

Project Goals

- Steady supply of energy
- Eliminate batteries – reduced costs and no need for steady replacements
- Avoid bureaucratic dependency on a utility company

Results

- A steady, reliable power source
- Constant, 24/7, transmission of system data

General data

- 6" diameter pipe
- Throughput – 80 m³/h
- Water pressure – 6-5 BAR
- Operating units - Chlorine Analyzer and SC1000
- HydroSpin internal battery – Lithium, 5.3 AMP – Provides power during periods of insufficient generator output
- Head loss – less than 2m
- HydroSpin Electronic Box – IP68
- Pressure rating- PN16

HydroSpin Case Study



Introduction

Sosnowiec, a city located in southern Poland, supplies water to approximately 220,000 households.

The source of this water is a large reservoir located north of the city. The water runs into the city from several points, which are all connected to one main pipeline.

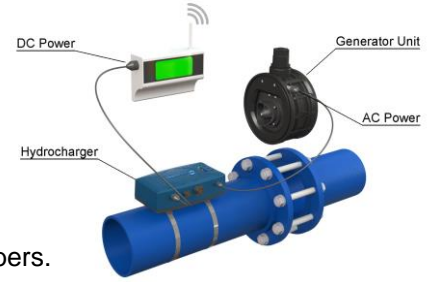
Sosnowiec Water is the utility company responsible for guaranteeing the steady water supply for the city, as well as for maintaining the water's quality and treating it after use. The company has recently initiated a strategic program for monitoring the quality of water at all points of access into the city using advanced HACH water quality systems.

The Challenge

Water quality monitoring systems require a relatively high supply of steady power. The HACH system requires 8 watts. In addition to the monitoring system, each HACH installation also includes a CELLO Technology remote terminal unit. The water monitoring systems are installed inside underground water chambers 2-3 meters below the ground. They are directly connected to the city water distribution pipelines and monitor them at all times.

Steadily supplying power to an underground system 24 hours per day, when the chamber itself is flooded for most of year and constantly wet and damp, is a challenging task. The standard solution is to connect the system to the power grid, though this is costly and necessitates bureaucratic dependency on a local power company.

These issues raised the need for an alternative energy source to power the HACH water monitoring systems.



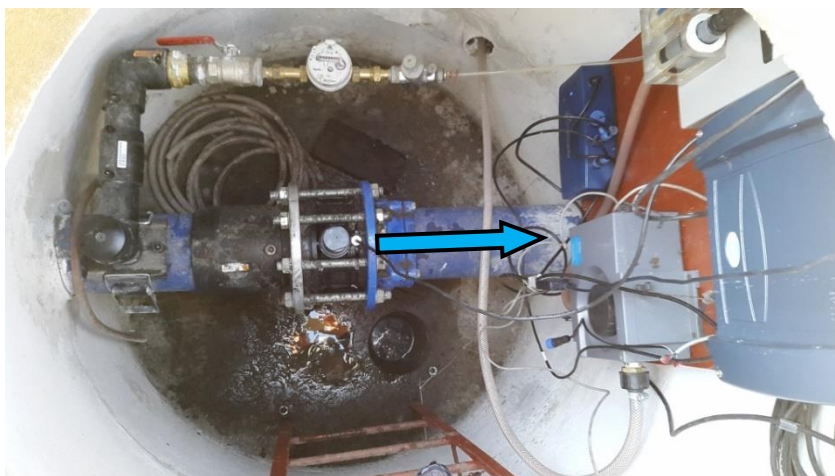
Solution

In July 2015, a HydroSpin system was installed in one of the Sosnowiec water chambers.

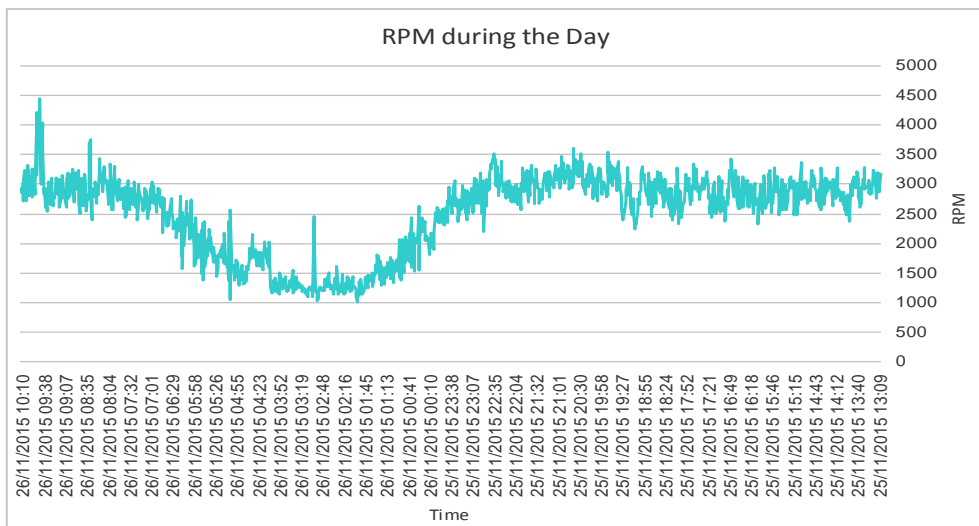
The installation was elegant, quick and simple, requiring little effort and minimal human resources to accomplish.

The HydroSpin system provides a steady, reliable, 24/7 energy flow, allowing HACH to continuously collect water monitoring data, with no need for battery replacements or to invest additional resources in connecting to a local power grid.

In addition to water quality data, HACH's personnel regularly receive output reports from the HydroSpin Hydrocharger. The software supplied with the system provides access to all measures of the system's performance in the chamber – RPM, voltage, current, charge current and more.



Data Collection via Modbus



The graph demonstrates lower RPM during the night and an increase in throughput during the day

