



Scottish Home and Health Department

Her Majesty's Chief Inspector of Fire Services for Scotland

Report for 1986

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SCOTTISH HOME AND HEALTH DEPARTMENT

Her Majesty's Chief Inspector of Fire Services for Scotland

Report for 1986

Presented to Parliament by the Secretary of State for
Scotland

by Command of Her Majesty

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Report 1986

of R J Knowlton Esq, CBE, QFSM, FIFireE, FBIM To the Right Honourable
Malcolm Rifkind, QC, MP, Her Majesty's Secretary of State for Scotland.

Sir,

I have the honour to submit my Report on the Fire Services in Scotland for the
year ended 31 December 1986.

I have the honour to be,

Sir,

Your obedient Servant,

R J KNOWLTON

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Section A General

Inspections

1. The eight Scottish fire brigades were inspected by members of the Inspectorate during 1986 and additional visits were made to each brigade to monitor progress in the review of categorisation of fire risks. This review was recommended in a Fire Services circular, published in May 1985, and was designed to ensure that an appropriate standard of provision of fire brigade resources is available in all parts of the country on the basis of an agreed scale, known as the standards of fire cover. To carry out the review, all built-up areas are surveyed and coded according to the predicted likelihood of fire spread, taking account of building density, construction and use. The collection of these coded areas provides the classification of risk which is appropriate to the locality and this determines the size and speed of pre-arranged response which the fire brigade should provide. A complete physical survey of urban areas is a major task for each brigade, involving a high degree of planning and organisation with meticulous plotting balanced by commonsense application at the final stages.
2. While each brigade adopted a method of carrying out the classification which suited its organisation and terrain, the involvement of the Inspectorate from the start of the review helped to ensure that a common standard was achieved in the application of the guidelines of the Standards of Fire Cover Report. The completion of the review gives an opportunity for an accurate base to be used by each brigade, from which future plans for fire station locations can be drawn up and more appropriate organisational structures designed. Several Firemasters have completed their reviews and submitted recommendations for amendments to existing systems to their fire authorities.
3. Members of the Inspectorate, during their visits to brigades during 1986, were encouraging each Firemaster to examine the activities and methods of his brigade to ensure that the best use was being made of the available resources and to reassess priorities. Such reviews are a normal part of the programme of the management of any organisation, but the review of standards of cover and impending changes in fire prevention legislation, which will affect brigades' inspecting systems, make it particularly appropriate to carry out a general review of the organisation and work systems of every brigade at the same time.
4. The announcement of this extension of the role of the Inspectorate in England and Wales was linked with Government involvement in the establishment of new fire authorities in the former metropolitan areas, where previous local government systems were abolished. The Fire Brigades Union regarded the Inspectorate's changed role as being a threat to existing levels of provision of resources to brigades and passed a resolution, at their Annual Conference, instructing their members to refuse to co-operate with HM Inspectors during their visits to brigades. Although the Scottish Inspectorate was not involved in this exercise and is independent of the England and Wales Inspectorate, the resolution was equally applied in Scotland and the practical part of the inspections in several brigades was limited. This meant that more time was available for the examination of management structures, reviews of work loads and discussions with senior officers leading to further internal analyses of the way in which brigades work.
5. For six of the eight brigades, I was invited to give a report to the fire authority on the findings of the inspection and, at the meeting where the report was given, took the opportunity to discuss, with the elected members, the programme of reviews which was being encouraged by the Inspectorate.

Fire Authorities and Firemasters

6. At the end of the year the following Firemasters were in post:
- | | |
|------------------------------|------------------------------------|
| Central Region | Firemaster I S T Adam, GIFireE |
| Dumfries and Galloway | Firemaster J B Stiff, GIFireE |
| Fife Fire and Rescue Service | Firemaster J Thomson, QFSM FIFireE |
| Grampian | Firemaster A N Morrison, MIFireE |
| Highlands and Islands | Firemaster D Grant, GIFireE |
| Lothian and Borders | Firemaster R J Edmonds, MIFireE |
| Strathclyde | Firemaster C B Halliday, MIFireE |
| Tayside | Firemaster A Winton, MIFireE |

This is the first time for several years that no change has taken place at Firemaster level in the Scottish brigades. I would like to record my thanks to the Firemasters and their senior officers for the way in which they have co-operated with the members of the Inspectorate during our visits and for the valuable discussions which we have held with them throughout the year.

7. Lord Lyon King of Arms approved designs for new badges for Fire and Rescue Service and Lothian and Borders Fire Brigade early in 1986. Lothian and Borders Fire Board later decided not to produce new cap badges incorporating the revised design.

8. Dumfries and Galloway Regional Council have decided to place responsibility for planning for emergencies on the Firemaster, and the former Emergencies Planning Officer and his staff are now part of the Fire Brigade Headquarters team.

Honours and Awards

9. The following received recognition in The Queen's Honours Lists:

- British Empire Medal (Civil Division)
James C Rose, Sub-Officer, Central Region Fire Brigade.
Thomas Williamson, Blacksmith, Lothian and Borders Fire Brigade.
Queen's Fire Service Medal
John L Hales, GIFireE FBIM, Deputy Firemaster, Strathclyde Fire Brigade.

The Fire Brigade Long Service and Good Conduct Medal was awarded to 161 members of the Scottish Fire Service in 1986.

10. I offer sincere congratulations to all those whose service has been recognised by awards in 1986.

Conference

11. For the first time for many years, the Annual Conference and Fire Exhibition was held in Scotland, at the new Scottish Exhibition Centre in Glasgow. The Conference is a joint venture, organised by the Federation of British Fire Organisations, on behalf of the Chief and Assistant Chief Fire Officers' Association, the Institution of Fire Engineers and the Fire Protection Association. The Conference was a great success and attracted large numbers of British and overseas visitors, many of whom had not previously visited Scotland. The organisers have decided that the suitability of the facilities and the desirability of the venue make likely an early return to Glasgow for this Conference, which has usually rotated among three or four English conference towns.

12. The Scottish Branch of the Institution of Fire Engineers and the Firemaster and members of Strathclyde Fire Brigade played a major part in the success of the organisation of this Conference and were ably supported by Strathclyde Region and Glasgow District Councils in providing a warm welcome and appropriate help to delegates. I would like to add my tribute to the many expressed during the conference to those who worked so hard to make this event a success and to ensure that it will be repeated.

Examinations

13. The last separate Scottish fire service promotion examinations were held in 1986 and, following the new arrangements which were introduced by the Fire Services (Examinations) Regulations 1985, coming into operation on 1 August 1986, the first

joint examinations for England, Scotland and Wales were also held in 1986. The standard of the examinations is not expected to change significantly and local arrangements will continue as before except that the centres and practical examinations will be organised by brigades in groups instead of being centrally organised by the Scottish Home and Health Department. The Department's involvement in the examination system is now limited to membership of the Board responsible for the policy of the system and the administration of the examinations is organised from the Arndale Centre in Luton.

Section B Personnel and Administration

Establishment and actual strengths 14. The establishments and actual strengths of brigades are shown in detail in Table 1.

Wholetime personnel—operational 15. The total establishment figure for Scottish brigades on 31 December 1986 was 4,379, an increase of seven on last year's total, while the actual strength of 4,296 is one less than last year. Allowing for the random nature of retirements, other than on age and service, this represents no significant change from the 1985 figures. There is a shortfall of 83 on establishment, compared to 75 in 1985 and 105 in 1984.

16. During the year, 130 members left the service and a breakdown of the reasons for their departure is given in Table 2. The number of medical retirements (65) continues to rise, for the third year in succession, but the number of age and service retirements (42) was also the highest for many years. Once again, almost all the imbalance of medical as against age and service retirements occurs in Strathclyde. This reflects a similar pattern in fire services in England and Wales where the proportion of medical retirements is far higher in London and the metropolitan areas, generally the larger brigades, than it is in the smaller county brigades.

17. The workload of Scottish brigades has risen significantly in recent years; the level of callouts has doubled in the last 10 years and quadrupled in the last 20 years. This heavier workload is bound to have some effect in the long-term although it is partly balanced by a reduction in working hours, 25% over the 20 year period. The records show that more accidents on duty are being reported but this may be due to a greater awareness of the need to record accidents as they occur, rather than an actual increase in the number of accidents.

18. The Joint Working Party on Appointments Provisions is arranging for a computer study of the causes of medical retirements to be carried out on an individual case basis. This will cover retirements from all British fire services and its results should help to provide greater insight into the underlying trends behind the figures.

19. The compulsory 'over 40' medical examinations accounted for only seven of the medical retirements, and the remaining 58 men were found to be unfit following illness or examination by the member's own doctor. Difficulties over eyesight standards in some brigades were avoided during most of the year by a voluntary standstill on medical discharges due to defective eyesight, pending the publication of an interim report by the Joint Working Party on Appointments Provisions. This report is intended to fill the gap in the existing Regulations to give more assistance to Firemasters and their medical advisers in determining a satisfactory medical standard for operational fire-fighters whose age is affecting their eyesight. It was expected that the interim report would be published before the end of 1986 but its completion has been delayed by the need for extensive discussions with the Faculty of Ophthalmologists of the Royal College of Surgeons, the Health and Safety Executive and the Chemical Defence Establishment, Porton Down.

