

Expro Excellence
CaTS™ wireless downhole monitoring system provides long-term aquifer surveillance at underground gas storage facility in South West France
Wireless Well Solutions



Customer challenges

- Terēga operate an onshore gas storage facility, which plays a key role in the local energy distribution in France
- To comply with local regulations, continual monitoring of the underground gas storage wells is required
- Pressure and temperature readings monitor the fluid levels during injection and production from the aquifer to assist with seasonal demand
- The wells did not have any permanent gauges installed and deploying slickline memory gauges require frequent interventions. Memory gauges only provide access to historic data, preventing the real-time optimisation of the gas storage process
- Deploying a retrofitable wireless gauge system is an attractive solution to manage these reservoirs most effectively

Expro Excellence

- CaTS gauges were retrofit into 10+ wells on slickline and hung off in standard nipple profiles
- Reservoir P&T are measured using a precision, high resolution, quartz pressure sensor and the data then transmitted to the surface wirelessly
- At the surface, the CaTS receiver collects, decodes and stores the data to local memory
- The surface receivers are powered by batteries, which are charged by solar power. There is no need for a mains power supply at the well site
- The gauges were installed in 2007, and the systems still provide reliable data through scheduled battery changes. In 2017 the downhole gauges and surface receivers were upgraded

- Multiple gauges have been installed at different depths in the same well and various wells have been connected to a single topside receiver. This demonstrates system addressability
- The gauges are recovered every three years for battery replacements and the re-deployed, providing extended monitoring periods. The use of the same CaTS gauges in multiple wells demonstrates the durability of the equipment

Value to the client

- More than 13 years and 1,000,000 hours of continuous, real-time pressure and temperature monitoring across multiple wells at the facility
- Compliance with local data reporting regulations
- Cost savings compared to frequent memory gauge survey runs
- Flexibility to retrieve and re-deploy the gauges to meet the needs of the subsurface surveillance strategy
- Push-button interface on the surface receivers allow the client to download the data when required
- Uninterrupted Power Supply for the surface receivers to ensure gauge data is continuously captured
- Solar powered receivers for remote locations
- System upgrades in 2017 reduced routine service and maintenance visits from 3 per year to 1 visit every 3 years
- 24/7 support and remote assistance provided by WWS
- Excellent relationship developed with customer
- Gas storage will be an important enabler for the energy transition since simple cycle and combine cycle gas turbines are a cost-effective means of backstopping the variable electricity output of intermittent renewables



“The equipment is easy to handle and to install and the data provided are extremely reliable. A very successful collaboration!”

Norbert Jamot
 Responsable du département exploitation stockage

Insightful



Contact

For further information please contact:
wireless@exprogroup.com
 or visit
exprogroup.com/wirelesswellsolutions