



Appeal Against Conditions attached to Fire Safety Certificate (18/4137/7D)

Project	Techrete Ltd. Industrial Facility
Local Authority	Fingal County Council
Date	31 st May 2019

Contents

- 1.0 INTRODUCTION**
- 2.0 INFORMATION REVIEWED**
- 3.0 DISCUSSION**
- 4.0 RECOMMENDATIONS**

1.0 INTRODUCTION

The project involves extensions to an existing industrial facility in Balbriggan, Co Dublin. This facility produces precast concrete for the construction industry.

A Fire Safety Certificate application for the works was granted by Fingal County Council on the 20th December 2018. The following conditions were attached: -

Condition 1

The additional information received on 15/10/2018 and 26/10/2018 to be incorporated into the development.

Reason: To show compliance with Part B of the Second Schedule of the Building Regulations, 1997-2017.

Condition 2

The wall separating Finish Hall 2 from the sandblast booth is to achieve 60 minutes fire separation in accordance with Sections 3.2.2 (b) and 3.2.5.8 of Technical Guidance Document B

Reason: To comply with the provisions of Part B3 of the Second Schedule of the Building Regulations, 1997-2017.

Condition 3

A minimum level of Category L3 Fire Detection & Alarm System is to be designed, installed and commissioned in accordance with I.S. 3218:2013 throughout all areas of the building.

Reason: To comply with Part B1 of the Second Schedule of the Building Regulations, 1997-2017.

Condition 4

Emergency escape lighting shall be designed, installed and maintained in accordance with I.S. 3217:2013 + A1:2017.

Reason: To comply with Part B1 of the Second Schedule of the Building Regulations, 1997-2017.

Condition 5

Fire safety signs to be in accordance with BS ISO 3864-1:2011 'Graphical symbols. Safety colours and safety signs. Design principles for safety signs and safety markings', BS 7010:2012 + A6:2016 'Graphical symbols. Safety colours and safety signs. Registered safety signs' and S.I. 299 of 2007 'Safety, Health and Welfare at work (General Applications) Regulations 2007'. Emergency exit signage to be designed, installed, commissioned and certified in accordance with Annex B of IS 3217:2013. The emergency exit signs are to comply also with IS EN 1838:2013 and ISO 7010:2011 standards.

Reason: To comply with Part B1 of the Second Schedule of the Building Regulations, 1997-2017.

Condition 6

Portable fire extinguishers are to be provided in accordance with the recommendations of I.S. 291:2015 or equivalent and are to be manufactured to the appropriate standard such as I.S. E.N.3.

Reason: To comply with Part B1 of the Second Schedule of the Building Regulations, 1997-2017.

Conditions 2 and 3 are the subject of this appeal.

2.0 INFORMATION REVIEWED

In assessing this appeal, the following information was considered: -

- Fire safety certificate application including report and drawings received.
- Additional Information submissions dated 15th October 2018, and the 26th October 2018.
- Fire safety certificate grant letter (Ref: 18/4137/7D) dated 20th December 2018.
- Previously granted FSC (Ref: 07/4184) report authored by Diarmuid P. Kelly & Associates and grant letter dated 16th May 2007.
- Appeal submission from Colm Traynor & Associates (CTA) dated 18th January 2019.
- Fire Officers Report on Fire Safety Certificate appeal dated 7th February 2019.
- Response to Fire Officers Report from Colm Traynor & Associates dated 26th February 2019.

3.0 DISCUSSION

3.1 Condition No. 2

Condition 2

The wall separating Finish Hall 2 from the sandblast booth is to achieve 60 minutes fire separation in accordance with Sections 3.2.2 (b) and 3.2.5.8 of Technical Guidance Document B

Reason: To comply with the provisions of Part B3 of the Second Schedule of the Building Regulations, 1997-2017.

BCA's Case

The BCA considered that compartmentation can be applied where buildings are divided into separate parts so that different parts can be assessed independently for the purpose of determining the appropriate standard of fire resistance. BCA consider the sandblast booth to be used for separate purposes and therefore be enclosed in compartment construction as per Section 3.2.4.1 of TGD-B. BCA consider that the sandblast booth is more similar to a normal hazard space, rather than a low hazard space and should be treated thusly as per BS5588:11.

Appellant's Case

CTA note that Section 3.2.2(b) of TGD-B is not applicable as the sandblast booth is not required to be assessed independently to the remainder of the extension, and that BCA's comment is a misinterpretation of what TGD-B states. CTA do not consider the guidelines for compartment construction (Section 3.2.4.1) to be relevant in this case. CTA do not consider the sandblast booth to be defined as a normal hazard based on the activities taking place there. CTA note that there is a dust and grit collection system which ensures that these particles cannot contribute to the spread of fire, and that furthermore, the sandblast booth would not be defined as a place of special fire risk as per Section 1.0.9 of TGD-B.

