



CRITEC GROUP

Critec drive efficiencies in Thames Water's Security Upgrade Programme

Background

Thames Water are the largest drinking water and wastewater treatment company in the UK, meeting the needs of over 15M customers in the capital and surrounding areas. Security of supply is a key consideration and as such, Thames carry out in the region of £100M of security upgrades in each 5 year Asset Management Plan (AMP) to meet declared regulatory commitments.

The Challenge

Mid-way through AMP6 (2015-2020) it became clear to Thames that they were facing challenges achieving the declared outcomes within their Security and Emergency Measures Directive (SEMD) programme, having only completed 10% of the projects at the programme mid-point; progress having stalled due to a failure to agree security systems commissioning processes between Thames Business Resilience and the programme's delivery Alliance.

The Solution

In 2018, based on our performance on a previous utilities project for one of the Alliance members, Critec were engaged by the Alliance to manage and deliver the commissioning for the whole programme of physical and electronic security upgrades to over 350 sites. The measures consisted of over 500 cameras, 700 access control locations and in excess of 50K device alarms, all to be operational within the final 27 months of the AMP – a target that both Thames and DEFRA, the regulatory body, thought was no longer achievable.

Within 6 months of our engagement, Critec had agreed risk based testing processes, validation documentation and the alarm transfer process with the client; building a commissioning test bed to minimise project risks to the live Thames Alarm Monitoring Centre (AMC). Critec then assembled and managed a team of specialist security commissioning engineers to undertake client validation testing, project support, documentation production and carry out the required testing governance. At its peak, the Critec validation testing team consisted of a Commissioning Manager and 8 Security Commissioning Engineers carrying out validation testing of up to 8 sites a week. At the end of AMP6 the Alliance exceeded the agreed delivery target by 17 sites.





The Result

In 2020, Thames Water Asset Protection, recognising the significant positive impact that the Critec Team had on the delivery of the AMP6 SEMD project, engaged Critec directly to undertake the stage 2 design for the AMP7 SEMD sites to be delivered in the period 2021-2025 – a series of ambitious physical and electronic security projects, totalling over £60M. This contracted Critec to develop Thames outline security requirements into compliant specifications for the procurement process for security upgrades to a further 220 sites.

The work included completely revising Thames's Security Specification Standards to align them with industry best practice and regulatory standards, current technology, lessons learnt, design efficiencies and DEFRA/WCUK advice note requirements. Critec managed the technical aspects of the procurement process, answering tender queries and creating required governance documents in line with Thames's business management systems (trackers, RAGS, customer impact assessments, pre-construction site information etc.)

Rising to the extremely challenging project timescales, Critec assembled a team of 15 consultants, technical authors, technical administrators, and CAD technicians to complete the design and procurement process for the first 140 sites within a 6-month period, including carrying out the following functions:

- ✓ Standards review and rationalisation.
- ✓ CAD of site security plans
- ✓ Operations 'Seek to understand' meetings
- ✓ Operations 'Be Understood' meetings
- ✓ Security tender brief production.
- ✓ Contractor bid technical appraisals.
- ✓ Pre-tender value engineering surveys.
- ✓ Client 'Head End' SMS management
- ✓ Project security specification production
- ✓ Cost modelling to inform project budgets
- ✓ Contractor tender surveys
- ✓ Process and regulatory governance

After completing the stage 2 design elements

for the procurement process, and in accordance with industry procurement procedures, the remaining security consultancy aspects for AMP7 were subject to an open tendering exercise due to the size of the potential award. Critec faced stiff opposition from much larger engineering consultancies, Utility Security Specialist Consultancies, and some of the larger UK Security Consultancies. On completion of the tendering process Critec were awarded the framework based on our ability to demonstrate greater experience of Thames governance processes and delivery of SEMD programmes within the water industry.

The framework required Critec to repeat the stage 2 elements for a further 80 sites to be procured separately, and additionally provide ongoing support for stages 3 and 4 (detail design and construction phases) of the full SEMD programme including contractor design review, change control, technical assurance and business management governance for the SEMD programme delivery, as well as continuing to manage and perform end of project validation testing of the delivered solutions and associated security documentation approvals for handovers.



The framework extends to the end of AMP7 with an option into AMP8, providing potentially 8 years of work, with a consultancy value of up to £16M for Thames SEMD programme and non SEMD security projects.

In the first year of the AMP7 framework engagement Critec have helped identify and implement almost £10M of savings to the programme by adopting a risk-based analysis of legacy programme delivery processes,



Client Endorsements

"Thames Water have commissioned and worked with many consultancies on numerous security and resilience projects over the years.

Critec were initially introduced in 2018 as part of our AMP6 delivery alliance to focus on and deliver the system validation aspects for security upgrades to over 300 sites, Critec were commissioned as specialists in this critical field to ensure Thames delivered our regulatory commitments.

Critec created processes to unblock the incumbent methods and looked at efficiency and where possible innovation to ensure success whilst ensuring proportional and appropriate solutions were achieved in line with Thames Water and regulatory policy frameworks. Critec assembled a team that directly contributed to the delivery of our commitments at a time when a concerted effort was needed to meet our very demanding targets and outputs.

In AMP7 Critec are directly engaged to deliver a wider portfolio of security consultancy for the next 5 years of our SEMD programme and have adopted a risk-based approach that has helped to identify significant cost efficiencies to assist with delivery of the programme. Whatever the issue, be it technology, engineering or process based, they have been able to provide the answers we have been looking for"

Chris Fitzgerald, Thames Water: Head of Asset Protection

"You have a stonkingly good knowledge for your subject – along with the ability to think things through from many angles – a rare combination! You've challenged my reasoning and even won me around – every day is a learning day. I'm confident that you will continue to do the right thing for Thames' customers and the systems. It's been great working with a true professional."

Dawn Green, Thames Water: SEMD Programme Manager (Security & Alternative Water Supply Specialist)



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