

REPORT TO AN BORD PLEANÁLA

ON

APPEAL AGAINST CONDITIONS ON A FIRE SAFETY CERTIFICATE

GRANTED BY DUN LAOGHAIRE-RATHDOWN COUNTY COUNCIL

FOR

**PROPOSED AHU ROOM ON THE ROOF OF BD PENEL LTD., POTTERY ROAD, DUN
LAOGHAIRE, CO. DUBLIN**

Client: An Bord Pleanála
An Bord Pleanála Ref: ABP-300257-17
Our Ref: CTA 1813
Date: MAR 2018

1.0 BACKGROUND

This Report sets out my findings and recommendations on the appeal submitted by Jeremy Gardner Associates (JGA) on behalf of BD Penel Limited against Conditions 1 and 2 on a granted Fire Safety Certificate (Register Ref. No: 17/8130, FSC/DR/614/17) dated 19th October 2017, issued by Dun Laoghaire-Rathdown County Council (DLR) in respect of an application for *Extension to a building: it is proposed to provide an AHU plant room on the roof of the existing development above the production facility, located on the north eastern part of the roof.*

Condition 1:

The part of the roof forming the external escape routes and its supporting structure, together with any opening within 3m of the escape routes, shall have a minimum 60 minutes fire resistance.

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

Condition 2:

The external escape stairways shall comply with the provisions of section 1.3.9 of Technical Guidance Document B.

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

Having considered the drawings, details and submissions on the file I am satisfied that the determination by the Board of this application as if it had been made to it in the first instance would not be warranted, as no significant matters have been noted other than the subject matter of the appeal. Accordingly, I consider that it would be appropriate to use the provisions of article 40(2) of the Building Control Regulations, 1997 in this case.

1.1 SUBJECT MATTER OF THE APPEAL

- The application for a Fire Safety Certificate was lodged by JGA on 24th August 2017.
- The Fire Safety Certificate, with two conditions, was issued by DLR on 19th October 2017.
- An appeal against Conditions 1 and 2 was submitted by JGA on 15th November 2017.

1.2 DOCUMENTS REVIEWED

- Application for Fire Safety Certificate lodged by JGA on 24th August 2017
- Appeal submission by JGA to An Bord Pleanala on 15th November 2017
- Submission to An Bord Pleanala by DLR dated 13th December 2017, with fire officers report
- Appeal submission by JGA to An Bord Pleanala on 8th March 2018

2.0 FINDINGS

The case made by the building control authority is summarised as follows:

Condition 1:

- Condition 1 was applied to ensure design compliance with Technical Guidance Document B 2006 (TGDB), which provides prima facie (indication of) compliance with the Building Regulations, Part B.
- The design of the escape route over the flat roof of the building was referenced against par. 1.2.6.2 (b), (c) and (e) of TGDB, but not section (d), which relates to fire protection of the escape route.
- The appellant appears to argue that the recommendations of 1.2.6.2 of TGDB apply only where one escape route (across a flat roof) is available, whereas three escape routes are available in this case. This provision in TGDB does not allow for reduction or removal of fire protection (of relevant structural members) where alternative escape routes are available.

Condition 2:

- Condition 2 was applied to ensure design compliance with Technical Guidance Document B 2006 (TGDB), which provides prima facie (indication of) compliance with the Building Regulations, Part B.

- The application references 1.2.6.1 of TGDB (external escape stairways) and specifies that the existing external escape stairways (2 no.) would facilitate egress from the AHU plant room, and would remain unchanged by the proposed works. Par. 1.2.6.1 in turn references 1.3.9 of TGDB, which has recommendations regarding fire resistance of external elevations and opes adjacent to external escape stairways.
- The appellants case is that an upgrade to the building walls adjacent to the external escape stairways is not necessary as they are located within different compartments of the building and so would be unlikely to both be compromised (by a fire) at the same time; also, the existence of sprinkler coverage would reduce the likelihood of a fire affecting both.
- This proposition is not accepted as it appears to presume that the recommendations of 1.3.9 of TGDB apply only in the case of a single escape route being available, rather than the multiple escape routes available in this case, or that they may be relaxed where sprinkler coverage is provided.