Discussion

Compartmentation is a passive fire safety measure which restricts the spread of fire within a building by subdividing it into compartments separated from one another by walls and/or floors of fire resisting construction. The degree of sub-division depends on several factors including the use of the building, ease of evacuation and the availability of a fire suppression system.

The current floor area of the production area is approximately 9,500m² which is significantly less than the maximum recommended compartment size of 93,000m² as outlined in Table 3.1 of TGD-B, meaning it does not require additional compartmentation to meet these recommendations.

The primary argument of the appellant is that the sandblast booth should not be assessed independently from the remainder of the production hall, and that it is not a place of special fire risk as defined in Section 1.0.9 of TGD-B, "*Transformer and switchgear rooms, large commercial kitchens, boiler rooms, fuel or other highly flammable substance storage spaces, rooms housing a fixed internal combustion engine and areas where flammable areas are likely to be present in the atmosphere.*" The sandblast booth does not fall under this definition i.e. is not a place of special fire risk and can be treated as having the same risk profile as the remainder of the building.

The provision of compartment walls relevant to all purpose groups as outlined in Section 3.2.4.1 of TGD-B, do not apply to the sandblast booth as it can be treated as the same purpose group as the remainder of the production hall and it is not a place of special fire risk. Therefore, the condition should be removed from the granted Fire Safety Certificate.

3.2 Condition No. 3

Condition 3

A minimum level of Category L3 Fire Detection & Alarm System is to be designed, installed and commissioned in accordance with I.S. 3218:2013 throughout all areas of the building.

Reason: To comply with Part B1 of the Second Schedule of the Building Regulations, 1997-2017.

BCA's Case

BCA considered that the type of fire detection and alarm system provided should be appropriate to the uses of the building and protection of life as per Section 1.4.14.1 of TGD-B. BCA consider that a Category M FDAS is not appropriate for the main production hall and should be upgraded/replaced with a Category L3 FDAS. BCA note that there is one less exit from the main production hall creating potentially longer travel distances. BCA consider that due to the meticulous nature of their work, employees would not be paying adequate attention to their surroundings and that it is unreasonable to expect them to be aware of a fire at a remote distance to their location and navigate their way to a break glass unit through several workspaces thus creating a situation for potential delay in noticing/alerting a fire.

Appellant's Case

CTA note that the ancillary office spaces at the front of the building are being provided with an automatic fire detection and alarm system, as is appropriate for that area of the building. CTA consider a manual system to be appropriate for the main production hall, based on its layout, occupancy and use. CTA note that the main production hall is comprised of able bodied workers, capable of raising the alarm and exiting the building upon seeing any smoke. CTA note that it is unlikely there will be a delay in noting a fire breaking out, due to the number of suitably trained people in the production hall. CTA note there is sufficient escape routes available to final exits on the perimeter, and that there will not be any unaccompanied or unauthorized visitors to the hall (who would be unfamiliar with the building). CTA note that Dublin Fire Brigade previously approved the installation of Category M system, to be compliant with Part B of the building regulations, which is reflected in the granted fire safety certificate. CTA note that it is unclear how a Category M is no longer considered compliant, when it was previously.

Discussion

The outbreak of a fire in a building could lead to escape routes becoming unusable due to untenable conditions. Therefore, the sooner a fire is detected, and the alarm raised, more time will be available for evacuation where necessary.

Section 1.4.14.1 of TGD-B states that, *"Buildings should be provided with a fire detection and alarm system to warn the occupants of the existence of fire where the building is of such a size, layout or occupancy that the fire itself may not provide adequate warning to the occupants so as to enable them to escape safely."*

The primary argument of the appellant is that a Category M fire detection and alarm system is appropriate for the production hall, due to meeting the criteria for a manual system as outlined in IS3218:2013. The appellant also highlights that a Category M fire detection and alarm system was accepted in the previously approved granted fire safety certificate, and that the proposed extensions do not warrant that this category no longer be applicable to the production hall.

It is also worth noting the suitability of detectors which would be utilized for an automatic fire detection and alarm system. A point detector system would not be appropriate due to the ceiling height (12m) of the warehouse, so stratification of any smoke layer is likely, making detection ineffective. It is for this reason IS3218:2013, recommends that the maximum height for installation of smoke detectors is 10m.

An optical beam detector system would also not be suitable due to the nature of work in the warehouse. It would be prone to false alarms due to constant interruption of the beam and vibrations arising from production activities in the warehouse space.

Based on the above, and review of the drawings, and accompanying documentation, the criteria for use of a Category M alarm system appear to have been met, and an automatic fire detection and alarm system would not be appropriate. Therefore, the condition should be removed on the granted Fire Safety Certificate.

4.0 RECOMMENDATIONS

The BCA should be directed to remove Condition 2 and Conditions 3 from the granted Fire Safety Certificate.

Signed.....

Martin Davidson

B.Eng MSc (Fire Eng) CEng MIEI

Date: 31st May 2019