Retained and volunteer personnel 20. The part-time retained and volunteer establishments and strengths are as follows:

	<i>Establishment</i>		<i>Actual Strength</i>	
	1985	1986	1985	1986
Retained	2,558	2,588	2,367	2,346
Volunteer	1,501	1,517	1,332	1,355

The increase of 30 in retained establishments resulted from the opening of a new station at Carluke, Strathclyde (10) and increases in some of the Lothian and Borders stations (20) to attempt to compensate for the difficulty in obtaining a crew during working hours. The actual strength, far from reflecting these increases, shows a decrease of 21 which is spread among all brigades except Grampian, who show an increase of 19.

21. The difference between establishment and actual strength of retained units is now 242 and, although this is not a serious shortfall as it is spread among 200 stations, recruiting continues to be a problem in some areas, particularly in obtaining day-time cover in isolated communities.

22. Both the establishment and actual figures for volunteers have increased this year, partly through the formation of a new volunteer unit in the Highland and Islands Brigade area. There are now 14 female volunteers, nine in Grampian, four in Highland and Islands and one in Strathclyde.

23. Once again, I am pleased to have an opportunity to pay a tribute to the public-spirited attitude of retained and volunteer fire-fighters, their employers and families, whose combined sacrifices and forbearance make possible the valuable contribution of part-time fire-fighting in large areas of Scotland.

Control room (Non-operational staff)

24. Table 2 has been slightly amended this year to show the gains and losses of control room staff separately from the operational staff figures. The factors which affect these two branches of the service are quite different and their segregation will enable a more accurate check to be made when variations occur.

25. There were increases in control room staff numbers in three brigades and the reduction of six in Strathclyde is a continuation of the reduction in actual staff numbers following the centralisation of control facilities, leaving the Brigade two above establishment at the end of the year.

26. All brigades have made great progress in the design and re-equipment of control rooms and the benefits of these changes are now becoming visible in improved call handling, quicker response times and better working conditions for the staff. The Working Party on Control Room Training, set up last year by the Joint Training Committee of the Central Fire Brigades Advisory Councils, has almost completed its work and is expected to report on recruit, continuation and control management training early in 1987.

Discipline

27. The new Fire Services (Discipline) (Scotland) Regulations 1985 came into operation on 16 December 1985 in place of the former Regulations which were revoked. Although based on the 1953 Regulations, which were slightly amended in 1965, the new Regulations differ in many important aspects and are intended to reflect more accurately current practice in employment law and industrial courts. Detailed Guidance, issued with the Regulations and agreed by the representative bodies, is designed to serve as a model for the conduct of all cases brought under the Regulations. The Guidance is not a part of the Regulations but represents an agreed procedure for discipline matters within the fire service and sets out how it is considered natural justice can best be achieved consistently with its needs and traditions.

28. During the year, 16 members of four brigades were charged with offences under the Regulations, involving a total of 27 charges. One case was dealt with under the new summary hearing procedure and 14 were remitted to a full hearing within the brigade, the remaining case being remitted to the fire authority. One of the cases resulted in an appeal to the fire authority.

29. The punishments awarded were:	
Caution:	3
Reprimand:	3
Stoppage of pay:	3
Requirement to resign as an alternative to dismissal:	2
Dismissal:	2

In addition, three persons were discharged for misconduct without being charged under the Discipline Regulations.

Health 30. The average number of days lost due to sickness, as a percentage of working days available, was 5.13%. This represents an increase over the figure for last year, which was 4.5%, the figures for the two previous years being 4.39% and 5.12%. Once again, a small number of long-term sickness cases were responsible for a disproportionate effect on the overall percentage figure in some brigades.

31. In an attempt to estimate the effect of injuries on the sickness rate, brigades were asked to supply information on the number of fire-fighters sustaining injuries resulting in an absence of two weeks or more. The table shows the results of this enquiry:

(a) Number of persons sustaining injury on duty resulting in absence of two weeks or more:	56
(b) Number included at (a) who received injury at a fire:	19
(c) Number included at (a) who received injury at a special service:	Nil
(d) Number included at (a) who received injury during training:	13
(e) Number included at (a) who received injury engaged in other act:	24

Of the total number of injuries, 35 were classed as reportable to the Health and Safety Executive under their special Injury Reporting Regulations.

32. At the end of the year, the Chelsea College of Physical Education published a report on a research study into the fitness of firemen which was commissioned by the Joint Training Committee. The Committee will consider the implications of the report on the existing programme of courses for physical training instructors, run by the Home Office at Kirkham Prison, and the broader requirements for the maintenance of physical fitness of members of fire brigades. The Joint Working Party on Appointments Provisions has also been considering the findings of the Chelsea College report in relation to tests for aerobic fitness on entry to the fire service.

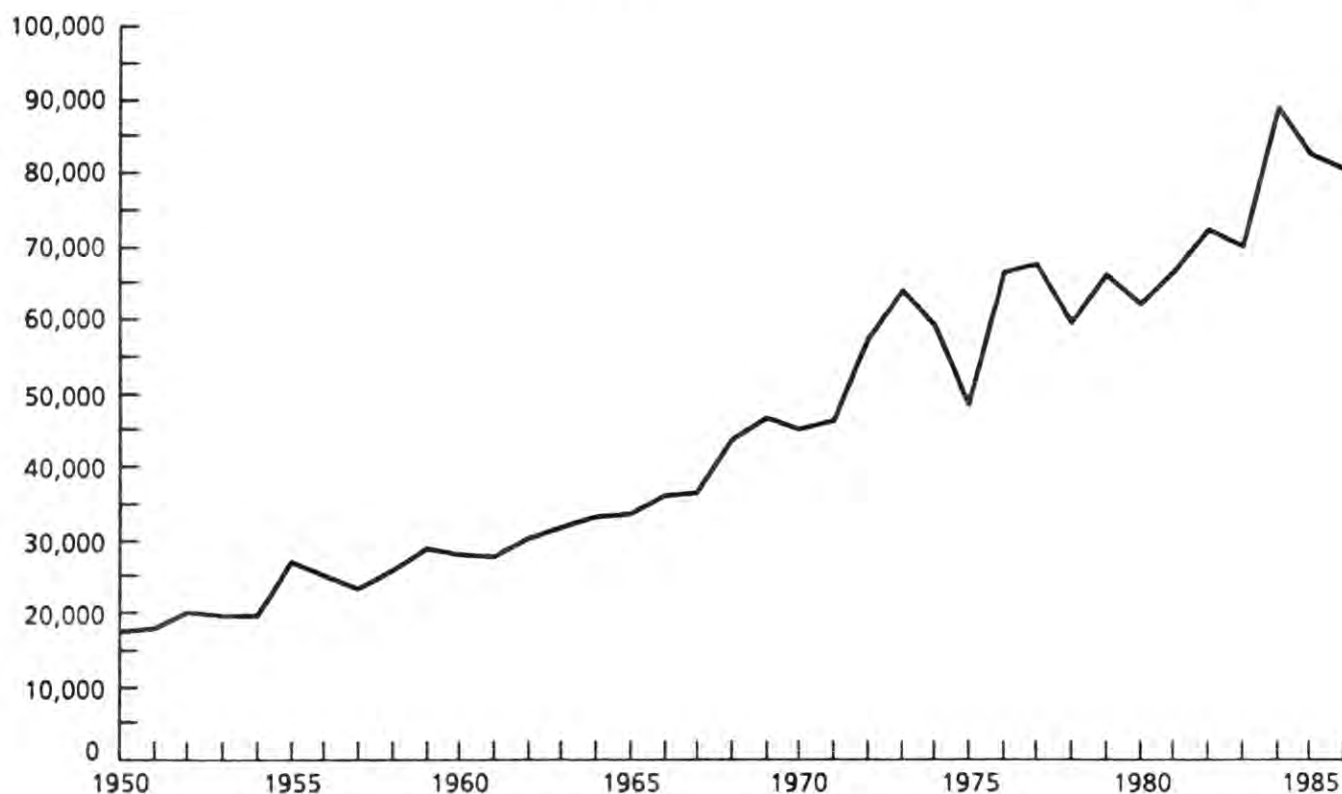
33. Better testing systems for new recruits, to be followed by an improved programme of fitness training during service, will have a beneficial effect on the capability of fire-fighters. It should also reduce the likelihood of certain types of injuries and absence through sickness caused by strenuous activity under stress.

Section C Operational

Fires and other emergencies 34. There is no marked change in the record of fire brigade activity in 1986 and the generally high levels of recent years are still evident in the figures which are detailed in Table 3. However, all categories of call, except to secondary fires and false alarms with good intent, showed a decrease on the 1985 figures. As the highest figure since the war is recorded for every type of call in either 1984 or 1985, this may indicate a break in the trend towards ever higher figures. It is clearly too soon to draw a conclusion from a single year of improvement after such a long period of consistent increase, but any change in that pattern is to be welcomed. The two types of call which did not show a reduction in 1986 are not a cause for particular concern. Secondary fires, ie outdoor fires involving grass, heathland and rubbish, are subject to the effects of weather more than fires in buildings and are usually less damaging and life-threatening than fires in buildings. An increase in the number of false alarms with good intent is almost to be welcomed as it shows a greater awareness of the danger of fire in the population. The one year movement of statistics is, therefore, an encouraging one but this will need to be repeated over several years to offer any real cause for optimism, following the abnormally high levels of incidents in the last few years. The long-term trend towards ever higher numbers of calls to fire brigades is illustrated in Graph 1 which shows the total number of calls received in each year from 1950 to 1985.

