Site Specific Risk Information – Taking Ownership

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To minimise the risk to both themselves and the public, firefighters must be equipped with sufficient information such that they are best equipped to fight a fire. In order to satisfy the requirement, local authority Fire and Rescue Services generally maintain electronic databases to highlight the location of the main hazards. There are a number of sites throughout the UK whose stringent security requirements preclude the local authority fire and rescue services from holding certain information off site.

This paper looks at the information provided to the emergency services, in particular the local Fire and Rescue Service, and presents an opportunity that some site operators have taken to improve available information where security of that information is a concern. The solution also balances information security challenges with need to provide useful information in the event of an emergency incident.

Keywords: Fire Safety, Emergency Response

Introduction

National statistics indicate that 2,129 fires occurred in industrial buildings in 2015-16 and in the same period firefighters sustained 2,062 injuries at operational incidents in England. To minimise the risk to both themselves and the public, firefighters must be equipped with sufficient information such that they are best equipped to fight a fire. Owing to the importance of obtaining and maintaining this information, a requirement in England and Wales of the Fire and Rescue Services Act 2004 (Clause 7(2)d) is that each fire and rescue authority must make arrangements for obtaining information for the purposes of extinguishing fires, and protecting life and properties in its area. The same requirement is also applicable in Scotland as part of the Fire (Scotland) Act 2005, as amended by the Police and Fire Reform (Scotland) Act 2012. Where this paper refers to "local authority Fire and Rescue Service", in Scotland, this means the Scottish Fire and Rescue Service.

In order to satisfy the requirement, local authority Fire and Rescue Services generally maintain electronic databases to highlight the location of the main hazards and materials on industrial sites along with other key information relating to hydrant locations and utility isolation points.

In accordance with the Dangerous Substances and Explosive Atmospheres Regulations 2002 (Clause 8(2)a) there is also a requirement on sites where these regulations apply to ensure that emergency arrangements are in place in respect of dangerous substances. This information should then be made available to the relevant accident and emergency services to enable those services, whether internal or external to the premises, to prepare their own response procedures and precautionary measures.

There is also a requirement within the Regulatory Reform (Fire Safety) Order 2005 for the designated Responsible Person to ensure the necessary measures are in place pursuant of the order and make information available to relevant accident and emergency services. Historically, the information gathered by the local fire and rescue services as part of their pre-planning operations tends to be fairly simplistic in terms of a general building layout with identified high risk areas.

Security Issues

For the majority of industrial sites in the United Kingdom (UK) the information transferred between the premises and the emergency services is fairly straightforward and should result in the local authority fire and rescue services holding the relevant data on their records. As the requirement falls on the Fire and Rescue Services, the information is usually gathered by a scheduled visit to the industrial or high hazard sites.

There are a number of sites throughout the UK whose stringent security requirements preclude the local authority fire and rescue services from holding certain information off site. Where the local authority fire and rescue services are unable to hold information off site owing to its sensitive nature an alternative means of providing the emergency services with relevant information must be sought.

Whereas in the nuclear industry, due to security restrictions enforced on nuclear licensed sites, it has not been possible for sufficient information on the risks at these sites to be held by the local fire and rescue service either at the stations or on the vehicles.

In line with the security recommendations from the Office for Nuclear Regulation (ONR), where locations of radiological materials are identified, this information must be treated with a greater level of security (e.g. be stored in approved facilities and/or secure servers). In almost all nuclear facilities, the radiological material will present one of the most hazardous areas in the facility.

Building Information Packs

In response to this problem, some nuclear licensed site operating companies are taking ownership of their responsibilities and the imposed security restrictions to generate a form of site specific risk information which is held on the site as Building Information Packs. In the event of an emergency these packs are made available to the emergency responders on arrival at the site, without compromising the stringent security requirements imposed by the ONR.

