

Date: 23/11/04

Ref: 45/3/172

*Note: The following letter which has had personal details edited out 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 39**

**Appeal against refusal by the Borough Council to relax or dispense with Requirement B1 (Means of warning and escape) of the Building Regulations 2000 (as amended) in respect of the proposed installation of a sprinkler system, forming part of building work comprising a loft conversion at a two storey house**

### **The appeal**

3. The building work to which this appeal relates comprises the conversion of the roof space (ie the loft) of a two storey, two bedroom semi-detached house into a third bedroom. The plan dimensions of the house at ground floor level are approximately 11m by 4.5m, including a two storey back extension.

4. The existing stair runs across the width of the house. At ground floor level the stair splits the, otherwise open plan, accommodation into a lounge space at the front and dining area to the rear. The stair is open on both sides at this level and the distance from the foot of the stair to either the front or back entrance doors is approximately 3m. A back extension also provides a kitchen at this level, which is shown on the plan as being separated from the dining area by a door.

5. At first floor level there are two bedrooms on either side of the stair with a landing area leading to the bathroom over the kitchen. This landing has been widened to facilitate the provision of a new stair that leads to the new accommodation at second floor (third storey) level.

6. The proposed new bedroom accommodation on the second floor involves the installation of a dormer construction extending full width at the back of the house, containing three windows. Two rooflights, one of which is sized and positioned to allow assisted escape are provided to the front.

7. The plan indicates that the door to the new second floor bedroom will be an 'FD20' fire door and that all doors facing onto the stairway will be made self-closing. A system of mains powered interlinked smoke alarms will also be provided in the circulation areas of the house.

8. Following the rejection of your first full plans application, your revised plans were approved by the Borough Council and incorporated the proposed construction of partition walls on the ground floor to separate the stairway from the ground floor accommodation. However, because you wanted to retain the existing open plan arrangement at ground floor level you subsequently applied to the Council for a relaxation or dispensation of Requirement B1 of the Building Regulations to provide for the installation of a sprinkler system on the ground floor instead. Details provided by your proposed sprinkler installer show a total of six sprinkler heads distributed in accordance with *BS DD 251 (Sprinkler systems for residential and domestic occupancies - code of practice: 2000)* to cover the lounge, dining area and kitchen.

9. Although the Borough Council accepted that the absence of a protected stairway at ground floor level may in principle be compensated by the provision of an appropriate sprinkler system, due to the lack of regulatory guidance in this area and the absence of specific details of your proposals, the Council refused your relaxation/dispensation application. It is against that refusal that you then appealed to the Secretary of State.

### **The appellant's case**

10. In your view, your proposal to install a sprinkler system on the ground floor is an appropriate alternative to the provision of partition walls to protect the stairway for the purpose of complying with Requirement B1. You consider that the Borough Council has not considered the appropriateness of your proposed design criteria for the sprinkler system.

11. You indicate that if a sprinkler system were permitted you would be willing to install a fire door separating the kitchen from the remainder of the ground floor accommodation.

### **The Borough Council's case**

12. The Borough Council considers that the principal means of escape from a three storey building should be via an internal protected stairway as defined in *paragraphs 2.18 - 2.25 of Approved Document B (Fire safety)* and that your proposals do not adequately compensate for the lack of a protected stairway.

13. The Borough Council's policy is to refer proposals regarding specific sprinkler installations in domestic properties to the ODPM.

## The Secretary of State's consideration

14. The Secretary of State takes the view that the main consideration in this case is the safety of the occupants of the proposed second floor if a fire occurs on the ground floor. In the case of a loft conversion to an existing two storey dwelling-house it is considered reasonable to demonstrate that adequate means of escape would be achieved by the provision of a primary escape route supplemented by an assisted escape route from the habitable rooms at second floor level.

15. When following this approach it would normally be necessary to upgrade existing stairway enclosures by making existing doors self-closing and by replacing conventional glass with fire resisting glass. If, as in this case, there is no existing enclosure at one or more level in the house then additional doors and partitions necessary to complete the enclosure should be provided. However, in this case you are proposing to make the existing doors self-closing on the first floor level only, leaving the ground floor as existing in an open plan arrangement.

16. You consider that your proposal for a domestic sprinkler system covering all the rooms at ground floor level is an adequate alternative to the physical enclosure of the stairway at that level. But the Borough Council has taken the view that your proposals are not adequate.

17. In the Secretary of State's view, no safety system is entirely infallible and there will always be scenarios where such systems will not perform as intended. It is, therefore, necessary to make a subjective assessment of the overall level of safety offered by an alternative approach in comparison to the conventional solutions offered in Approved Documents.

18. The Secretary of State considers that fire suppression from a sprinkler system could, when considered in context, provide a similar level of safety for the occupants of a loft conversion as a self-closing door and partition of undetermined fire resistance. If the occupants of the new habitable room on the second floor in this case did find their primary escape route blocked then adequate provision would be available for assisted escape via the appropriate window in the habitable room. Sprinkler protection on the ground floor might also extend the period for which the occupants of the second floor could wait to be assisted in their escape.

19. For this approach to be acceptable it would be necessary to ensure that the fire detection system and the sprinkler system were adequately designed and installed to an appropriate specification. To ensure that the sprinkler system would react to a fire as quickly as possible the sprinkler heads would need to be of the quick response type, as defined *BS DD 252 (Components for residential sprinkler systems - specification and test methods for sprinklers: 2002)*, and be positioned with their heat sensitive element below the ceiling (concealed or recessed sprinklers would not be appropriate).

20. The water supply to the sprinkler system would also need to be considered. The guidance in BS DD 251 suggests that the supply should be capable of serving two sprinkler heads in a domestic occupancy such as this. However, the arrangement of sprinklers necessary to cover the open plan space in this case is such that it is probable that if a fire occurred in the centre of the room it would activate more than two sprinklers. Given the dependence of the means of escape on the sprinkler system the water supply should, therefore, be able to serve up to four sprinklers activating simultaneously.

21. In addition it would be necessary to ensure that the smoke alarms at ground floor level were positioned to respond quickly and were adequate in number. In this case, for example, detection might be required in the ground floor dining area and in the living areas. As you have proposed, higher risk areas such as the kitchen should be separated from the open plan space.

22. In the light of the above points, the Secretary of State concludes that your proposals as submitted do not demonstrate compliance with Requirement B1. However, subject to these points being properly addressed, he considers that the principle of your proposals has the potential in the particular circumstances of this case to comply with the requirement. In such circumstances it follows that the need for a relaxation or dispensation of Requirement B1 would not arise.

### **The Secretary of State's decision**

23. The Secretary of State has given careful consideration to the facts of this case and the arguments put forward by both parties.

24. You have appealed to the Secretary of State in respect of the refusal by the Borough Council to relax or dispense with Requirement B1. The Secretary of State considers that compliance with Requirement B1 is a life safety matter and as such he would not normally consider it appropriate to either relax or dispense with it, except in exceptional circumstances. Moreover, as indicated above, he considers that the principle of your proposals has the potential to achieve compliance with Requirement B1, having regard to the particular circumstances of this case. He has therefore concluded that it would not be appropriate to either relax or dispense with Requirement B1 (Means of warning and escape) of Schedule 1 to the Building Regulations 2000 (as amended). Accordingly, he dismisses your appeal.