Chapter 9

Fire and Rescue

The Current System

165. The main determinants of the existing FSS for the fire and rescue service block are resident population, firefighters' pensions and fire safety. Cost adjustments are made for the length of coastline, deprivation and the area classified as 'category A' risk in terms of fire cover. Cost adjustments are also made for differences in the costs of provision between areas.

166. The FSS element for the fire and rescue service block is calculated for the following classes of authority:

- county councils which have responsibility for the provision of fire and rescue services,
- Greater London Authority,
- metropolitan county fire and civil defence authorities,
- combined fire authorities,
- Council of the Isles of Scilly.

167. The Fire element for a particular authority is shown below and consists of a basic amount per resident with additional top-ups for coastline, deprivation, fire risk areas, fire safety enforcement, community fire safety and area costs:

Basic amounts

FIRE BASIC AMOUNT	£18.35

Top-ups

FIRE COASTLINE TOP-UP	**£7.01 multiplied by COASTLINE**
FIRE DEPRIVATION TOP-UP	**£0.52 multiplied by FIRE INDEX 1**
FIRE RISK TOP-UP	**£1,237.83 multiplied by 'A' RISK AREAS**
FIRE SAFETY ENFORCEMENT TOP-UP	**FIRE SAFETY ENFORCEMENT**
COMMUNITY FIRE SAFETY TOP-UP	**COMMUNITY FIRE SAFETY**

168. The full formula used to calculate the *Fire* element is:

Fire	
(a)	**RESIDENT POPULATION** *multiplied by* the result of: **FIRE BASIC AMOUNT**; *plus* **FIRE COASTLINE TOP-UP**; *plus* **FIRE DEPRIVATION TOP-UP**; *plus* **FIRE RISK TOP-UP**; *plus* **FIRE SAFETY ENFORCEMENT TOP-UP**; *plus* **COMMUNITY FIRE SAFETY TOP-UP;**
(b)	The result of (a) is then *multiplied by* **AREA COST ADJUSTMENT FOR FIRE**;
(c)	**FIRE PENSIONS** *is multiplied* by 0.16;
(d)	The result of (c) is multiplied by the control total given in Annex E for the Fire service block;
(e)	The result of (b) and (d) are added together and the result is then *multiplied by* the scaling factor given in Annex F for the Fire service block.

Changes to the Formula

169. There are a number of proposed changes to the formula for fire funding, as detailed below.

New financial arrangements for Fire-fighter pensions

170. New financial arrangements for fire-fighter pensions have been proposed by the ODPM. The new arrangements mean that employee contributions and a new employer's contribution would be paid into a local pensions account from which pensions payments would be made. Government would top up the account, or recover any surplus, as necessary. In April 2006 when the new arrangements are introduced, the pensions element of Formula Grant will be split between funding for the new 'top-up' grant and funding within Formula Grant to support employer contributions. This would not be separately identified and therefore it would be treated in the same way as other operational costs to the Fire and Rescue Authorities.

171. To calculate the new funding formula, the fire pensions element (c) above is removed. The proportion allocated to fire safety enforcement and community fire safety top up remains the same. This has an effect on the coefficients for the basic amount and remaining top-ups as shown below:

Basic amounts

FIRE BASIC AMOUNT	£21.60

Top-ups

FIRE COASTLINE TOP-UP	**£8.25 multiplied by COASTLINE**
FIRE DEPRIVATION TOP-UP	**£0.61 multiplied by FIRE INDEX 1**
FIRE RISK TOP-UP	**£1,457.01 multiplied by 'A' RISK AREAS**
FIRE SAFETY ENFORCEMENT TOP-UP	**FIRE SAFETY ENFORCEMENT**
COMMUNITY FIRE SAFETY TOP-UP	**COMMUNITY FIRE SAFETY**

172. Exemplification FIR1 shows the effect of an estimated £60m from the current system to represent the pensions element. Note that this amount is **not** the forecast of the actual level of top-up grant that will occur in 2006/07 or 2007/08.

173. All further fire exemplifications have the fire pensions element removed from the formula and are based against a recalculated 2005/06 FSS.

'A' risk areas

174. Following the abolition of the national standards of fire cover, the risk category classification has become obsolete. The current indicator of 'A' risk was used to represent areas that were deemed to have the highest category of risk in their areas. These were typically major city centres and certain industrial areas.

