



JENSEN HUGHES

Appeal Against Conditions attached to Fire Safety Certificate (FSC/19/052)

Project	Ballykelly Mills, Monastrevin, Co. Kildare
Local Authority	Kildare County Council
Date	14 th May 2021

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1.0 INTRODUCTION

The project involves the change of use and material alteration of existing industrial premises to whiskey distillery, visitor centre and storage at Ballykelly Mills, Ballykelly, Monasterevin, Co. Kildare.

A Fire Safety Certificate application for the works was granted by Kildare County Council on the 6th April 2020 with conditions. The following conditions were attached: -

Condition 1

The building is to be constructed in accordance with all the particulars submitted with the Fire Safety Certificate application ref 19/052, as amended by the additional information submissions received on 23rd December 2019, 29th January 2020 and 16th March 2020 and any specifically by any conditions below. Earlier design proposals are to be considered superseded by later amendments and ultimately by any conditions attached by the Building Control Authority.

Condition 2

The compartment floor separating the ground and first floor distillery from the second floor assembly and recreation area shall be of solid construction such that it resists the passage of fire and gaseous products of combustion for a minimum period of 90 minutes in terms of loadbearing capacity, integrity and insulation, in accordance with tables A1 & A2 of Technical Guidance Document B – Fire Safety, Building Regulations 2006 (TGDB). Any openings in this compartment floor shall be limited to those listed in section 3.2.6.2 of TGD B and shall be appropriately fire stopped in accordance with section 3.4 of TGD B.

Condition 3

Alcohol production and any bulk storage areas shall be provided with an Automatic Sprinkler System which is designed, installed, commissioned and maintained in accordance with the requirements of IS EN 12845:2015 + A1:2019 and is appropriate for a Hazard Group OH4 occupancy.

Condition 4

If deep fat frying equipment is to be installed a suitable automatic suppression system shall also be installed.

Condition 5

Access to roof level garden/terrace areas is to be limited to access for routine maintenance and repairs only.

Condition 6

The use of Class 3 (national class) linings is to be limited to bathrooms, toilets and shower rooms, except and the variations and special provisions contained in section 2.2.1. of Technical Guidance Document B – Fire Safety, Building Regulations 2006.

Condition 7

Natural ventilation and mechanical ventilation systems shall be in accordance with section 1.4.11 of Technical Guidance Document B – Fire Safety Building Regulations 2006.

Conditions 2 and 3 are the subject of this appeal.

It is also noted that no reasons have been provided by the BCA for any of the conditions attached.

2.0 INFORMATION REVIEWED

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

- Fire safety certificate application including report and drawings by Maurice Johnson & Partners (MJP) received by Kildare County Council on 13 May 2019.
- Request for additional information from Kildare Fire Service dated 17 July 2019.
- Additional information response from MJP dated 20th December 2019.
- Request for additional information from Kildare Fire Service dated 9 January 2020.
- Additional information response from MJP dated 29th January 2020.
- Fire safety certificate grant letter (Ref: FSC/19/052) dated 6th April 2020.
- Appeal submission from MJP dated 1st May 2020.
- Report on assessment of fire safety certificate application from BCA dated 9th June 2020.
- Appeal submission from MJP dated 6th July 2020.

3.0 CASE SUMMARY/BCA'S CASE

The key concern of the BCA is that the building will be used for the industrial scale distillation of alcohol, which they describe as "a highly flammable substance" and that the building will be used for assembly and recreation purposes with the public being admitted on guided tours.

Condition 2

Condition 2 is related to the floor separating the ground and first floor compartment from the second floor:

"The compartment floor separating the ground and first floor distillery from the second floor assembly and recreation area shall be of solid construction such that it resists the passage of fire and gaseous products of combustion for a minimum period of 90 minutes in terms of loadbearing capacity, integrity and insulation, in accordance with tables A1 & A2 of Technical Guidance Document B – Fire Safety, Building Regulations 2006 (TGDB). Any openings in this compartment floor shall be limited to those listed in section 3.2.6.2 of TGD B and shall be appropriately fire stopped in accordance with section 3.4 of TGD B."

