Agenda Item: 5(E)

REGENERATION, COMMUNITY AND CULTURE OVERVIEW AND SCRUTINY COMMITTEE

21 OCTOBER 2008

FIRE SPRINKLER SYSTEMS POLICY

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Summary

The report advises Members of the current requirements in relation to Fire Sprinkler Systems in buildings, technical information and sets out a suggested draft policy for their use within the Council's public buildings.

1. Budget and Policy Framework

1.1 There is currently no formal policy in place on the use of fire sprinkler systems in the Council's property portfolio.

1.2 At present there is therefore no separately identifiable basis for the consideration of the use of fire sprinkler systems. Currently, the decision would be made on financial costs and in conjunction with Building Regulations applicable for each project.

1.3 There is no identified separate funding stream for fire sprinkler systems and their installation would form part of the overall capital funding allocated for each project.

2. Background

2.1 This committee last considered the matter in July last year when it received a report on the subject and a presentation was made by the Kent Fire and Rescue Service. At that meeting the committee requested officers to develop - draft policy for the use of sprinklers in Council-owned public buildings, together with details of the current buildings within this category and future new-build proposals, including cost implications.

2.2 Over the last five years there have been many debates on the use of fire sprinkler systems in public and private buildings. Organisations such as the insurance industry, Fire Authorities, arson prevention bodies and the sprinkler industry promote the message that fire sprinkler systems should be installed in

all new school buildings, extensions, major public buildings and key residential properties to protect lives and property.

2.3 The subject is very emotive as promoters claim fire sprinkler systems protect the lives, whilst others feel they are more about protecting property and are not affordable due to the relatively high capital costs and ongoing maintenance charges. The advantages and disadvantages are set out below.

2.4 To put the matter into context in relation to schools, detractors point out that there is no record of any child being killed in a school fire within the UK for over 55 years. There are over 28,000 schools and approximately 14 million children going to school every day. Nevertheless, there is no doubt that the use of sprinklers substantially reduces the potential risk and is now recommended practice by the central government in higher risk buildings.

3 Legal Requirements

3.1 The legislation governing fire protection and escape from buildings includes:

- The Building Regulations Part B (amended 2007)
- The Regulatory Reform (Fire Safety) Order 2005

Government guidance relating to schools is contained in the DCSF Building Bulletin 100 – Design for fire safety in schools

3.2 There have been campaigns and petitions, lobbying Government to make installation of fire sprinkler systems a mandatory requirement but this has not been achieved and as such there is no legal requirement to install fire sprinkler systems in England, in either existing or new buildings.

3.3 Notably this is not the case in Scotland where under Scottish Building Regulations there is a mandatory requirement to install fire sprinkler systems in all new or converted buildings which are high rise blocks of flats, residential care buildings or sheltered housing complexes.

3.4 In England, fire sprinkler systems are recommended in schools on a risk assessment basis as part of Building Bulletin 100 or designed in conjunction with the Building Regulations for commercial buildings.

4 Advantages of Fire Sprinkler Systems

4.1 The installation of fire sprinkler systems can realise substantial savings on annual buildings insurance premiums. This can be quantified as between 35%-60% of the annual cost depending on the type of system installed and the individual premise status.

4.2 Installation of fire sprinkler systems can save lives and also protect property. Using schools as an example, the effects of a fire go much further than the financial value of the property lost and have a much wider economic and social impact that should also be considered including the potential loss of school records, reports and children's work and the possible relocation of students to other schools whilst repairs are carried out. All have a social impact on

children and families. Their use in residential buildings assessed at higher risk, such as care homes and houses in multiple occupation (HMO's) over three-storeys, is also advantageous.

4.3 Fire sprinkler systems are designed to operate with immediate effect when temperatures exceed a set value and only operate within the fire area. They help to extinguish and control fires locally and to reduce the level of property damage.

4.4 The installation of fire sprinkler system can also provide savings on construction costs in that they can be used to mitigate other building regulation requirements for fire protection systems, enabling the architect to have greater flexibility in design.

4.5 Fire sprinkler systems have a proven track record in industry, retail and entertainment properties. Records demonstrate that failure rate is exceptionally low making them one of the most reliable fire protection systems in the market.

5 Disadvantages of Fire Sprinkler Systems

5.1 A disadvantage of fire sprinkler systems is their initial capital cost for installation. On average a new fire sprinkler system installed as part of a typical construction project is 2.5% of the total construction cost. For example a typical new primary school construction costs is £3.5 -£4.5 million, which means that fire sprinkler system will add around £100,000 to the total cost of the project. Retrofitting is significantly more expensive and in many cases would not be a practical solution, due to the difficulty in integrating a system within the fabric of existing buildings.