175. Options have been considered that could replace 'A' risk indicator. It was found that the number of top tier Control of Major Accident Hazards (COMAH) sites per head was a good replacement indicator. Top tier COMAH sites typically cover large chemical sites. There has also been work undertaken to apply societal risk or property loss frequency factors for other buildings to Valuation Office Agency (VOA) buildings data. But COMAH sites per head was found to be the most significant replacement indicator. Property and societal risk would be captured under the replacement for the fire safety enforcement top up outlined below.

176. Exemplification FIR2 shows the effect of this including the number of upper tier COMAH sites per head as the replacement indicator to the 'A' risk indicator.

Community fire safety

177. The existing community fire safety indicator contains information on ACORN types provided by CACI to represent residents in areas with a greater need for fire safety education. However, the ACORN component is based on classifications of areas that were in part determined from 1991 Census information. In 2004, CACI introduced an updated ACORN classification,

taking on information from the 2001 Census. This was substantially different to the old definitions. The ACORN types have been re-examined and those types with a strong positive relationship with incidents of dwelling fires have been chosen.

178. We also intend to specifically include people aged 65 and over as an element within the indicator. This is because the elderly tend to have a higher casualty rate from fires than the general population and so are targeted in fire safety campaigns.

179. As well as updating the indicator, we are proposing to increase the fixed percentage of the community fire safety top-slice from 3% to 6%. Although this is a judgemental increase, there is anecdotal evidence that fire and rescue authorities are devoting more resources into fire safety reflecting their statutory duties. Exemplification FIR3 shows the effect of updating the indicator and FIR4 shows the effect of increasing the weighting of this updated indicator.

Fire safety enforcement

180. The current fire safety enforcement indicator uses information on the number of certificatable premises and plans examined. Fire safety law is currently being reformed to be based on risk assessment, so that the data are no longer collected.

181. As a replacement, we propose to use a measure of property and societal risk. This indicator would be constructed using the number of different types of property in each Fire and Rescue Authority multiplied by the risk frequency factors relating to both property loss and societal risk. Societal risk frequency relates to the likelihood of a large number of people who would require assistance by the fire and rescue service to escape from a fire. The number of properties would be based on Valuation Office Agency (VOA) data.

182. The fixed element of the property and societal risk top slice would remain at 6.5%. Exemplification FIR5 shows the effect of the replacement of the fire safety enforcement indicator with the property and societal risk indicator.

Fire risk index

183. The existing fire risk index is based on socio-economic factors that have a relationship with fire and rescue authority activity. The index was introduced in the previous review to replace a count of fire calls which could have created a perverse incentive for fire and rescue authorities not to invest effort into fire prevention and education. The index was determined by using variables that were well correlated to all types of service calls and not just calls to fire incidents.

184. However, the index contains two property-related indicators that are not intuitively obvious causal factors of service calls. These are the 'Proportion of households whose property is not a detached or bungalow' and 'Proportion

of households whose property was built between 1919 and 1944'. Both indicators are well correlated to calls and were considered in the original construction of the index as they represented the risks related to building type and construction of residential properties. Also, both these indicators are determined from a survey (the Survey of English Housing (SEH)) and so the indicators tend to fluctuate from year to year.

185. We therefore put forward two options for a new risk index. The first option is to retain the current structure of the index but increase the average of both SEH indicators from a three year average to a five year average. Exemplification FIR6 shows the effect of this modification to the risk index.

186. The second option is to remove these two SEH indicators from the index and replace them with two indicators that more intuitively reflect household risk. Using the results of the original research we propose an indicator covering ACORN types 51 (Single parents and pensioners, council terraces) and 53 (Old people, many high-rise flats) and an indicator measuring the average number of people per room as suitable alternatives. Exemplification FIR7 shows the effect of this change in the composition of the risk index.

Sparsity

187. The modernisation agenda for the fire and rescue service may have changed the distribution of net costs and savings between fire and rescue authorities employing a large proportion of retained fire-fighters and those authorities who employ a large proportion of full time fire-fighters. This is because of

a) the costs of recruiting and training retained staff;

b) the fact that authorities with a large full-time work force are more able to use spare capacity to absorb the increases in community fire safety work than those with a large retained work force; and

c) fire and rescue authorities with a largely retained workforce argue that they have a more limited scope to develop more efficient duty systems, shift patterns and crewing arrangements.

