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Note: The following letter was issued by our former department, the Office of the Deputy Prime Minister (ODPM). ODPM became Communities and Local Government on 5 May 2006 - all references in the text to ODPM now refer to Communities and Local Government.

Building Act 1984 - Section 16(10)(a)

Determination of compliance with Requirement B1 (Means of warning and escape) of the Building Regulations 2000 (as amended) in respect of a loft conversion

The proposed work

4. The proposed building work comprises a loft conversion to a three storey mid-terrace, four bedroom town house of approximately 45m² in plan area. The conversion will form a single room of 27m² in the roof space.
5. Two pairs of roof rescue windows are to be installed (one above the other) in both the front and rear roof slopes. The lower window of each pair will be 780mm x 1400mm and will be located at a maximum distance of 1700mm along the roof slope from the gutter board.
6. As existing the ground floor of the house comprises a garage and hall to the front, and a kitchen/dining room to the rear. The first floor accommodates bedroom no. 1 (with an en suite bathroom) and a sitting room with sliding door opening on to a balcony formed above the front protrusion of the garage, porch and meter cupboard below, and which has a depth of 2m. The second floor accommodates three bedrooms and a separate bathroom to the rear and left on plan.
7. The stairs to each floor are located in the centre of the house and transverse to the party walls. They rise in single straight flights, one above the other, to landings on the first and second floors - the whole stairway being protected to a standard of 30 minutes of fire resistance. In addition the doors to the kitchen/dining room and the garage are fitted with smoke seals. The new stair to the proposed third floor (fourth storey) will be achieved by 180 degrees winder stairs at the second floor landing level, rising thereafter in a straight flight. This new stair will be protected at second floor landing level by a 30 minute fire resisting door to be installed 900mm from the base of the new stair thus separating the new stair and the door to the second floor bathroom directly adjacent to the foot of the stair, from the rest of the second floor landing.

8. A mains operated automatic fire detection and alarm system is to be installed and will comprise detectors in all rooms (except the ground floor cloakroom and the first floor en suite bathroom); the first and second floor landings; and above the proposed new stair. Heat detectors will be installed in the garage and within the cooking area of the kitchen/dining room with a smoke detector provided in the dining area itself. All the other detectors will be smoke detectors.

9. From the maps and block plan provided, it is apparent that the front elevation of the house faces east south east with approximately 300m of public open space. The rear garden backs on to an estate road.

10. These proposals were contained in a full plans application which was rejected by the Borough Council on the grounds of non-compliance with Requirement B1 of the Building Regulations. The Council was concerned, in particular, that your proposals would result in a new storey 7.9m above ground level from which assisted escape might not be practical. However, you consider that the proposed fire protection to the single stairway, and the inter-linked fire detection and alarm system, provide adequate compensation to allow for the omission of an alternative means of escape from the new storey whilst still achieving compliance with Requirement B1. It is in respect of this question that you have applied for a determination.

The applicant's case

11. You take the view that the Borough Council's requirement for an alternative means of escape could only be provided by an external stair which would be too onerous for the provision of a single loft room. Furthermore, you believe that it is unlikely that planning permission would be granted for such a stair.

12. You have referred to a number of previous determinations by the Secretary of State which you consider support your case on the grounds that they seem to accept the principle of a suitable mains operated automatic fire detection and alarm system (incorporating interlinked detectors fitted throughout the building) as a substitute for an alternative means of escape.

13. You also refer to the following provisions contained within your proposals:

(i) the internal stair is to be fully protected, enclosed in fire resisting construction with fire resisting self-closing doors

(ii) interlinked smoke alarms are to be provided in all habitable rooms including the dining area of the kitchen/dining room, and circulation spaces. Heat detectors will also be installed within the cooking area in the kitchen/dining room and the garage

(iii) a roof rescue window is to be installed in each of the front and rear roof slopes in accordance with *Diagram 6 (b) of Approved Document B (Fire safety)*. Although you accept that the Approved Document indicates that this diagram refers to two storey houses, you consider that it is conceivable that the occupants of the loft room in your case could be rescued by the Fire Service at this height

(iv) you also accept that *Clause 4.4 (d) of BS 5588: "Fire precautions in the design, construction and use of buildings: Part 1: 1990 Code of Practice for residential buildings"* recommends that for dwellings with a storey situated at 7.5m above ground level an alternative escape should be provided. However, you point out that your drawings indicate that the underside of the proposed new third floor is only 7.7m above ground level and the top of the new floor is no more than 7.9m above ground level.

14. In response to some of the Borough Council's concerns you have also added that:

(i) It is because of the ground floor level projection at the front of the building possibly impeding rescue ladders, that a second roof rescue window is to be installed in the rear roof slope at third floor level. You add that a ladder can be erected at the rear of the house where at ground floor level there is a level, paved rear garden having direct and level access to a public highway.

(ii) Your proposed mains operated automatic smoke and heat detection system is intended to give early warning in the event of fire. You also indicate that *Approved Document B*, in discussing the provision of emergency egress window and external doors, does not preclude the provision of these in rear elevations where there is a direct escape route from the back garden to reach a place free from danger from fire. In discussing rescue by ladder the Approved Document gives no guidance as to the internal arrangement of rooms comprising the layout of the dwelling.

