



**STATISTICS ON INCIDENTS IN
THE OIL AND GAS INDUSTRY IN
LATIN AMERICA AND THE
CARIBBEAN**

***2005 STATISTICS FOR ARPEL
MEMBER COMPANIES***

ARPEL REPORT

**STATISTICS ON INCIDENTS IN THE OIL AND GAS
INDUSTRY IN LATIN AMERICA AND THE
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COMPANIES**

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Report on Statistics on Incidents in the Oil and Gas Industry in Latin America and the Caribbean –2005 Statistics for ARPEL Member Companies

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1.0 EXECUTIVE SUMMARY

One of the activities of the ARPEL Occupational Health and Safety Working Group is focused on the ARPEL initiative to gather information about occupational injuries, illnesses and fatalities in the oil industry in Latin America and the Caribbean.

The objective of this report is to contribute to eradicate damage to people and facilities from the oil industry activities. This document will provide an analysis of the occupational health and safety aspects in the oil industry for the participating ARPEL Member Companies for the year 2005. Comparisons with ARPEL data gathered in previous studies since 1997 up to present are also included in this report.

Four reactive indicators were analyzed in this report, considering the total of incidents, their gravity and frequency, and the fatal incidents. Compiled data corresponds to companies and contractors workers in a discriminated way, and a "combined" result is provided as well. Two proactive indicators were also analyzed: Task Planned Observations and Safety Training Intensity, both for the company workers only. All main sectors of the oil industry are included, gathered within five categories: Exploration and Production, Refining, Transport¹, Distribution² and Others.

Selected results for the year 2005:

- The total Hours Worked (in thousands) reported in this report is of 1,529,150, considering both Company Workers and Contractors, and corresponds to 17 Member Companies.
- The Total Incidents Rate (for all functional units), was of 0.762 incidents by 200,000 hours worked (Companies only: 0.562. Contractors only: 0.908). As in 2004, the function that had the larger number of incidents was "Refining" for Contractors, with 1.793 incidents by 200,000 hours worked.
- On average for all functional units, the workers of the Company lost 33.20 days by 200,000 hours worked, compared to 59.09 lost workdays by Contractors. As in 2004, "Refining" (considering Contractors) was the functional unit that lost more workdays, with 126.19 lost

¹ **Definition of Transport:** Gathering system and trunk line operations for crude oil. Transportation via pipeline of refined and semi refined products. Pipeline station operations. Operations associated with the use of trucks to transport crude oil between functions. If the trucks are an integral part of another function, they should be covered in that function, not here. Gas gathering and trunk line operations of natural gas transmission lines up to the point of retail distribution. Marine operations as defined below:

Ships: Includes vessels that are owned, operated, and manned under petroleum company supervision. This may include vessels on coastal or transoceanic trips, including international runs. Includes exceptional circumstance of a "bare boat" charter where the vessel is chartered but the petroleum company provides the crew. Does not include "straight charter" vessels where both crew and vessel are hired for specific runs.

Personnel: In addition to seagoing employees or contractors, includes land-based marine operations people assigned to marine tanker operations. Some companies use personnel from national unions who are assigned to particular runs and are supervised and paid by the companies while on the run. Injuries and work hours for such personnel should be included. Marine personnel injuries should be reported by the same OSHA definitions or the country legislation (if applicable) as those used for other employees to allow comparability with other functions.

Inland waterway tank ship and barge operations and their associated portion of land-based marine operations.

² **Definition of Distribution:** Petroleum bulk stations and terminals. Bulk distribution of petroleum products to retail or wholesale outlets, including truck and transport deliveries. Bulk distribution of tires, batteries, accessories and other products sold at service stations. Operations at product terminals or wholesaling establishments. Administrative, marketing, and sales activities that are integral to marketing-wholesale are included. Credit card operations or petrochemical marketing/sales/distribution are not included here; they are included in the Other category. On-site retail service station and associated convenience store operations. This includes driveway sales, road service operations, car wash services, vehicle repair work, and sales of miscellaneous merchandise. Field or district personnel who supervise these stations should be reported under this category, as should other marketing administrative services.

- workdays by 200,000 hours worked.
- The Incidents' Frequency Rate with lost workdays, considering all functional units combined (Company and Contractors), corresponds to 0.480 lost workdays cases by 200,000 hours. (Companies only: 0.637. Contractors only: 0.390)
 - As in 2003 and 2004, in 2005 the functional unit that recorded the largest number of fatalities was "Distribution" for Contractors, with 0.049 fatalities by 200,000 hours worked. This value corresponds to more than five times the value for all functional units combined (Company + Contractors): 0.009 fatalities by 200,000 hours worked.
 - The workers of the Company performed better than Contractors regarding the Fatal Incidents' Rate. On average, the value of the Fatal Incidents' Rate for Contractors doubles the value for the workers of the Company (Contractors Average: 0.012 fatalities by 200,000 hours worked, Company Average: 0.006 fatalities by 200,000 hours worked)
 - It must be considered that, owing to the fact that some of the participating companies reported incomplete data, it was not possible to use the total hours worked reported to calculate all the incidence rates. Because of this, the total hours worked reported in tables 9.1 to 9.4 not always matches the value used to calculate the rates.
 - "Struck by equipment" was the main fatalities cause (19%), considering both the workers of the Company and Contractors.
 - This is the third year in which safety proactive indicators are included in the incidents statistics. Eleven companies reported data for the Safety Training Intensity Rate, and nine for the Task Planned Observations Rate.

Comparative results to OGP³ Safety Statistics for the year 2005:

- Fatal Incidents' Rate

"Exploration and Production"		Category		
		Company	Contractors	Combined
Onshore and Offshore	ARPEL	0.006	0.008	0.007
	OGP*	0.003	0.009	0.007
Offshore	ARPEL			0.004
	OGP*	-	-	0.004

* This Rate is originally reported by OGP as "number of fatalities by 1,000,000 hours worked". For this reason, and to make comparisons, results were converted to "number of fatalities by 200,000 hours worked" (ARPEL's units).

- Fatalities Causes

"Exploration and Production" – Combined result – Onshore and Offshore				
	Total Fatalities	Fatality # 1	Fatality # 2	Fatality # 3
ARPEL	31	Struck by equipment (32.3%)	Caught in or between (19.4%)	Fall (16.1%)
OGP	84	Vehicle incident (37.3%)	Struck by (20.5%)	Fall (18.1%)

Selected comparative results for the term 1997/2005:

³ Note: The International Association of Oil and Gas Producers (OGP) only includes "Exploration and Production", so this is the only functional unit considered when comparing results with ARPEL Statistics.



- The number of companies that reported data for this report is the same as in 2004, and the total number of reported hours worked is larger than in previous years.
 - The Total Incidents' Rate (that includes illnesses, injuries, and fatalities) showed a decreasing general tendency for the first years, however, in the last two years it seems to have reverted to the opposite tendency both considering the workers of the Company and Contractors. Specifically, when comparing the years 2004 and 2005, the only two cases in which the rate decreases along the nine years corresponds to "Distribution" for the combined result and for the workers of the Company. In all the other cases, the value of this rate in 2005 is larger than its value in 2004.
 - Moreover, considering the average value of all functional units for Contractors and for the combined result, the value of the four reactive incidence rates in 2005 is larger than in 2004. Considering the workers of the Companies, the same happens except for the Incidents' Gravity Rate.
 - The value of the Incidents' Gravity Rate in 2005 is the largest recorded along the nine years considering the average value of all functional units for Contractors. In fact, its value corresponds to more than twice its value in 2004. However, for the workers of the Company, the average value of all functional units slightly decreased compared to 2004 (34.82 lost workdays in 2004, and 33.20 lost workdays in 2005 by 200,000 hours worked)
 - The average value of all functional units of the Incidents' Frequency Rate with lost workdays considering the workers of the company showed a decreasing global tendency for the term 2001-2004. However, its value in 2005 increased almost 100% compared to 2004. The average value of all functional units in the case of Contractors also increases (0.311 lost workdays cases in 2004 compared to 0.390 lost workday cases in 2005 by 200,000 hours).
 - In the year 2005, there were no fatalities of the workers of the Company in "Transport" and "Others". Moreover, for Contractors and the combined result, the Fatal Incidents' Rate in "Exploration and Production" and "Transport" are lower in 2005 than in 2004. However, this rate has larger values in 2005 than in 2004 for the other functional units considering the workers of the Company, Contractors, and the combined result.
 - Considering both proactive rates (Task Planned Observations Rate and Safety Training Intensity Rate), the value for all functional units in 2005 is shorter than in previous years.
 - The Task Planned Observations Rate decreased only in "Exploration and Production" – all the other functional units have larger values in 2005 than in previous years. However, in the case of the Safety Training Intensity Rate such decrease applies to all functional units except for "Others".
 - Following there is a graphic showing the Reported Hours worked (in thousands, for the combined result of the workers of the Company and Contractors, and including onshore and offshore activities) and the number of Member Companies that participated in the reports of each year for the term 1997-2005. It is worth noting that, for the year 2000, the decrease in the Reported Hours worked was a major consequence of the less number of Member Companies that participated.
-