Numerous benefits of this approach have been identified by those companies generating the information themselves. These include ownership of information, management of its validity as buildings and processes change within facilities, and opportunities to train and engage with the local authority fire and rescue service.

In order to produce a Building Information Pack, the authors worked alongside all key stakeholders including building occupants, infrastructure personnel, security representatives and top management as well as consulting with the local Fire and Rescue Service. This aimed to ensure that an accurate and concise pack was produced which is easily understandable by the Fire and Rescue Service in the heat of the moment ensuring salient points can be quickly digested.

During the development of the Building Information Packs for a site in Cheshire, inputs from the local authority Fire and Rescue Service (Cheshire Fire and Rescue Service in the example case) were invaluable to ensuring that the output is both useful and useable. The key stakeholders for the Building Information Packs include both onsite and offsite personnel and include, but are not limited to, on site emergency planners, on site incident/ emergency responders, building management, external emergency services. Following initial planning meetings with the stakeholders, a number of key requirements were identified and these are listed below:

- Highlight emergency actions on arrival,
- Consider external risks to each building
- Highlight site emergency states
- Notification of building specific restrictions
- Identify potential confined space risks
- Locate and highlight electrical and gas isolation switches
- Highlight fire assembly points (and muster areas if applicable)
- Identify the presence of any compressed gases including type
- Identify access points
- Identify fire compartmentation within buildings
- Identify presence of any automatic firefighting equipment and media (i.e. fire suppression)
- Highlight building ventilation arrangements and whether they are automatic or manual
- Emulate symbols used by local authority fire and rescue service for other regional site specific risk information

The approach taken once the key requirements were identified was to generate a site wide plan with key risks and a site layout with a higher level of detail such that it does not attract an increased security classification, and as such can be submitted and held by the local authority Fire and Rescue Service.

Development of a template to be used for all buildings across an industrial site involved a number of optioneering and review meetings in order to combine the requirements of all stakeholders and agree compromises where necessary.

The typical contents of a Building Information Pack, based on development of the template is listed below:

- Site layout including directions to building (**Figure 1**).
- Building overview including size, construction details and operations/ use (**Figure 2**).
- Internal hazards detailing key hazards, restrictions, isolations, contact numbers and occupancy details (**Figure 3**).
- External hazards including distances to nearby buildings/ hazards, hydrant locations, external access points
- Internal Building layouts detailing building access/ egress points, fire compartmentation, location of hazards, service isolation points, camera locations, if appropriate (**Figure 4**).
- Door location look-up tables.
- Hazardous Substances List
- CCTV Camera Locations

The principals used in the development of the Building Information Pack layouts are to provide information starting from the external areas and working internally in more detail as the user progresses through the pack.

Populating the template with information for each building began with a review of the building drawings and then completing a facility walk around to physically inspect the building. Following the identification of fixed hazards within the building, a series of meetings were here with building management and process owners to discuss areas of particular note and additional hazards that may be introduced as part of specific processes.

One completed and approved by the stakeholders, the Building Information Packs, which are produced in a durable format, are held securely on site to be handed out to first responders in the event of an emergency.

Conclusion

Investing in the production of Building Information Packs highlights a business's commitment to building good relationships with its local authority fire and rescue service whilst striking the balance between controlling information security and providing relevant information to help safeguard firefighter and emergency responder's safety. Ultimately Building Information Packs will reduce the risks to firefighters and reduce deployment times thereby minimising potential losses and business disruption.

Numerous benefits of this approach have been identified by those companies generating the information themselves. These include ownership of information, management of its validity as buildings and processes change within facilities, and opportunities to train and engage with the local authority fire and rescue service.

The benefits of this approach can also be realised by the high hazard industries not just nuclear licensed sites and provide an opportunity to reduce the impact and severity of emergency incidents.

