

Procurement of systems affecting life safety in buildings

Introduction

I am increasingly being asked by clients such questions as “how can I be expected to fully appreciate the significance in scope between one tender for a complex smoke control system and another when; these can be highly specialist systems”. But there is an expectancy of those in procurement or commercial departments of some organisations, especially in the construction industry, to go out and save 5 or 10% on the contract procurement cost.

However, as systems become more technically demanding and regulations become more rigid and demanding, especially in the fire engineering industry, ensuring that you are not only getting value for money but purchasing the correct product or systems is becoming increasingly difficult.

An understanding of the equipment or systems for which one is responsible for purchasing on behalf of the company is vitally important, especially when the product impacts on the safety of the user; this applies particularly in the construction industry when the selection of the wrong product can threaten the lives of numerous people occupying the building. This has been demonstrated only too graphically in recent events.

Valuing products

It is clearly unreasonable to expect an individual responsible for the procurement of a wide range of products for a given project to completely knowledgeable in all aspects of a building’s services. This is particularly the case where products or systems are clearly critical to the protection of life for the occupants of the building.

Smoke control systems are often becoming increasingly complex, for example, the integration of a basement car park ventilation system with the smoke control system serving the residential areas above ground. It follows therefore that it is becoming even more difficult for those responsible for the procurement of such packages to assess the 100% compliance of tenders with the relevant specifications.

So how does one safely assess tenders for say a car park ventilation or a smoke control system serving a multi-storey residential building?

Specific Considerations

When considering several tenders for a smoke control system for a project there are numerous aspects of the system design and what consultations may have taken place prior to the project going to tender.

For example, a smoke control specialist may have been involved with the project design team, helping to compile a detailed design brief, including working with the architect to determine acceptable system layout, working with the Fire Engineer and mechanical consulting engineers to develop a system specification and liaison with Building Control to agree strategy including variations to code compliance with approved documents.

The specialist may even have run a CFD model on the proposed system, be sure establish this and to obtain a copy if one has been carried out. CFD modelling undertaken by a third party as opposed to the company appointed to design and install the system is invariably a preferred option as it demonstrates third party objectivity in verifying a system's performance.

The Fire Strategy

In terms of system operation and performance everything starts with the fire strategy and this document must form part of the enquiry and evaluation package.

The fire strategy document will/should detail all aspects of the required system performance; what type of system if required, e.g., is the car park ventilation system to be designed purely on a "code compliant" basis or as a smoke control basis to protect lobbies, is a fully addressable fire detection system to be installed, is the ventilation system to provide a link to the concierge and is the system to be interfaced with the residential smoke control system.

The document may contain many more requirements relevant to the installation whether this is a car park ventilation scheme or a smoke control system serving a commercial building, retail centre or residential building, and should be reviewed in detail.

Phased Handover

It is a common requirement of the developer of a residential building to require a phased handover and clarity should be sought from those tendering for the project that this has been allowed for. Be sure to check that the phrase "*based on continuous working*" is not included in a tender for a project that requires phased handover.

Standards, Regulations and Design

Of course, there are standards (where referenced or specified) for products and systems and regulations that must be complied with and these must be included in the scope of any tender. Bearing in mind that such systems are part of an overall fire safety strategy for the building, considerations should include everything from metal (not plastic or nylon) cable ties, correctly fire rated cabling and fully tested fans, dampers and ductwork.

Building Regulations 2010 - Regulation 38

Often overlooked are the requirements of Regulation 38 of the building regulations, it is required that all fire safety information for new, refurbished or altered buildings be passed to the responsible person as defined in the Article 3 of the *Regulatory Reform (Fire Safety) Order 2005* on the completion of a building or on occupation, whichever comes sooner.

The information provided should contain full details of the smoke control system design to a level which will enable the ongoing maintenance and operation of the system serving the building. This latter requirement is, of course, also a requirement to comply with the Construction (Design and Management) Regulations 2015

No completion certificate is likely to be handed over by the Building Control Officer without being satisfied that all the necessary documentation compliant with regulation 38 has been provided at handover.

Compliance

All these activities can result in detail hidden in the overall enquiry documents and can be so easily overlooked. A face to face detailed discussion with those tendering can help to highlight these details. If such discussions fail to take place, extremely important features of system design can be overlooked with such detail only coming to light at commissioning stage and building control are inspecting the system and witnessing system performance.