEL, RIPRESS PREMIUM OFFERS MANY VALUABLE ADDITIONAL FEATURES SUCH AS REMOTE DIAGNOSTICS AND REMOTE ACCESS.»

John Teodor Oxaal
Manager of remote control and measurements, AS Saudefaldene

Measurement method

Pneumatic water level measurement with RIPRESS premium

For pneumatic water level measurements using the bubbling-through method, the sensor measures the counter pressure generated by an air compressor and has no direct water contact. This high-precision water level measurement method is well-suited for rivers, large basins and reservoirs as well as dams of up to 135m.