Total Calls

Graph 1

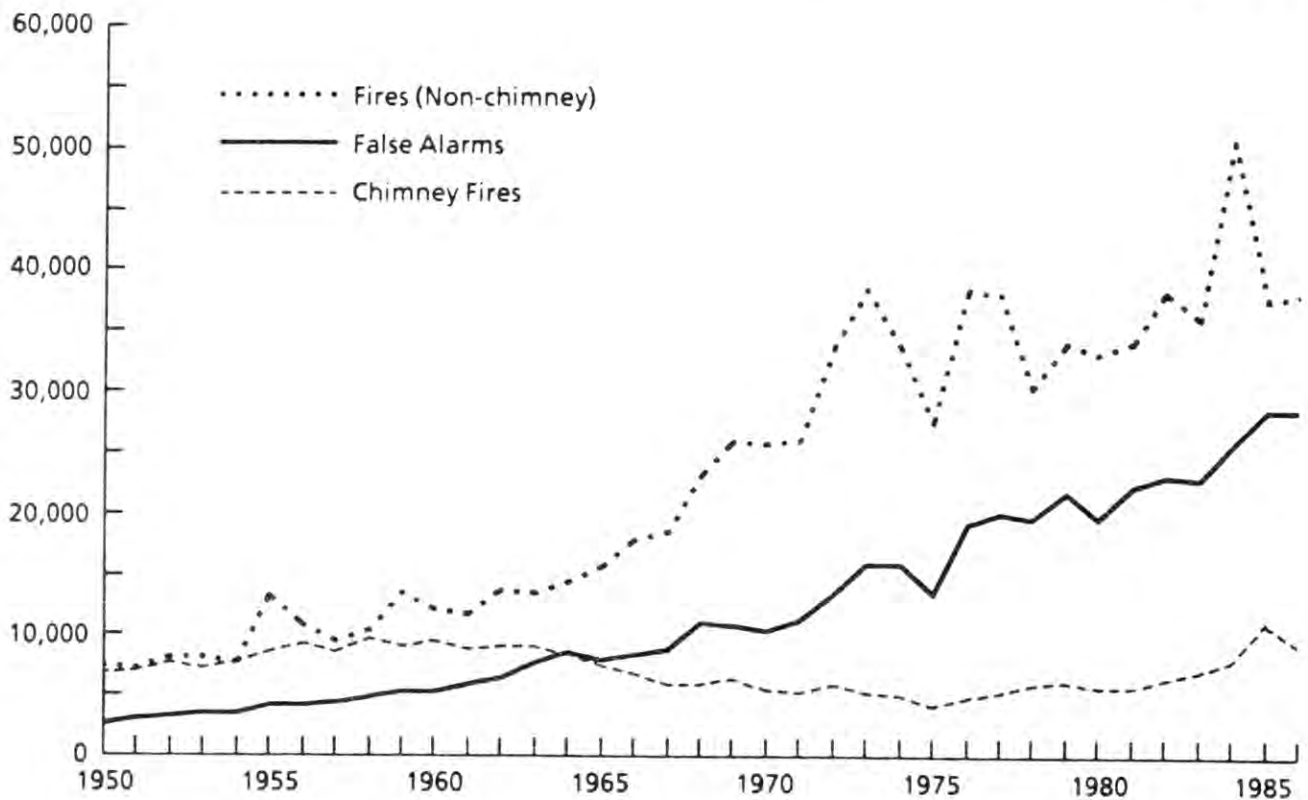


35. Although the number of chimney fires is 20% down on last year's exceptionally high figure, it is still the second highest since 1960. In view of the reduction in the number of open fires in use, some of the increase in reported fires in chimneys in the last two years may be due to local fire service campaigns encouraging calls to such fires. These campaigns were started because serious fires involving injuries resulted from unreported chimney fires and the publicity which was generated after these incidents may have had a greater and longer lasting effect than had been appreciated at the time.

36. The general trends in the numbers of calls to fires, chimney fires and false alarms are shown in Graph 2, which illustrates the rising patterns in fires and false alarms which have been recorded over the 37-year period.

Breakdown of Calls

Graph 2



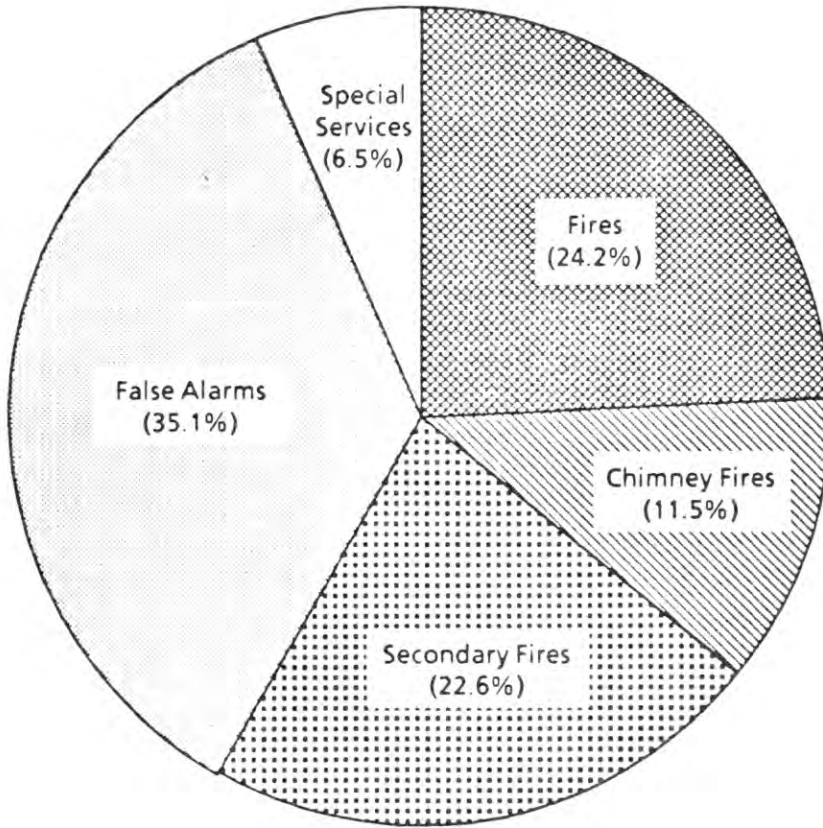
37. Graph 3 shows the proportions of the types of calls received by all brigades during 1986. The volume of work which is generated by false alarms, 35.1% in 1986, is clearly seen in relation to other forms of operational activity and this underlines the importance of efforts to reduce malicious alarms and those due to faulty or misused automatic alarm apparatus. These together accounted for 58.7% of all false alarms as is shown in Graph 4.

38. Improvements are being made in equipment and monitoring techniques which should show a gradual reduction in unwanted calls from automatic apparatus over a long period as equipment is replaced. A simple numerical summary may also be misleading because in some areas a small number of premises may be the cause of large numbers of repeated calls through faulty equipment, replacement of which could cause a dramatic improvement in total numbers of unwanted calls.

39. Malicious false alarms continue to be a major misuse of public resources although there was a slight reduction from 10,444 calls made in 1985 to 10,236 in 1986. The times of day and days of the week when these calls are most commonly made suggest that schoolchildren and inebriated adults are most frequently the culprits.

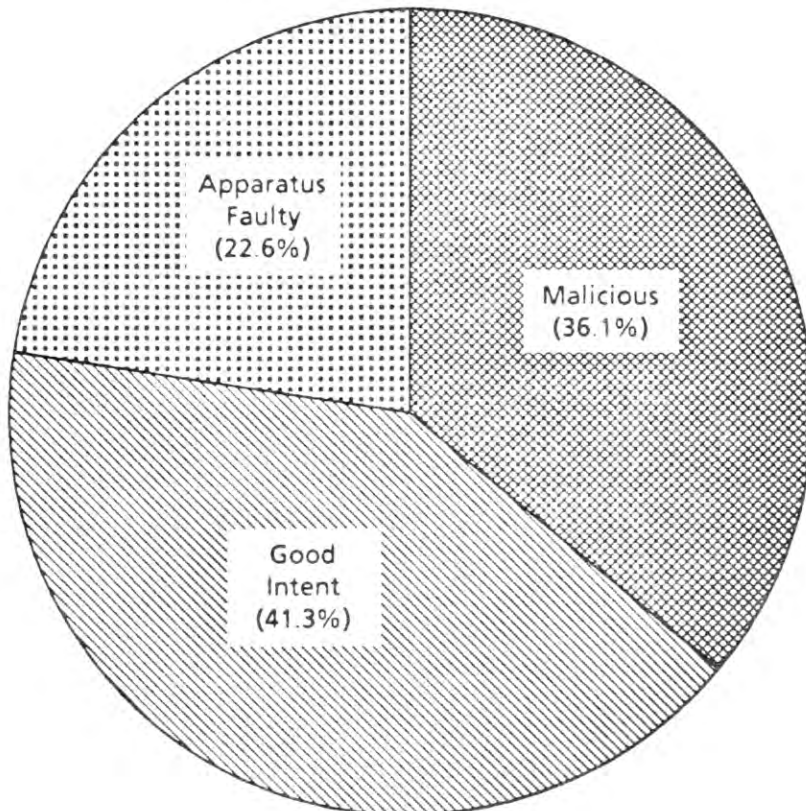
Type of Call

Graph 3



Type of False Alarm

Graph 4



It is a particularly serious problem in the Lothian and Borders Fire Brigade area. There has been a gradual improvement in the proportion of hoax calls which have resulted in prosecutions over recent years, according to police records, but the difficulty of detection and obtaining satisfactory evidence remains a considerable handicap. The introduction, by British Telecom, of System X telephone exchange equipment offers hope of improvement in the future because it will enable the place of origin of 999 calls to be available to the emergency operator almost simultaneously with the call being received. This should eliminate many of the calls made from telephones which are not near the address given by the caller and will enable a rapid police response to the scene of the call. The use of such equipment in several continental countries has reduced the number of false alarm calls dramatically.