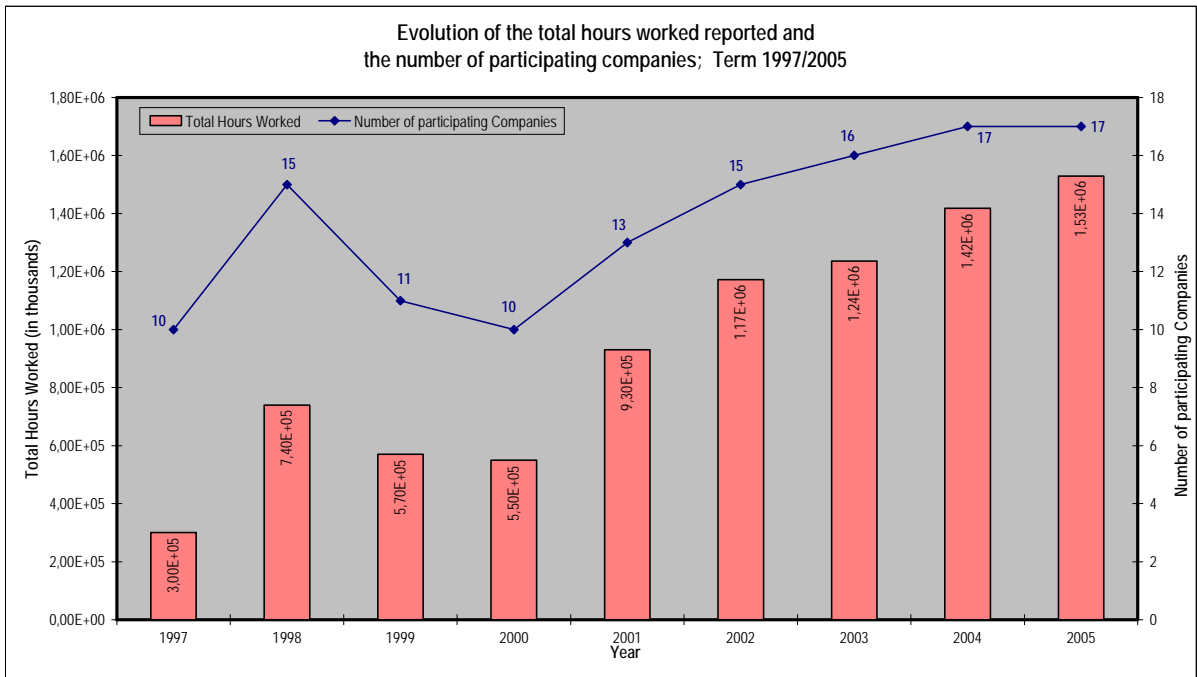


Figure 1.1

2.0 SUMMARY OF ARPEL STATISTICS

This report represents the ninth annual compilation of information related to occupational injuries, illnesses and fatalities for companies of the oil industry in Latin America and the Caribbean. Seventeen Member Companies of the Regional Association of Oil and Natural Gas Companies in Latin America and the Caribbean (ARPEL) reported data. Fourteen reported data about Contractors. The database utilized in this report is the largest one compared to all the ones utilized in previous years.

Unless the contrary is specified, all incidents' rates are reported as "incidents by 200.000 hours worked". In order to make a brief report only a numeric value is provided and units are as mentioned before.

Table 2.1: *List of the companies that answered the 2005 study on Statistics on Incidents in the oil and gas industry in Latin America and the Caribbean.*

ANCAP	PETROBRAS
ChevronCorporation	PETROECUADOR
ECOPETROL	PETROPERU
ENAP	PETROTRIN
ExxonMobil	RECOPE
Pan American Energy	RepsolYPF
PCJ	STAATSOLIE
PDVSA	TOTAL
PEMEX	

The definitions for the functions utilized in the figures of the following chapters correspond to the ARPEL User's Manual, 4th Edition (2004).

Note: In some cases the sum of values for the individual categories might not match exactly the value reported for the "Total". This occurs because the displayed value was rounded to the closest integer for each of the individual values and the "Total" was calculated adding the real values and also rounded to the closest integer to be displayed in the report.

2.1 Total incidents' rate (by functional unit); data for the year 2005

The Total incidents' rate is defined through the following formula:

$$\text{Total incidents' rate} = \frac{\text{Total recordable cases} \times 200}{\text{Thousand hours worked}}$$

(Please see Chapter 6.0 and 10.0 in the User's Manual)

Function	Number of companies that reported data related to this rate	Total reported hours worked (company and contractors) – in thousands	Hours worked utilized to calculate this rate (company and contractors) – in thousands
Exploration and Production	11	620,562	620,562
Refining	13	270,727	270,727
Transport	9	82,440	82,440
Distribution	10	193,338	193,338
Others	10	362,082	362,082
Total	17	1,529,150	1,529,150