Figures

Figure 1 – Example Site Directions

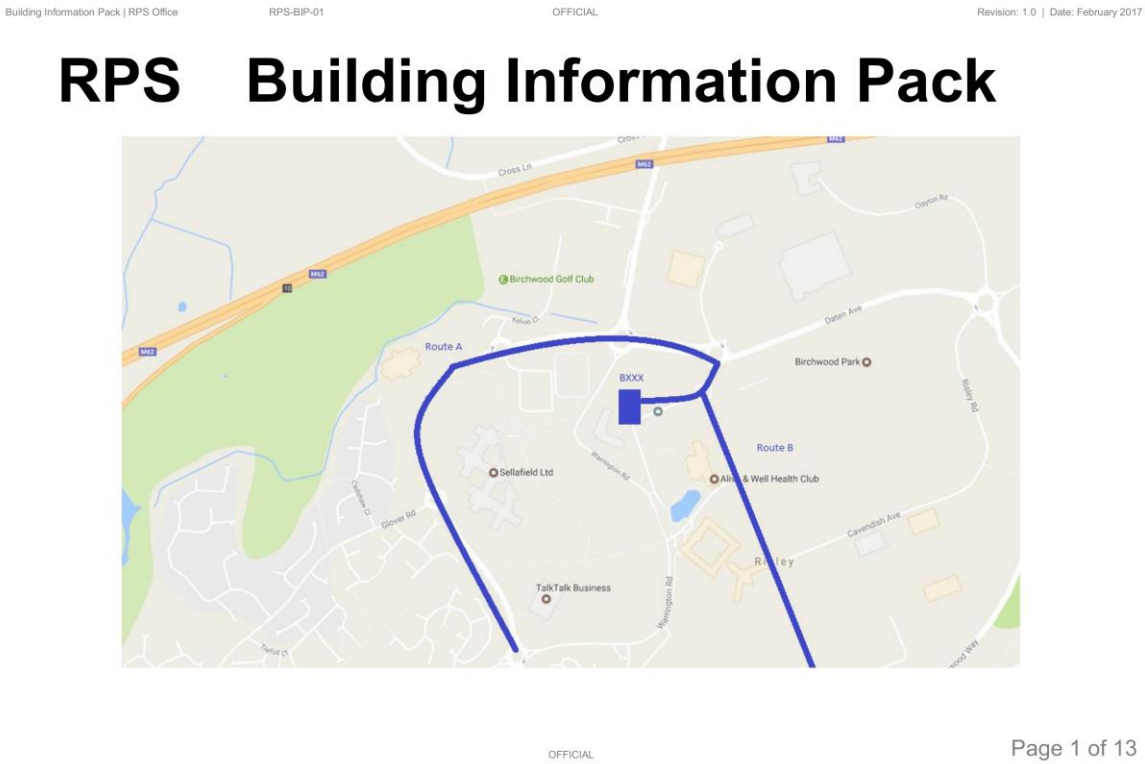


Figure 2 – Example Building Overview