40. There is a wide range of levels of activity for each type of call in the eight fire brigade areas in Scotland, as might be anticipated in a country with such varied terrain, population and degree of urbanisation. The table below shows the percentage of each brigade's total call numbers which accounts for the different types of call during 1986. The most notable variation is in chimney fires, where Strathclyde (six) and Lothian and Borders (seven) show very low percentages, against Highland and Islands (44) where calls to chimney fires dominate the picture of the Brigade's operational activity. The same Brigade is also notable for the low percentage (18) of fires in buildings attended although the disparity is not so marked here.

Type of Call by Brigade (Percentage) (Figures are rounded to the nearest whole number and do not necessarily add to the 100%).

Brigade	Total Fires	Chimney Fires	Secondary Fires	False Alarms	Special Services
Central	24	14	18	39	5
Dumfries and Galloway	22	28	10	31	9
Fife	24	16	18	36	5
Grampian	28	21	16	28	7
Highland and Islands	18	44	15	17	5
Lothian and Borders	28	7	20	40	5
Strathclyde	23	6	26	38	7
Tayside	28	14	26	25	7
All Brigades	24	12	23	35	7

Fatalities 41. The number of fatalities is slightly lower than last year, 165 compared to 171, but is still very high in relation to the population of Scotland. The details are given in Table 4 and are divided by brigade into age groups and locations. The number of deaths by fire in each month of the year is also shown by brigade. This indicates a heavier loss of life in the early months of the year, while December (eight), which might be expected to be similar to January (34), shows the joint lowest loss for the year.

42. The over-60 age group once again represents the segment of the population with the highest number of deaths and by far the highest number of deaths per hundred thousand of the population, as shown in the table below.

Fatalities by Age

Age	Population (1985)	Fatalities (1986)	Fatalities per 100,000 population
0-5	390,713	10	2.56
6-10	309,905	1	0.32
11-20	823,573	7	0.85
21-40	1,502,827	24	1.60
41-60	1,150,890	34	2.95
61+	958,601	89	9.28
Total	5,136,509	165	3.21

The pattern in relation to numbers in the population is similar to that in recent years and shows the need to concentrate education in fire awareness on the over 40s who account for 75% of the deaths in fire.

43. The section of the table which lists deaths by brigade and locations shows that the tendency for the highest number to be recorded against flats—including terrace/tenement—has continued and is even more marked than in previous years. This is especially noticeable in the Lothian and Borders section of the Table, where 22 deaths are shown for flats etc, while there was only one other death in a dwelling. It must be remembered that the figures do not take account of the relative numbers of flats, houses etc in the area where people are at risk but in the urban areas, where there are large numbers of each type of property, it gives a clear indication that flats and tenements represent a significantly higher life risk than houses, bungalows or maisonettes.

44. A breakdown of the fatality figures by brigade in relation to population helps to illustrate the true fire death frequency in each area. In last year's Report, I quoted 1983 international figures for comparison with Scotland's 1985 figures on a common population basis. The table below repeats some of those figures converted to the same statistical base with each brigade's figures for comparison. (The population figures are the latest available at the time of preparation of the Report).

Fatalities by Brigade Area

Brigade	Population	Fatalities		Fatalities per 100,000 population	
	(1985)	(1985)	(1986)	(1985)	(1986)
Central	272,426	5	9	1.83	3.30
Dumfries and Galloway	146,562	8	2	5.46	1.36
Fife	344,019	6	9	1.74	2.62
Grampian	500,566	18	11	3.60	2.20
Highland and Islands	272,953	11	9	4.03	3.30
Lothian and Borders	846,934	23	29	2.72	3.42
Strathclyde	2,358,727	89	87	3.77	3.69
Tayside	394,322	11	9	2.80	2.28
Total	5,136,509	171	165	3.33	3.21
South Africa					3.4
USA					2.5
Canada					2.2
Great Britain					1.6
Sweden					1.6
W. Germany					0.8
France					0.6
Netherlands					0.4

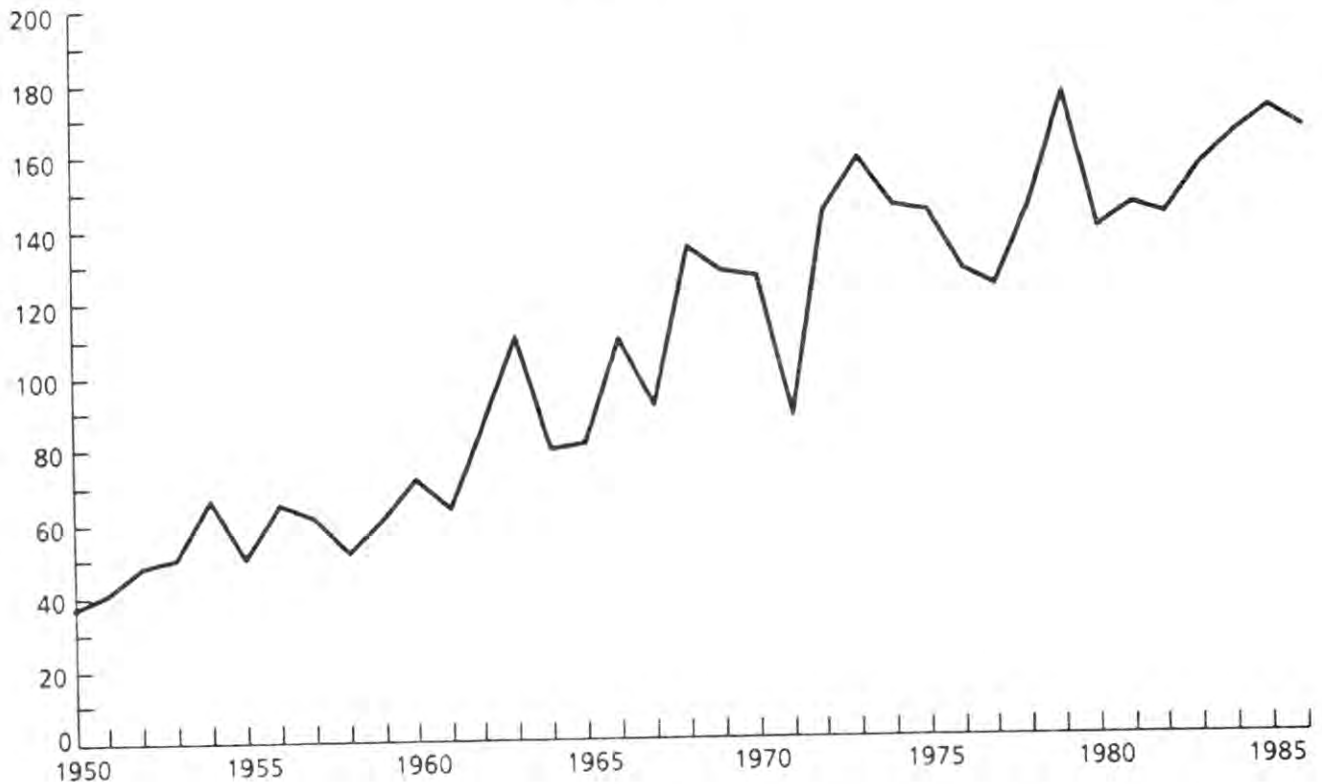
Caution must be exercised in taking a single year's figures for small numbers of fatalities because one additional death in a small population will cause a disproportionate change to the rate. This is clearly shown in the figures for 1985 and 1986 for Dumfries and Galloway and Highland and Islands. This does not detract from the stark lesson to be learned from the comparison of any Scottish figure with the comparable rates of the best countries in Europe.

45. The general pattern of an increasing number of deaths by fire in Scotland, on which I have commented in each of my previous Reports, can be clearly seen in Graph 5. This year's slight fall on last year's figure can be seen in perspective against the steady rise over the last 37 years. There is clearly cause for concern over the apparently inexorable increase of loss of life from fire in the longer term.

46. Last year, brigades were asked to scrutinise more carefully the circumstances of each fire death in an attempt to identify factors which may account for the disproportionate level of fire fatalities in Scotland. It is clear from the reports which Firemasters have prepared that the reasons are complicated, that several of the factors are present

Fatalities

Graph 5



and interact in many of the fatal fires and that there is no obvious line of approach in efforts to tackle this problem.

47. Several brigades found that the majority of the fatalities were associated with persons or families who were in touch with social services departments, recently released from prison or from mental hospitals or suffering from some other form of deprivation. Combinations of smoking with medications, alcohol or drugs were often common features of the fatal fires and, in some cases, infirmity or disablement compounded the difficulties caused by the substances which had been taken.

