Date: 01/04/99
Ref: 45/4/22

Note: The following letter which has had personal details edited out was issued by our former department, the Department for Environment, Transport and the Regions (DETR). DETR is now Communities and Local Government - all references in the text to DETR now refer to Communities and Local Government.

Hampshire Act 1983: Section 13
Extension to an existing single storey factory

The appeal

3.Section 13 of the Hampshire Act 1983 (Fire Precautions in Certain Large Buildings) relates to either: the erection of a building of the warehouse class or a building which is intended for trade or manufacturing use and which exceeds 7000 cubic metres; or to the extension of a building so used or intended to be used which as extended would exceed 7,000 cubic metres.

4.Section 13(2)(a) of the 1983 Act provides the discretionary power that a district council may reject plans and particulars unless it is shown to their satisfaction that the building which is the subject of the operation will be provided with: *"(i) fire alarms (whether automatic or otherwise) and a fire extinguishing system, or either such alarms or such system; and (ii) effective means of removing smoke in case of fire."* Section 13(3)(b) enables a district council, irrespective of any decision made under the Building Regulations, to refuse or to approve the particulars with or without conditions.

5.Section 13(5) of the 1983 Act provides that a person who is aggrieved by the action of a district council which has rejected plans, or imposed conditions, may appeal to the Secretary of State for the Environment, Transport and the Regions.

The building work

6.The proposed building work to which this appeal relates consists of an extension to an existing 28m x 28m single storey factory building with attached two storey office accommodation on part of the south-east side. The extension will nearly double the size of the existing factory area and will increase the volume to approximately 14,000 m3. The extension will also include an extension of the attached office section so as to provide a canteen and storage area. You state that the building has met all the requirements of the Building Regulations in respect of means of escape; and that the external cladding of the extension will achieve 4 hour fire resistance and the fire service will have a clear access to 85 per cent of the perimeter of the building.

7.You state that the engineering activities carried out in the building, involving the use of molten zinc and electrically powered precision machine tools, are classified under BS 5306 Part 2 as belonging in "ordinary hazard group 3"- (BS 5306 Part 2). You state that this is not a high fire risk classification; that the provision of a sprinkler system would be completely incompatible with the process; and that the need for efficient management of the engineering production process precludes the compartmentation of the building.

8.Your clients propose installing a manually operated fire alarm system and providing portable fire fighting equipment. For smoke ventilation it is proposed to rely upon an upper tier of windows which run along 50 per cent of the building and which would break, or could be broken, in the event of fire. However, your clients do not propose to follow the recommendations of the Fire Service by installing a smoke venting and automatic sprinkler system. Because of the lack of provision of these precautions the District Council have rejected your plans under Section 13(2) of the 1983 Act. However, you do not consider these precautions to be necessary or acceptable in this case and it is in respect of this that you have appealed to the Secretary of State.

The appellant's case

9.You consider that the over-strict application of the 1983 Act is anomalous in this case and you quote examples of similar large buildings that are neither sprinklered nor compartmented. You also give the following reasons in support of your claim that it is unreasonable to ask for either compartmentation or the installation of a sprinkler system in your case:

i)it would be undesirable to provide a compartment wall separating the extension from the existing section of the building because this would prevent the efficient management of the engineering production process of the factory. It would also obstruct the free movement of the work around the factory because of the need to channel traffic through small doors

ii)a sprinkler system inside the extended factory would be completely incompatible with the zinc diecasting process used because water will cause an explosion if it comes into contact with molten zinc. A sprinkler system could also be hazardous given the large amount of electrically powered machine tools that occupy most of the factory

iii)you consider that the requirement of the 1983 Act to provide effective means of removing smoke in case of fire will be satisfied by the provision of an upper tier of windows which extend along 50% of the external wall. This is because they will break when exposed to heat or can be broken externally by fire fighters.

