Case Study

QUINN INFRASTRUCTURE

Project: Lot 1A - SSL and BCV Total Packages Services (TPS) Maintenance

Location: London Underground Sub Surface Lines and Bakerloo, Central and Victoria Lines

Client: Transport for London (TfL)

Date: February 2010 – February 2017

Introduction

Building Services Maintenance Contractor, Quinn Infrastructure, were awarded a five-year with a two-year optional extension on behalf of TfL for the Maintenance of Electrical, Uninterrupted Power Supplies, Mechanical, Signage and Fire assets across the entire SSL and BCV environment.

Quinn Infrastructure delivered round the clock Planned, Preventative Maintenance (condition and asset performance related) and Reactive Maintenance (including an emergency response within 2-hours) services, across 164 stations and 400 non-station premises including railway depots, offices, lineside accommodation and storage facilities covering in excess of 50,000 assets, circuits and loops on the LU network.

The Sub Surface Lines (SSL) and Bakerloo, Central and Victoria (BCV) Lines carry 60% of London Underground's (LU) customers. With user levels in the region of over 1.5 million per day, both passenger and service provision were an integral part of LU's operational requirements for this Lot 1A contract. This required Quinn Infrastructure's to sign-up to strict performance criteria for both planned and corrective services (beyond the standard maintenance obligation of compliance with railway statutory and LU standards), which was directly linked to TfL's lost customer hours attribution.

Quinn Infrastructure were also responsible for taking resource over from the previous incumbent via TUPE, mobilising both quickly and carefully, so as to ensure a seamless transition for all contract stakeholders and in order to be ready to deliver the contract obligations from day one.

During this highly performing and collaborative contract, which was extended to the full seven years by TfL, Quinn Infrastructure maximised its performance through proactive contract management, delivering 100% across all of its targets for both Planned and Reactive Maintenance, rendering all KPI's as green. The company's average response time for service affecting faults (critical), was an incredible seventeen minutes.

This high quality performance also prompted TfL to further engage with Quinn Infrastructure for Asset Renewals, placing a number of orders with the company for like-for-like replacements under £50k, taking the final contract value to £80m.

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Contract Deliverables
Quinn Infrastructure delivered a 24/7/365, Planned, Preventative Building Services Maintenance (PPM) and Reactive Building Services Maintenance for the Electrical, Uninterrupted Power Supplies, Mechanical, Signage and Fire assets across the entire LU SSL and BCV environment, covering the following systems:

- Fire detection
- Fire suppression
- Passive fire
- Fire extinguishers
- Air conditioning
- Chilled water
- Ventilation
- Hot & cold stored water and distribution services
- Mains gas & water distribution services including buried services
- Domestic, commercial & industrials heating applications
- Tunnel ventilation
- Emergency lighting
- Smoke control ventilation
- Electrical circuitry and outlets
- Uninterrupted power supplies
- Illuminated and non-illuminated signage

Challenges and Solutions
Mobilisation
The contract was signed in February 2010 with an agreement to be ready within four weeks of this award. During this intensely fast turnaround period, Quinn Infrastructure also had to TUPE across 76 staff whose morale was at an all-time low as a result of the poorly performing previous incumbent.

With contract performance measures commencing from day-one, Quinn Infrastructure prepared a thirteen-week mobilisation plan, which included a vital transformation plan for the workforce in conjunction with TfL.

This success of this transformation plan hinged on Quinn Infrastructure utilising its existing in-house and experienced LU accredited electrical, mechanical and fire teams to undertake all the corrective maintenance tasks and phased PPM delivery, whilst the company undertook a full training and on-boarding programme, including HSQE, for all existing TUPE staff regardless of how long they had been engaged on the previous contract.

This took them out of the network, allowing a full assessment to be made and enabled Quinn Infrastructure to create bespoke, phased training and competency plans to get them ready for re-introduction to the London Underground. Once back on site, Quinn Infrastructure utilised a 'Buddy' from its existing workforce to carefully manage their transition back to work.

Having a highly trained and extensive workforce helped Quinn Infrastructure to role this out successfully. The company worked collaboratively with TfL throughout the journey, inviting them to attend regular roadshows to share in both the updates and success of this contract transformation.

Out-dated Asset Register
After review post contract, Quinn Infrastructure observed that the Mechanical Asset Data was out of date – it was only 45% complete.

This prompted the company to undertake an intrusive asset survey and prepare a revised condition report in order to realign the entire plan for Planned, Preventative Maintenance (PPM) of all Mechanical Assets.

Quinn Infrastructure looked at each rail asset and formulated a new plan for each Mechanical Asset, taking in to consideration its design, performance and its criticality to the network.

Working in conjunction with the LU team, Quinn Infrastructure managed to successfully realign the entire Asset portfolio, absorbing the additional 55% of missed assets without any additional cost to TfL.

Reactive Maintenance Support for TFL's Direct Labour Organisation (DLO)
Whilst Quinn Infrastructure was responsible for 60% of the LUL Network for Reactive Maintenance, TfL utilised their own Direct Labour Organisation for the rest.

However, during the contract, TFL's DLO, due to their own workload pressures, were not always able to complete some of their reactive maintenance requirements.

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Having successfully transitioned and transformed the resources from the previous contract and with highly skilled and effective LU skilled building services teams in place, Quinn Infrastructure offered to support where required, this additional reactive maintenance requirement.

TfL were delighted with this solution and plans were agreed to ensure that resources and coverage was in place to cover the requirement for as long as necessary.

Uninterruptable Power Supply – UPS

TfL, like all rail operators, are critically dependent on their power supply and consider UPS as the 'heart' of their railway system, ensuring reliable power for safe and efficient operations for their passengers.

It was recognised that the data supplied in the contract was obsolete and needed a thorough asset refresh. This was particularly critical during the Olympic Games of 2012. Quinn Infrastructure not only undertook asset and reporting condition work, they also provided 24/7 cover at network 'pinch points' to ensure reliability during this important period.

Quinn Infrastructure helped the London Underground transform its original power supply and distribution system with solutions that met availability demands and stringent fire and safety requirements, while improving manageability and energy efficiency. Obsolesce was also re-evaluated. Quinn Infrastructure re-vamped the entire spares programme, delivering efficient management of spares throughout the full contract lifecycle.

Passive fire – fire stopping and compartmentation

It was recognised early on that in certain areas, passive fire protection was not sufficient to deliver the one-hour protection mandated throughout the London Underground network.

Quinn Infrastructure were contracted by TfL to survey every compartment, wall and ceiling in order to determine its compliance. Further to these a 'triage' team was then set to work to undertake fire stopping and compartmentation of those areas deemed to be non-compliant.

Supporting Outside Parties

It is often difficult for project teams to bring their contracts into maintenance, due to a lack of understanding of the requirements. Quinn Infrastructure, as both a TfL building services maintenance and project contractor, has the inherent knowledge to be able to deliver projects into the owner.

TfL tapped into this know-how, by engaging with Quinn Infrastructure to bridge the gap between the outside party projects and the LU maintenance teams. This enabled Quinn Infrastructure to proactively engage with the outside party project teams and support them with their handover, assuming the role of facilitator for the end user. This also helped Quinn Infrastructure, as the custodian of the newly installed assets.