

## ABSTRACT

Objective of the study is to identify and analyse risks to reduce losses connected with electronic equipment insured under Computer All Risks insurance policies offered by Union Assurance Ltd. To achieve this it was necessary to find out the type of policies that make losses, the equipment most vulnerable to damage, to formulate a realistic premium evaluation method, study threats to electronic equipment and to find out risk control methods that are practical and cost effective.

Study was carried out making use of 100 claims settled during the period 1997–98. Claims were analysed to find losses in different class intervals of value. Also analysed were types of equipment and cause of loss. Loss frequency tables were prepared. Study was extended to a model with 500 claims using the Monte Carlo simulation technique. Simulated data were analysed to obtain the amount of loss, type of equipment, and causes of failure and their respective frequency of losses. Statistical analysis of 500 claims generated, provided the following results.

Mean loss of computer equipment	Rs. 33,976/-
Mean loss of telecommunication equipment	Rs. 33,371/-
Mean loss of all electronic equipment	Rs. 38,100/-

The study showed that computer and telecommunication equipment were the most vulnerable to damage and accounted for 81% of the losses in terms of value. Therefore study was focussed towards losses caused by these equipment .

Methods of risk assessment available were analysed. Since these methods does not consider perils covered under Computer All Risks Insurance, a method was formulated based on risk factors to evaluate the 'Insurance rating'. According to this method, well protected equipment would have an insurance rating of 0.5% while totally unprotected equipment 1.8%.

Threat to electronic equipment were studied, Losses could be due to direct and indirect effects of lightning, electromagnetic effects caused by high power microwave equipment, electrostatic discharge, disturbances in the mains power supply. Failures were also due to environmental and self generated causes. Causes of losses showed that the damages to electronic equipment were mainly due to transient over-voltages caused by direct and indirect effects of lightning and disturbances in the mains power supply which accounted for 86% of the losses. These areas were further studied to find out how failures occur. Losses were also due to improper underwriting practices where information of insured equipment were inadequate and resulted in under insurance and encouraged moral hazards.

Methods of loss prevention were introduced. These include proper underwriting of risks, providing adequate information about the insured equipment that helps claims investigators when losses arise and the underwriters during renewal of policies. To obtain necessary data of insured equipment, it was suggested to modify the proposal form. A checklist was introduced which highlights risks and aids rating. This has to be filled by the insured with the proposal form before insuring the equipment. An extension to the checklist advises the insured immediate steps to be taken in the event of a loss, to prevent further damage.

Loss prevention introduces simple and practical methods which are cost effective. Surge protection devices available in the market were explored. Costs were compared with the cost of insured equipment and the cost of protection is around 10% of the item insured.

Policies with premium income more than Rs.4,400/- are profitable and business that brings in such premium income should be encouraged. A deductible is recommended, applicable to all policies where equipment insured are unprotected. It is recommended that all equipment should be provided with protective devices. Proper operational practices introduced should be encouraged.