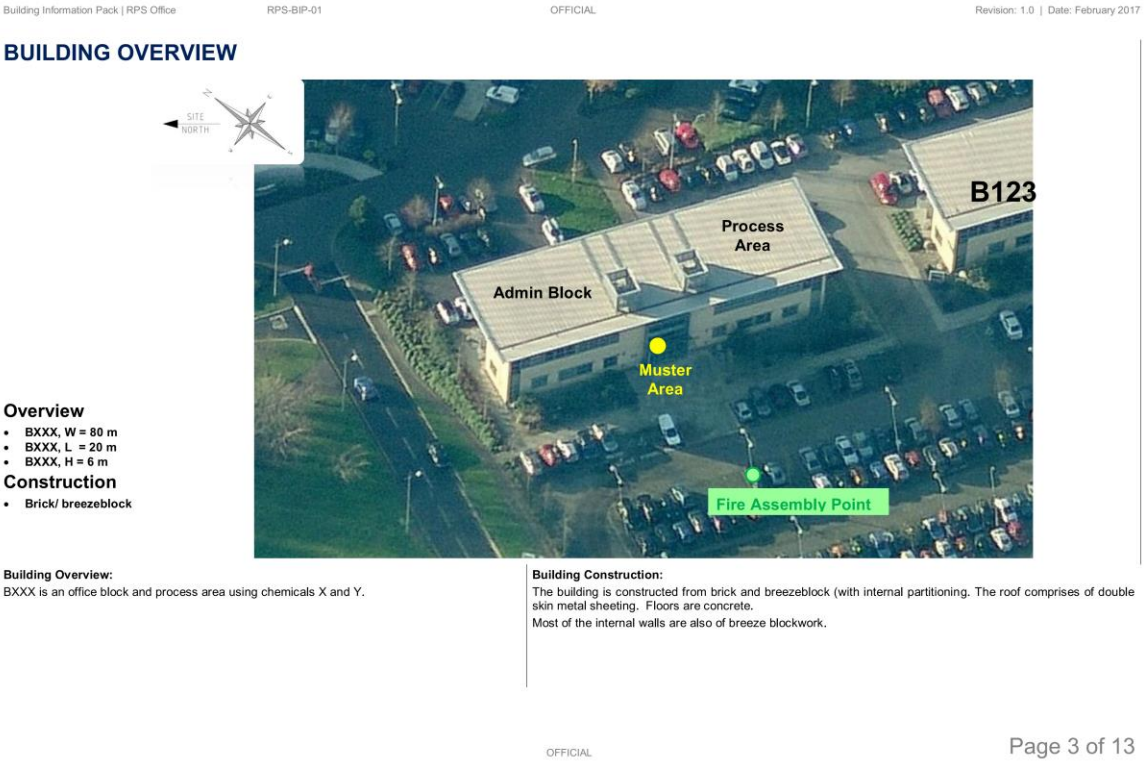


Figure 3 – Example Internal Hazards

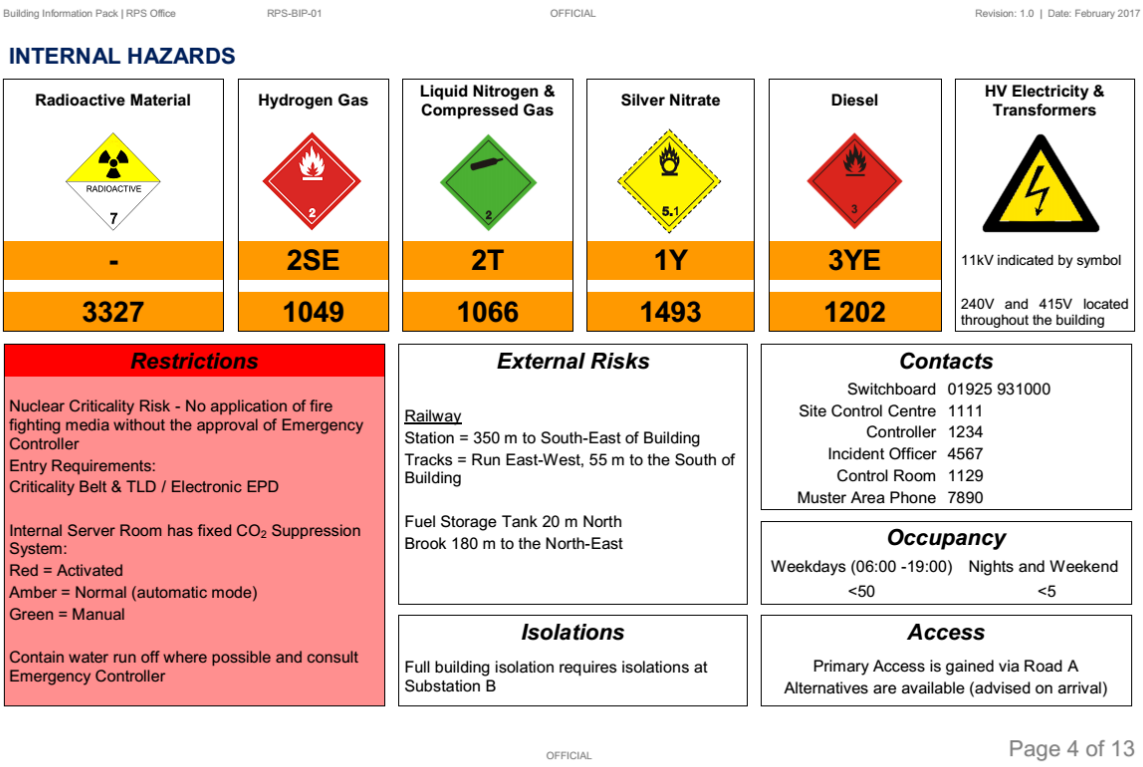