(iii) As well as the installation of the alarm system additional fire precautions are proposed on the lower floors in order to make the single escape stair as safe as possible.

15. You conclude that you believe that the Secretary of State has to consider each case on its merits and is therefore unlikely to be able to take account of other similar properties in the area.

The Borough Council's case

16. The Borough Council has raised the following concerns relating to your proposals:

(i) in considering your application the Borough Council has taken the view that Requirement B1 is a life safety matter which is directly related to the health and safety of occupants and visitors to the building and anyone who may try to rescue people in the event of fire

(ii) your proposals will result in there being two storeys situated at a height greater than 4.5m above ground level and which therefore do not accord with either paragraphs 2.12 - 2.14 of *Approved Document B* or the alternative guidance contained within *paragraph 4.4(d) of BS 5588: Part 1*. In the Borough Council's view, you are therefore required to demonstrate that your alternative proposals are no less safe for means of escape in case of fire than would be achieved by following one of these standards

(iii) although you refer to the intended use of the loft room as a study in your application for a determination, your full plans submission refers to the conversion as forming a habitable room. As such, the room could be used for sleeping accommodation which would heighten the risks associated with escape in the event of fire. The Building Regulations do not provide for on-going control of the use of part of a building.

(iv) the exposed location of the house brings into question whether rescue using either of the two roof rescue windows on the third floor could be achieved on anything other than a calm day and whether this provision therefore represents an effective alternative escape/rescue option

(v) the ground floor level projection of the building by the garage, meter cupboard and porch, impedes rescue ladder access to the front slope of the roof. Rescue from this elevation could only be effected if a ladder were erected outside of its safe limits for use, which would place rescuers at risk

(vi) given the impediments associated with rescue from the front elevation of the building, alternative rescue and escape could only be effected from the rear elevation. However, build up of fire in any of the rears rooms within the house - including the kitchen where statistically the highest incidence of fire occurs - could preclude the use of the rear rescue window.

(vii) with reference to the above points, the Borough Council takes the view that you appear to be placing heavy reliance on early warning of a fire and the single escape stairway remaining free of fire for a long enough period to achieve escape. The Fire Authority does not support this approach. .

17. The Borough Council also questions your contention that the previous determinations you refer to support your case and concludes by stating that there are a number of residents of other similar properties in the area that may also be interested in a loft conversion and the decision in your case may set a precedent for others to follow.

The Secretary of State's consideration

18. In the Secretary of State's view, the main consideration in this case is the safety of the occupants of the new third floor if a fire occurs at a lower level. The Borough Council has suggested that because this new floor is more than 7.5m above ground level an alternative escape route from this storey should be provided. You consider that the provision of an alternative escape route would be too onerous a provision for a single loft room and that it is highly unlikely that planning permission would be granted for such a stair. Instead you have proposed a package of features intended to compensate for the omission of the additional escape route. This package includes a protected stairway, interlinked smoke/heat alarms provided in all habitable rooms, fire resisting separation of the new top floor, and the provision of front and rear roof rescue windows for assisted escape.

19. The Secretary of State considers that additional measures, such as those described in *Approved Document B*, are necessary for floors in houses more than 7.5m above ground level to address the increased risk of the occupants of a floor becoming trapped at this level. The increased risk is due to the additional time it will take to travel down the stairway and the reluctance of the occupants to use an escape route which may be becoming obscured by smoke.

20. The Borough Council has expressed concern that your proposal to provide windows for assisted escape from the new loft room might not be practical. The approach provided in *Approved Document B* for loft conversions is a departure from the general principle that escape should be provided without outside assistance; and you have acknowledged this position. The concession in respect of loft conversions is only intended to be used where the roof space of an existing two storey house is converted. The use of roof rescue windows for assisted escape for loft conversions of above this height is not considered appropriate, albeit that it may be possible in practice. It follows that whilst the Secretary of State does not completely discount in this particular instance the relevance of making provision for roof rescue windows at third floor level, he has not considered it appropriate to regard such provision as constituting an acceptable alternative means of escape for the purposes of determining compliance with Requirement B1.

21. However, the Secretary of State does recognise in this particular case that your proposed provision for an enhanced level of early warning comprising the use of interlinked smoke/heat alarms in each habitable room, in conjunction with a fully protected primary escape route - including 30 minute fire resisting and self closing doors - will reduce the risk of the occupants of the new storey becoming trapped. This level of provision needs to be

compared with the level of safety which will be afforded the occupants of a typical three storey house where smoke alarm provision may have been limited to the stairway only, in accordance with the guidance given in *paragraphs 1.2 - 1.22 of Approved Document B*. In the Secretary of State's view, the level of safety to be provided by your proposals for the occupants of the proposed loft room will be of a similar level and will therefore achieve compliance with Requirement B1.

The determination

22. The Secretary of State has given careful consideration to the particular circumstances of this case and the arguments presented by both parties. He has also noted that you have referred to previous determination decisions which you contend support your case. However, the Secretary of State is required to consider all cases on their individual merits and some issues which are specific to previous cases will not be relevant to subsequent ones.

23. As indicated in paragraph 21 above, on the basis of your proposals as submitted the Secretary of State considers that they make adequate provision for warning and safe escape. He has therefore concluded and hereby determines that your proposals comply with Requirement B1 (Means of warning and escape) of Schedule 1 to the Building Regulations 2000 (as amended).