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LARGE FIRES DURING 1970

by

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SUMMARY

This note contains an analysis of large fires during 1970. These were fires which were estimated to have cost £10,000 or more in direct damage. There were 1115 such fires during 1970 resulting in a total loss of £69.9 million. Of these, 75 started in outdoor hazards, 56 per cent of which spread to buildings. The average loss in these "outdoor" fires was twice the average in the 1040 fires that started in buildings.

KEY WORDS: Large, fire, loss, fire statistics

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INTRODUCTION

During 1970 there were 1115 fires in the United Kingdom each estimated to have cost £10,000 or more in direct damage. The direct material damage in all these fires amounted to £69.9 million out of an estimated total of £110.9 million in all fires during that year. Large fires thus accounted for 63 per cent of the total loss compared with 65.2 per cent in 1969. In 1969, the total loss in large fires was £78.2 million out of an estimated total of £120 million in all fires.

The figures for 1970 look encouraging but it is too early to be optimistic and there were certain discouraging factors in 1970. In that year there were 75 large fires that started in outdoor hazards, 56 per cent of which spread to buildings. With 30 such large fires in 1965 the frequency of "outdoor" fires had more than doubled during the course of six years. In 1970, the average loss per large fire in these "outdoor" fires was twice the average for large fires which started in buildings. These "outdoor" fires included the fire in the Menai Railway bridge in May 1970 where the estimated loss was £2 million; a fire in July 1970 in a jetty belonging to an oil distributor (just over £1 million); seven large fires in outdoor chemical plants among which one had a loss of £1 million and another £0.5 million; and an outdoor fire that spread to a building engaged in the manufacture of paper (£982,000).

In 1970 there was a drop in the number as well as the average loss in large fires that started indoors. However, with an average loss of £172,000, large fires in the paper, printing and publishing group give cause for some anxiety. A fire in a building belonging to a manufacturer of paper and board had a loss of £3.3 million. In this industrial group as a whole there were 3 more fires with losses between £0.5 million and £1 million. Costly fires occurred again in 1970 in buildings engaged in public administration and defence activities after an encouraging situation in 1969¹. Their number was small but the average cost was higher than in most occupancies. Attention was drawn to costly fires in these buildings during 1966 to 1968 in an analysis of large fires covering the four year period².

There were 104 large fires with casualties. Of these, 9 were fatal fires with 13 deaths. In all, 185 people received non-fatal injuries. In the group relating to hotels and other residential establishments there were two fatal fires with 5 deaths in all.

The statistics of large fires provided in this note have been compiled from reports on these fires furnished by local authority fire brigades. Data on financial losses were received from insurance sources through the Fire Protection Association. Tables 1A to 10A and Table 11 relate to fires in buildings and Tables 1B - 10B to fires that started in outdoor hazards. Tables 12, 13 and 14 are consolidated and relate to both indoor and outdoor fires.

REFERENCES

1. RAMACHANDRAN, G., KIRSOP, Patricia and EVELEIGH, Christine. Large fires during 1969. Ministry of Technology and Fire Offices' Committee Joint Fire Research Organization F.R. Note No. 829.
2. RAMACHANDRAN, G., and KIRSOP, Patricia. A brief analysis of large fires during 1965 to 1968. Ministry of Technology and Fire Offices' Committee Joint Fire Research Organization F.R. Note No. 792.

Table 1A. Large fire losses (in buildings)

| Size group (£ thousands) | Number of fires | Total damage (£ thousands) |
|-----------------------------|-----------------|-------------------------------|
| Total | 1040 | 60709 |
| 10 to 15 | 283 | 3630 |
| 16 to 20 | 138 | 2559 |
| 21 to 25 | 116 | 2710 |
| 26 to 30 | 84 | 2400 |
| 31 to 35 | 45 | 1501 |
| 36 to 40 | 53 | 2046 |
| 41 to 50 | 67 | 3119 |
| 51 to 75 | 95 | 5943 |
| 76 to 100 | 53 | 4751 |
| 101 to 150 | 42 | 5293 |
| 151 to 200 | 16 | 2934 |
| 201 to 250 | 5 | 1119 |
| 251 to 500 | 30 | 10570 |
| 501 to 1000 | 12 | 8859 |
| Over 1000 | 1 | 3275 |

Table 1B. Large fire losses (not in buildings)

| Size group (£ thousands) | Number of fires | Total damage (£ thousands) |
|-----------------------------|-----------------|-------------------------------|
| Total | 75 | 9235 |
| 10 to 20 | 36 | 513 |
| 21 to 50 | 16 | 544 |
| 51 to 100 | 7 | 523 |
| 101 to 150 | 3 | 321 |
| 151 to 200 | 3 | 484 |
| 201 to 500 | 6 | 1863 |
| 501 to 1000 | 4 | 4987 |