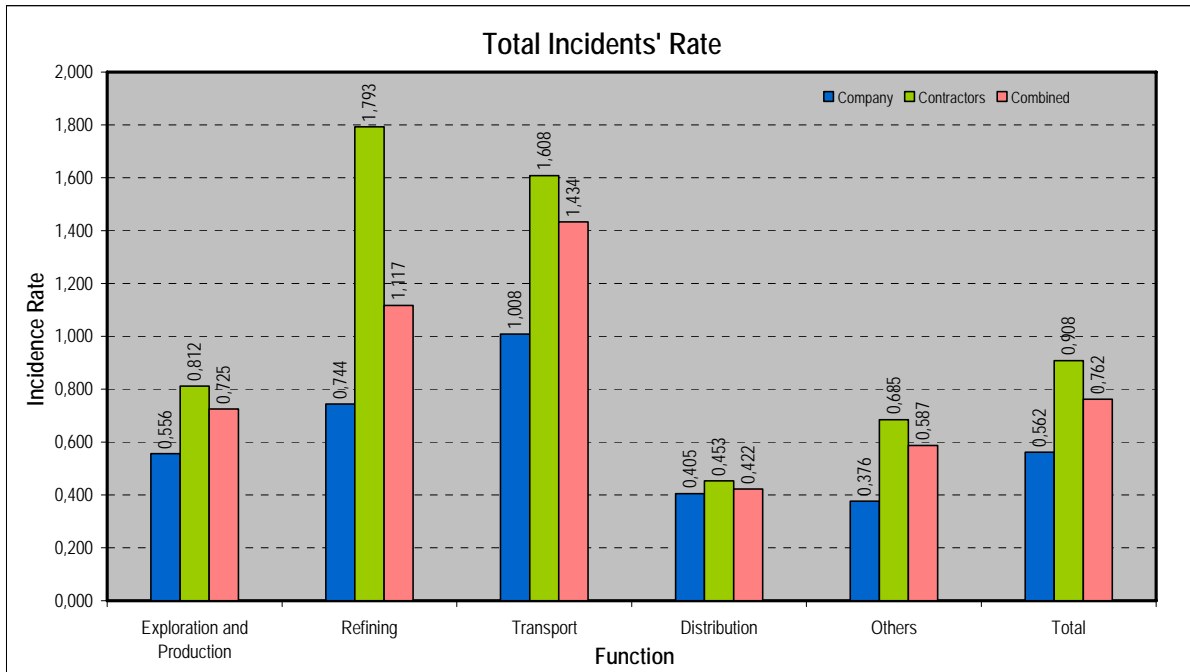


Figure 2.1

2.2 Total incidents' rate (by functional unit); term: 1997/2005

2.2.1 Company data

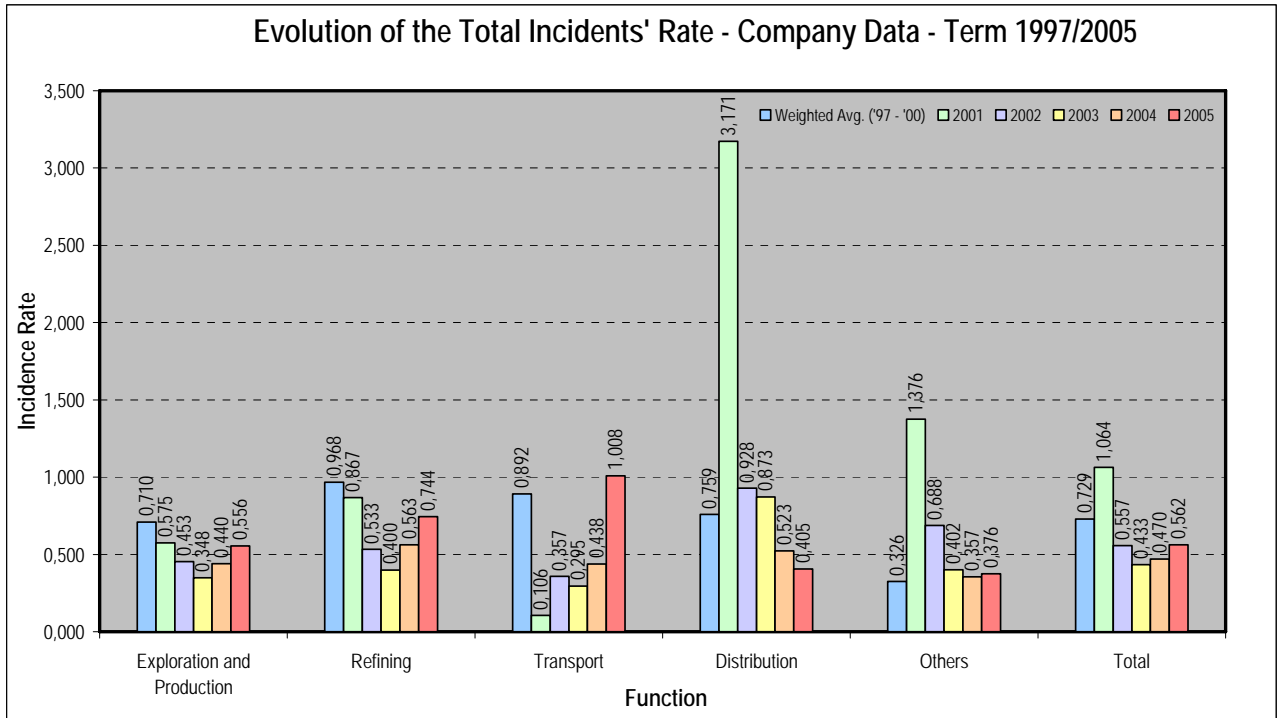


Figure 2.2.1

2.2.2 Contractors data

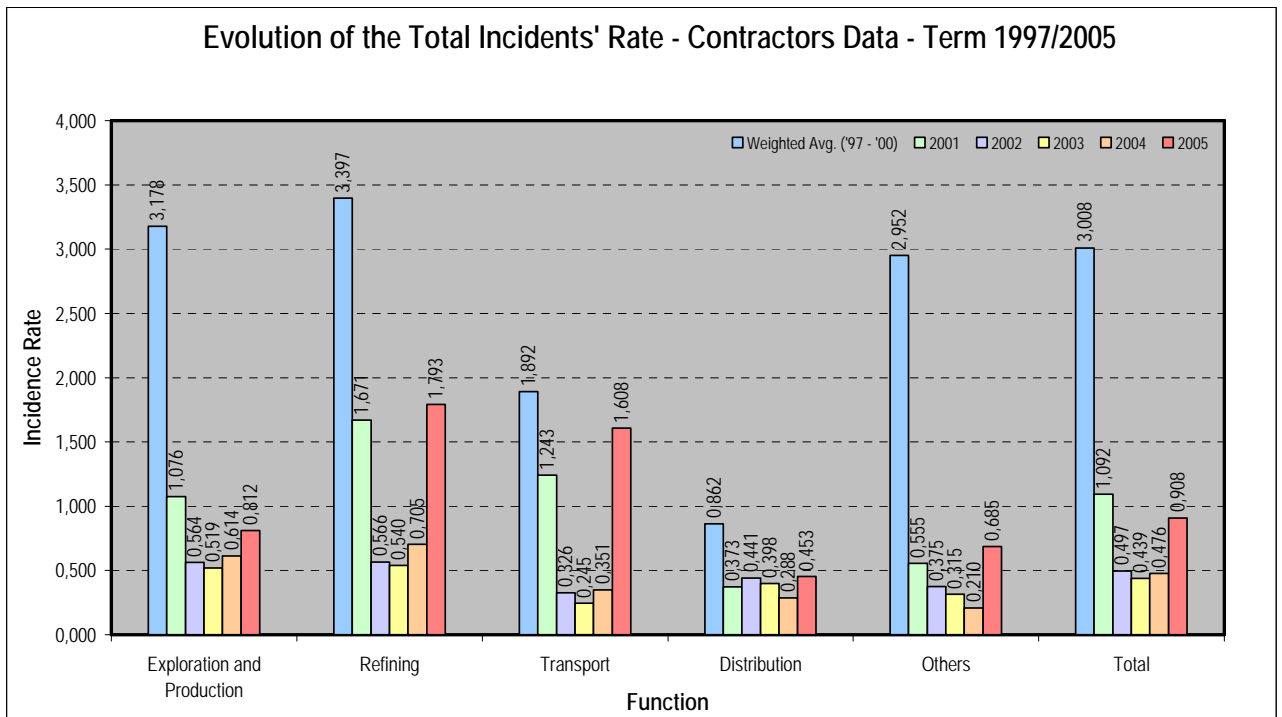


Figure 2.2.2

2.2.3 Combined data

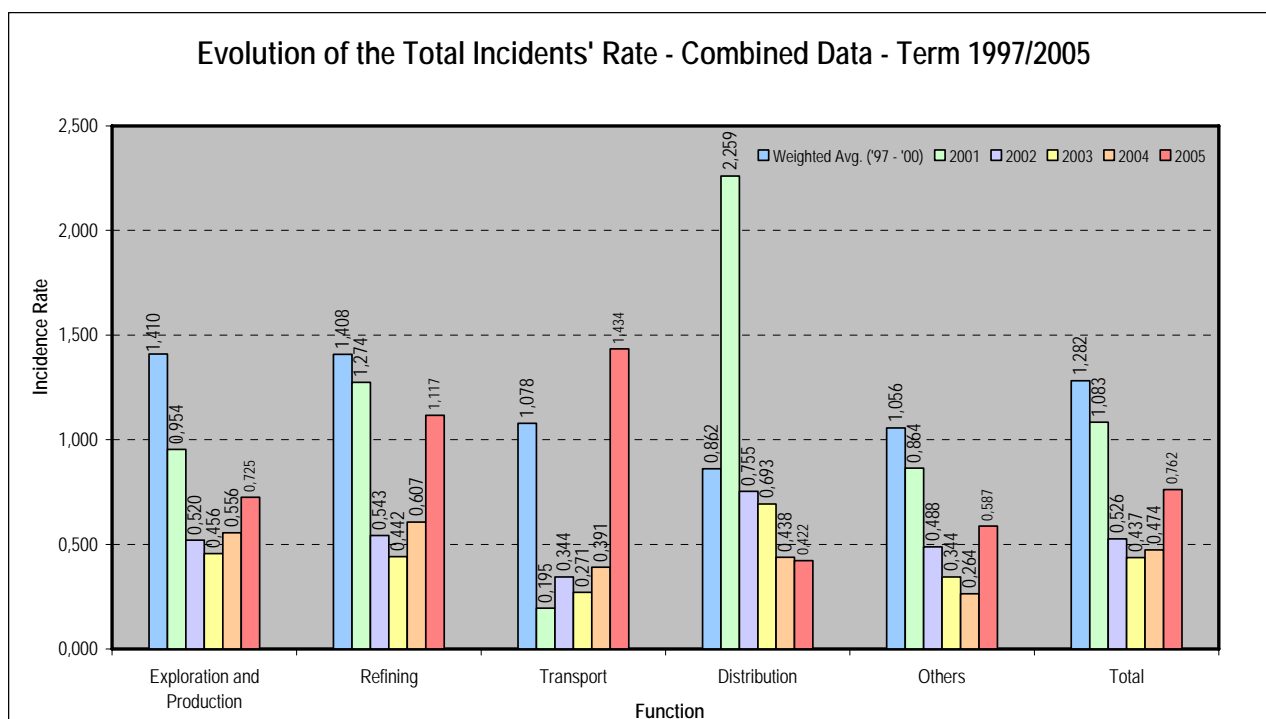


Figure 2.2.3

Figures 2.2.1 to 2.2.3 show the results for the Company, Contractors and Combined respectively, for the Total incidents' rate for the term 1997/2005. The corresponding tabulated results are shown in APPENDIX A.

