

The purpose of this study was:

- (1) to develop a method by which interior kindling fuels can be surveyed in any urban area, and
- (2) to obtain primary ignition data from two selected cities, as an example of the type of information that can be obtained by applying the survey method.

Common fuels ignitable by the thermal radiation from an atomic fireball are listed with their critical ignition energies as determined by previous laboratory and field studies.

For the purposes of the survey, a 60 KT atomic bomb bursting at a height of 1,732 feet was assumed. The blast area around the point of explosion was taken as 6,550 feet in radius from ground zero, and the fire zones as extending from 6,550 feet to 20,626 feet.

A survey was made in randomly selected samples of Boston and Detroit, classified into 10 use classes. A record was kept of the kindling fuels that were found to be potential ignition points, and the amount of the effective sky ring to which they were exposed. From these observations, the frequencies of occurrence per acre of potential ignition points in the several use classes were tabulated. Also the number of primary ignitions per acre that could be expected to occur in the various use classes was estimated.

A recommended method of survey applicable to urban areas is given.

A glossary of terms is presented in Appendix D.

To convert primary ignitions to primary fires requires further experimentation and a suggested method of conversion is reserved for a later report.