48. The elderly, who were often the victims, were most likely to be in their own bedroom or living room, where the fire started, and to die during the day, when they were active, rather than at night when they were asleep. In some cases, deaths resulted from unwise attempts to fight the fire or rescue others, but an equal number of incidents involved children being left in danger while those responsible for them escaped from the building to safety.

49. One factor which sheds some light on the high incidence of fire death in Scotland is the number of fires in dwellings in relation to population in Scotland, compared to the figure for England and Wales. This shows that about twice as many fires occur in dwellings in Scotland as would be the case in a similar population group in England or Wales. As the number of fires is twice as high in the situation where almost all fire deaths occur, it is to be expected that the loss of life would increase by the same factor. The problem can therefore be seen to be that of reducing the likelihood of fires occurring in dwellings, particularly those in which old people or deprived families are at risk, rather than attempting to reduce the risk of death when a fire has started.

50. The collection and evaluation of information concerning fire fatalities in Scotland will continue and several brigades are tackling the problem on the basis of the early findings of the investigation which started in 1986. The first full year's information will be available in June 1987. Local publicity and campaigns aimed at specific areas and groups in the community have had encouraging results in other

parts of the country and are now being introduced in some brigade areas. Any attempts at educating the public in fire awareness are inevitably patchy in their effects and a long-term programme is essential to success.

51. There are two areas of research outside Scotland which may benefit the attempts which are being made to improve the situation here. The Home Office Scientific Research and Development Branch has been asked to look at the whole problem of fire deaths and to consider research projects aimed at reducing life loss. The University of Ulster is researching a scheme to identify and evaluate the factors in a dwelling which contribute to fire safety. The long-term aim of their research is to enable scarce resources to be more accurately applied in efforts to reduce life and property losses in dwellings. This is to be a three year research project based on the investigation of actual fires and is intended to provide a basis for better fire safety evaluation.

Rescues 52. In 1985 fire brigade crews rescued 669 persons from fires and in 1986 this figure rose to 922, an increase of almost 38%. This is the largest percentage increase for many years but the number of rescues has been increasing steadily for some time: in 1979, when first recorded in the Annual Report, it was only 333. Although it cannot be assumed that anyone who was rescued in a fire would otherwise have died, it is very probable that the annual loss of life in fire would be even greater if it were not for the prompt, efficient and courageous actions of fire brigade crews. In dangerous situations where there was no fire, 643 persons were rescued or extricated, as against 586 in the previous year. This figure too is rising annually and may be an indication of improved public awareness of brigades' capability as much as an increasing number of incidents. The distribution and quality of the specialist equipment used for rescue work is improving in most brigades and training has been intensified to match the better level of provision.

Road accidents 53. Attendances by fire brigade crews at road accidents continue to increase also, 1,568 incidents being attended in 1986, compared to 1,448 in 1985, 1,262 in 1984 and 1,092 in 1983. No action was taken at 183 of these incidents but, as with all emergencies, the early presence of the brigade was a valuable safeguard against the possibility of fire or explosion following fuel spillage. Co-operation with police crews at these incidents is very important and liaison at these and other emergency situations has, once again, been shown to be at a good level.

Fire damage 54. Financial loss resulting from fire in Scotland has remained at about the same level for the last three years while that for the UK as a whole has fallen consistently over the same period. In 1986, however, while the UK figure showed only a small rise to £455.5 million from £449.6 million in 1985, the Scottish figure showed a large increase to £68 million from £50.4 million in the previous year. These figures, obtained from the Association of British Insurers, are estimates but there can be no doubt about the scale of the increase which results from a rise in the number of individual multi-million pound loss fires. It has been estimated that about 1% of the total gross domestic product of the UK is destroyed by fire every year. This is, in itself, a very serious problem without taking account of the consequential losses of exports, orders, facilities, jobs and quality of life which may result, but when a disproportionate increase is evident in one part of the UK there is a clear need to take action to reduce the level of loss. In the case of larger premises, particularly factories, warehouses and educational establishments, the high risk of fire-raising means that security is at least as important as fire precautions in avoiding large fire losses. If the building cannot be entered and moveable, flammable materials are cleared from outside the building, the likelihood of a serious fire is very much reduced.

55. The Fire Protection Association, which is sponsored by the insurance industry, produces a table of fires which result in large financial losses and the following extract shows the magnitude of the problem in Scotland and the areas and occupations which suffered most in 1986.

High financial loss fires in Scotland in 1986		
January		
8	Dwelling, Eddleston: Lothian and Borders	£250,000
12	Unoccupied premises, Montrose: Tayside	350,000
16	Shopping centre, Stirling: Central	316,000
February		
6	Dwelling, Aboyne: Grampian	£360,000
12	Hotel, Leven: Fife	550,000
16	Shop, Dumbarton: Strathclyde	650,000
24	Electronic equipment manufacturer, Linlithgow: Lothian and Borders	400,000
March		
10	School, Coatbridge: Strathclyde	£800,000
23	Cleansing depot, Govan: Strathclyde	250,000
24	School, High Valleyfield: Fife	525,000
April		
13	Clothing manufacturer, Glasgow: Strathclyde	£325,000
20	Unoccupied factory, Glasgow: Strathclyde	400,000
May		
1	Offices, Edinburgh: Lothian and Borders	£306,000
16	Disposable nappy manufacturer, Glasgow: Strathclyde	1,230,000
31	Paper manufacturer, Aberdeen: Grampian	575,000
June		
18	University, Glasgow: Strathclyde	£2,250,000
19	Hotel, Glasgow: Strathclyde	825,000
23	Pigment manufacturer, Paisley: Strathclyde	725,000
26	Metal Works, Cumbernauld: Strathclyde	275,000
July		
2	School, Aberdeen: Grampian	£4,500,000
3	School, Glasgow: Strathclyde	750,000
17	Building Contractors, Aberdeen: Grampian	2,250,000
21	University, Glasgow: Strathclyde	250,000
August		
22	Children's Home, Lanark: Strathclyde	£450,000

September		
5	Textile Manufacturer, Tayport: Fife	£350,000
7	School, Glasgow: Strathclyde	800,000
19	Clothing and furnishing retailer, Paisley: Strathclyde	350,000
25	Ballroom and disco, Glasgow: Strathclyde	899,000
October		
9	Department Store, Glasgow: Strathclyde	£3,260,000
November		
1	Hotel, Clynder: Strathclyde	£515,000
15	Dwelling, Huntly: Grampian	251,000
18	Wks/stores, Edinburgh: Lothian and Borders	250,000
21	Scrap dealer, Greenock: Strathclyde	280,000
December		
7	Public House, Turriff: Grampian	£268,000
8	Shipbuilder, Buckie: Grampian	293,000
14	School, Glasgow: Strathclyde	525,000
14	Brewery, Edinburgh: Lothian and Borders	325,000
23	Maltsters, Haddington: Lothian and Borders	260,000
25	Supermarket, Paisley: Strathclyde	450,000

Section D Supplies and services

Transport 56. At the end of the year 422 pumping appliances were in service in brigades in Scotland with 87 specialist vehicles, ie turntable ladders, hydraulic platforms, emergency tenders, etc. In addition, brigades held in reserve a total of 75 pumping appliances and five specialist vehicles. These figures cannot be compared directly with those given in earlier Reports because they have been compiled on a different basis which reflects more accurately the current design and use of fire appliances. The effect of improved vehicle replacement programmes over several years in many brigades is now being seen in a reduction in the number of spare or reserve appliances. The improvement in the average age of vehicles means that there are fewer breakdowns, longer service intervals and less need to rely on older reserve appliances to replace first-line appliances which are not in service.

57. The rate of accidents to fire appliances is still high in relation to their frequency of use, and, too often, these accidents occur not in responding to an emergency at speed but in slow-speed manoeuvres in the vicinity of the fire station. This means that modern appliances with the best apparatus are taken out of service for repair and have to be replaced by older vehicles with less effective equipment and facilities. Firemasters are aware of the nature of the problem and seek to improve driver training and supervision of reversing to avoid accidents of this type.

Equipment 58. Most brigades have now completed their programmes of breathing apparatus purchase to ensure that each pumping appliance has four sets of positive pressure breathing apparatus. In many cases, this involved a doubling of the number of sets on each appliance and caused some difficulty in arranging stowage which combined safety, hygiene and ready availability on older vehicles. As new appliances are ordered, the opportunity is taken to incorporate in the design secure stowage for at least four sets of breathing apparatus, usually in the crew cab. As well as being an ideal place for the sets, this obviates the loss of valuable locker space which is increasingly needed for additional rescue tools and other special equipment.

59. Larger items of special equipment or tools and supplies which are less frequently or urgently needed have usually been kept at a strategic point in the brigade and sent to an incident by lorry when required. The development of commercial containers and pick-up systems has enabled a new procedure to be adopted which is in use in three brigades. Containers, usually called 'pods', are preloaded and, in certain cases, specially built, so that a complete load of items of associated equipment can be picked up and driven away in minutes by a driver alone. One vehicle can be used to transport many different 'pods' and, if necessary, the vehicle or prime mover can leave the 'pod' at an incident and return for others. One brigade has two prime movers and seven different 'pods', which include a mobile control room, breathing apparatus charging unit, decontamination unit and foam bowser. Other brigades have adopted a similar principle on a smaller scale and these systems improve the flexibility and speed of response to large and unusual incidents.