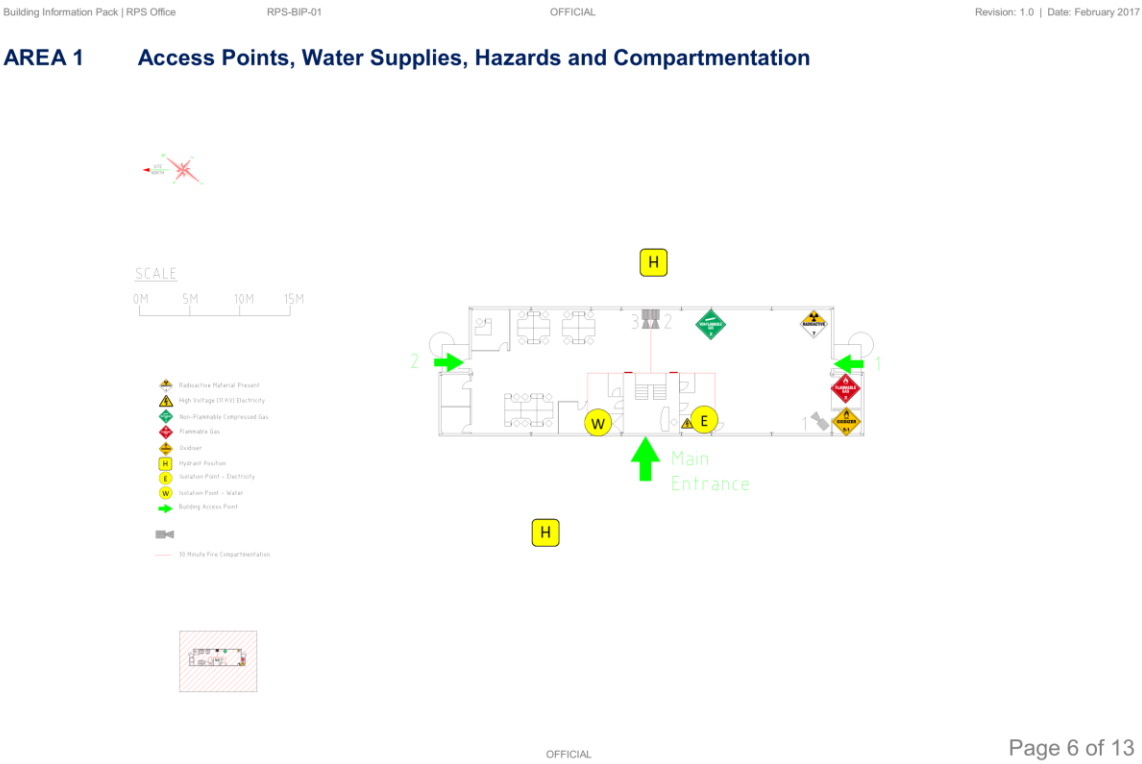


Figure 4 – Example Internal Layout



References

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