

PLAVINAS DAM

AIZKRAUKLE – REPUBLIC OF LATVIA

Turn key instrumentation system for real time monitoring and behavioural analysis

As part of the dam safety improvement program on the Daugava River in the Republic of Latvia is the replacement and upgrade of existing instrumentation and data acquisition systems at Plavinas Dam.

Plavinas is the most important dam in the country, supplying 30% of Latvia’s electricity supply.

Sol Data were assigned with the design, supply and installation of a turn key system including sensors, cabling, electronic hardware and software as well as documentation and training.

The dam is founded in moraines with an underlying sandstone layer. The sandstone feeds the moraine with water under pressure, which lifts up the concrete structure and makes it slide downstream. At the same time water washes out fine material causing settlement.

It is important to monitor the dam efficiently with a system that allows quick and easy analysis and interpretation of the data in order to start adequate remedial works to stabilise the dam.

Sol Data set up a completely automated monitoring system to manage and analyse readings every ten minutes during a five year period.

The installation and commissioning took 6 months and a 2 year warranty was provided once the system had been commissioned.



Above : Plavinas Dam (70 m height): The main power station in Republic of Latvia

OWNER :	LATVENERGO
PROJECT DURATION :	MARCH 2000 – NOVEMBER 2000
SCOPE OF WORKS :	
<ul style="list-style-type: none">• Supply and Installation of 430 sensors :<ul style="list-style-type: none">- 290 pressure transducers,- 30 displacement transducers,- 20 tiltmeters,- 15 flowmeters,- 2 in-place inclinometer chains of 12 and 24 sensors,- Temperature,- Seepage flow turbidity,- Reservoir and tailrace water level.• Drilling up to 45 metres from galleries inside the dam for installation of piezometers and Increx system.• Drilling up to 120 metres adjacent to the dam for installation of piezometers and in-place-inclinometers.• 42 km of cabling and lightning protection.• Set up of a complete automatic data acquisition system with computer server in a Central Computer Room with GEOSCOPE software including real-time acquisition, alarms, database, report modules and remote connection.	