Table 2A. Large fires in relation to hazard
(in buildings)

| Hazard | No. of large fires | Total direct loss (£ thousands) | Average direct loss per fire (£ thousands) |
|--|--------------------|---------------------------------|--|
| | 1040 | 60709 | 58.4 |
| Industrial Premises | 564 | 35117 | 62.3 |
| Agriculture, forestry, fishing | 31 | 495 | 16.0 |
| Mining, quarrying | - | - | - |
| Food, drink, tobacco | 33 | 2009 | 60.9 |
| Coal and petroleum products | 2 | 130 | 65.0 |
| Chemical and allied industries | 55 | 3188 | 58.0 |
| Metal manufacture | 21 | 1365 | 65.0 |
| Engineering and electrical goods | 49 | 4527 | 92.4 |
| Engineering and metal works unspecified | 16 | 932 | 58.2 |
| Shipbuilding and marine engineering | 7 | 269 | 38.4 |
| Vehicles | 24 | 827 | 34.5 |
| Metal goods, not elsewhere specified | 30 | 2150 | 71.7 |
| Textiles | 63 | 3397 | 53.9 |
| Leather, leather goods and fur | 6 | 139 | 23.2 |
| Clothing and footwear | 42 | 1944 | 46.3 |
| Bricks, pottery, glass, cement | 18 | 552 | 30.7 |
| Timber furniture | 58 | 2905 | 50.1 |
| Paper, printing, publishing | 45 | 7727 | 171.7 |
| Other manufacturing industries | 48 | 2118 | 44.1 |
| Construction | 16 | 443 | 27.7 |
| Public utilities | 38 | 4302 | 113.2 |
| Gas, water, electricity | 17 | 1328 | 78.1 |
| Transport and communications | 21 | 2974 | 141.6 |
| Distribution trades | 209 | 10792 | 51.6 |
| Retail | 119 | 5807 | 48.8 |
| Wholesale | 52 | 3469 | 66.7 |
| Other dealers | 38 | 1516 | 39.9 |
| Others | 229 | 10498 | 45.84 |
| Insurance, banking, finance | 7 | 395 | 56.4 |
| Professional and scientific services | 59 | 2532 | 42.9 |
| Cinema, theatre, radio, sport | 29 | 1191 | 41.1 |
| Catering, hotels | 65 | 2965 | 45.6 |
| Miscellaneous services | 31 | 1759 | 56.7 |
| Public administration and defence | 7 | 987 | 141.0 |
| Private residential houses | 19 | 459 | 24.2 |
| Private flats and maisonettes | 6 | 98 | 16.3 |
| Unoccupied premises, private sheds and garages | 1 | 15 | 15.0 |
| Not specified | 5 | 97 | 19.4 |

Table 2B. Large fires in relation to hazard
(not in buildings)

| Hazard | No. of fires | Total direct loss (£ thousands) | Average direct loss per fire (£ thousands) |
|--|--------------|---------------------------------|--|
| Total | 75 | 9235 | 123.1 |
| Started and confined outdoors: | | | |
| Outdoor storage | 6 | 233 | 38.8 |
| Chemical plant | 7 | 1792 | 256.0 |
| Gas works plant and mains | 3 | 55 | 18.3 |
| Transformer, electrical sub-station, generator | 3 | 85 | 28.3 |
| Other outdoor plant | 5 | 517 | 103.4 |
| Railway rolling stock | 3 | 2025 | 675.0 |
| Agriculture and forestry | 2 | 33 | 16.5 |
| Marine craft and structures | 2 | 1021 | 510.5 |
| Started outdoor but spread to: | | | |
| Industry - paper manufacturing | 3 | 1366 | 455.3 |
| - other manufacturing | 18 | 960 | 53.3 |
| Transport and communication | 2 | 165 | 82.5 |
| Distributive trades | 7 | 514 | 73.4 |
| Others | 12 | 447 | 37.2 |
| Private residential houses | 1 | 12 | 12.0 |
| Private residential flats | 1 | 10 | 10.0 |

Table 3A. Source of ignition of large fires
(in buildings)

