

## CASE STUDY: Control System Refurbishment

### CHALLENGE

Our customer required a replacement of their Hydroelectric Control Scheme at a power station in North Wales.

The Grade II listed building houses one of the oldest grid connected hydro-electric stations in the world, which, after several upgrades in its history, now contributes almost 10 megawatts of electricity to the grid.

Bilfinger UK were awarded a contract to complete this replacement using automation solutions.

### SOLUTION

- We replaced the unit control PLC, electrical panels and MCC.
- We provided a new local Human Machine Interface (*HMI*) and the SCADA system interface.
- We replaced the control panels for the turbine governor and the generator's Automatic Voltage Regulation (*AVR*).



**BENEFITS** | Modernised Control System | Upgraded Control & Diagnostics | Greater Reliability & Maintainability | Flexibility for Future Enhancements | Increased Data Availability | Improved Remote Communications |

# Technical Information Summary



## TECHNOLOGY USED:

- SCADA/HMI – Rockwell FTView SE/ME.
- PLC – Rockwell ControlLogix.
- Historian/MES – Rockwell Historian.
- Communications – DNP3 communications via satellite.
- Management – Full project life cycle using our ISO 9001 TickITplus accredited quality management system.
- Panels – Control panels.

## CASE STUDY: Energy Monitoring System

### CHALLENGE

Our customer required an effective energy monitoring solution for their building management as part of their sustainable green initiatives.

As the customer's building was multi-tenanted, they needed a solution to provide a clearer insight into their buildings energy use to save energy.

Bilfinger UK were awarded a contract to provide a solution that would accurately measure and record data, to ensure the customer met their carbon reduction requirements and could bill accurately.

### SOLUTION

- We implemented an energy monitoring system after working closely with the customer to understand, consult and agree their specifications.
- We provided a unified open web interface for the BMS, LMS, HVAC, CCTV and electrical systems with robust security features to protect their sensitive data.



**BENEFITS** | Savings of £200K | Independent Evaluation of Enterprise Energy Management Products |  
| Energy Monitoring System Deployment | Building Monitoring & Reporting |

# Technical Information Summary



## TECHNOLOGY USED

- Historian/MES – Energy management software.
- Communications – Ethernet.
- Others – Schneider Electric energy meters.
- Management – Consultancy and scope definition.

## CASE STUDY: Power Distribution Panel

### CHALLENGE

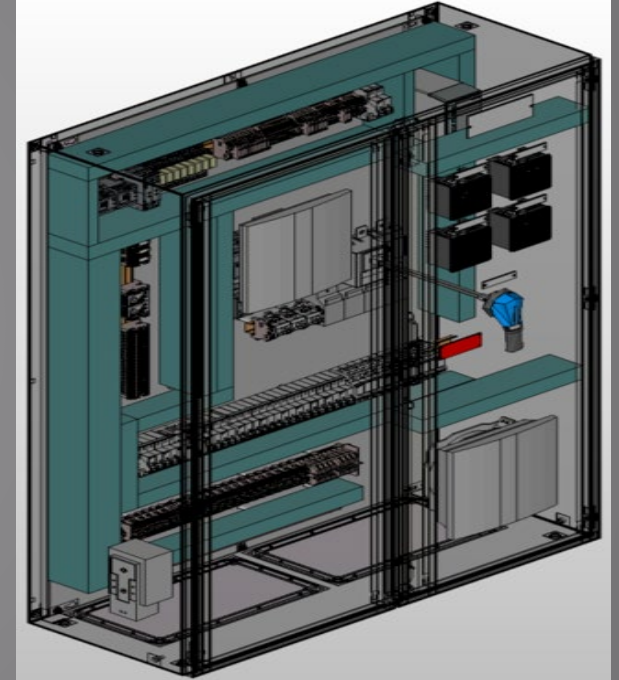
Our customer required a power distribution panel to be produced that will form part of a compressor container.

Bilfinger UK were awarded the contract for the design, build and test phase of the project.

The contract value was £19K.

### SOLUTION

- We designed, manufactured and tested a power distribution panel.
- The design was created in an intelligent design and modelling software EPLAN Pro Panel which enabled us to create a digital twin of the panel.
- The EPLAN documentation was then used to manufacture and test the distribution panel.



**BENEFITS** | Collaborative Design | Digital Twin/Prototyping | Problem Identification & Resolution |  
| Automatic Device, Wire & Page Numbering Using EPLAN | Automatic Reports Generated |

## Technical Information Summary



- We provided supply and control for two 22kW compressors, container air conditioning supplies, 13 container heaters and interface with the fire suppression system.
- We provided a 400VAC/3ph/50Hz panel with a design ambient of +50°C.
- EAC (*Eurasian Conformity*) components were used.