Uniform and personal equipment 60. There has been no major development during 1986 but individual brigades have continued to enhance the standard of protection to firefighters by adding reflective strips to fire tunics and by amending fire tunic specifications to increase the length of the 'skirt' and thus minimise the likelihood of injury through flashovers or explosions. Several brigades have also been evaluating a French helmet of revolutionary design which is intended to incorporate communications and breathing apparatus attachments and improve personal protection to the face and neck. These developments

are being followed with interest by all brigades and members of the Inspectorate monitor the results of test and experiments which are passed, in summary form, to the Fire Experimental Unit computer at the Fire Service College. This bank of information is collected from, and available to, all brigades in the United Kingdom and covers a wide range of tests and evaluations of fire-fighting techniques and equipment. A telephone call from a brigade which is considering an improvement to a senior officer at the Information Desk at the College will give an immediate indication of work on that subject which is being carried out in another brigade. This avoids duplication and ensures that knowledge and experience are shared, to the benefit of the effectiveness of fire services generally and, eventually, for the benefit of the public they serve.

Water supplies

61. Once again, the number of hydrants in use has increased although the rate of increase is less than in the last two years, 814 additional hydrants bringing the total to 132,924. About 6% of the hydrants, 8,028, are classed as non-standard because they do not conform to the British Standard for hydrant installations. While they remain, these hydrants continue to be available for fire brigade use but may have limited flow or require the use of special standpipes or adaptors. For that reason, these hydrants are replaced by standard types whenever other work on the water main creates an opportunity, or, in some cases, they are being replaced systematically as part of a programme agreed with the water authority. These programmes need to be phased over several years because of the cost and nature of the work but two brigades have now completed their standardisation and two others are fairly near to completion.

Premises

62. A high proportion of the fire stations in Scotland are now of good modern design with suitable facilities for their crews and the few sub-standard buildings which remain are in local authority programmes for replacement within a few years. Some brigades have parallel programmes for improving training facilities and there have been a number of additional drill towers, as well as improvements to existing towers and the addition of crawling galleries and infra red or closed circuit television monitoring equipment in smoke chambers. These improvements help to improve the necessary realism of training as well as increasing safety and the effectiveness of supervision.

63. The provision of new buildings and facilities also raises the status of the local fire unit in its own community and gives an important boost to the morale and pride of the crews in their service, which in turn enhances their service to the local population. One of the new whole-time fire stations in Strathclyde received an award for the design and layout of the garden area fronting the station. The new building and the combined efforts of the architect, builder and fire crews, have improved the appearance of a whole area and thus the quality of life of local residents, workers and visitors.

64. In another division of the same Brigade but still within Glasgow, a new whole-time station has been opened at Polmadie, permitting the closure of two stations built around the turn of the century at Queen's Park and South (Centre Street). The old station at Springburn has also been replaced by a new building in the same area, taking another major step in the improvement of city centre fire cover.

65. An equally important development in the Lothian and Borders Fire Brigade was completed in April, when the Secretary of State opened a new station at Tollcross, in Edinburgh. The former station, a short distance away in Lauriston Place, will be converted into a fire service museum but the Brigade Headquarters will remain in the old building. The new station includes provision for a modern computerised Brigade control room which will come into operation when the equipment has been installed.

66. A new retained station was opened in Carluke, Strathclyde, in an area which had not formerly had its own local fire unit. The Highland and Islands Fire Brigade started a new volunteer unit at Skerries which brings the total of such units in that Brigade to 100.

- Communications** 67. Good progress has been made in most brigades on the work to convert radio communications systems to meet the requirements of the World Administrative Radio Conference (WARC). Following the surveys and computer predictions of the Directorate of Telecommunications, the planning work was completed and programmes for microwave links, additional hill-top aerial sites and both mobile and fixed station equipment were divided into phases. These phased programmes have been progressing satisfactorily and two brigades, Fife and Tayside, are expected to have completed their conversions early in 1987. The whole programme is intended to be completed by 1989 when all the international changes proposed by the WARC are due to be implemented.
68. Central, Fife, Grampian, Lothian and Borders and Tayside Brigades are also introducing new control equipment to up-date their existing facilities, and by the time of the completion of the WARC conversions the control and communications systems in all Scottish brigades will have been re-equipped to modern standards using computers or electronic aids and better turn-out systems.
69. Grampian Fire Brigade have successfully carried out trials with radio communications equipment, prepared by the Directorate of Telecommunications, which enables fire crews to communicate with helicopter crews during combined operations. This has been a considerable difficulty in the past because of the incompatibility of fire brigade and helicopter radio equipment.
70. Successful trials have also been carried out by Scottish fire brigades using ordinary co-axial cable as a leaky feeder aerial. This technique enables hand portable radios to be used in situations where radio communication would normally be very uncertain, eg in ships, underground structures, steel-framed buildings, etc. A leaky feeder aerial has previously been used to overcome this problem, a special cable being laid through the area where radio links were needed. The latest trials indicate that a satisfactory emergency link can be provided without the need for the special, more expensive cable.

Section E Fire Prevention

Summary 71. Brigades in Scotland inspected a total of 62,028 premises for fire prevention purposes during the year, 1,710 less than the figure for the previous year. The number of building plans which were submitted for comment was also slightly lower than in 1985 at 9,355 compared with 9,495. Officers from brigades' fire prevention departments attended 2,539 premises to give lectures, talks or demonstrations to groups and organisations. This aspect of fire prevention work, involving liaison and contact with the general public, is difficult to quantify in terms of value in return for effort. However, requests for visits of this sort are usually made by organisers who realise the need for increased public awareness and this willingness to learn of better methods of fire prevention at home and at work enhances the effectiveness of the message. This should eventually result in higher standards of fire precautions in the community and a reduction in the incidence of fire generally.

Education and publicity 72. The Scottish Home and Health Department sponsored the screening of fire prevention television commercials and the broadcasting of similar safety material on local radio over the Christmas and New Year periods. A supporting news release was issued urging extra care over the festive season. A news release about fire safety was also issued at the start of National Fire Safety Week (20-25 October). In addition, many brigades provided local papers with a continuous flow of fire prevention messages and material to be used when space was available. This provided a valuable means of broadening the brief information given in television and radio broadcasts and remained available in the home longer than items in national daily papers.

Inspection and certification of premises 73. The number of fire certificates issued under the Fire Precautions Act 1971 during the year was:

Factories	195 (284)
Offices, Shops etc	648 (852)
Hotels and Boarding Houses	153(126)

The 1985 figures are shown in brackets.

In addition to the above, the number of certificates which were revised was:

Factories	386 (256)
Offices, Shops etc	517 (453)
Hotels and Boarding Houses	449 (413)

Although the numbers of fire certificates issued is lower in two of the three categories than in 1985, the issue of revised certificates has increased in all classes. As the bulk of the inspection load is nearing completion in many brigades, the volume of work remaining to be done is not directly under the control of the brigade and may depend on the number of applications received during the year. Minor amendments to meet the requirements of the Building Standards (Scotland) Regulations may also involve visits to premises with existing fire certificates to ensure that the amendments are noted on the certificate.

Safety at sports grounds 74. The Report of the Inquiry into the Bradford City Football Club fire, headed by Mr Justice Popplewell, was published on 16 January 1986. It was broadened to take account of certain other fire safety matters which were of current importance and made a number of recommendations for action, certain of which were specific

to Scotland because of the differences in legal and other practices from those in England.

Fire safety and Safety of Places of Sport Bill

75. A consultative document, 'Fire Safety and Safety at Sports Venues' was issued for comment to interested parties in June. It contained both the Government's response to the previous year's comments on the Review of the Fire Precautions Act 1971 and its proposals for giving effect to the safety recommendations in Mr Justice Popplewell's Final Report on Crowd Safety and Control at Sports Grounds (Cmnd 9710). The Government subsequently introduced the Fire Safety and Safety of Places of Sport Bill into the House of Lords in December 1986. This aims to amend the existing legislation to implement those changes which are concerned with securing public safety.

Health and Safety Executive

76. The Inspectorate continued to be represented in the work of the Advisory Committee on Dangerous Substances at the meetings held during the year. The HSE now have representatives on most of the Joint Committees of the Central Fire Brigades Advisory Councils which may have an influence on health, safety and welfare in the fire service. This presence resolves many potential difficulties at an early stage and avoids delays and protracted correspondence.

Joint Fire Prevention Committee

77. The normal meetings of this Committee, held twice each year, did not take place in 1986 because the Home Departments and the members of the Committee were involved in the review of legislation described in paragraph 75 above.

Scottish Consultative Committee

78. The draft guide on fire precautions in houses in multiple occupation and hostels was circulated to interested bodies for comment. The working group set up to prepare the draft is continuing its work in the light of the comments made.

Section F Training

Scottish Fire Service Training School

79. A total of 141 recruits completed their training at the School during the year. Other courses (with attendances in brackets) were provided for Retained Firemen (14), Retained Leading Firemen/Sub-Officers (21), Whole-time Leading Fireman (55), Breathing Apparatus Instructors (23), Retained Breathing Apparatus Operators (8), Part-time Volunteers (34) and Industrial Personnel (84). Courses were also held for Specialist Legislation (27), Hospital Fire Safety (39), Road Traffic Accident Instructors (11) and Prison Officers' Fire prevention (20).