188. Retained fire-fighters are often employed in the more sparse authorities, there is a good relationship between population sparsity and the proportion of retained fire-fighter's employed. However, when population sparsity is used in formula spending shares it shows a negative correlation to fire spend per head.

189. Therefore we propose to include sparsity only as a fixed element top up to reflect the costs described above. The percentage would be made on judgement and we propose that this would be 1%. Exemplification FIR8 shows the effect of including a sparsity element into the formula.

Revised formula

190. Taking any of the changes on would mean that the fire formula could be shown as below. The coefficients to be used in the revised formula would be as set out in the table following the formula description.

Basic amounts

FIRE AND RESCUE BASIC AMOUNT	£*.**

Top-ups

FIRE AND RESCUE COASTLINE TOP-UP	£*.** *multiplied by* **COASTLINE**
FIRE AND RESCUE DEPRIVATION TOP-UP	£*.** *multiplied by* **RISK INDEX**
HIGH RISK TOP-UP	£*.** *multiplied by* **COMAH SITES**
PROPERTY AND SOCIETAL RISK TOP-UP	**PROPERTY AND SOCIETAL RISK**
COMMUNITY FIRE SAFETY TOP-UP	**COMMUNITY FIRE SAFETY**
SPARSITY TOP-UP	**SPARSITY (Optional)**

191. The full formula that could be used to calculate the *Fire* element is:

Fire	
(a)	**RESIDENT POPULATION** *multiplied by* the result of: **FIRE AND RESCUE BASIC AMOUNT**; *plus* **FIRE AND RESCUE COASTLINE TOP-UP**; *plus* **FIRE AND RESCUE DEPRIVATION TOP-UP**; *plus* **HIGH RISK TOP-UP**; *plus* **PROPERTY AND SOCIETAL RISK TOP-UP**; *plus* **COMMUNITY FIRE SAFETY TOP-UP**; *plus* **SPARSITY TOP-UP (Optional);**
(b)	The result of (a) is then *multiplied by* **AREA COST ADJUSTMENT FOR FIRE**;
(c)	The result of (b) is multiplied by the control total for the Fire service block;
(d)	The result of (b) and (c) are added together and the result is then *multiplied by* the scaling factor for the Fire service block.

Coefficients for basic amount/top ups for each option

	FIR 1	FIR 2	FIR 3	FIR 4	FIR 5	FIR 6	FIR 7	FIR 8
Basic amount	£21.60	£19.42	£21.60	£20.88	£21.60	£22.95	£20.42	£21.39
Coastline	£8.25	£8.15	£8.25	£7.98	£8.25	£7.33	£7.70	£8.17
Deprivation	£0.61	£0.72	£0.61	£0.59	£0.61	£0.51	£0.70	£0.60
Fire Risk	£1457.01	-	£1457.01	£1408.76	£1457.01	£1656.52	£1413.29	£1443.10
High Risk	-	£205,301	-	-	-	-	-	-
Sparsity	-	-	-	-	-	-	-	£2.35

Summary of options

Option FIR1
Remove component for fire pensions. All subsequent options exclude this element.

Option FIR2
Replace 'A' risk indicator with top tier COMAH sites per head indicator.

Option FIR3
Modify the community fire safety indicator. Update the ACORN type component and include population aged 65 and over.

Option FIR4
Increase the weight of FIR3 from 3% to 6%.

Option FIR5
Replace the fire safety enforcement indicator with a property and societal risk indicator.

Option FIR6
Modify the risk index indicator to use a 5-year average of 'households whose property is not a detached or bungalow' and 'households whose property was built between 1919 and 1944'.

Option FIR7
Replace the households whose 'property is not a detached or bungalow' and 'households whose property was built between 1919 and 1944' components in the risk index with 'ACORN type 51 and 53' and 'average persons per room'.

Option FIR8
Include a fixed element with a weight of 1% for sparsity.

Questions

Question 16: Do you think that the weight of the fixed element for community fire safety should be doubled to 6% (FIR3 and FIR4)?

Question 17: Do you agree with the proposal (FIR5) to use a property and societal risk indicator to replace the fire safety enforcement indicator? If not, what would you prefer?

Question 18: Which proposal (FIR6 or FIR7) would you prefer to see used as the risk index indicator?

Question 19: Do you agree with the proposal to include a fixed element for sparsity (FIR8)?