| Hazard | No. of fires | Total direct loss (£ thousands) | Average direct loss per fire (£ thousands) |
|--|--------------|---------------------------------|--|
| Total | 1040 | 60709 | 58.4 |
| Total (known causes) | 256 | 17791 | 69.5 |
| Chimney, stove pipe, flue | 9 | 438 | 48.7 |
| Malicious or intentional ignition | 119 | 8786 | 73.8 |
| Children with fire | 11 | 720 | 65.5 |
| Mechanical heat or sparks | 24 | 4087 | 170.3 |
| Naked light, taper etc | 12 | 981 | 81.7 |
| Natural occurrences | 5 | 297 | 59.4 |
| Rubbish burning | 9 | 184 | 20.4 |
| Smoking materials | 57 | 2022 | 35.4 |
| Spontaneous combustion | 10 | 276 | 27.6 |
| Electrical appliances and installations | 137 | 6761 | 49.3 |
| Cooking appliances | 5 | 398 | 79.6 |
| Space heating | 26 | 1386 | 53.3 |
| Wire and cable | 51 | 2484 | 48.7 |
| Others | 55 | 2493 | 45.3 |
| Gas appliances and installations | 23 | 1538 | 66.8 |
| Cooking appliances | 8 | 973 | 121.6 |
| Space heating | 2 | 36 | 18.0 |
| Others | 13 | 529 | 40.7 |
| Solid fuel appliances and installations | 3 | 196 | 65.3 |
| Oil appliances and installations | 15 | 339 | 22.6 |
| Oil central heating | 5 | 60 | 12.0 |
| Others | 10 | 279 | 28.0 |
| Liquid petroleum, gas appliances and installations | 8 | 288 | 36.0 |
| Acetylene appliances and installations | 15 | 460 | 30.7 |
| Other known causes | 34 | 1121 | 33.0 |
| Unknown | 549 | 32215 | 58.7 |

Including appliances of "other and unspecified fuels"

Table 3B. Source of ignition of large fires
(not in buildings)

| Source of ignition | No. of fires | Total direct loss (£ thousands) | Average direct loss per fire (£ thousands) |
|--|--------------|---------------------------------|--|
| Total | 75 | 9235 | 123.1 |
| Total (known causes) | 43 | 5194 | 120.8 |
| Malicious ignition | 5 | 445 | 89.0 |
| Children with fire | 5 | 2160 | 432.0 |
| Mechanical heat and sparks | - | - | - |
| Natural occurrences | - | - | - |
| Rubbish burning | 14 | 505 | 36.1 |
| Smoking materials | 8 | 1556 | 194.5 |
| Electric appliances and installations | 2 | 22 | 11.0 |
| Oil appliances - engine | 1 | 300 | 300.0 |
| Oxyacetylene welding and cutting equipment | 1 | 10 | 10.0 |
| Other known causes | 7 | 196 | 28.0 |
| Unknown | 32 | 4041 | 577.3 |

Table 4A. Place of origin of large fires
(In buildings)

| Place of origin | No. of fires | Total direct loss (£ thousands) | Average direct loss per fire (£ thousands) |
|---|--------------|---------------------------------|--|
| Total | 1040 | 60709 | 58.4 |
| <u>Production and maintenance</u> | | | |
| Air conditioning | 3 | 97 | 32.3 |
| Boiler room, engine room | 13 | 401 | 30.8 |
| Cyclone | 3 | 105 | 35.0 |
| Drying and heat treatments | 24 | 1598 | 66.6 |
| Dust extracts, (not cyclone) | 2 | 52 | 26.0 |
| Electrical supply equipment | 13 | 1149 | 88.4 |
| Paint spraying | 33 | 1038 | 31.5 |
| Workshop | 49 | 1901 | 38.8 |
| Laboratory, research department | 5 | 294 | 58.8 |
| Other factory sections, not stated | 160 | 12476 | 78.0 |
| <u>Assembly</u> | | | |
| Back stage room | 7 | 285 | 40.7 |
| Class room, lecture room | 16 | 362 | 22.6 |
| Bar | 9 | 802 | 89.1 |
| Lounge, common room | 7 | 255 | 36.4 |
| Dining room, canteen | 8 | 243 | 30.3 |
| Dance halls, assembly rooms | 15 | 796 | 53.1 |
| <u>Storage</u> | | | |
| Ashpit, refuse room | 2 | 56 | 28.0 |
| Hangars | 2 | 530 | 265.0 |
| Loading bay, packing department | 12 | 980 | 81.7 |
| Store, stock room | 223 | 17980 | 80.6 |
| Shop, showroom | 48 | 2561 | 53.4 |
| <u>Structure fittings</u> | | | |
| Roof space, chimney, external structure | 27 | 1512 | 56.0 |
| <u>Miscellaneous</u> | | | |
| Animal shed, barn | 29 | 468 | 16.1 |
| Vehicle storage | 7 | 155 | 22.1 |
| Garden shed, greenhouse, summer house | 1 | 15 | 15.0 |
| Contractors hut, workman's hut | 5 | 166 | 33.2 |
| Laundry, wash-house | 2 | 46 | 23.0 |
| Cloakroom, lavatory, bathroom | 4 | 90 | 22.5 |
| Hall, corridor, stairs, lifts | 18 | 673 | 22.5 |
| Office | 35 | 1573 | 44.9 |
| Place of worship | 8 | 366 | 45.7 |
| Bedroom, bedsitting room | 5 | 95 | 19.0 |
| Kitchen | 21 | 1614 | 76.9 |
| Others | 11 | 341 | 31.0 |
| Not applicable (e.g. building under construction or demolition, derelict or unoccupied) | 25 | 1219 | 48.8 |
| Unknown or not stated | 188 | 8415 | 44.8 |

