

Trimpley Water Treatment Works Upgrade



Project Scope of Work

All projects were delivered simultaneously during a 12 month period, driven by the need to complete works in advance of the commissioning of the new GAC process, downstream at Frankley WTW. CEMA Ltd. was appointed to provide the following Electrical and ICA services:

◆ Trimpley WTW MWCS Project – Value £1.2 million

- Provision of new site-wide, resilient optical fibre network
- Supply of SCADA system upgrade to enable addition of new signals
- Replacement of 16 process plc's and associated control panels whilst maintaining 24x7 process operation
- Principle Contractor (CDM) role and site H&S management
- Project management role as main contractor and sub-contractor management

◆ Trimpley WTW Pumping Scheme – Value £0.6 million

- Design, supply and installation of pump and inlet works MCC's and LV electrical system
- Addition of new signals to site SCADA system
- Project Management including third party management

◆ Trimpley WTW Water Quality Project

- Renovation of existing, and addition of new Water Quality Instrumentation
- Acting as Principle Contractor (CDM) for 3rd-party installers

Introduction

Trimpley WTW is one of a number of Water Treatment Works operated by Severn Trent Water, where this works supports the water supply infrastructure in Worcestershire & Shropshire.

An AMP4 scheme entails supplementing the flow in the aqueduct with water abstracted from the river during peak demand. Individual projects delivered a refurbished pumping station, improved water quality monitoring, and modernised site automation and controls systems.

Solution

This was a high profile programme of works as it played a major part in Severn Trent meeting DWI targets for security of supply of potable water to the Birmingham Zone. CEMA were commissioned to deliver MCCs and Control Panels, Systems Integration, Electrical Installation, and Communications Infrastructure and managed the project delivery for the following main projects:

- ◆ Trimpley WTW Pumping Project
- ◆ Trimpley WTW MWCS Project
- ◆ Trimpley WTW Water Quality

The STW capital expenditure is circa £12 million and CEMA Ltd. was awarded £1.8 million in total for works allocated within these three main projects.

Conclusion

CEMA Ltd. delivered the projects at Trimpley WTW within restricted timescales, coordinating resources between complex parallel capital projects whilst maintaining security of supply. Timescales were critical as completion was required in advance of crucial additional works downstream.

CEMA Ltd. are capable of delivering a main contractor and Principle Contractor role providing a Client with a single EICA contractor with an ability to simultaneously deliver

CEMA Ltd. Project Delivery Strategy

For the MWCS project, as the project scope was entirely Electrical and ICA work, CEMA Ltd were asked by Severn Trent to take on the role of Main and Principal Contractor. This allowed simplification of supply chain in that CEMA procured third party services on behalf of Severn Trent, and delivered an immediate cost saving through elimination of a 'traditional' main contractor's management fee.

CEMA LTD. WORKING PRACTICES	DELIVERED BENEFITS
Utilising a common project team with a constant on-site presence	<ul style="list-style-type: none"> ▪ Process impact visibility and management across all projects to ensure security of water supply ▪ Improved resource management (waste elimination) ▪ Improved cross project communication ▪ Improved speed of response to ad-hoc situations ▪ Shared site working practices
Collaborative working with Consultants and other Contractors across multiple projects	<ul style="list-style-type: none"> ▪ Shared infrastructure across multiple projects providing a direct Client cost benefit ▪ Elimination of "traditional" main contractor providing a direct Client cost benefit by elimination of management fee ▪ Improvement on design development/approval and reduction in rework
Improving SCADA and process functionality in-line with Client standards	<ul style="list-style-type: none"> ▪ Process functionality improvements at "zero cost" ▪ New object creation improving SCADA remote functionality and eliminating manual valve operations (H&S benefit to Operator) ▪ Standardisation of mimics, alarms and symbols across major works in the same region.
Provision of a bespoke test facility at Cema Ltd. Wrexham and use of on-site sample work	<ul style="list-style-type: none"> ▪ Reduction in design approval periods and Client confidence in build and solution delivery
Early involvement in feasibility, design and FMEAs studies together with close integration of on-site Operations team	<ul style="list-style-type: none"> ▪ Clearer definition of project requirements leading to reduction in project design change ▪ Faster build cycle / accelerated delivery ▪ Buy-in to solution, and therefore increased co-operation from Operations team



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