

Coastal Sewage Treatment - UV Disinfection Programme Northumbrian Water

Under the UK Water Industry's Asset Management Plan 3, Northumbrian Water Limited (NWL) was required by OFWAT to provide ultra-violet (UV) disinfection to six coastal/estuarial continuous effluent discharges by 31 March 2002, including NWL's three largest sewage treatment works (STWs), serving Newcastle, Teesside and Sunderland.

Tenders were sought from UV process contractors and framework civil contractors with sub-contracted framework consultants for a prototype installation at Seaton Carew STW to be commissioned one year early.

Entec was approached by two civil contractors, but opted to bid with Byzak, who were subsequently awarded the target cost civil contract for both the initial prototype and the five continuation sites.

Entec provided civil, structural and hydraulic design services to Byzak, tailored to suit their construction needs. However, a strong partnership ethos developed with NWL, Entec and the two main contractors where Entec was able to contribute technical advice well beyond a strict civil sub-contract design role.

Consequently, Entec's brief soon expanded to include value engineering to suit NWL operations, support for NWL planning submissions, HV power supply design and procurement and systems control and data acquisition (SCADA) liaison on the two largest sites. This extended to all sites, including Howdon STW, which will become Europe's largest wastewater UV disinfection plant, serving a population of one million.

Byzak have benefitted from a flexible design service from Entec, constantly reviewed to fit construction sequences and needs. As the scope of work has expanded on what has been a fast-track procurement, even by the world-leading UV process contractor's standards, NWL have also benefited from the broad range of Entec skills that have been called on at short notice. Following the success of the project, the team won highly commended status in the prestigious, annual Construction News 'Quality in Construction' Awards.



Designing Europe's largest UV disinfection plant



Facts and Figures

Project

Coastal STW - UV Disinfection Programme

Client

Byzak / Northumbrian Water

Location

Six coastal STWs, NE England, UK

Capital Project Value

£11.4m

Entec Services

- Detailed structural, hydraulic and civil design (to Byzak)
- HV design and procurement project management (to Byzak)
- SCADA design and procurement project management (to Wedeco)
- Value engineering / operability reviews (to NWL)

