

Victoria Phase 2 Re-signalling Project



CASE STUDY



Overview of Deliverables

The majority of the signalling in the Victoria ASC control area was commissioned in 1980 with the West London Line being added approximately 11 years later. The signalling uses a route relay interlocking system with the majority of the equipment installed in remote interlockings (GEC-GS), remotely controlled by TDM operation. Many of the GEC-GS installations installed at this time have been known to suffer from wire degradation problems and the Victoria area interlockings are confirmed to have this problem and require replacement.

The Thameslink programme will use parts of the Streatham, Sutton and Wimbledon interlocking areas that are currently controlled by Victoria. These require renewal by ~2017, however the Thameslink programme will operate services (long term diversion) in these areas from 2014.

Network Rail requested Vertex to provide Project Development, Project Management, Safety Engineering and a Whole Life-Cycle Cost assessment service to support the project initiation to single option selection. The works would normally take between 12 and 18 months to complete, however the first commissioning is required in November 2014, therefore an accelerated development was required. This was achieved in the extremely rapid timescales, Vertex successfully developed the project to a stage where a developed and costed single option was approved by Network Rail. Similar development works have been provided for programmes such as London 2012, JNUP and WCRM upgrade.

Deliverables Included:

- Optioneering, including whole life costing of varying technologies and providing technical specification of final option
- Project Safety Strategy
- Ensuring Compliance to Network Rail's Engineering Management procedures;
- Development of Risk Management procedures in accordance with Network Rail standards and legislation;
- Stakeholder consultation with Train Operators, maintainers, asset owners;
- GE/RT8270 compatibility deliverables;
- Development of Project Programme for whole project lifespan (to commissioning);
- Developed the Project's Environmental Management Plan;
- Commencement of ROGS assurance via Network Rail Acceptance Panel;
- Development of ITT documents for prospective sub-contractors;
- Day to Day management of contractors; and
- Whole Life Cycle Cost case studies.

Technical competencies applied in the delivery of the contract

- Vertex employed the following competencies during these works:
- Optioneering of technical, operations, maintenance and whole life cost to develop the suite of feasible options and demonstration of acceptability to stakeholders' requirements.
- Technical knowledge of the proposed system in question, incorporating over 20 years' experience in project development and delivery and adhering to the Network Rail Project Management (GRIP) process.
- Data Analysis and Whole Life Costing- to understand the nature of the problem, the costs incurred and the whole life costs of proposed solutions, in order to ensure value for money.
- Systems Engineering- appreciating the impact of the proposed solution in terms of its whole-life implementation.
- Project Management, Stakeholder liaison and influence, in order to drive the project forward on the agreed timescales whilst maintaining stakeholder confidence.
- Safety Engineering- both at a systems and sub-system level, risk assessment and Hazard Identification and the provision of early ROGS assurance.
- Programme Development.

Value added initiatives

Due to time constraints, Vertex offered a modified Options analysis process that supported fast tracked early phase deliverables, the completion of later phase deliverables early and the justification for not undertaking a number of 'standard' tasks based on risk and value to the client.

This approach enabled early determination of the further funding required for the project and accelerated acceptance from the various stakeholders. The early completion of deliverables required by approval parties and subsequent acceptance by key stakeholders such as the asset stewards and train operators of the planned works resulted in an overall lower cost of the development phase without compromising the quality or increasing the risk. This initiative has been accepted as good practice and is now being applied to other larger development programs that Vertex is undertaking.

Programme start and completion dates

Project duration was from October 2012 – March 2013 with every milestone achieved as per the base plan.

Resources utilised

Vertex utilised its team of railway systems engineers and Project Managers for this project. Qualification held includes membership of the Institution of Railway Signalling Engineers, membership to the Association of Project Managers (MAMP), Project Management Professionals (PMP) and professional Chartership (C.Eng.). Combined railway experience of the project team (4 persons) exceeded 60 years.

London, UK

221 St John Street
Clerkenwell, London
EC1V 4LY
United Kingdom
T: +44 (0)207 688 2561

Reading, UK

Soane Point
6-8 Market Place, Reading
RG1 2EG
United Kingdom
T: +44 (0)1189 255 462

Sydney, Australia

Level 6, 69 Reservoir Street
Surry Hills, Sydney
NSW 2010
Australia
T: +61 (0)2 8218 2130

For more information visit:

www.vertex-se.com

Vertex Systems Engineering is the trading name of AMCL Systems Engineering Ltd.

Registered in the UK,
Number: 04440268.