



Chapter 12: Incident Records & Statistics

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Purpose

The purpose of this chapter is to provide a standard for calculating incident frequency and injury rate severity.

Objectives

The objectives are to:

- ➔ Provide a standard format to comparison of injury and incident statistics.

12.1 Incident Records and Statistics

Injury Recording Standards

- There are three basic types of safety measurements:
 - 1) Injury Frequency Rate
 - 2) Incident Costs
 - 3) Loss Ratios

1) Injury Frequency Rate:

IFR measures the frequency rate of incidents. Incident rates represent the number of injuries per 100 full-time workers and are calculated as follows:

$$\text{Injury Frequency Rate} = \frac{\text{Number of Recordable Cases} \times 200,000}{\text{Number of Employee Hours of Exposure}}$$

2) Incident Costs:

Measure the cost of incidents. Every incident results in Direct and Indirect Costs.

Direct: Medical expenses incurred from injuries sustained in the incident and indemnity payments to injured workers while away from work. These costs are most often reimbursed by insurance.

Indirect: Other “non-billable” costs that result from internal systems adapting to the incident and its aftermath. These costs are most often uninsured and therefore unrecoverable; they account for 70 to 90 % of the true cost of an incident.

Indirect expenses may include:

Wage Cost of the injured worker:

- The day of the injury
- Subsequent days (other than those covered by WCB)
- Additional time off required for continued medical attention after injured returns to work
- Costs connected with decreased productivity of the injured after returning to work

Wage Costs of Others:

- **Time lost through work stoppage:**
Includes not only a shut down that may occur, but also the time workers spend helping, talking, watching at the end of an incident site or afterwards
- **Managers/Supervisor’s lost time related to:**
 - a) Responding to the emergency
 - b) Investigating the incident
 - c) Writing the report
 - d) Performing corrective/follow-up activities
 - e) Safety discussions/meetings related to the incident
 - f) Meeting(s) with manager(s) and other communications
- **Replacements:**
Costs of training personnel to perform the injured employee’s work
Cost of different productivity levels between the injured employee and replacement(s)
Overtime required to catch-up on output

Property Damage:

- Cost of materials damaged, destroyed, or otherwise made unusable
- Cost of replacing, repairing, cleaning up damaged equipment, machinery, and tools
- Product(s) made defective by the incident
- Damages to the building, fixtures and signs
- Cost of materials, tools, equipment, or machinery used to repair, replace, and clean up the above items
- Cost of personnel to clean up, replace, and repair

Administrative Costs:

- **Management Time:**
 - Reviewing, investigating, and reporting the incident
 - Reaching, reviewing, implementing, the corrective measures
 - Reviewing, revising, communicating safety policies and procedures
 - If a court suit occurs, additional time related to satisfying judgments
- Administrative personnel time processing incident investigation forms and related information, such as hiring, processing, and training new employee(s)
- Extra utilities and clean up associated with extra or overtime hours
- Temporary slow-down of work operations due to effects of serious incident on workers
- Rentals required
- Equipment, supplies, tools, and materials required for new employee(s)
- Costs of shipping/receiving delays
- Increases in WCB costs
- Legal costs and/or increases in liability insurance premiums
- Hiring 3rd party experts/consultants

****NOTE:****

On Average, for every \$1 spent on Direct Costs, there is \$4 spent on Indirect Costs. Both costs must be reimbursed through company profits.

Incident Costs	Profit Scale				
	1%	2%	3%	4%	5%
\$1,000	\$100,000	\$50,000	\$33,000	\$25,000	\$20,000
\$5,000	500,000	250,000	167,000	125,000	100,000
\$10,000	1,000,000	500,000	333,000	250,000	200,000
\$25,000	2,500,000	1,250,000	833,000	625,000	500,000
\$100,000	10,000,000	5,000,000	3,333,000	2,500,000	2,000,000
Amount of Product Sales					

3) Loss Ratios:

LR's are used by insurance companies and are computed by dividing the incident cost or claims cost by the insurance premium.

(E.g.: WCB, vehicle, and liability insurance).

A premium rate is the amount you pay per \$100 of insurable earnings and is set annually based on the average losses in your industry and the company's incident experience.

$$\text{Loss Ratio} = \frac{\text{Claims Cost}}{\text{Insurance Premium}}$$

WCB PREMIUM COSTS		
Costs Below Industry Average	Average Industry Costs	Costs Above Industry Average
Discount	INDUSTRY RATE	Surcharge
Up to 40%		Up to 240%

¹

Summary of Incidents

- Is completed quarterly. Statistics are calculated and kept up to date on our global vendor management account within ISNetworld.

Records

- A record of all vehicle incidents, equipment/property damage and damage to utilities shall be recorded on forms provided, entered into M-Track and filled accordingly.

¹ Alberta Construction Safety Association