

ACCIDENT INVESTIGATION, ANALYSIS, AND COSTS

ny can estimate its accident cost with reasonable accuracy

Every organization paying compensation insurance premiums recognizes such expense as a cost of accidents. In some cases, medical expenses, too, may be covered by insurance. These costs are definite, and they are known. They comprise the insured element of the total accident cost.

In addition to these costs, many others arise in connection with accidents. Some, such as the cost of damaged equipment, are easily identified. Others, such as wages paid to the injured employee for hours during which he is not producing, are hidden. These items comprise the uninsured element of the total accident cost.

Insured costs can be determined easily from accounting records. The difficult part is determining uninsured costs, and the method described here will serve that purpose.

The first step is to make a pilot study to ascertain approximate averages of uninsured costs for each of the following four classes of accidents:

- Class 1—Permanent partial disabilities and temporary total disabilities
- Class 2—Medical treatment cases requiring the attention of a physician outside the plant
- Class 3—Medical treatment cases requiring only first-aid or local dispensary treatment and resulting in property damage of less than \$20.00 or loss of less than 8 hours' working time
- Class 4—Accidents which either cause no injury or cause minor injury not requiring the attention of a physician, and which result in property damage of \$20.00 or more, or loss of 8 or more man-hours

Once average costs have been established for each accident class, they may be used as multipliers to obtain total uninsured costs in subsequent periods. These costs then may be added to known insurance premium costs to determine the total cost of accidents.

Example of cost estimate

An estimate of costs made by one company is given in the following example. First, a pilot study was made to get the average cost of each class of accident. Included in

the study were 20 Class 1 accidents, 30 Class 2 accidents, 50 Class 3 accidents, and 20 Class 4 accidents. Costs were determined and averages developed as in Table 10-A.

**TABLE 10-A
PREDETERMINED AVERAGE COSTS**

Class of Accident	Number of Accidents Reported	Average Uninsured Cost
Class 1	20	\$ 60.00
Class 2	30	19.30
Class 3	50	2.80
Class 4	20	121.30

During the entire year, the company had 34 Class 1 accidents, 148 Class 2 accidents, and 4,000 Class 3 accidents. No record was kept of the Class 4 accidents after the pilot study was completed. Instead, the ratio of Class 4 to Class 1 accidents found in the pilot study was used. This ratio was shown to be about 1 to 1, and since there were 34 Class 1 accidents during the year, it was assumed there were about 34 Class 4 accidents. (A separate record could be kept of the number of Class 4 accidents.)

The average cost for each accident class was applied to these totals to secure the results shown in Table 10-B.

**TABLE 10-B
ESTIMATE OF YEARLY
ACCIDENT COSTS**

Class of Accident	Number of Accidents	Average Cost Per Accident (from pilot study)	Total Uninsured Cost
Class 1	34	\$ 60.00	\$ 2,040.00
Class 2	148	19.30	2,856.00
Class 3	4,000	2.80	11,200.00
Class 4	34	121.30	4,124.00
Total Uninsured Cost			\$20,220.00
Insurance Premiums			13,000.00
Total Accident Cost for the Period			\$33,220.00

Since the final total is the sum of many estimates, it should not be stated in a way which suggests absolute accuracy. Whether