Table 4B. Place of origin of large fires
(not in buildings)

| Place of origin | No. of fires | Total direct loss (£ thousands) | Average direct loss per fire (£ thousands) |
|-------------------------------------|--------------|---------------------------------|--|
| Total | 75 | 9235 | 123.1 |
| Car park | 1 | 12 | 12.0 |
| Railway rolling stock | 1 | 10 | 10.0 |
| Vehicles | 2 | 40 | 20.0 |
| Field | 4 | 61 | 15.2 |
| Road grass verge | 3 | 101 | 33.6 |
| Garden | 1 | 100 | 100.0 |
| Railway embankment | 1 | 2000 | 2000.0 |
| Ash pit | 1 | 41 | 41.0 |
| Yard unspecified | 5 | 579 | 115.8 |
| Factory yard | 3 | 97 | 32.3 |
| Outdoor plant | 8 | 1107 | 138.3 |
| Drying and heat treatments sections | 1 | 12 | 12.0 |
| Workshop | 1 | 11 | 11.0 |
| Fuel storage - liquid | 2 | 1158 | 579.0 |
| Store stockroom | 5 | 145 | 29.0 |
| Outdoor storage other than fuel | 25 | 3363 | 134.5 |
| External structure | 1 | 113 | 113.0 |
| Roof space | 2 | 118 | 59.0 |
| Not applicable | 1 | 16 | 16.0 |
| Unknown | 7 | 151 | 21.6 |

Table 5A. Spread of large fires
(in buildings)

| Spread of fire | No. of fires | Total direct loss (£ thousands) | Average direct loss per fire (£ thousands) |
|---|--------------|---------------------------------|--|
| Total | 1040 | 60709 | 58.4 |
| Confined to: | | | |
| Exterior components, walls, roof etc. Appliance (item from which heat emanated) | 3 | 127 | 42.3 |
| Room or origin | 98 | 3268 | 33.3 |
| Floor of origin | 78 | 3743 | 48.0 |
| Building of origin - single compartment | 13 | 250 | 19.2 |
| - multi compartment, single storey | 202 | 10972 | 54.3 |
| - multi compartment, multi storey | 402 | 23677 | 58.9 |
| Extended to: | | | |
| Adjoining building(s) | 68 | 4031 | 59.3 |
| Separate building(s) | 45 | 4564 | 101.4 |
| Other hazard(s) | 18 | 883 | 49.1 |
| Adjoining and separate building(s) | 6 | 4496 | 749.3 |
| Adjoining building(s) and other hazard(s) | 3 | 114 | 38.0 |
| Separate building(s) and other hazard(s) | 6 | 944 | 157.3 |
| Adjoining and separate building(s) and other hazard(s) | 8 | 615 | 76.8 |
| Extended from a building | 1 | 15 | 15.0 |
| Extended from a building and to building(s) and other hazard(s) | - | - | - |
| Extent unknown | 89 | 3010 | 33.8 |

Table 5B. Spread of large fires
(not in building)

| Spread of fire | No. of fires | Total direct loss (£ thousands) | Average direct loss per fire (£ thousands) |
|---------------------------------|--------------|---------------------------------|--|
| Total | 75 | 9235 | 123.1 |
| Confined to: | | | |
| Hazard of origin | 19 | 3247 | 170.9 |
| Extended to: | | | |
| Building(s) | 33 | 4104 | 124.4 |
| Other hazard(s) | 8 | 293 | 36.6 |
| Building(s) and other hazard(s) | 9 | 1454 | 161.6 |
| Extent unknown | 6 | 137 | 22.8 |

Table 6A. Jets used to extinguish large fires
(in buildings)

| Number of jets | No. of fires | Total direct loss (£ thousands) | Average direct loss per fire (£ thousands) |
|----------------|--------------|---------------------------------|--|
| Total | 1040 | 60709 | 58.4 |
| 0 | 58 | 1591 | 27.4 |
| 1 | 90 | 2469 | 27.4 |
| 2 | 140 | 3712 | 26.5 |
| 3 | 134 | 4087 | 30.5 |
| 4 | 160 | 4769 | 29.8 |
| 5 | 86 | 4411 | 51.3 |
| 6 | 86 | 5283 | 61.4 |
| 7 | 46 | 4198 | 91.3 |
| 8 | 36 | 2874 | 79.8 |
| 9 | 23 | 2218 | 96.4 |
| 10 | 26 | 5550 | 213.5 |
| 11 | 16 | 3070 | 191.9 |
| 12 | 18 | 2666 | 148.1 |
| 13 | 5 | 715 | 143.0 |
| 14 | 6 | 1311 | 218.5 |
| 15 - 19 | 14 | 3572 | 255.1 |
| 20 - 24 | 7 | 3684 | 526.2 |
| 25 - 29 | 3 | 665 | 221.6 |
| 30 and above | 1 | 950 | 950.0 |
| Not stated | 85 | 2914 | 34.3 |