The "Total" Combined represents data reported by the following number of companies according to the corresponding year:

Year	Number of companies which reported data:	
	For this rate	For the Global Statistic
1997	10	10
1998	15	15
1999	11	11
2000	10	10
2001	11	13
2002	15	15
2003	16	16
2004	17	17
2005	17	17

2.3 Incidents' gravity rate (by functional unit); data for the year 2005

The incidents' gravity rate is defined by the following formula:

$$\text{Incidents' gravity rate} = \frac{\text{Number of days away from work} \times 200}{\text{Hours worked in thousands}}$$

(Please see Chapters 6.0 y 10.0 in the User's Manual)

Function	Number of companies that reported data related to this rate	Total reported hours worked (company and contractors) – in thousands	Hours worked utilized to calculate this rate (company and contractors) – in thousands
Exploration and Production	9	620,562	377,409
Refining	12	270,727	202,152
Transport	8	82,440	28,374
Distribution	10	193,338	147,355
Others	9	362,082	117,389
Total	15	1,529,150	872,679

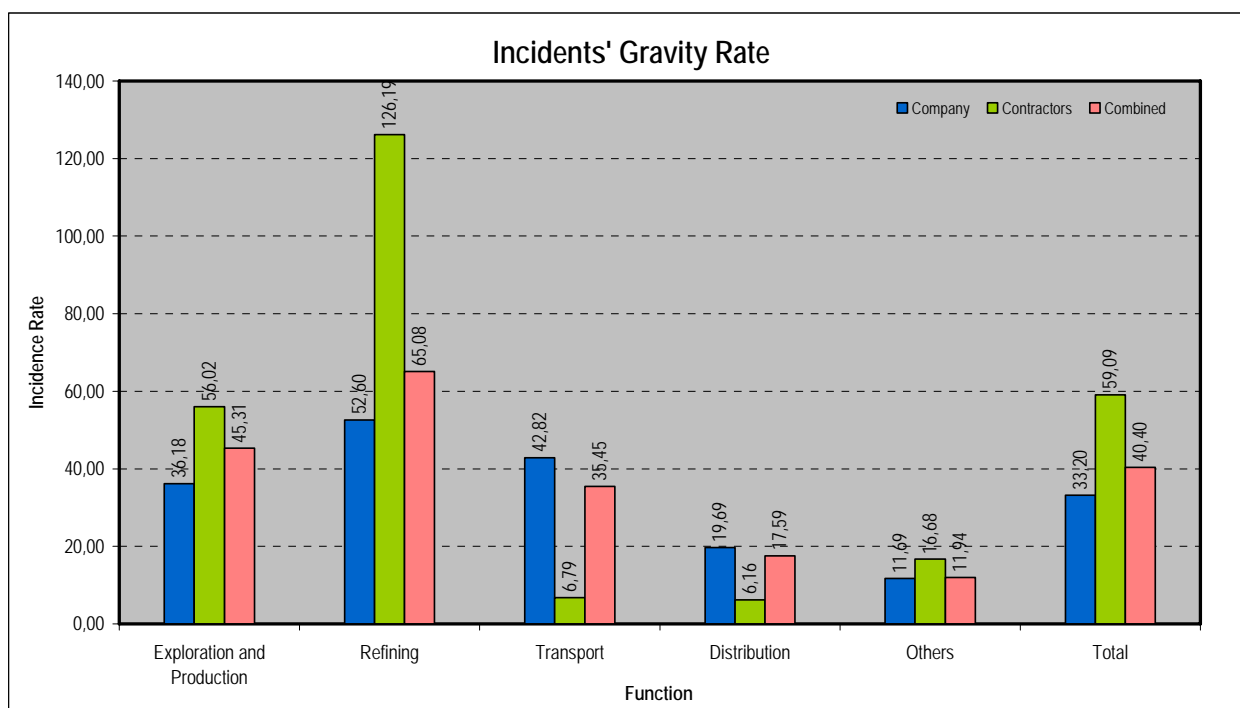


Figure 2.3

2.4 Incidents' gravity rate (by functional unit); term: 1997/2005

2.4.1 Company data

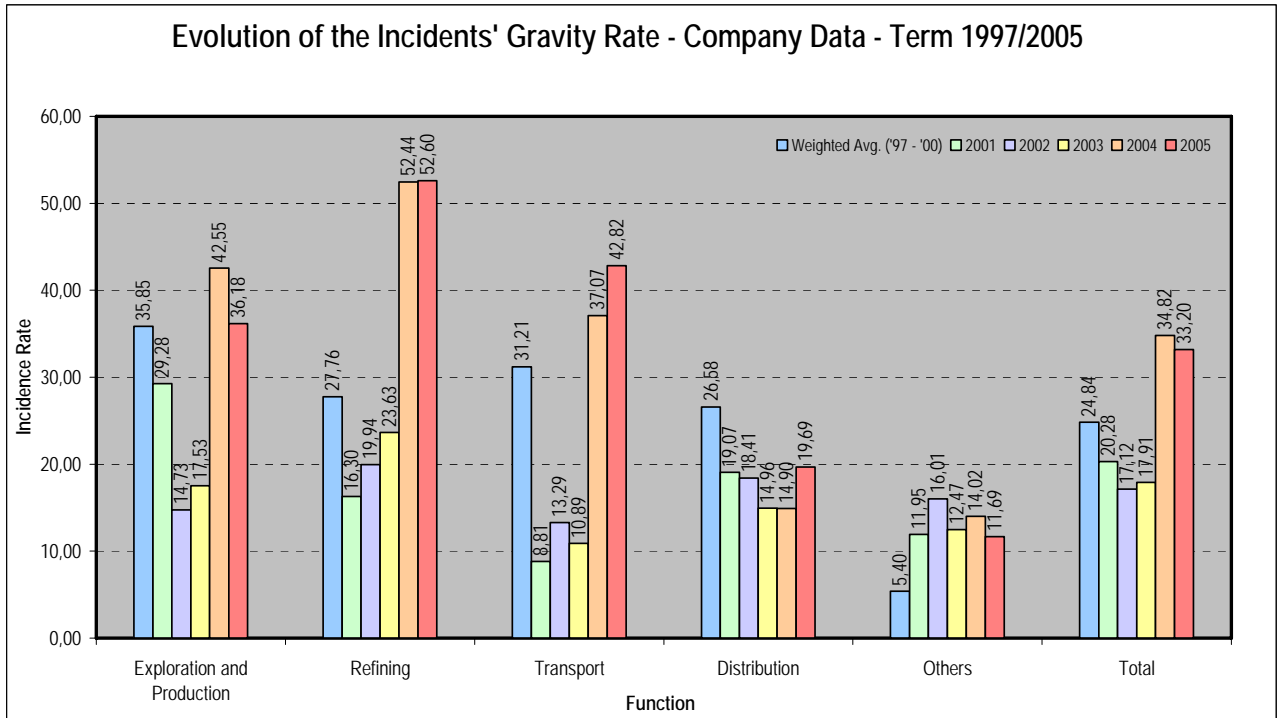


Figure 2.4.1

2.4.2. Contractors data

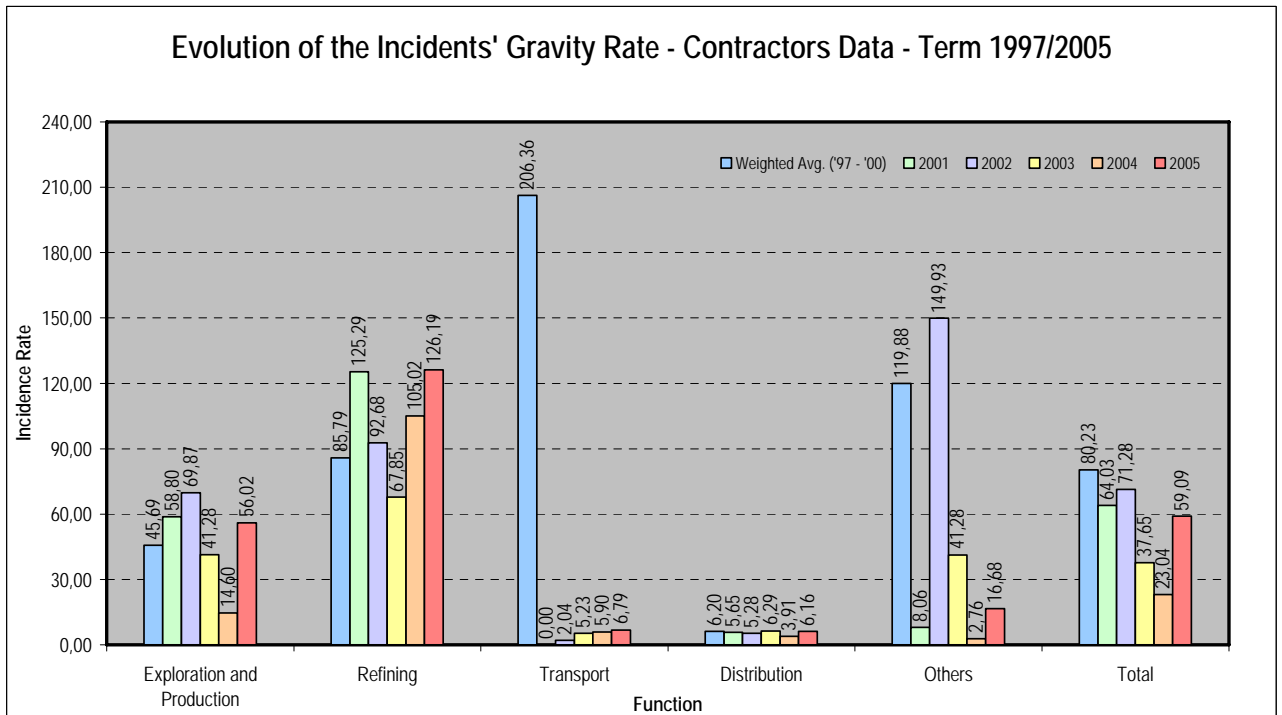


Figure 2.4.2

2.4.3 Combined data

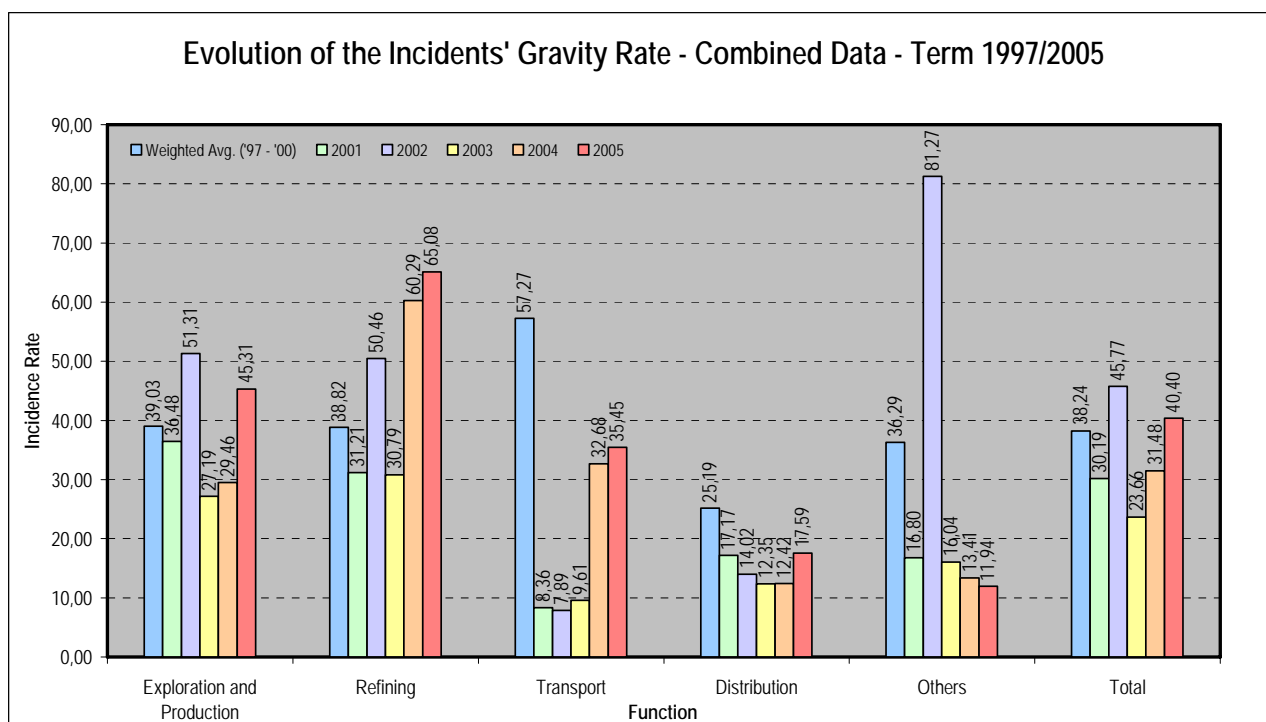


