NHS Nightingale Hospital, Manchester

Project Outline

Contractor	NG Bailey
Location	Manchester, UK
Sector	Healthcare
Disciplines Covered	Fire Alarm
Key Points of Interest	12 Beam Detectors 13 Days from Tender to Completion 35 Wireless Devices

Project Overview

2020 saw the United Kingdom hit with a worldwide pandemic of a respiratory disease called COVID-19. It saw thousands of people hospitalised and cause a severe strain on the country's NHS services. The UK government decided to combat the pandemic and assist the under-pressure NHS; by building seven new temporary hospitals around the UK.

The seven hospitals were to repurpose existing multi-function public buildings such as London's ExCel, Birmingham's National Exhibition Centre and Manchester's Central Convention Complex. The buildings would become temporary hospitals to treat patients suffering from COVID-19.

The Manchester Central Convention Complex (MCCC) was the chosen building to offer rehabilitation to patients in the North West. The site was to become a 750-bed hospital complex staffed by a vast range of consultants, nurses, clinical and non-clinical support workers and administrators.

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The Challenge

The MCCC already had an existing fire alarm system. Due to time constraints, an extension of the current fire alarm system would be the most suitable option. However, the chosen building also carried a Grade II listing making installation of services a complicated procedure.

The UK was suffering from a worldwide pandemic. The government issued a nationwide lockdown seeing the majority of industries close. It created a bottleneck on materials and supplies across multiple sectors, resulting in more exaggerated issues than usual. The companies involved needed dedicated labour and supply lines to complete the project without disrupting the project timeline.

The Solution

The proposed NHS Nightingale Manchester was the closet of the nightingale hospitals to Protec's Production facility. We manufacture all our detection devices and stock a vast amount of equipment at any one time. It meant Protec would supply the equipment, materials, and labour to carry out the work in the short timescale required making us the ideal fire alarm contractor for the project.

The MCCC existing fire alarm system was not a Protec system. However, this wasn't an issue. The current and new Protec fire alarm systems connect via dedicated fire alarm interfaces. The new Protec fire alarm system offers detection to the newly created ward, shower room and morgue areas. Nightingale Manchester saw the existing open plan area split down into separate wards. These new wards benefited from automatic fire detection, visual alarm devices with manual call points located at nurse bases.

Due to the MCCC living its former life as the Manchester Central railway station built in 1880, it carries the typical architecture of that time. It's 64-metre wide by 168-metre-long arched roof means regular point detection is not the correct fire detection solution. At the highest point of the arch, the room height is more than 10 meters meaning that point detection would not be suitable as this would be against BS5839 recommendations and challenging to maintain in the future.

Only two alternative forms of detection would be suitable in this instance. The choice was between aspirating detection or beam detection. Both solutions would be ideal in this scenario; however, beam detection's quick installation turnaround would be the perfect solution. Beam detection benefits from short installation time over aspiration detection while still offering ease of maintenance. A total of 12 beam detectors covered the vast curved roof over the new ward areas.

In addition to the new ward areas, a series of smaller additional spaces were created. These included shower and morgue areas. Due to these areas' popup nature, the quickest and most efficient fire system type for these areas would be a hybrid approach. The newly installed field devices consisted of detectors, sounders and manual call points, all wirelessly linking to Protec static translator modules. The translator modules introduce the wireless fire alarm devices to the newly installed Protec hardwired addressable fire alarm system.

NHS Nightingale Hospital North West assisted in the pandemic crisis as it was initially intended and was successful. All building contractors, NHS and Army making up a 1000 strong team came together to see the NHS Nightingale Northwest completed in a staggering thirteen days.

The Aftercare

Due to the project's temporary nature, the system supplied included a 12-month service and maintenance contract offering 24/7 service and support to the site. When the site is no longer needed, Protec will help decommission the fire alarm devices on the newly formed areas.