Table 6B. Jets used to extinguish large fires
(not in buildings)

| Number of jets | No. of fires | Total direct loss (£ thousands) | Average direct loss per fire (£ thousands) |
|----------------|--------------|---------------------------------|--|
| Total | 75 | 9235 | 123.1 |
| 0 | 4 | 93 | 23.2 |
| 1 | 6 | 164 | 27.3 |
| 2 | 7 | 146 | 20.8 |
| 3 | 7 | 123 | 17.6 |
| 4 | 8 | 136 | 17.0 |
| 5 | 8 | 3094 | 386.7 |
| 6 | 5 | 221 | 44.2 |
| 7 | 1 | 100 | 100.0 |
| 8 | 2 | 108 | 54.0 |
| 9 | 2 | 86 | 43.0 |
| 10 | 3 | 218 | 72.6 |
| 11 | 2 | 402 | 201.0 |
| 12 | 5 | 518 | 103.6 |
| 13 | 2 | 136 | 68.0 |
| 14 | 1 | 106 | 106.0 |
| 15 - 19 | 4 | 2556 | 639.0 |
| 20 - 24 | 2 | 403 | 201.5 |
| 25 - 29 | - | - | - |
| 30 and above | 1 | 500 | 500.0 |
| Not stated | 5 | 125 | 25.0 |

Table 7A. Date of construction of buildings involved in large fires

| Period of construction | No. of fires | Total direct loss (£ thousands) | Average direct loss per fire (£ thousands) |
|----------------------------|--------------|---------------------------------|--|
| Total | 1040 | 60709 | 58.4 |
| Before 1800 | 24 | 961 | 40.0 |
| 1800 - 1849 | 18 | 511 | 28.4 |
| 1850 - 1899 | 182 | 8935 | 49.1 |
| 19th century (unspecified) | 25 | 2384 | 95.4 |
| 1900 - 1914 | 164 | 10310 | 62.9 |
| 1915 - 1918 | 2 | 22 | 11.0 |
| 1919 - 1939 | 188 | 13298 | 70.7 |
| 1940 - 1945 | 34 | 1764 | 51.9 |
| 1946 - 1950 | 55 | 2793 | 50.8 |
| 1951 - 1955 | 35 | 2222 | 63.5 |
| 1956 - 1960 | 57 | 2676 | 46.9 |
| 1961 - 1965 | 65 | 5650 | 86.9 |
| 1966 - 1970 | 83 | 4892 | 58.9 |
| 20th century (unspecified) | 9 | 455 | 50.5 |
| Not known | 99 | 3836 | 38.7 |

Table 7B. Date of construction of buildings involved in large fires that started outside (where applicable)

| Period of construction | No. of fires | Total direct loss (£ thousands) | Average direct loss per fire (£ thousands) |
|----------------------------|--------------|---------------------------------|--|
| Total | 75 | 9235 | 123.1 |
| 14th century (unspecified) | 1 | 10 | 10.0 |
| 15th century (unspecified) | 1 | 12 | 12.0 |
| 1800 - 1850 | 3 | 297 | 99.0 |
| 1850 - 1899 | 3 | 69 | 23.0 |
| 1900 - 1914 | 5 | 332 | 66.4 |
| 1915 - 1918 | - | - | - |
| 1919 - 1939 | 6 | 375 | 62.5 |
| 1940 - 1945 | 2 | 82 | 41.0 |
| 1946 - 1950 | 7 | 622 | 88.8 |
| 1951 - 1955 | 1 | 175 | 175.0 |
| 1956 - 1960 | 5 | 368 | 73.6 |
| 1961 - 1965 | 2 | 1982 | 991.0 |
| 1966 - 1970 | 15 | 1870 | 124.7 |
| Not applicable | 24 | 3041 | 126.7 |

Table 8A. Time of call to large fires
(in buildings)