80. For a period of three months at the end of the year, the Commandant of the School, Mr A Jones, was absent on sick leave. During this absence a new Deputy Commandant was appointed and he, with the School Secretary and the Instructors, continued the successful operation and management of the School. They are to be commended for their work and resourcefulness during this difficult time. The School forms an essential part of the training system of the Scottish Brigades and its smooth and efficient operation is necessary to ensure the flow of properly trained recruits to the service.

Fire Service College

81. Scottish brigades continued to support the courses at the College by sending students and by releasing instructors on secondment to supplement the permanent staff. Some brigades have concentrated their student nominations on courses which form part of the progressive training system and reduced the numbers, usually of more senior officers, who attend specialist courses and seminars. This is done to reduce the overall cost of training following financial constraints within the Regions concerned and, while it can be borne without serious effect for one or two years, the balance of trained officers in a brigade may become upset through retirements, transfers and promotions.

82. The College's academic year will change in 1987 to provide three terms, each of 15 weeks, from January to December and the transition to this pattern meant that there were only two terms during 1986. This did not have a marked effect on the number of student places available for Scotland and the change will improve the planning and organisation of courses for the future.

83. An academic review was conducted at the College over a period of several weeks to examine the aims, organisation, standards and quality of instruction. The review was carried out by Mr J Thomas, a recently retired HM Inspector of Education with particular expertise in adult education, and Mr A Kilford, HM Inspector of Fire Services responsible for the training references at the Home Office. The report of the review covers a broad spectrum of comment and recommendations on the way in which the College operates and will form the basis for a pattern of improvements to be introduced over the next five years.

84. The excellent facilities and international reputation of the College have attracted very large numbers of visitors in recent years and a disproportionate amount of the staff's time was increasingly being taken up with arrangements and guides for touring parties. For the sake of the work of the College, although with some regret, the Commandant has decided to restrict visiting groups in future and visits will be arranged mainly for professional groups or individuals.

Fire Services Examinations Board (Scotland)

85. The amalgamation of the promotion examination system for Scottish brigades with that for England and Wales by the formation of a new examinations board came into operation on 1 September 1986. This had been recommended by a Joint Working Party, which was set up in 1983, and accepted by the two existing examinations boards at their meetings in 1984. The new Board, which comprises representatives from each of the former bodies, now provides a common examination system for all British local authority fire brigades.

86. The last written examinations organised by the Scottish Board took place at various examination centres in Scotland during January, February and March 1986. The results (with equivalent 1985 figures in brackets) were:

<i>Examination</i>	<i>Number of Candidates</i>	<i>Number of Passes</i>
Leading Fireman	316 (311)	111 (96)
Sub-Officer	223 (250)	101 (134)
Station Officer	289 (243)	109 (34)

At a ceremony held at Fife Fire and Rescue Service Headquarters, Thornton on 25 June, prize certificates were awarded to the following candidates who obtained the highest marks in the written examinations for promotion to Leading Fireman, Sub-Officer and Station Officer:

Leading Fireman—Fireman Desmond Keating, Strathclyde Fire Brigade.
Sub-Officer—Fireman Michael Doherty, Fife Fire and Rescue Service.
Station Officer—Fireman Stewart Thomson, Central Region Fire Brigade.

At its last meeting the Board expressed its appreciation of the work of Firemasters and their staffs in preparing question papers and marking the completed scripts. In future, preparation and marking will be carried out centrally and the Inspectorate and Scottish Office will have no involvement in the practical work of the examinations panels.

87. Practical tests for candidates for the Leading Fireman examination were conducted by officers from brigades, under the direction of the Board, during April and those for the Sub-Officer examination were held in May. The results (with equivalent 1985 figures in brackets) were:

<i>Examination</i>	<i>Number of Candidates</i>	<i>Number of Passes</i>
Leading Fireman	137 (145)	82 (95)
Sub-Officer	189 (173)	93 (94)

The officers conducting the tests travelled to a number of fire stations throughout Scotland to examine the candidates, using locally-provided equipment and facilities. At its last meeting, the Board expressed its appreciation for the co-operation of the Firemasters and the work of the officers who formed the panels conducting the examinations.

Fire Services Examinations Board

88. The administration of the examinations conducted for the Fire Services Examinations Board (Scotland) was carried out by the Scottish Home and Health Department. Under the new, unified Board, this work will be done by three new local examination boards which came into operation in September. The eight Scottish brigades are divided among the local boards as follows:

(i)	(ii)	(iii)
Strathclyde	Fife	Central
	Grampian	Dumfries and Galloway
	Highland and Islands	Lothian and Borders
	Tayside	

These local boards now administer both the written and practical examinations for the Fire Services Examinations Board, although, under the new arrangements,

practical tests for the Leading Fireman and Sub-Officer examinations are arranged in the year following the written examinations, not in the same year.

89. The first examinations of the new Board were held for Leading Fireman and Sub-Officer in September and October respectively. This meant that candidates who had failed in the last Scottish examinations were able to sit the first joint examinations in the same year but the results indicate that few were able to benefit from this double opportunity. The results of English and Welsh candidates were also poor and it is thought that the changed form of the examinations, which incorporate features of both the old systems and some innovations, may have had an adverse effect on the pass rate. The results for Scottish candidates were:

<i>Examination</i>	<i>Number of Candidates</i>	<i>Number of Passes</i>
Leading Fireman	247	36 (14.6%)
Sub-Officer	169	24 (14.2%)

Video recording equipment

90. Several brigades have purchased video recording cameras and have trained brigade members in their use, so that training aids can be made locally and a record kept of important or unusual incidents. This equipment has proved to be very valuable because of its ease of operation and flexibility of distribution and display, which is much easier than with film or other visual aids. A central registry of such training aids is maintained so that brigades are able to borrow or obtain copies at low cost of material produced by another brigade and avoid overlap of effort which wastes resources.

91. Special experience and valuable expertise can very usefully be shared by this means and two samples can be quoted to illustrate benefits of the medium. Highland and Islands Fire Brigade have been experimenting for some years with equipment specially designed for use with helicopters at heath and forest fires. A video recording was made at an exercise which showed the equipment in use and clearly illustrated the advantages of using helicopters with communications links to fire-fighters on the ground. Copies of this video recording have been supplied to a number of brigades, saving them from the high cost of hiring helicopters to carry out their own research. Strathclyde Fire Brigade made a video recording of lectures by Professor A Watson, Regius Professor of Forensic Medicine, University of Glasgow, and Senior Divisional Officer Leitch on the investigation of fatal fires and the effect of fire on human bodies. This recording, which was sponsored by the Fire Services Research and Training Trust, has been made widely available to hospitals, forensic scientists, police and other interested bodies, as well as to fire brigades. It enables the very special and rare knowledge of these two experts to be made available to a much wider audience than would otherwise be possible and the lectures, or parts of the recording, can be repeated at will.

92. This is clearly an important new development for training and it can also be used to point out faults and encourage good practices in drills, exercises and incidents, as well as for improving lecturing and interview techniques. It is a natural successor to the widely used tape/slide packages which have been in use for some years in many brigades, but a higher level of skill in preparation is required.

Section G Miscellaneous

Scottish Central Fire Brigades Advisory Council

93. At the Council meetings held on 6 June and 5 December the Chair was taken by Mr James W Barron, Assistant Secretary, Fire Services Division, SHHD, and by Mr William K Reid, CB, Secretary, Scottish Home and Health Department, respectively. The Council considered reports from the Joint Committee on Appliances, Equipment and Uniform; the Joint Committee on Fire Brigade Operations; the Joint Training Committee; the Joint Fire Prevention Committee; the Joint Pensions Committee; the Joint Committee on Fire Research; the Joint Committee on Fire Brigade Communications; and the Scottish Fire Service Training School. The Council also considered papers on the Fire Safety of Upholstered Furniture.

Research

94. In 1986 the Joint Committee on Fire Research met twice to consider various fire-related projects in the programme of research carried out by the Research and Planning Unit of the Home Office and a number of outside agencies. A report on trials of a remotely operated vehicle for fire service use and a questionnaire on the detection of arson were issued to brigades during the year. Improvements have been made to the publication 'Fire Research News' to give it a broader interest, and a wider circulation is being arranged so that all members of the service should be able to see a copy. Work started on a co-ordinated strategy for fire research to improve long-range planning and the balance of projects within the research programme.

Civil Defence

95. A programme and time-table for preparation of the war books required by Fire Services Circular 2/1984 was agreed by the Scottish Home and Health Department with Firemasters' representatives. This will be co-ordinated by the Inspectorate to ensure that brigade plans are compatible and follow a common pattern. Of the eight brigades only six have appointed Brigade Emergency Planning Staff Officers but good progress is being maintained in these brigades.

96. The increasing interest in emergency planning generally, ie for peacetime disasters as well as for the possibility of war, helps the preparedness of brigades for all eventualities because all anticipation and planning for possible emergencies helps to make the service potentially more effective and ready for any incident which may occur. Recent tragic incidents in other countries have shown how valuable advanced planning can be and how vulnerable the community is if it is not protected by well-prepared emergency services.