The District Council's case

10.The District Council have rejected your proposals on the basis that your extension increases the total capacity of the building to approximately 14,000 cubic metres which is double the threshold volume given in section 13 of the 1983 Act before the provisions of that section are invoked. The District Council, after consulting with the Fire Authority, have requested that an adequate sprinkler installation and smoke venting system be installed. They considered your proposal to install a fire alarm system without the provision of a suitable sprinkler or appropriate smoke venting system to be unsatisfactory.

11.The Fire Authority have confirmed they would strongly recommend the provision of automatic sprinkler system in a building with compartments of the size of those in this case. They point out that if such a system is not installed then the Fire Service may have some difficulty in preventing the complete loss of the building and its contents. They also express concern at the possibility of serious injury or loss of life in such a large fire.

The Department's view

12.The Department accepts that compliance with the Building Regulations can be achieved without the installation of the fire precautions which may be required under Section 13 of the 1983 Act. However, although the requirements of section 13 are additional to the requirements of the Building Regulations the Department acknowledges that by virtue of subsection 13(2) of the 1983 Act, the District Council is under a statutory duty to consider rejecting the plans, after having consulted the fire authority, if they are not satisfied that the proposals contain the fire precautions specified in section 13(2) of the 1983 Act.

13.There are two points at issue in this case. First the non-provision of a fire extinguishing (sprinkler) installation and secondly the installation of an adequate smoke venting system. The objective of installing a sprinkler system is that it will help control a fire and prevent further conflagration, although the expectation is not necessarily that it will always extinguish the fire. The objective of a smoke ventilation system is that it will help maintain a smoke free layer for escape purposes and could also help prevent flashover of combustible materials, particularly if these were stored at higher levels.

14.With regard to the installation of a sprinkler system the Department accepts that such a system could be hazardous because of the zinc diecasting process. The incompatibility of a sprinkler system with the zinc diecasting process has been a main point in your submission but neither the District Council nor the Fire Authority appear to have addressed this issue. The Department has referred to the Manual of Firemanship issued by the Home Office which states `*Water must at all costs be kept away from molten metals; even a small drop of any liquid may cause them to react violently and scatter. Escaping or scattered molten metal will set alight most flammable materials in its path'*. On this basis the Department does not agree with the

District Council's requirement for the installation of a sprinkler system in this case.

15.With regard to the provision of a smoke venting system, the 1983 Act refers to *'effective means of removing smoke in case of fire'*. The system you are proposing is to provide an upper tier of windows along 50 per cent of the external wall which you state will break when exposed to fire or can be broken externally by the Fire Service. However, the Department does not consider this to be adequate in terms of smoke removal because by the time these windows start acting as smoke vents the fire will be at an advanced stage.

16.Although the District Council have not made this point, the Department accepts that the provision of a sprinkler system would enable a fire design scenario to be established which, in turn, would facilitate a proper design assessment of the capability of the proposed smoke ventilation system. However, even without the benefit of a sprinkler installation the Department considers that an automatic smoke venting system will provide benefits both in terms of life safety and assistance to the Fire Service. In this respect the Department accepts the view of the District Council in that you have not provided effective means of removing smoke in case of fire, as required by the 1983 Act.

The Secretary of State's decision

17.The Secretary of State has given careful consideration to the facts of this case together with your representations and those of the District Council. Having regard to the fact that the engineering process in the proposed extension will involve zinc die-casting he has concluded that the installation of a sprinkler system would not be appropriate in this case. However, he considers that the industrial processes would clearly not prevent the installation of a smoke ventilation system. He therefore takes the view that the District Council's judgement is correct in that a smoke venting system is required and that your proposed arrangement for providing effective removal of smoke is inadequate. It is the Secretary of State's view that an automatic smoke venting system should be installed.

18.Having regard to the above the Secretary of State therefore upholds your appeal with respect to the advisability of not installing a sprinkler system on work safety grounds. However, he dismisses your appeal with respect to the non-provision of a smoke venting system which, notwithstanding that a sprinkler system is not to be installed, he considers will be beneficial in a fire situation.