| Time of call | No. of fires | Total direct loss (£ thousands) | Average direct loss per fire (£ thousands) |
|-----------------------|--------------|---------------------------------|--|
| Total | 1040 | 60709 | 58.4 |
| 00.01 - 01.00 | 59 | 4216 | 71.4 |
| 01.01 - 02.00 | 56 | 2746 | 49.0 |
| 02.01 - 03.00 | 52 | 2239 | 43.1 |
| 03.01 - 04.00 | 43 | 1706 | 39.7 |
| 04.01 - 05.00 | 26 | 1271 | 48.9 |
| 05.01 - 06.00 | 25 | 1603 | 64.1 |
| 06.01 - 07.00 | 24 | 1794 | 74.7 |
| 07.01 - 08.00 | 28 | 850 | 30.4 |
| 08.01 - 09.00 | 31 | 6466 | 208.6 |
| 09.01 - 10.00 | 18 | 1636 | 90.9 |
| 10.01 - 11.00 | 28 | 1377 | 49.2 |
| 11.01 - 12.00 | 21 | 791 | 37.7 |
| 12.01 - 13.00 | 27 | 1039 | 38.5 |
| 13.01 - 14.00 | 49 | 2230 | 45.5 |
| 14.01 - 15.00 | 33 | 2770 | 83.9 |
| 15.01 - 16.00 | 35 | 1183 | 33.8 |
| 16.01 - 17.00 | 33 | 1459 | 44.2 |
| 17.01 - 18.00 | 44 | 3291 | 74.8 |
| 18.01 - 19.00 | 62 | 5820 | 93.9 |
| 19.01 - 20.00 | 50 | 2908 | 58.2 |
| 20.01 - 21.00 | 53 | 3034 | 57.2 |
| 21.01 - 22.00 | 52 | 2304 | 44.3 |
| 22.01 - 23.00 | 53 | 1948 | 36.7 |
| 23.01 - 00.00 | 52 | 3099 | 59.6 |
| Unknown or not stated | 86 | 2929 | 34.1 |

Table 8B. Time of call to large fires
(not in building)

| Time of call | No. of fires | Total direct loss (£ thousands) | Average direct loss per fire (£ thousands) |
|-----------------------|--------------|---------------------------------|--|
| Total | 75 | 9235 | 123.1 |
| 00.01 - 01.00 | 1 | 10 | 10.0 |
| 01.01 - 02.00 | 4 | 223 | 55.7 |
| 02.01 - 03.00 | 2 | 252 | 126.0 |
| 03.01 - 04.00 | 2 | 30 | 15.0 |
| 04.01 - 05.00 | - | - | - |
| 05.01 - 06.00 | 1 | 11 | 11.0 |
| 06.01 - 07.00 | - | - | - |
| 07.01 - 08.00 | - | - | - |
| 08.01 - 09.00 | - | - | - |
| 09.01 - 10.00 | 3 | 535 | 178.3 |
| 10.01 - 11.00 | 3 | 55 | 18.3 |
| 11.01 - 12.00 | 4 | 1019 | 254.8 |
| 12.01 - 13.00 | 3 | 61 | 20.3 |
| 13.01 - 14.00 | 8 | 389 | 48.6 |
| 14.01 - 15.00 | 5 | 74 | 14.8 |
| 15.01 - 16.00 | 10 | 572 | 57.2 |
| 16.01 - 17.00 | 5 | 480 | 96.0 |
| 17.01 - 18.00 | 3 | 376 | 125.3 |
| 18.01 - 19.00 | 2 | 205 | 102.5 |
| 19.01 - 20.00 | 2 | 32 | 16.0 |
| 20.01 - 21.00 | 3 | 1083 | 361.0 |
| 21.01 - 22.00 | 6 | 2533 | 422.1 |
| 22.01 - 23.00 | 2 | 1017 | 508.5 |
| 23.01 - 00.00 | 1 | 153 | 153.0 |
| Unknown or not stated | 5 | 125 | 25.0 |

Table 9A. Month in which large fires occurred
(in buildings)

| Month | No. of fires | Total direct loss (£ thousands) | Average direct loss per fire (£ thousands) |
|-----------|--------------|---------------------------------|--|
| Total | 1040 | 60709 | 58.4 |
| January | 84 | 3243 | 38.6 |
| February | 90 | 6019 | 66.9 |
| March | 89 | 5865 | 65.9 |
| April | 74 | 4551 | 61.5 |
| May | 84 | 3752 | 44.7 |
| June | 123 | 7746 | 63.0 |
| July | 95 | 4088 | 43.0 |
| August | 86 | 7205 | 83.8 |
| September | 73 | 6570 | 900.0 |
| October | 89 | 5289 | 59.4 |
| November | 81 | 3452 | 42.6 |
| December | 72 | 2929 | 40.7 |

Table 9B. Month in which large fires occurred
(not in buildings)

| Month | No. of fires | Total direct loss (£ thousands) | Average direct loss per fire (£ thousands) |
|-----------|--------------|---------------------------------|--|
| Total | 75 | 9235 | 123.1 |
| January | 1 | 15 | 15.0 |
| February | 2 | 27 | 13.5 |
| March | 3 | 246 | 82.0 |
| April | 3 | 82 | 27.3 |
| May | 10 | 3702 | 370.2 |
| June | 9 | 543 | 60.3 |
| July | 5 | 1081 | 216.2 |
| August | 15 | 763 | 50.9 |
| September | 10 | 493 | 49.3 |
| October | 10 | 1600 | 160.0 |
| November | 7 | 683 | 97.6 |
| December | - | - | - |