The BCA contend that the provision of a floor achieving a fire resistance of 30 minutes does not comply with section 3.2.5 and tables A1 & A2 of technical guidance document B. They also contend that it does not take account of how fire fighting operations are carried out by a retained fire service in Ireland. They then go on to calculate how long it would take for fire fighters from the closest two retained stations to arrive at the site and estimated 20 and 32 minutes respectively and conclude that this means that fire resistance period of 30 minutes for the floor is inadequate.

They conclude that whilst a bridgehead would be established below the fire floor and, in this case mostly likely externally at ground floor, ultimately fire fighters would deploy to the fire floor if safe to do so and therefore, a compartment floor is required.

Condition 3

Condition 3 is related to the requirement for sprinklers:

"Alcohol production and any bulk storage areas shall be provided with an Automatic Sprinkler System which is designed, installed, commissioned and maintained in accordance with the requirements of IS EN 12845:2015 + A1:2019 and is appropriate for a Hazard Group OH4 occupancy."

The BCA state that sprinklers are necessary to limit the size of any fire due to the highly flammable nature of the materials involved in the production process i.e ethanol. Installing sprinklers is described as a "prudent" measure to prevent a fire impinging on the whiskey stills rather than extinguishing a fire in the stills themselves. They also state that this is even more of a necessity due to the fact that the stills are not manufactured to a recognised standard and as a result are more likely to rupture and explode causing more fire spread.

The BCA also contend that sprinklers should be provided in storage areas to limit fire spread in these areas and prevent a flowing liquid fire caused by rupture of the containers.

Finally the BCA state that because the public are being admitted, even in a controlled fashion, this changes the occupancy profile of the building as they would not be familiar with the building and the evacuation procedures. This and the remote location of the facility from the nearest fire station means that sprinklers would contain the fire prior to fire brigade arrival.

Appellant's Case

The opening point in the appellants case is the BCA have not provided any reasons for the condition's which is a failure to comply with Article 18 of the Building Control Regulations. The appellant is correct in this and the absence of reasons is most unusual. The appellant contends that this alone is adequate reason for the appeal to be upheld. However, as this is a procedural issue, I will leave this to board to consider and I will consider the technical aspects of the case which the appellant has also set out notwithstanding this point.

Condition 2

The appellants main argument in relation to condition 2 is that the distillation hall is well within the maximum compartment limits so the floor does not need to be a compartment floor to comply with this requirement of B3. They also make reference to the clause in TGD B in relation to atria, in that as the void does not breach a compartment floor then none of the requirements of BS 5588 Part 7 for atria apply in this instance. In addition to this they confirm that there is no external fire spread issues that require the provision of compartment floors.

The appellant also confirms that the reason the glazing was provided in the floor was to protect the means of escape at first floor with respect to escape towards the void. For this purpose, a fire resistance of 30 minutes is deemed to be sufficient.

In their final submission the appellant also supports their case with a report from a third party fire consultant with an expertise in operational fire fighting. They confirm that the main conclusion of the report is that *“A fire in this building involving the distillation process will likely be fought from the ground floor using foam and sufficient access and water supplies have been provided for this.”* Based on this they contend that the floor does not need to be a compartment floor for fire fighting purposes.

They also state that the second floor is fundamentally part of the distillation hall below as it is a viewing gallery and not a separate use that would require compartmentation.

Condition 3

Regarding the condition for sprinklers, the appellant states that although no reason was attached they assume from their discussions with the BCA during the assessment period that it was related to concerns about B5 Access and facilities for the fire service.