Figure 2.4.3

Figures 2.4.1 to 2.4.3 represent the results of the incidents' gravity rate, for workers of the Companies, Contractors and Combined respectively, for the term 1997/2005. The tabulated results corresponding to the nine years are shown in APPENDIX A.

The "Total" Combined represents data reported by the following number of companies according to the year considered:

Year	Number of companies which reported data:	
	For this rate	For the Global Statistic
1997	10	10
1998	15	15
1999	10	11
2000	10	10
2001	12	13
2002	13	15
2003	15	16
2004	17	17
2005	15	17

2.5 Incidents' frequency rate with lost workdays (by functional unit); data for the year 2005

The incidents' frequency rate with lost workdays is defined by the following formula:

$$\text{Incidents' frequency rate with lost workdays} = \frac{\text{Lost workday cases} \times 200}{\text{Hours worked in thousands}}$$

(Please see Chapters 6.0 and 10.0 in the User's Manual)

Function	Number of companies that reported data related to this rate	Total reported hours worked (company and contractors) – in thousands	Hours worked utilized to calculate this rate (company and contractors) – in thousands
Exploration and Production	11	620,562	361,249
Refining	13	270,727	106,478
Transport	8	82,440	28,374
Distribution	10	193,338	115,039
Others	9	362,082	105,585
Total	17	1,529,150	724,496