Fire Services National Benevolent Fund

97. Scottish Brigades raised £88,895 for the Fund in 1986, a very slight increase over the figure for the previous year. Expenditure in Scotland totalled £11,021 so a healthy balance was made available to the National Council of the Fund, who are responsible for the upkeep and organisation of the fund's two convalescent homes, as well as the disbursement of grants and payments to widows, orphans and those in need. The responsibility for maintaining grants to orphans over many years and ensuring the immediate future availability of large sums of money to cover the possibility of major payments requires a large reserve. This money is, of course, invested for the Fund and wise placing of investments also brings in a substantial additional income. While the Fund's total income increased by approximately 30% over the previous year to £2,062,889, future projects include a costly rebuilding programme at the main convalescent centre at Littlehampton which will necessitate demolishing three existing buildings. The replacement centre will be purpose-built to include all the amenities which are considered to be needed to meet the requirements for handicapped and other visitors.

98. Although the Fund's properties are maintained professionally, as are those of other similar institutions, a great deal of redecoration and gardening is carried out by volunteers from brigades who attend the homes as working parties. It is a pleasure to be able to pay tribute to those who, during the past year, have given their time and energy, as well as their money, to support this excellent charity work.

99. As with most charities, the methods used to raise money for the Fund are many and varied. It is becoming increasingly common for local charities to be included in fund-raising efforts by firemen. This shows their public spirit and it is to be commended, but to ensure that the Fund's name is not used to attract support for other, possibly less well-known and deserving charities, the Fund's council keeps a close control over the use of the Fund's name in such joint ventures.

100. While it is inappropriate to make comparisons of all brigades' fund-raising efforts because so much depends on the enthusiasm of individuals who make the most of their opportunities, two brigades deserve special mention for their success in 1986, in relation to the numbers of members of the brigade. Grampian Fire Brigade members raised £18,607, almost as much as the largest Scottish brigade, and Highland and Islands raised £14,611, mostly from flag days.

Fire Services Sports and Athletics Association

101. This is the sixteenth year of the Association in Scotland and participation in the events organised by the Scottish sections continues to increase. The popularity and relative success of different sports varies from year to year but the underlying value of active involvement in physical sports, mostly team games, continues.

102. The Scottish fire services football team were successful in defeating the Scottish Police in Edinburgh in September and held England's fire services to a draw at Maidstone, Kent, in October. They were unsuccessful at Rhyl in November when they lost to a Welsh representative eleven.

103. The competition within Scotland was won by Tayside, who beat the Lothian and Borders Brigade team for the Scottish Cup in May. The Scottish League play-off between the winners of the East and West Scotland leagues was won by Strathclyde 'A', who narrowly defeated Tayside on penalties at Alloa in June.

104. The Great Britain fire services' rugby union team, which played the French fire services in Paris, contained five Scots representatives. The British team was pleased to draw level after nearly being defeated in a hard fought match. For the first time a Scottish Fire Brigade XV travelled to Belfast to play the Northern Ireland Fire Brigade and were rewarded with a win. The game against Wales had to be cancelled because of weather conditions and England inflicted a defeat on the Scottish brigades' team.

105. In the seven-a-side rugby competition, the Scottish team won their way to the final but were eventually beaten by a strong Welsh side.

106. The Scottish Swimming Championships were held in April at Kirkcaldy and the honours were shared amongst the competing brigades. No medals were won at the national championship in Manchester in November, but the Scottish team had earlier won both relay events and three individual races in the Master Competition, also at Manchester, in May.

107. Interest in volleyball has been maintained and more brigades are taking part in competitions at District level. This means that there is now a very full season with three main championship competitions being held. Grampian Fire Brigade regained the Reform Trophy at Grangemouth in June and Fife Fire and Rescue Service beat Lothian and Borders to win the Districts Championship, also held in June. Scotland did not win any of the international matches in which it was involved but prospects for the future are promising.

108. Angling continues to be a popular pastime and Scottish brigade members attended the National Game Angling Championships at Wolverhampton in June

where 20 brigades were represented. The National Pike Angling championships were held at Loch Lomond in November and most of the major trophies were retained in Scotland. There was no such luck for the sole Scottish representative in the Northern Ireland Coarse Angling Championships.

ESTABLISHMENT AND STRENGTH OF FIRE BRIGADES

as at 31st December 1986

Table 1.

Operational Personnel	CENTRAL		DUMFRIES AND GALLOWAY		FIFE		GRAMPIAN		HIGHLAND AND ISLANDS		LOTHIAN AND BORDERS		STRATHCLYDE		TAYSIDE		GRAND TOTALS	
	Establishment	Actual Strength		Establishment	Actual Strength		Establishment	Actual Strength		Establishment	Actual Strength		Establishment	Actual Strength		Establishment	Actual Strength	
		Male	Female		Male	Female		Male	Female		Male	Female		Male	Female		Male	Female
Operational Personnel																		
Firemasters	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	8
Assistant Firemasters	1	1	1	1	1	1	2	2	1	1	2	2	5	5	1	1	1	14
Senior Divisional Officers	1	1	1	1	2	2	2	2	5	5	4	4	2	7	5	5	9	16
Divisional Officers Grade I	4	4	1	3	3	3	2	2	5	5	6	4	13	13	1	1	16	35
Divisional Officers Grade II	—	—	—	—	—	—	4	4	—	—	7	7	17	17	8	8	40	31
Divisional Officers Grade III	—	—	—	3	1	1	4	4	11	11	17	17	33	32	14	14	107	40
Assistant Divisional Officers	15	15	10	10	10	10	12	26	10	10	37	33	166	164	37	32	335	105
Station Officers	23	24	10	10	37	28	25	26	7	6	65	69	217	221	36	36	409	327
Sub Officers	28	28	8	8	62	62	38	38	13	13	88	88	277	272	44	45	565	415
Leading Firemen	140	139	52	52	238	233	145	143	48	47	428	424	1,526	1,487	263	252	2,840	2,777
Firemen	218	219	86	86	378	378	258	255	95	94	667	651	2,264	2,221	410	392	4,379	4,296
Totals	455	401	296	271	470	470	767	716	1,691	1,493	987	927	3,204	3,045	758	684	8,667	8,007
Control Room Staff																		
Prin. F.C. Officers	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1
Group F.C. Officers	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1
Fire Con. Officers	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	2
Sen. Fire Con. Operators	1	1	1	1	4	4	4	4	1	1	4	4	4	4	1	1	12	11
Lead. Fire Con. Operators	8	2	6	1	8	3	5	—	8	8	12	2	12	2	4	4	23	23
Fire Control Operators	13	3	10	1	17	3	14	—	13	13	25	7	67	7	3	15	183	164
Totals	4	—	—	3	2	2	11	12	13	13	5	4	8	7	7	7	53	48
Part-time Retained																		
Station Officers	16	15	16	16	8	8	34	36	27	27	25	25	56	53	18	19	200	199
Sub Officers	20	20	20	20	10	9	46	52	54	50	31	31	66	65	35	37	282	284
Leading Firemen	160	130	157	145	92	70	369	339	284	266	234	209	519	474	238	182	2,053	1,815
Firemen	200	165	196	184	112	89	460	439	378	356	295	269	649	599	298	245	2,588	2,346
Totals	—	—	—	—	—	—	—	—	5	5	—	—	—	—	—	—	5	5
Part-time Volunteer																		
Assistant Divisional Officers	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Station Officers	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sub Officers	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Leading Firemen	24	14	—	—	—	—	26	16	1,018	856	—	—	224	218	30	42	1,322	1,146
Firemen	24	14	—	—	—	—	32	22	1,205	1,043	—	—	224	218	32	44	1,517	1,341
Totals	218	219	86	86	378	378	258	255	95	94	667	651	2,264	2,221	410	392	4,379	4,296
WHOLETIME CONTROL ROOM	13	3	10	1	17	3	14	—	13	13	25	7	67	7	3	15	183	164
PART-TIME RETAINED	200	165	196	184	112	89	460	439	378	356	295	269	649	599	298	245	2,588	2,346
PART-TIME VOLUNTEER	24	14	—	—	—	—	32	22	1,205	1,043	—	—	224	218	32	44	1,517	1,341
GRAND TOTALS	455	401	296	271	470	470	767	716	1,691	1,493	987	927	3,204	3,045	758	684	8,667	8,007

SUMMARY OF FIRES AND SPECIAL SERVICES WHICH HAVE OCCURRED 1986

Table 3

	Total Fires	Classification of fires by number of pumps used for firefighting purposes:						Chimney Fires	Secondary Fires	False Alarms			Special Service	Total
		(a) 1 pump	(b) 2 pumps	(c) 3/5 pumps	(d) 6/10 pumps	(e) 11/15 pumps	(f) Over 15			Good Intent	Apparatus Fault	Malicious		
Central	867	544	291	30	2	—	—	501	662	592	341	497	190	3,680
Dumfries and Galloway	464	264	176	24	—	—	—	591	203	347	66	239	184	2,094
Fife	1,122	1,087	29	6	—	—	—	750	843	572	559	567	254	4,667
Grampian	1,609	1,374	147	80	6	2	—	1,208	947	811	376	446	386	5,783
Highland and Islands	778	649	123	6	—	—	—	1,891	659	442	98	191	196	4,255
Lothian and Borders	3,795	2,546	790	457	2	—	—	951	2,716	2,341	765	2,393	697	13,658
Strathclyde	9,170	8,289	748	126	7	—	—	2,569	10,626	6,000	3,814	5,368	2,935	40,482
Tayside	1,706	1,643	59	4	—	—	—	837	1,625	629	390	535	433	6,155
Total	19,511	16,396	2,363	733	17	2	—	9,298	18,281	11,734	6,409	10,236	5,275	80,744



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