

CASE STUDY

Framework for Maintenance and Replacement of Mechanical and Electrical Systems

LOCATION: Nationwide, Ireland
CLIENT: Irish Rail
DATE COMMISSIONED: October 2014



Introduction

Global Rail Services secured a four-year framework with Irish Rail to provide maintenance and renewal, of the mechanical and electrical systems and services at 400No railway stations throughout Ireland.

Having submitted a most compelling tender, Global Rail Services, have delivered, tested and commissioned over €2.6m of mechanical and electrical works to date.

The works, which include both planned and un-planned maintenance and renewal, also relied upon Global Rail Services registration with an authorised Electrical Safety Supervisory Body (ESSB) and their registration and compliance with both The Energy Act 2006 and the Commission of Energy Regulation (CER).

The Dublin based business, is also an RGI registered mechanical installer and is completing PPMW works as per NSAI SR50 – 1:2010 Code of Practise for building services – Part 1 Domestic plumbing & heating systems, implementing all UARW works in compliance with IE Specification for Mechanical Installations 10/SP-005 and service all existing gas filled air cooling systems as per BS-EN 15240 - Air Conditioning Systems.

By appointing Global Rail Services in the roles of Project Supervisor Design Process (PSDP) and Project Supervisor Construction Stage (PSCS), Irish Rail were able to ensure that the works would be managed in full compliance with the Safety, Health and Welfare at Work (Construction) Regulations 2006.

A vastly experienced in-house mechanical and electrical engineering team, has allowed Global Rail Services to provide resources to fulfil these roles and deliver an emergency call-out service which meets the two-hour response window.

The Deliverables

Global Rail Services have provided a fully managed project in respect of the Planned Preventative Maintenance Works (PPMW) and Unplanned Asset Replacement Works (UARW), to all mechanical and electrical systems & services installed at stations, compounds and occupied premises throughout the Irish Rail infrastructure.

Using skilled resource, they have tested and verified the life systems and provided for the replacement of non-compliant equipment or parts, all in accordance with current standards.

The Works are identified as follows:

- ① Planned Preventative Maintenance Works (PPMW), providing annual Periodic Inspection Reports in accordance with Chapter 62 National Rules for Electrical Installations Fourth Edition 2008 and completion of quarterly inspections of Emergency lighting systems as per IS 3217:2008
- ① Boiler Maintenance including:
 - Checking efficiency
 - CO2 Emissions
 - Checking Burner operating effectively
 - Cleaning Main Gas & Pilot burner
 - Checking Boiler Safety Valves
 - Checking combustion air supply
 - Checking Thermo and Safety cut off
 - Checking Boiler Controls are operating efficiently
 - Checking associated pipework joints
 - All checks and tests in accordance with the Irish standards by the NSAI
 - Sanitation Plumbing
 - Testing of Gas Slam Shut Valves
 - Service of Gas Radiant Heater units
 - General Plumbing repairs
 - Replacement of Water filters
 - Service and Maintenance of Central Heating Systems
 - Repair replacement of pumps
- ① Unplanned Asset replacement Works (UARW)
- ① Planned Preventative Renewal Works (PPR)
- ① The Provision of Call Out / Emergency Response, providing both e-mail and telephone access to a 24/7 emergency call out centre, attending all emergency response incidences within 2 hours
- ① Provision of an Contract Supervisor undertaking the duties of Project Supervisor Construction Stage (PSCS), co-ordinating the works, supervising and reporting on the weekly progress of PPMW submissions, managing UARW small project works and closing out all call outs as necessary
- ① Provision of a File Administrator to carry out the duties of a Project Supervisor Design Process (PDSP) and manage submissions, compile safety files and manage and update the document control.
- ① Provision of contract electricians, certified in the verification and certification of new and existing electrical installations in compliance ET101: 2008 4TH Edition and prescribed as 'Controlled Works' by the Commission of Energy Regulation (CER).
- ① Full Safety, Health & Welfare management including the provision and distribution of permits to work (PTW).
- ① Provision of all necessary plant and tools, including their storage, transportation and maintenance.
- ① Provision of materials including their storage
- ① Full handover of works including 12 months defect period

Challenges and Solutions

The biggest challenge to overcome was that much of the works would be undertaken in occupied premises, with all station buildings fully operational at all times during normal working hours.

This meant that Global Rail Services needed to carry out inspections and remedial works without undue inconvenience and nuisance and without danger to residents, staff and the general public.

To minimise the impact of their works the company – as a responsible contractors - provided hoardings/dust proof screens, entrance barriers and protection as necessary to minimise inconvenience to occupants of the building whilst carrying out their duties.

Having to provide an emergency call out service also required careful planning. As a rail contractor, Global Rail Services are fully cognisant with 24/7 working and put in place a robust process.

Operating from their facilities in Dublin, allowed the team to respond to the requirement of a two-hour window. By buying and carrying spare materials, the teams were also able to manage logistics effectively, ensuring that all works were carried out with the minimum of fuss.

The Benefits

By appointing a GRSL - a heritage-building specialist - as the single point of contact, RPA were provided with the confidence of a contracting organisation that would fully manage the project, the interfaces and the complexities of a listed building on their behalf.

GRSL have a multi-disciplinary in-house building workforce across all trades and also have experience in civil and structural engineering and mechanical and electrical engineering too, which provided a one-stop solution for the project.

As an organisation GRSL are used to working in a live environment. By aligning closely with the communities in which they serve, they provided a considerate, safe and secure environment for all staff and stakeholders during the resurrection of this building of local historical importance.

Having their roots in railway engineering, also aided access planning and logistics with the adjacent station and their accredited management systems, that work in accordance with certified bodies across safety, quality and environmental, provided the client and the community with a building they can be proud of.