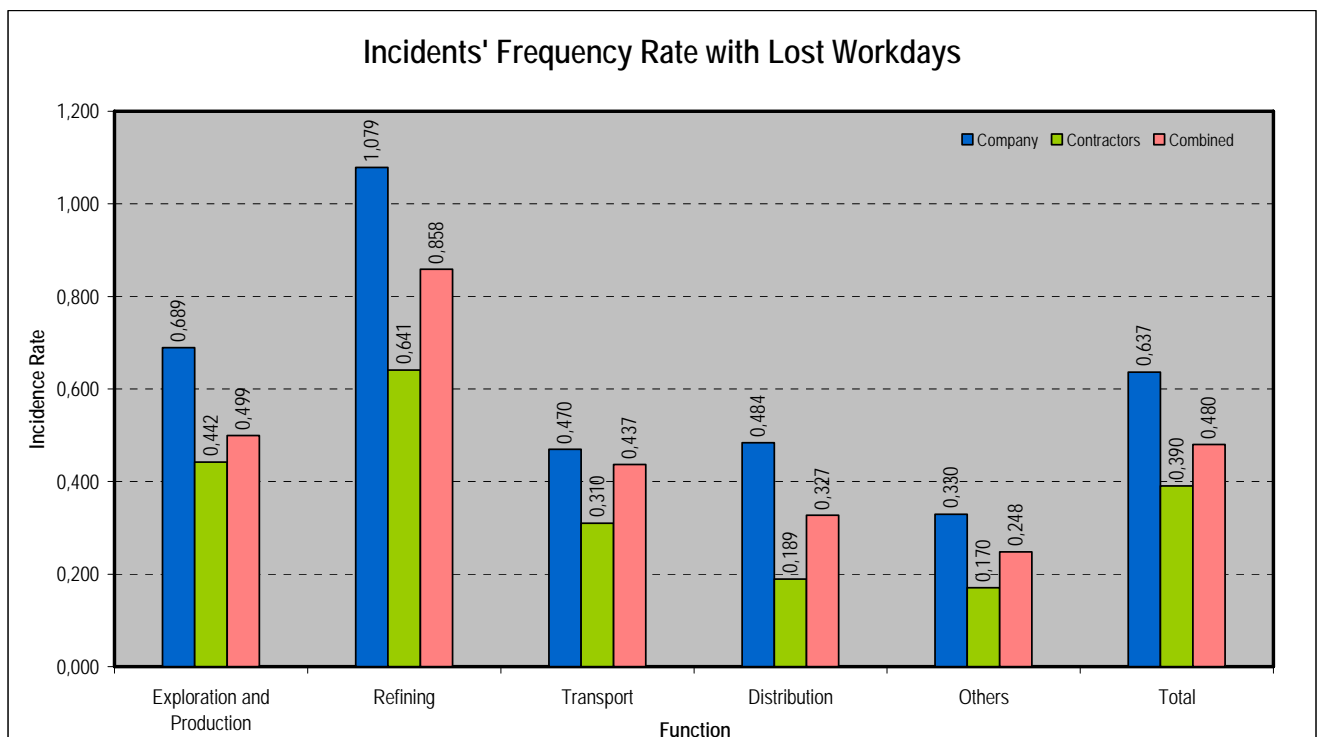


Figure 2.5

2.6 Incidents' frequency rate with lost workdays (by functional unit); term: 1997/2005

2.6.1 Company data

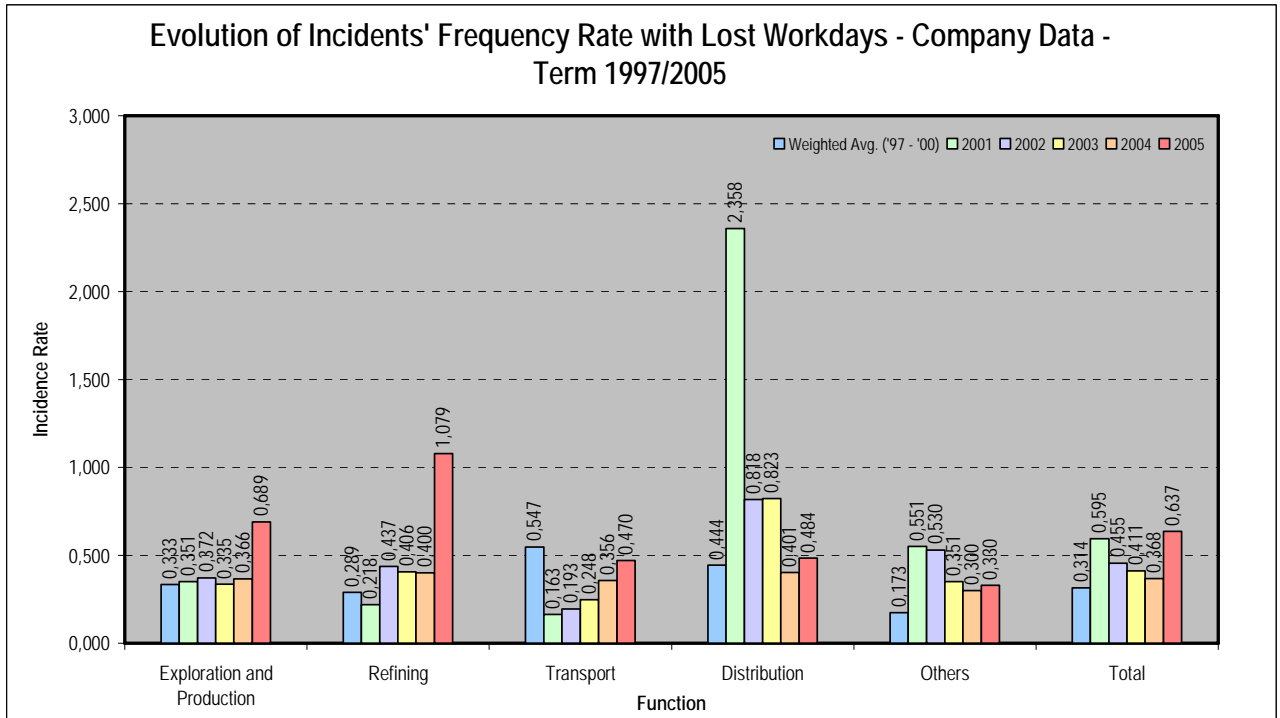


Figure 2.6.1

2.6.2 Contractors data

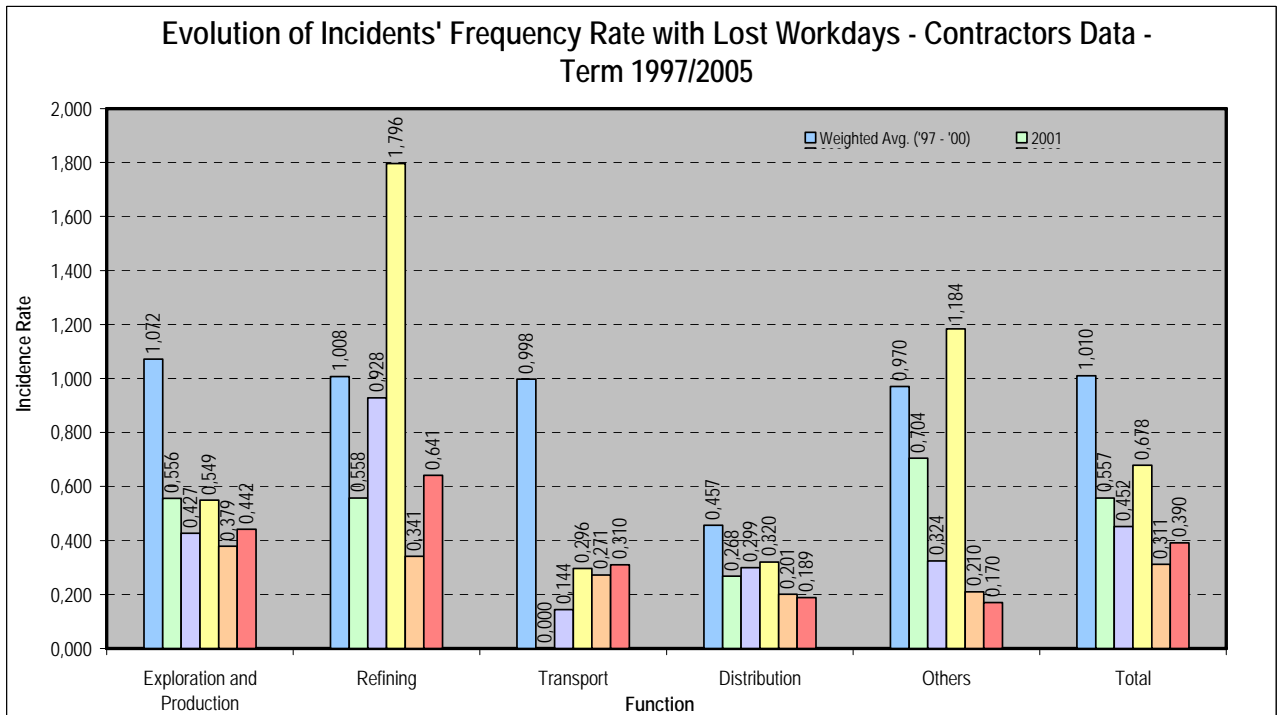


Figure 2.6.2

2.6.3 Combined data

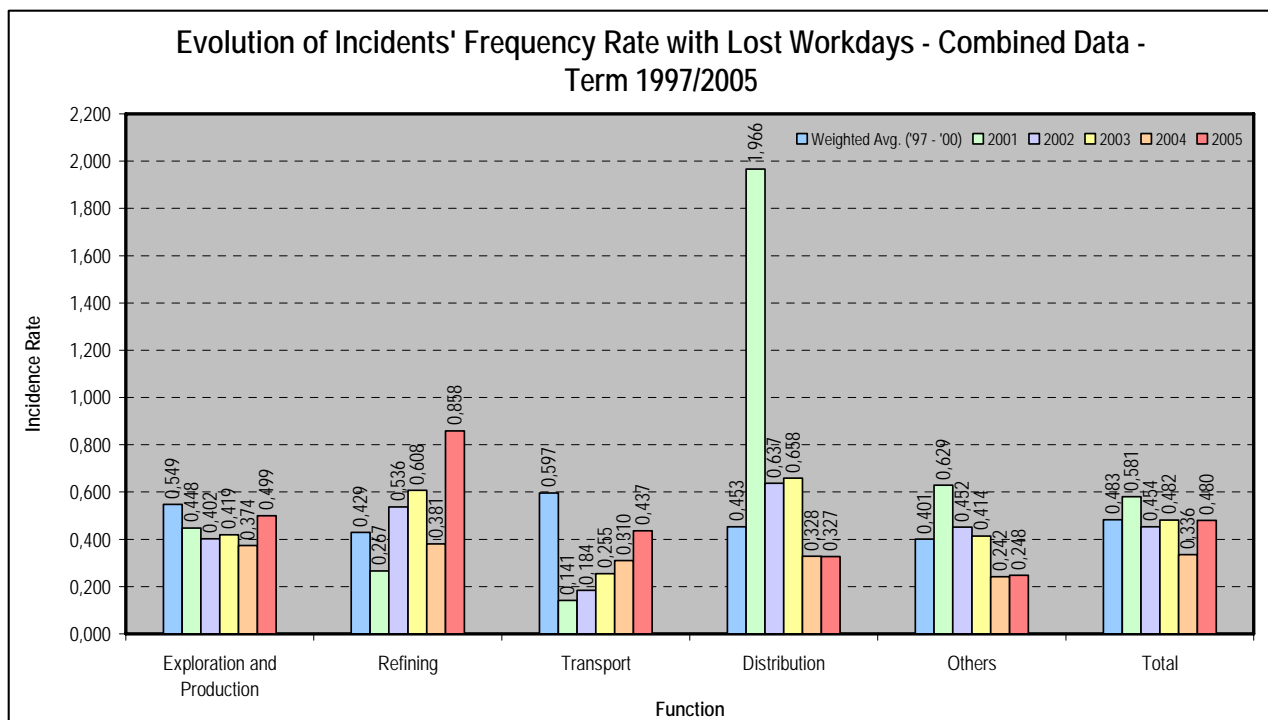


Figure 2.6.3

Figures 2.6.1 to 2.6.3 represent the results of the incidents' frequency rate with lost workdays, for the workers of the Companies, Contractors and Combined respectively, for the term 1997/2005. The tabulated corresponding results are shown in APPENDIX A.

The "Total" Combined represents data reported by the following number of companies according to the corresponding year:

Year	Number of companies which reported data:	
	For this rate	For the Global Statistic
1997	10	10
1998	14	15
1999	11	11
2000	9	10
2001	10	13
2002	14	15
2003	15	16
2004	16	17
2005	17	17

2.7 Fatal incidents' rate (by functional unit); data for the year 2005

The Fatal incidents' rate is defined by the following formula:

$$\text{Fatal incidents' rate} = \frac{\text{Number of fatalities} \times 200}{\text{Hours worked in thousands}}$$

(Please see Chapters 6.0 and 10.0 in the User's Manual)

Function	Number of companies that reported data related to this rate	Total reported hours worked (company and contractors) – in thousands	Hours worked utilized to calculate this rate (company and contractors) – in thousands
Exploration and Production	11	620,562	620,562
Refining	13	270,727	264,115
Transport	8	82,440	74,603
Distribution	10	193,338	193,338
Others	9	362,082	356,730
Total	17	1,529,150	1,529,150

