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FIRES CAUSED BY TELEVISION AND WIRELESS SETS V.  
RATES OF INCIDENCE OF FIRES, 1947 - 1951  
by  
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The hazard of fires caused by wireless and television sets has been investigated for the year 1951. The rates of incidence of such fires, attended by the Fire Brigades in the United Kingdom during 1951, are shown in Table 1. The rate of incidence for 1951, which is defined as the number of fires per 10,000 sets at risk during the year, is compared with corresponding rates for the years 1947, 1948, 1949 and 1950. In order to obtain rates of incidence the necessary assumption has been made that the number of sets at risk is the same as the number of licences in force. The licence for a television set also permits the use of a wireless set in the same house, so the further assumption has been made that no household with a television set is without a wireless set. This means that the number of television licences in force has been added to the number of wireless licences, and the total has been considered to represent the number of wireless sets at risk. Comparison of the rates of incidence for wireless sets calculated on this basis, with those in F.S.Note No.128/1951 shows that the change makes little difference. The number of television sets at risk has been estimated on the same basis as previous years.

TABLE 1

RATE OF INCIDENCE OF FIRES CAUSED BY TELEVISION AND WIRELESS SETS.  
ANALYSIS OF REPORTS OF FIRES ATTENDED BY THE N.F.S. AND  
FIRE BRIGADES IN THE UNITED KINGDOM 1947 - 1951

| Type of set            | Year | Number of fires* | Number of sets at risk per year (thousands) | Number of fires per 10,000 sets at risk per year |
|------------------------|------|------------------|---|--|
| Wireless or radio-gram | 1947 | 232              | 10,853                                      | 0.21   |
|                        | 1948 | 331              | 11,257                                      | 0.29   |
|                        | 1949 | 392±68           | 11,828                                      | 0.33±0.06  |
|                        | 1950 | 329              | 12,256                                      | 0.27   |
|                        | 1951 | 332              | 12,505                                      | 0.27   |
| Television             | 1947 | 12               | 18.8  | 6.4  |
|                        | 1948 | 30               | 53.9  | 5.6  |
|                        | 1949 | 52±25            | 140.5                                       | 3.7±1.8  |
|                        | 1950 | 80               | 388.2                                       | 2.1  |
|                        | 1951 | 91               | 891.5                                       | 1.0  |

\* The statistics refer only to fires that started in sets. During 1950 there were 44 fires in leads from the mains supply to wireless sets and 1 in a lead to a television set. The corresponding figures for 1951 are 36 fires in leads to wireless sets and 5 fires in leads to television sets.

There is little difference between the rates of incidence of fires in wireless sets for the four years 1948, 1949, 1950 and 1951. The rate of incidence of fires in television sets has steadily decreased since 1947. The introduction in 1948 of new methods of obtaining the extra high tension voltage for operating the cathode ray tube which eliminated the need for a high tension winding on the mains transformer, appears to have resulted in a great improvement in the rates of fire incidence. This modification, together

with improved layout and design of components, is probably largely responsible for the marked decrease between the rate of 2.1 fires per 10,000 sets experienced in 1950 and the rate of 1.0 fire per 10,000 sets at risk observed in 1951. It should be noted, however, that some of the improvement may be due to the fact that the new sets, which form an increasing proportion of the total, have not yet had time to develop any ageing defects. The effects of ageing on wiring and components are not known.

### Conclusions

The rate of incidence of fires in wireless sets has remained approximately constant at 0.3 fires per 10,000 sets at risk per year since 1948, while the rate of incidence for television sets has decreased from 6.4 fires per 10,000 sets at risk in 1947, to a rate of 1.0 in 1950. In 1947 the risk of fire for a television set was thirty times the risk for a wireless set; by 1951 the risk for a television set was only between three and four times that for a wireless set.

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