5.2 Once installed fire sprinkler systems need regular servicing and maintenance to required standards. There is a revenue budget service implication to maintain these systems and on average this will cost upwards of £1,000 per annum per system depending on the size and complexity of the system.

5.3 The majority of fire sprinkler systems cannot be supplied from the cold water mains system due to the pressure and volume of the water required to operate the system. Consequently large storage tanks and pumps need to be located within the property taking up valuable space and dependant upon design may require maintenance to prevent legionella.

5.4 As explained above, fire sprinkler systems are expensive and difficult to retro fit into an existing building. Complications arise due to building fabric, the need to hide solid pipe work within voids and the building will invariable be occupied and works will have to be carried out during evenings, weekends or closure periods.

6 Advice and Analysis

6.1 On the 1 March 2007 Jim Knight MP announced to the Government that all new and refurbished schools would be expected to have fire sprinkler systems installed unless the proposed building design can be proven to be low risk.

6.2 As a consequence, Building Bulletin 100 Design for Fire Safety in Schools recommends that every new major new build/refurbishment project undertake a risk assessment in accordance with the design tool provided. Unless this risk assessment concludes that the school design is low risk, then a fire sprinkler system should be installed.

6.3 The detrimental social impact of fires is also a relevant factor when considering the installation of fire sprinkler systems. In addition to the likelihood of substantial property damage other losses could be suffered, such as equipment, school records, reports and children's work. Serious cases could also result in the relocation of students to other schools whilst repairs are carried out. The consequences of which is likely to have a negative impact on children's education.

6.4 The research into this subject is extensive and the Council should follow legislation and guidance. It is therefore appropriate that Medway Council consider adopting a policy in relation to the use of fire sprinkler systems.

7 Options

7.1 The Council does not need to install fire sprinkler systems, as there is no legal requirement to do so. However there are very strong guidelines and recommendations as to their use and these should be taken into account.

7.2 The Council should consider the benefits of fire sprinkler systems in all new builds and major refurbishments taking into account the capital and revenue costs and the results of fire risk assessments. Where the risks are high to medium then the installation of a suitable system should be considered in the process of setting the capital programme.

7.3 Where risks are low then the Council could consider enhancing other automatic fire warning systems currently in use within the building to further reduce the risk.

7.4 The Council need only consider the installation for new or refurbishment projects, as retro fitting into existing buildings is expensive, disruptive and not required by law. However, the feasibility of their inclusion within new build and refurbishment projects in relation to higher risk residential properties could be considered as part of project briefs.

7.5 Clearly in determining a policy there are a number of different options open to the Council. The type and number of buildings affected will be dependant upon the chosen option(s). It is therefore difficult at this stage to say which buildings will be affected. If, as is suggested in the draft policy attached at Appendix A, the Council chose to consider or recommend the installation of sprinklers in all its major new build/refurbishment projects then its entire portfolio would be affected. If the policy were restricted to principally schools and higher risk residential properties, then the categories of properties affected would include the schools portfolio, the linked service centres, children's homes, respite care and sheltered housing.

8 Financial and Legal Implications

8.1 The cost of installing a fire sprinkler system is estimated at around 2.5% of the capital budget, however it will vary depending on the design of the building. (It is anticipated that a new £4 million primary school will need an extra £100,000 to install a suitable fire sprinkler system).

8.2 There are revenue budget implications, as systems will need to be serviced and maintained on an annual basis in accordance with British Standards at estimated annual costs of upwards of £1,000 per system.

8.3 The legal implications are set out in the body of the report.

8 Recommendations

8.1 That Members consider this report, the suggested draft policy (shown at Appendix A) and make recommendations to Cabinet as appropriate.

Background Documents

- Member's Item – The Use of Sprinklers in Public Buildings – report to Regeneration and Development Overview & Scrutiny Committee, 24 July 2007
- BB100 Design for Fire Safety in Schools
- Building Regulations approved document B

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APPENDIX A

Suggested draft policy

1. Fire sprinkler systems should be considered using risk assessments and guidance when major new build or refurbishment works are carried out within the Council's property portfolio. A decision to be taken on the results of the risk assessment and financial viability.

2. When being refurbished Council sheltered housing schemes and residential homes should be risk assessed and if given a high-risk status then fire sprinkler systems should be automatically considered for inclusion within the design. A decision to be taken on the results of the risk assessment, feasibility and financial viability.

3. In respect of Schools the Council carries out a risk assessment in accordance with BB 100 for all new and major refurbishment projects. The results are implemented and fire sprinkler systems are installed for all high and medium risk school properties.