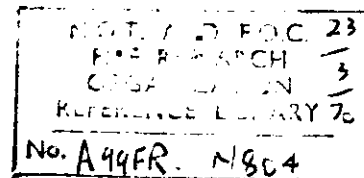


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Fire Research Note No. 804

FIRES IN TELEVISION SETS

by

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**FIRE
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SUMMARY

A recent fire in a hotel which occurred outside normal viewing hours but was attributed to a television set has prompted a study of the statistics of television fires. Fires in television sets more than doubled in frequency in the period 1960-1968. There were an estimated 1244 incidents in 1968 (based on a one-in-four sample of fire reports); only 56 of these occurred between 01.00 and 10.59.

Of those outside normal viewing hours, at least two-thirds occurred in sets that were said to have been left plugged in.

In the one-in-four sample of reports ten rescues and nine non-fatal casualties were noted.

KEY WORDS: Casualties, Fire cause, Fire statistics, Television.

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MINISTRY OF TECHNOLOGY AND FIRE OFFICES' COMMITTEE
JOINT FIRE RESEARCH ORGANIZATION

FIRES IN TELEVISION SETS

by

S. E. Chandler

INTRODUCTION

A recent fire at an hotel in which eleven people died was thought to have originated in a television set and this prompted this investigation into the statistics of television fires. The annual incidence of fires starting in television sets has been rising steadily over the last few years, reaching 1244 in 1968. This analysis is based on the fires observed in a one-in-four sample of fire reports in 1968.

FREQUENCIES

The estimated annual frequency of fires due to television sets is shown in Table 1, together with information on licenses issued.

Table 1

Fires in television sets related to licenses

	1960	1961	1962	1963	1964	1965	1966	1967	1968
No. of fires Index (1960 = 100)	528 100.0	610 115.3	642 121.3	780 147.4	794 150.1	819 154.8	973 183.9	1088 205.6	1244 235.1
No. of current licenses* Index (1960 = 100)	10470 100.0	11268 107.6	11834 113.0	12443 118.8	12885 123.1	13253 126.6	13567 129.6	14267 136.3	15093 144.2
Fires per million licenses	50.4	54.6	54.3	62.7	61.6	61.8	71.7	76.3	82.4

It can be seen that fires in television sets are increasing at a higher rate than the number of licenses. Moreover, the incidence rate increased from 61.8 per million licenses in 1965 to 82.4 per million licenses in 1968. There is no statistical evidence that the advent of colour television has contributed to the increase.

The number of fires in buildings increased from 62460 fires in 1960 to 104180 in 1968, i.e. by about 67 per cent. The rates of fire incidence shown in Table 1 increased by about 64 per cent in the same period, but the major part of the increase was after 1965.

* Thousands

OCCUPANCY AND TIME OF CALL

The relationship between occupancy and time of call is shown in Table 2.

Table 2

Fires in televisions in relation to occupancy and time of call 1968

Time of call	Occupancy in which fire started						
	TOTAL	Retail traders	Catering, hotels, etc.	Dwellings			Other
				Houses	Flats	Other	
TOTAL	1244	32	20	864	296	20	12
Midnight - 01.00	36	-	-	24	12	-	-
01.00 - 01.59	12	-	-	8	4	-	-
02.00 - 05.59	16	-	4	12	-	-	-
06.00 - 08.59	8	4	-	-	4	-	-
09.00 - 10.59	20	-	-	20	-	-	-
11.00 - 11.59	28	-	-	20	4	-	4
Mid-day - 12.59	24	-	-	24	-	-	-
13.00 - 13.59	40	4	-	32	-	-	4
14.00 - 14.59	20	4	-	8	8	-	-
15.00 - 15.59	52	4	4	24	20	-	-
16.00 - 16.59	48	-	-	28	12	8	-
17.00 - 17.59	108	-	-	92	16	-	-
18.00 - 18.59	148	8	-	108	32	-	-
19.00 - 19.59	144	-	-	100	44	-	-
20.00 - 20.59	168	-	4	132	28	-	4
21.00 - 21.59	156	-	4	96	48	8	-
22.00 - 22.59	156	4	4	104	44	-	-
23.00 - 23.59	60	4	-	32	20	4	-

It can be seen that most of the fires occur during the main viewing periods - in fact something like 83 per cent occur between the hours of 15.00 and midnight. It is, however, those which occur during sleeping hours that give rise to concern. About 5 per cent of the incidents in 1968 occurred between the times 01.00 and 10.59 (i.e. outside normal viewing hours). The potential danger is indicated by an incident which occurred in 1962 in which five people were killed; the fire was discovered at 06.47 and was attributed to a short circuit in a TV set¹.

It appears to be unwise to leave a set plugged in at the mains supply even if switched off on the front of the set. In at least one of the fires reported the set was believed to have developed a fault (followed by overheating) when left in this condition. Of the 14 fires in the sample which occurred between 01.00 and 10.59 at least ten reports made definite reference to sets having been left plugged in. Two of the incidents in the sample were serious enough to necessitate rescues by emergency means.

SIZE OF FIRES 1968

Less than 6 per cent of the fires spread beyond the room of origin as is shown by Table 3.

Table 3

Extent of fires

Extent of fire	No. of fire	Per cent
TOTAL	1244	100.0
Confined to set	612	49.2
Confined to room of origin	560	45.0
Spread beyond room of origin	72	5.8

Most of the fires are probably detected immediately and hence are confined easily, but of the 14 in the sample that occurred outside normal viewing hours, only 2 were confined to the set.

Three reports of explosions occurred in the sample - only one of these caused a fire which spread beyond the set.

CASUALTIES, RESCUES AND ESCAPES

Ten reports in the one-in-four sample referred to casualties or rescues. Six of the incidents occurred during the evening (after 20.00) and two just after mid-day. A brigade was called to two potentially serious fires outside normal viewing hours, one at 01.51 and the other at 09.23, in both of which a set had been left plugged in. In the first of these incidents, four people had to be assisted down a ladder; in the other, three children had to be escorted from the premises. No fatalities were recorded among the casualties. There were ten rescues and escapes by emergency means, and nine non-fatal casualties.

DISCUSSION AND CONCLUSIONS

Fires in television sets increased from 528 in 1960 to 1244 in 1968 and the growth rate in fire frequency was greatest after 1965. In 1968 there were 82.4 fires per million licenses. It is not yet possible to come to any conclusion as to whether colour sets are a greater hazard than black and white.

From the analysis of the 1968 statistics it appears that about 83 per cent of these fires occur during the hours between 15.00 and midnight. However, five per cent occur during the period 01.00-10.59 which is outside normal viewing hours. In the majority of these overheating of sets results from their being left plugged in.

In a one-in-four sample of fire reports there were 10 fires which gave rise to rescues, escapes and/or casualties. There were no fatal casualties in the sample, but there were nine non-fatal casualties and ten rescues.

About half the fires are confined to the sets and only 6 per cent spread beyond the room of origin.

REFERENCE

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