Table 10A. Day of week of large fires
(in buildings)

| Day | No. of fires | Total direct loss (£ thousands) | Average direct loss per fire (£ thousands) |
|-----------|--------------|---------------------------------|--|
| Total | 1040 | 60709 | 58.4 |
| Sunday | 121 | 6930 | 57.3 |
| Monday | 121 | 5905 | 48.8 |
| Tuesday | 137 | 6032 | 44.0 |
| Wednesday | 158 | 10881 | 68.9 |
| Thursday | 167 | 8750 | 52.4 |
| Friday | 183 | 13263 | 72.5 |
| Saturday | 153 | 8943 | 58.5 |

Table 10B. Day of week of large fires
(not in buildings)

| Day | No. of fires | Total direct loss (£ thousands) | Average direct loss per fire (£ thousands) |
|-----------|--------------|---------------------------------|--|
| Total | 75 | 9235 | 123.1 |
| Sunday | 14 | 2332 | 166.5 |
| Monday | 14 | 1305 | 93.2 |
| Tuesday | 7 | 404 | 57.7 |
| Wednesday | 9 | 1085 | 120.5 |
| Thursday | 11 | 1355 | 123.2 |
| Friday | 9 | 192 | 21.3 |
| Saturday | 11 | 2562 | 232.9 |

Table 11. Direct losses in manufacturing industries and distributive trades
Loss range (£ thousands)

| Hazard | Total | | 10 - 20 | | 21 - 50 | | 51 - 100 | | 101 - 250 | | 251 - 500 | | Over 500 | |
|--------------------------------------|--------------|---------------------------------|--------------|---------------------------------|--------------|---------------------------------|--------------|---------------------------------|--------------|---------------------------------|--------------|---------------------------------|--------------|---------------------------------|
| | No. of fires | Total direct loss (£ thousands) | No. of fires | Total direct loss (£ thousands) | No. of fires | Total direct loss (£ thousands) | No. of fires | Total direct loss (£ thousands) | No. of fires | Total direct loss (£ thousands) | No. of fires | Total direct loss (£ thousands) | No. of fires | Total direct loss (£ thousands) |
| Total | 724 | 44841 | 270 | 3963 | 263 | 8547 | 106 | 7625 | 52 | 7547 | 20 | 6505 | 11 | 10454 |
| Food, drink, tobacco | 33 | 2009 | 11 | 152 | 10 | 357 | 9 | 670 | 2 | 330 | 1 | 500 | - | - |
| Chemical and allied industries | 55 | 3188 | 14 | 203 | 30 | 1025 | 7 | 506 | 2 | 355 | 1 | 375 | 1 | 724 |
| Metal manufacture | 21 | 1365 | 8 | 114 | 5 | 207 | 2 | 138 | 6 | 906 | - | - | - | - |
| Engineering and electrical goods | 49 | 4527 | 18 | 279 | 12 | 373 | 5 | 329 | 9 | 1192 | 3 | 979 | 2 | 1375 |
| Engineering, metal works unspecified | 16 | 932 | 7 | 106 | 3 | 76 | 4 | 280 | 1 | 130 | 1 | 340 | - | - |
| Shipbuilding and marine engineering | 7 | 269 | 3 | 35 | 2 | 62 | 2 | 172 | - | - | - | - | - | - |
| Vehicles | 24 | 827 | 13 | 187 | 6 | 233 | 4 | 297 | 1 | 110 | - | - | - | - |
| Metal goods not elsewhere specified | 30 | 2150 | 14 | 196 | 9 | 279 | 4 | 275 | - | - | 2 | 600 | 1 | 800 |
| Textiles | 63 | 3307 | 24 | 347 | 25 | 833 | 5 | 351 | 6 | 957 | 3 | 909 | - | - |
| Leather, leather goods, fur | 6 | 139 | 3 | 43 | 3 | 96 | - | - | - | - | - | - | - | - |
| Clothing, footwear | 42 | 1944 | 15 | 214 | 18 | 567 | 5 | 402 | 2 | 237 | 2 | 524 | - | - |
| Bricks, pottery, glass cement | 18 | 552 | 9 | 129 | 7 | 211 | 1 | 17 | 1 | 115 | - | - | - | - |
| Timber, furniture | 58 | 2505 | 21 | 318 | 24 | 731 | 10 | 689 | 2 | 304 | - | - | 1 | 863 |
| Paper, printing, publishing | 45 | 7727 | 18 | 277 | 12 | 421 | 5 | 430 | 4 | 580 | 2 | 660 | 4 | 5359 |
| Other manufacturing industries | 48 | 2116 | 18 | 270 | 17 | 564 | 8 | 543 | 5 | 741 | - | - | - | - |
| Distributive trade - wholesale | 52 | 3469 | 16 | 244 | 19 | 612 | 12 | 921 | 1 | 150 | 3 | 1004 | 1 | 538 |
| Distributive trade - retail | 119 | 5607 | 47 | 687 | 42 | 1275 | 20 | 1378 | 7 | 1058 | 2 | 614 | 1 | 795 |
| Distributive trade - other dealers | 38 | 1516 | 11 | 162 | 19 | 625 | 5 | 347 | 3 | 382 | - | - | - | - |

