



# **WORK INJURY & PRODUCT VEHICLE ACCIDENT STATISTICS**

AIGA 042/13

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## 1 Introduction

AIGA started to gather statistics on work injuries and vehicle accidents from 2003 with the major companies submitting these statistics on a quarterly basis. These are compiled for the Safety Advisory Group and the reports are sent to the member companies.

This document describes the scope and extent of the work related to the collection of data on work injuries and product vehicle accidents within AIGA.

## 2 Scope and purpose

### 2.1 Scope

The statistics include:

- Number of recordable injuries (RI) and rate (RIR) per 200,000 man-hours.
- Number of lost time injuries (LTI) and rate (LTIR) per 200,000 man-hours.
- Number of product vehicle accidents (PVA) and rate (PVAR) per one million kilometres.

Information is collected on injuries or deaths suffered by employees and contract workers of member companies when they are:

- Engaged in activities involving the design, project engineering, production, handling, filling, sales, distribution or use of industrial gases, gas equipment and production units; including associated administration and supporting services.
- Travelling on company business.

**Note:** "Travelling on company business" does not include travel between the employees' homes and the company location at which they are normally based. However, travel between home and a customer site or any other non habitual company location can be included.

### 2.2 Purpose

The objectives of the AIGA Work Injury & PVA Statistics are:

- a) To encourage member companies to treat all work injuries with the seriousness they deserve, to investigate them, and to do all they can to eliminate the causes.
- b) To encourage member companies to set themselves targets for the reduction of work injury frequency rates and to assist them in demonstrating their individual performances.
- c) To enable the national associations in Asia as a whole to set targets for continued reduction in the frequency of work injuries and to be able to demonstrate this achievement year by year.

To fulfil the purpose, the AIGA Office collates the information on a quarterly basis from member companies and issues quarterly and annual reports to member companies.

### 3 Definitions

**Fatality:** A fatal work accident is defined as any accident leading to death within one year of the accident. Fatality is not classified under the Lost Time Injury (LTI) statistic. Information on fatality is recorded separately for the purpose of learning from the accident.

**Hours of exposure:** Time employee is engaged in work activities in the interest of the employer. This includes work related travel, but does not include travel to and from work.

What is required is the total number of hours employees perform work for the company. Hours spent on the following activities, for example, are not counted:

- Eating lunch
- Company sponsored family party outside of work.
- If the company sponsors a sports team and employees voluntarily play on the team.

Count the hours a driver takes to drive the product vehicle to and from the customer, but not the hours for the driver to go from his home to the work site. Count the hours an employee is working for the company; do not count the time taken to get from home to work, by whatever means.

“Hours of exposure” may not be directly related to pay. Some employees are paid a fixed salary and do not get additional pay when they work overtime. The hours for such employees are difficult to monitor and most companies either do an estimate based on what the employee reports, or just use the hours in a normal work week (for example 40 hours per week, no overtime).

When an employee is entitled to overtime pay, it is usually 1.5 to 2.0 times the normal pay. In such cases, count the actual hours worked.

Other examples:

- Many drivers are paid by the kilometre and not by the hour. In some cases drivers are paid per kilometre when they are driving and by the hour when they are not driving. To count hours worked by drivers, it is generally best to use the driver’s logbook, or whatever method the company normally uses for tracking driver hours.
- Some employees are paid even though they are on holiday or on vacation. These hours should not be counted because the employee is not performing work in the interest of the employer.

The estimation of hours can be simple or complicated. For example, time for eating lunch does not count as a work activity. However, one could argue that if an employee is required to remain at his post while eating lunch, then that time should be counted. (For example, a control room operator for an air separation plant may be required to remain in the control room.) One could go further and ask if the 10 minute breaks employees take should be deducted. It is *not* necessary to go into such detail when estimating hours.

**Note:** OSHA, the Occupational Safety and Health Authority in the USA changed their reporting requirements in 2002 to include contract workers. If a company has *full time* contract workers that report directly to a company supervisor then their hours should be counted

**Gas Company:** This definition applies to a company where the gas company has ownership of 50% or more and in which they have management control on operations.

**Loss of load:** An accidental shedding of the vehicle load such as gas cylinders, dry ice containers, equipment etc.

**Loss of product:** An unplanned release of gas product into the environment.

**Lost Time:** The total number of calendar days that the injured person is away from work as a result of a temporary disability. This includes weekends, holidays or other rest days. The lost time does not include the day on which the accident occurred or the day on which the injured person returns to work.

**Lost-Time Injury (LTI):** A work related injury or illness resulting in unfitness for work and *the employee's absence beyond the day of the accident*. Also referred to as a Lost Workday Case.

**Lost-Time Injury Rate (LTIR):** The number of lost time injuries and illnesses per 200,000 hours of exposure. The LTIR is calculated using the following formula:

$$\text{LTIR} = \frac{\text{Number of LTI} \times 200,000}{\text{Total employee hours of exposure}}$$

**Permanent total disability (PTD):** Any injury which either:

- permanently and totally incapacitates an employee and prevents any gainful occupation, or
- results in the loss of or the complete loss of use of any of the following in the same accident:
  - both eyes,
  - one eye and one hand, or arm or leg or foot,
  - any two of the following, not on the same limb: hand, arm, foot or leg.

In all cases, the permanent total disability has to be certified by a physician in accordance with a national compensation scheme.