In this respect the appellant makes two main arguments

1. The fire fighting facilities on the site exceed the minimum required. They provide a comparison table between the distillery site and what would be required under TGD B which includes an onsite water source, permanent smoke venting over the distillation hall and an Atex electrical system to reduce the risk of explosions.
2. Sprinklers are not required for this building in order to comply with the guidance in TGD B. They also refer to another appeal in a similar building with the principle of complying with the guidance in TGD B as indicating prima facie compliance with the Building Regulations was established.

They also state that they were advised by Forsyth’s who are international experts in distillation processes that the application of cold water on copper vessels containing hot vapour gases can cause a negative internal pressure with subsequent risk of failure of the vessel.

In their final submission the appellant supports these arguments with the findings of the third party report referred to above.

4.0 DISCUSSION

The arguments made by both parties are extensive but essentially both issues are relatively straightforward.

4.1 Condition 2

The BCA appear to be treating the second floor as a fully separate use and classing it as Assembly and Recreation. If this was the case then they would be correct that a compartment floor would be required. However, in my opinion this use is ancillary to the main use of the building which is the distillery. The provision of tours for limited numbers of the public of these types of facilities is common. This is not comparable to a normal assembly and recreation use such as an exhibition hall, a museum, restaurant or bar. Occupants are accompanied and only spend a limited period of time in the viewing gallery. In this context therefore, I do not consider a compartment floor necessary.

The BCA have also raise the issue of fire fighting and carried out a calculation that showed it could take for fire fighters from the closest two retained stations to arrive at the site an estimated 20 and 32 minutes respectively and conclude that this means that fire resistance period of 30 minutes for the floor is inadequate. However this is not a valid comparison. Fire resistance periods are representative of a time spent in a test furnace and used to ensure a consistency of products. It is not appropriate to compare these with the duration of actual fires.

On the basis that the floor is not required to be a compartment floor to separate uses, the only other requirements would be:

1. It is required to meet maximum recommended compartment limits. In this case the distillation hall is within the maximum recommended limits for an unsprinklered compartment.
2. It is required to reduce the size of a compartment to meet external fire spread (B4) requirements. That is not necessary for the proposed building.

Whilst the BCA note that fire fighters may need to use this floor, I agree with the appellant that any fire at ground floor would not be fought from above, but would be fought from the external at ground floor level. In addition to this, whilst the floor is not a compartment floor, it does still have a structural fire resistance of 90 minutes.

On the basis of the above, in my view the floor does not need to be constructed as a compartment floor to meet the requirements of B3 of the Building Regulations. The condition should therefore be removed.

4.2 Condition 3

The assessment of condition 3 is somewhat addressed by that above for condition 2. The building complies with the guidance in TGD B for maximum recommended unsprinklered compartment sizes. It is also remote from the site boundary and as such sprinklers are not required for external fire spread purposes.

The provisions for fire fighting on the site clearly exceed the minimum recommended in TGD B for a building of this size and use.

As pointed out by the appellant when referring to Appeal 302836-18, compliance with TGD B is deemed to demonstrate prima facie, compliance with Part B of the second schedule to the Building Regulations. As concluded in that inspectors report, the appellant is entitled to rely on this assumption for his design in relation to meeting the minimum requirements of the Building Regulations.

On this basis therefore, sprinklers are not required in this building and the condition should be removed.

5.0 REASONS AND CONSIDERATIONS

In arriving at its decision, the Board had regard to the Fire Safety Certificate application and details that formed part of the application, the subsequent submissions made in connection with the appeal and the reporting inspector's report and recommendation.

It is considered that the provision of a compartment floor at second floor is not required to ensure compliance with Part B3 of the Second Schedule of the Building Regulations 1997-2020.

It is considered that the provision an automatic sprinkler system is not required to ensure compliance with Part B3 of the Second Schedule of the Building Regulations 1997-2020.

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

Signed.....
Martin Davidson
B.Eng MSc (Fire Eng) CEng MIEI

Date: 13 May 2021