The case made by the appellant is summarised as follows:

Condition 1:

- JGA note that while Condition 1 provides for 60 minutes fire resistance to the flat roof escape route, the recommendations under TGDB are for 30 minutes fire resistance. The existing roof (providing an open-air escape route) does not have a designated fire resistance, and it is proposed that this remain unchanged.
- The plant room has three escape routes, two across the roof to existing external stairways, and one to an existing internal protected stairway. Fire safety design is based on the occurrence of a fire in one location only (within a building), so it is considered unreasonable to allow (in the design) for two fires occurring simultaneously in separate parts of the building. Two fire scenarios as set out demonstrate that safe egress from the plant room will always be available without upgrading the fire resistance of the existing roof.
- In the event of a fire in the north east compartment of the building, Stair 2 may be compromised so the escape routes across the roof to the external escape stairways would be available; these are located over different compartments (production and packaging compartments), separated in 60 minutes fire resisting construction from the north east

compartment. On that basis, there would not be a need to upgrade the roof over the production and packaging areas, as it would not be affected by the fire.

- Conversely to above, a fire in the production or packing area could inhibit one of the two external escape routes across the roof. As both external routes are separated horizontally by a distance of at least 36m (or 70m), it is reasonable to assume both routes would not be affected at the same time. However, if this were to occur, the occupants of the plant room could escape via the lobby to Stair 2 in the adjoining compartment.
- The plant room will be occupied only on an infrequent basis, by able-bodied maintenance personnel who will be familiar with the building and its associated escape routes. The occupancy has been onerously estimated at 38 persons based on an occupancy load factor of 30sqm/person from Table 1.1 of TGDB.
- The escape routes via the roof over the production area is an existing situation. In 2014 a Fire Safety Certificate was granted for the buildings (ref: FA/14/8066) which indicated escape across the production area roof, which is the same route as indicated in blue in Figure 1 in the appeal documentation. In the previous application, it did not include upgrading the fire resistance of the roof, due to compartmentation of the building below.
- The roof area where the AHU plant room is proposed is currently used as an open-air plant space, and the proposed escape routes for the plant room are (the same as) those currently in place for the open-air plant space.
- Whereas 6.10.3.5 of IS3218 recommends a Category L1 fire detection and alarm system for buildings such as assembly use, residential use, or where the buildings are large and complex such as would present certain delays to evacuation etc., in this case the provision of a Category L1 system provides the highest level of protection, in excess of what would normally be required in a building of this type, allowing for earlier fire detection than in a similar building with a lesser (but code compliant) system.
- The building is provided with an FM approved automatic sprinkler system. Although provided for property protection rather than life safety purposes, it will offer an inherent level of safety to the building.

- Based on the above factors, it is considered that a fire could not inhibit all three escape routes from the plant room simultaneously, hence it would be unnecessary to upgrade the fire resistance of the existing flat roof.
- The original main building was constructed prior to the introduction of building control regulations/Fire Safety Certificates. Fire Safety Certificates were applied for and granted for various material alterations and extensions over the years since. Fire safety legislation is not retrospective and the fire safety measures in the building do not need to be upgraded to current standards, unless a material change of use occurs.
- There is no obligation to adopt any particular solution set out in TGDB, and the use of alternative solutions is acceptable, provided that the level of safety achieved is adequate as per the requirement of the regulations.
- Where material alterations or extension takes place, the requirement (in respect of the existing building) is to ensure that no new or greater contravention of the current standard is proposed. The current application involves enclosing existing plant at roof level, which will not increase the occupancy of the building, and it is considered that the provision of the enclosure will not create a new or greater contravention to the current standard of fire safety.

Condition 2:

- The fire protection measures recommended under 1.3.9 of TGDB are to ensure that if a fire was to occur in the area adjacent to the external escape stairway, the (use of) the stairway would not be inhibited.
- It is not proposed to upgrade the existing building elevations adjacent to the two external escape stairways. For reasons similar to those set out in respect of Condition 1, if a fire were to occur in the production area, affecting either external stairway, the alternative internal escape stairway Stair 2 would be available, as it would remain unaffected within the separate adjoining compartment. Conversely, with a fire in the compartment containing Stair 2, the two external stairways would be unaffected and could be used.
- Staffing and fire protective measures similar to those set out in respect of Condition 1 will be applicable, providing for prompt and efficient egress from the plant room. In the scenarios set out, a fire in the building will be limited in size and extent, ensuring it will not simultaneously inhibit the use of multiple escape routes from the plant room.

- It is considered that there will be no new or greater contravention of the regulations with respect to the use of the existing external stairways currently used as escape routes from the plant area.