**Preventable/Non-preventable accident:** An accident is considered non-preventable if it is caused by external forces outside the driver's control. All other road accidents are considered as preventable (Refer to EIGA 914/05)

**Product :** Gas product in any form [liquid, compressed gas or solid (e.g. dry ice)]

**Product Vehicle (PV):** A vehicle or part of a vehicle which has the principal function of transporting the product from a filling location or warehouse to a consignee. These vehicles may be (i) owned, leased, or operated by the company or (ii) contracted by the company for its exclusive use.

The compilation of statistics for product vehicles is straightforward. No breakdown is required. The above definition covers any of the gas company's products and any type of vehicle used for the transportation of a product. **Statistics are collected for all product vehicles that the company takes credit for in its distribution kilometres record.**

For example, where dry ice is delivered by motorcycles because of traffic congestion, the motorcycles should be included in the vehicle statistics.

Do not count service vehicles used by technicians to work on customer installations. Do not include company cars used to transport personnel to and from customer sites.

**Product Vehicle Accident (PVA):**

Any unplanned or unexpected event involving a vehicle, regardless of location or extent of damage, that occurs while the driver is at the control of the vehicle and

- A fatality or personal injury occurs to employees, contractors or third parties as a direct result of the accident; or

- The vehicle contacts a fixed or stationary object, and damage occurs to any vehicle or stationary object that is struck; or
- The vehicle strikes or is struck by another vehicle while on a roadway or shoulder; or
- A vehicle leaves the roadway or right-of-way

**The PVA statistic should comprise both preventable and non-preventable accidents.**

**Recordable Injury (RI):** Any work related injury or illness that requires more than first aid treatment and/or results in loss of consciousness, restriction of work motion or transfer to another job.

The following treatments are considered first aid and are not to be counted as recordable injury cases:

- Non-prescription medication at non-prescription strength
- Tetanus immunizations
- Cleaning, flushing, soaking surface wounds
- Wound coverings, butterfly bandages, steri-strips (not closure devices such as sutures, stitches or staples)
- Hot or cold therapy
- Non-rigid means of support
- Temporary immobilization device used to transport accident victims
- Drilling fingernail or toenail, draining fluid from blister
- Eye patches
- Removing foreign bodies from the eye with only irrigation or cotton swab
- Removing splinters or other foreign material from areas other than the eye by irrigation, tweezers, cotton swabs or other simple means
- Finger guards
- Massages
- Fluids to relieve heat stress

**Recordable Injury Rate (RIR):** The number of recordable injuries and illnesses per 200,000 hours of exposure (see “Hours of exposure” below). The RIR is calculated using the following formula:

$$\text{RIR} = \frac{\text{Number of RI} \times 200,000}{\text{Total employee hours of exposure}}$$

**Product Vehicle Accident Rate (PVAR):** The number of product vehicle accidents per one million kilometres driven. The PVAR is calculated using the following formula:

$$\text{PVAR} = \frac{\text{Number of PVA} \times 1,000,000}{\text{Total kilometres driven}}$$

**Kilometres driven:** This should include both the company vehicles and those contracted by the company for its exclusive use.

#### 4 Collection of information

A technical correspondent or other person nominated by the AIGA member company is to submit statistics on a quarterly basis to the AIGA office by e-mail.

- i) Safety Statistics form (shown in Appendix 1) with the following data:

- Total numbers of hours worked by employees
- Total number of recordable work injuries
- Total number of lost time injuries
- Total number of fatality/permanent total disability injuries
- Total number of product vehicle accidents
- Total number of kilometres driven

Definitions of the above can be found in section 3.

- ii) An Accident Report form (shown in Appendix 2) for each recordable/lost time accident and product vehicle accident.

## **5 Analysis and presentation of statistics**

Two reports are produced:

- A quarterly report on lost time injuries, recordable work injuries and product vehicle accidents.
- An annual report with analyses of the safety statistics for lost time injuries, recordable work injuries and product vehicle accidents.

## **6. References**

EIGA 904/11- Work Injury Statistics  
EIGA 914/05 – Road Vehicle Accident Statistics



# Appendix 1: Safety Statistics Entry Form

	2013				
	QTR 1	QTR 2	QTR 3	QTR 4	Total
Total hours of exposure	1,968,735				1,968,735
Total kilometres travelled	12,996,117				12,996,117
Number of Recorded Injuries	0	0	0	0	0
Recordable Injury Rate (calculated per 200,000 hours)	0.00				0.00
Number of Lost Time Injuries	0	0	0	0	0
Lost Time Injury Rate (calculated per 200,000 hours)	0.00				0.00
Number of Product Vehicle Accidents	12	0	0	0	12
Product Vehicle Accident Rate (calculated per million kilometres)	0.92				0.92

## Appendix 2: Accident Report Form

(On-line submission details available on website when it is ready)



### SAG ACCIDENT REPORT

**Reference**

2002-L-01

**Date Of Accident**

02/05/02

**Accident Number**

L001-SIN-DA

**COUNTRY**

Singapore

**Code**

22

**LOCATION**

Gas company site

**Code**

101.00

**TYPE OF OPERATION**

Acetylene Plant

104.00

**WORKPLACE**

Production Area

101.00

**EQUIP/MACHINERY**

Hopper

101.10

**COMPONENT/PART**

Other mechanical compon

001.00

**GAS/PRODUCT**

Gas-Acetylene

002.07

**INVOLVED HAZARDS**

Fire

101.00

**ACTIVITY/ACTION**

Loading

001.00

**CONSEQUENCES**

Lost time injury/ illness

002.00

**CAUSES**

Equipment

1000.00

Mgt systems &amp; procedure

1002.00

**Briefly What Happened**
**Consequences**
**Causes**
**Preventive Measures**
**Details**