Table 12. Control time of large fires

| Control time | No. of fires | Total direct loss (£ thousands) | Average direct loss per fire (£ thousands) |
|---------------|--------------|---------------------------------|--|
| Total | 1115 | 69944 | 62.7 |
| Under 10 min | 52 | 1436 | 27.6 |
| 11 - 20 min | 114 | 3154 | 27.7 |
| 21 - 30 min | 127 | 3944 | 31.1 |
| 31 - 40 min | 150 | 5513 | 36.8 |
| 41 - 50 min | 124 | 4897 | 39.5 |
| 51 - 60 min | 116 | 6035 | 52.0 |
| 61 - 70 min | 77 | 3926 | 51.0 |
| 71 - 80 min | 61 | 4889 | 80.1 |
| 81 - 90 min | 36 | 3792 | 105.3 |
| 91 - 100 min | 40 | 2834 | 70.8 |
| 101 - 110 min | 20 | 1617 | 80.8 |
| 111 - 120 min | 18 | 1625 | 90.3 |
| 121 - 180 min | 47 | 10822 | 230.3 |
| 181 - 240 min | 19 | 6604 | 347.6 |
| 241 - 300 min | - | - | - |
| Over 300 min | 12 | 5347 | 445.6 |
| Late calls | 9 | 311 | 34.6 |
| Unknown | 93 | 3198 | 34.4 |

Table 13. Behaviour of fire protection devices
in large fires

| Fire protection devices installed | No. of fires | Total direct loss (£ thousands) | Average direct loss per fire (£ thousands) |
|---|--------------|---------------------------------|--|
| Total | 1115 | 69944 | 62.7 |
| Sprinklers and drenchers | | | |
| Operated | 29 | 1560 | 53.8 |
| Did not operate | 3 | 1345 | 448.3 |
| CO ₂ , foam, steam, nitrogen systems | | | |
| Operated | 113 | 7300 | 64.6 |
| Did not operate | 1 | 11 | 11.0 |
| Automatic detectors | | | |
| Operated | 5 | 273 | 54.6 |
| Did not operate | 2 | 165 | 82.5 |
| Fire doors | | | |
| Operated | 2 | 225 | 112.5 |
| Did not operate | 3 | 171 | 57.0 |
| Others | | | |
| Operated | 66 | 8071 | 122.3 |
| Did not operate | 12 | 945 | 78.7 |
| Combination of above | | | |
| Operated | 73 | 8516 | 116.7 |
| Did not operate | 3 | 111 | 37.0 |
| Roof vents | | | |
| Operated | - | - | - |
| Did not operate | - | - | - |
| Not installed, unknown or not applicable | 803 | 41251 | 51.4 |

Table 14. Casualties in large fires

| Hazard | No. of fires with casualties | No. of fatal fires | Non fatal casualties | Fatal casualties | Total direct loss (£ thousands) |
|---|------------------------------|--------------------|----------------------|------------------|---------------------------------|
| Total | 104 | 9 | 185 | 13 | 10163 |
| Industrial premises | 51 | 3 | 98 | 4 | 6491 |
| Chemicals and allied industries | 7 | - | 23 | - | 364 |
| Synthetic resins, plastic materials and plastics products | 6 | 1 | 11 | 2 | 866 |
| Electrical engineering | 5 | - | 7 | - | 1109 |
| Textiles | 4 | - | 10 | - | 702 |
| Clothing and footwear | 6 | - | 8 | - | 597 |
| Paper, printing and publishing | 6 | - | 10 | - | 1739 |
| Rubber | 3 | - | 6 | - | 132 |
| Other manufacturing industries | 14 | 2 | 23 | 2 | 982 |
| Gas | 1 | - | 1 | - | 50 |
| Distributive trades | 24 | - | 39 | - | 1692 |
| Wholesale | 10 | - | 14 | - | 708 |
| Retail | 12 | - | 23 | - | 850 |
| Dealers | 2 | - | 2 | - | 134 |
| Primary and secondary schools | 5 | - | 6 | - | 254 |
| Hotels and other residential establishments | 7 | 2 | 18 | 5 | 395 |
| Clubs | 4 | 1 | 4 | 1 | 128 |
| Other services | 8 | 1 | 14 | 1 | 735 |
| Public administration and defence | 1 | - | 1 | - | 375 |
| Private dwellings | 3 | 2 | 4 | 2 | 43 |