3.0 CONSIDERATIONS:

While the reason stated in respect of both conditions was *“To comply with Part B1 of the Second Schedule to the Building Regulations, 1997 to 2017”*, DLR also stated that Conditions 1 and 2 were appended to the Fire Safety Certificate *“to ensure design compliance with Technical Guidance Document B, 2006, which provides prima facie compliance with the Building Regulations, Part B.”*

While relevant recommendations of TGDB can be taken as prima facie indication of compliance with Part B, the corollary is not applicable, i.e. applying design criteria other than those in TGDB cannot be taken as prima facie indication of non-compliance, which seems to be implied by the above.

The functional requirement of Part B1 of the building regulations is that the means of escape are adequate, and capable of being safely and effectively used. In practice (as per the performance requirements set out in TGDB), this requires that escape routes are of sufficient number and size, suitably located, to enable persons to escape to a place of safety in the event of fire, and that the routes be sufficiently protected from the effects of fire in terms of enclosure, where necessary, and in the use of materials on the routes, *all to an extent necessary that is dependent on the use of the (part of) the building, its size and height.*

The proposed works in this case comprise the enclosure of AHU plant at roof level, most of which is existing (in the open air) at present, and is currently served by the escape routes proposed to be continued in use.

The main new requirement with respect to the proposed enclosure of the plant area (in terms of means of escape) arises from the fact of enclosure itself, and requires the provision of escape routes within and exits from the new enclosure. This requires escape routes of adequate number, width and travel distance so as to provide for escape from the enclosure to a place of relative safety.

In this case, the escape routes within and the exits from the enclosure are compliant in terms of number, width and travel distance, as well as being provided with additional emergency lighting/exit signage and fire alarm system coverage, as well as being included under the building sprinkler

coverage. It is also noted that the floor of the plant room itself will be upgraded to 60 minutes fire resisting construction, as well as walls separating it from other parts of the building.

The exit points from the new enclosure discharge to existing escape routes as described in the application (two existing routes across the flat roof and one into Stair 2 in the adjoining compartment). At least one of the external escape routes has previously been shown in other applications for material alterations/extensions of the building. In that regard, the means of escape away from the area which is the subject of the application (the plant room enclosure itself) are not considered to be subject to additional requirements under Regulation B1, as the existing parts of the escape routes are not considered as causing, or to suffer from, any new or greater contravention of Part B of the building regulations, as a consequence of the proposed alterations/extension.

Notwithstanding the above i.e. limiting any new means of escape requirements to the plant room enclosure itself, there is merit in the approach taken regarding the fire protection of the escape route across the flat roof and down the external escape stairways (and the case made for not upgrading them), where the following factors are taken into account:

- The plant on the roof is currently existing, with three existing escape routes as described, which will continue to serve the same plant area (albeit with a new enclosure)
- The occupancy of the plant room is likely to be very low, with infrequent access by able-bodied technical staff, familiar with the premises, for maintenance/testing purposes
- The three escape stairways are each located within or adjacent to different compartments of the building
- There is a significant horizontal distance between the two external escape routes, with most of their length being on a section of roof covering different compartments.
- The building is provided with an FM approved automatic sprinkler system, which, of its nature, has a very high degree of reliability, as well as a Category L1 fire detection and alarm system. Both systems will be extended to the plant room enclosure.

3.1 CONCLUSIONS:

Based on the above factors, it is considered that the requirement to upgrade to 60 minutes fire resisting construction the roof under the (remaining parts of) the existing external escape routes across the flat roof (under Condition 1) and to upgrade the existing façade of the building adjacent to the existing external escape stairways (under Condition 2), as a consequence of enclosing the plant area, is not warranted in terms of compliance of the proposed plant room extension with the

functional requirements of Part B1 of the Second Schedule to the Building Regulations, 1997 to 2017 , and that both conditions should be removed.

4.0 REASONS and CONSIDERATIONS:

Having regard to the submissions made in connection with the Fire Safety Certificate application and the appeal, the type of use, layout and limited access and occupancy of the proposed roof-level plant room extension, the limited scope of the proposed alterations/extension vis-à-vis the existing roof level and vertical escape routes, and the levels of existing and proposed fire protection measures as set out in the application, it is considered that the functional requirements of Part B1 of the Second Schedule of the Building Regulations 1997-2017 are being satisfied with respect to this application and that Condition 1 and Condition 2 on the Fire Safety Certificate should be removed.

Signed by:

COLM TRAYNOR BE FIEI Chartered Engineer

Date: 26th March 2018