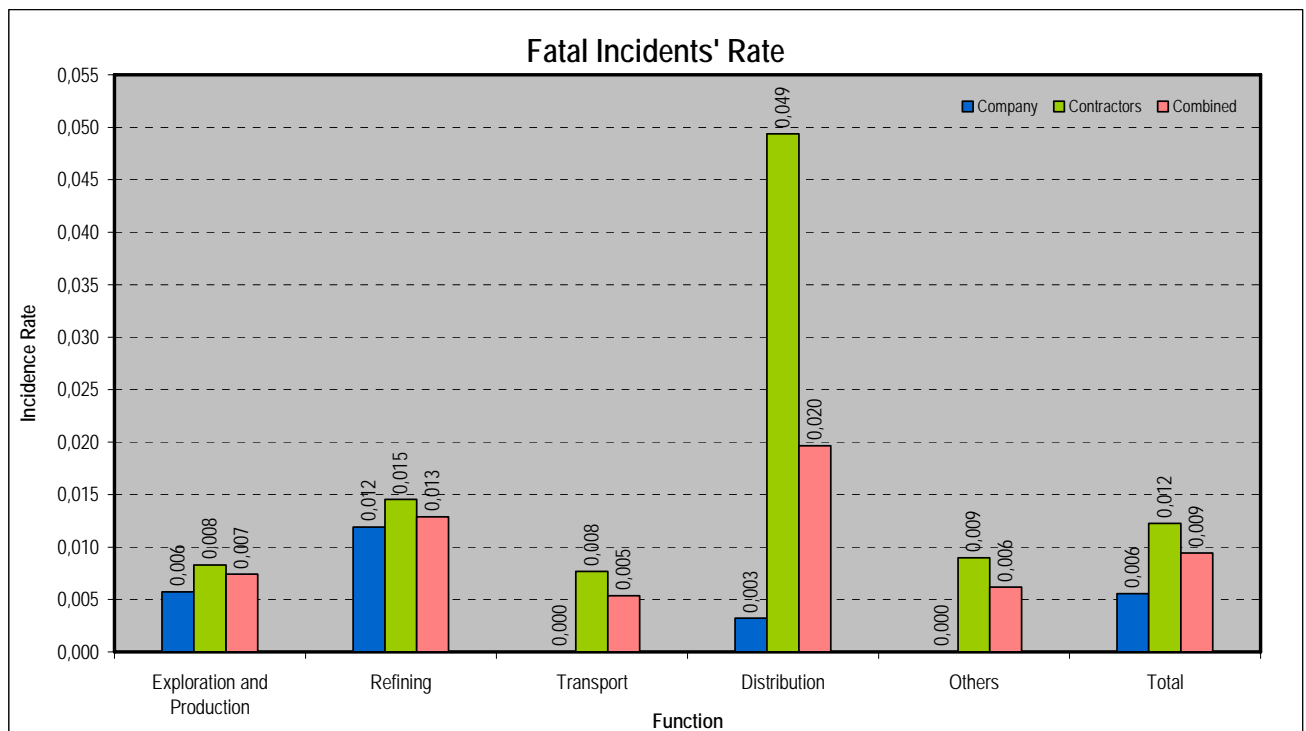


Figure 2.7

2.8 Fatal incidents' rate (by functional unit); term: 1997/2005

2.8.1 Company data

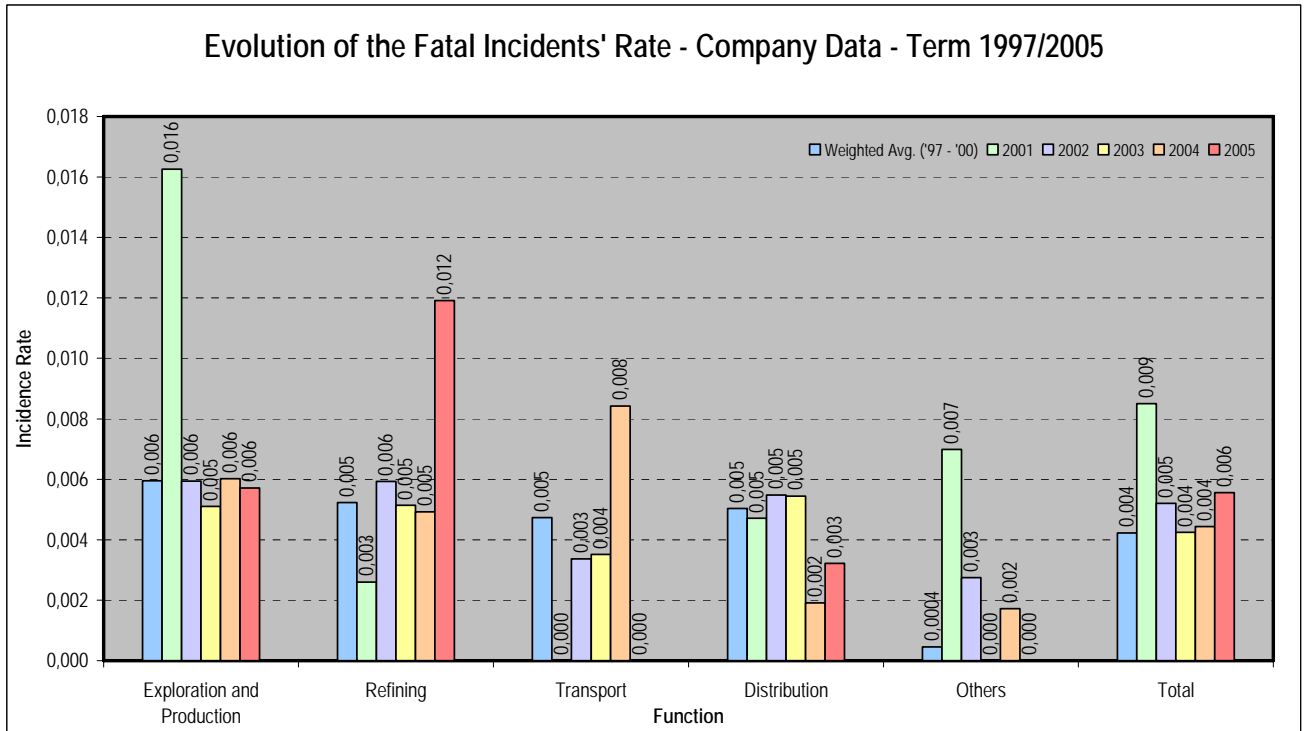


Figure 2.8.1

2.8.2 Contractors data

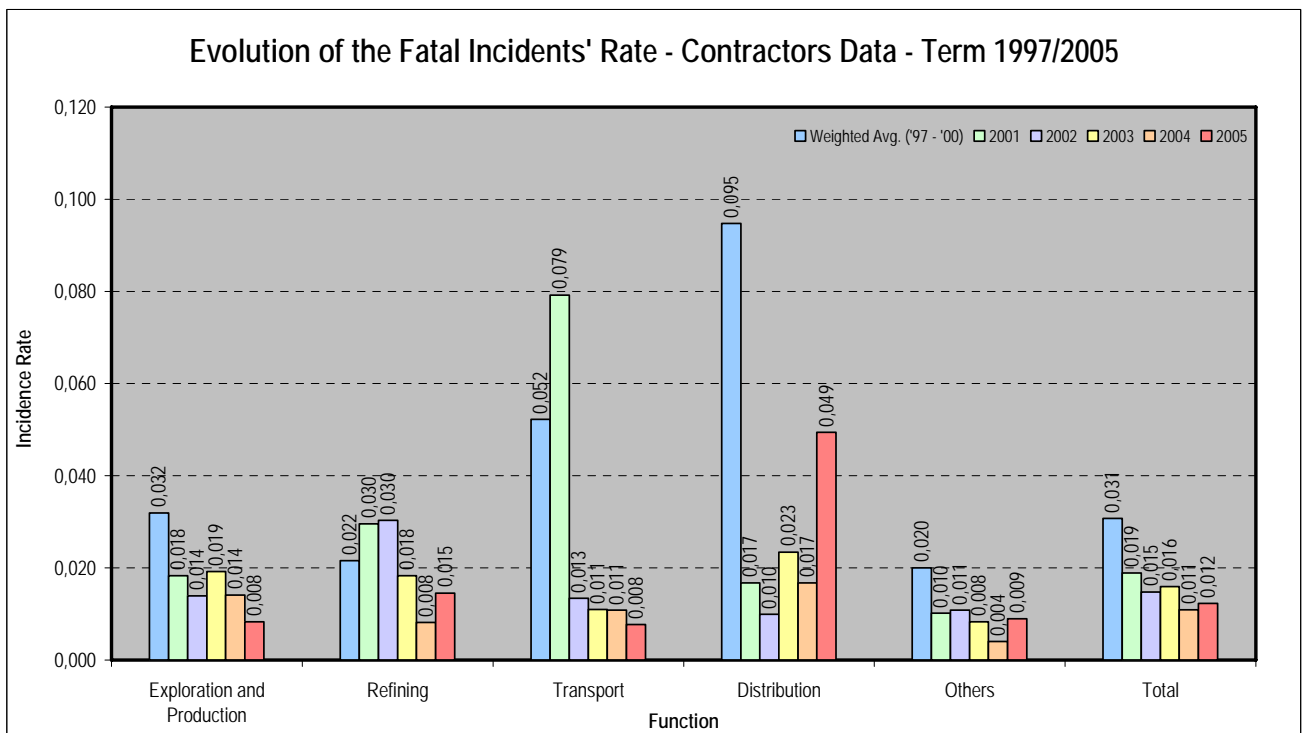


Figure 2.8.2

2.8.3 Combined data

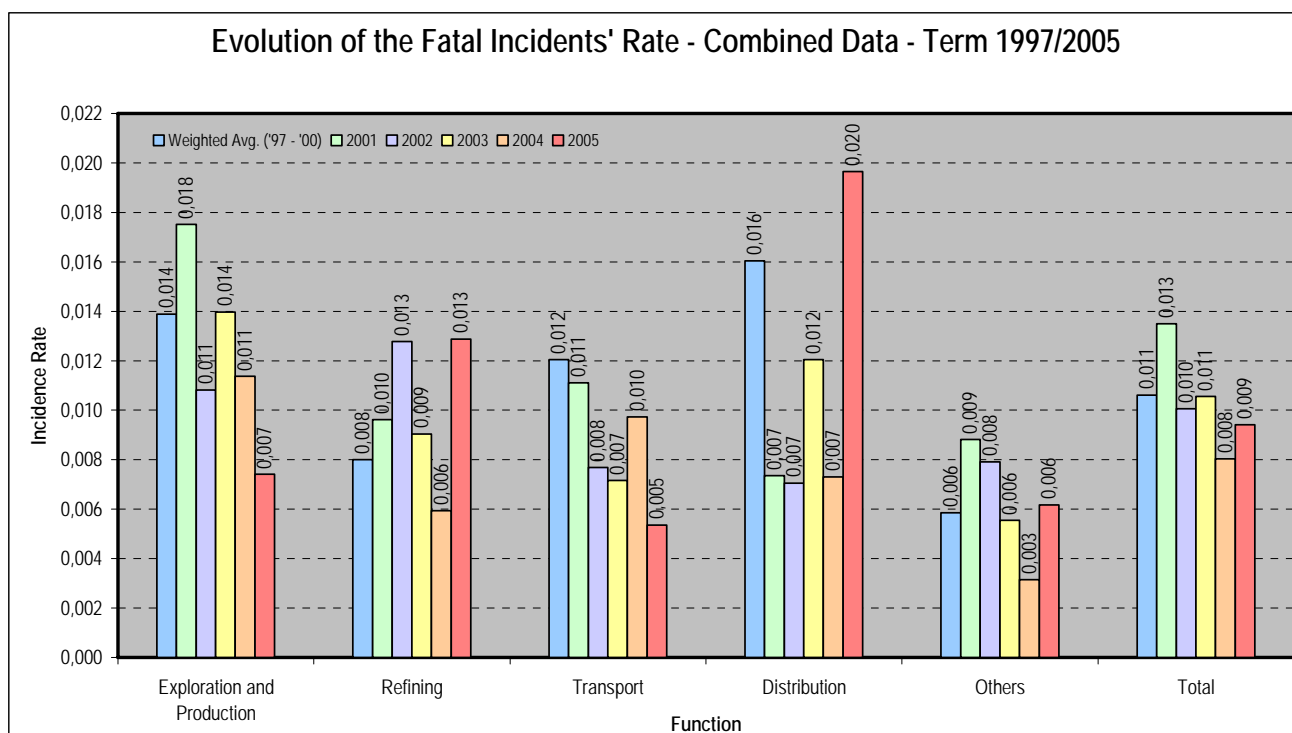


Figure 2.8.3

Figures 2.8.1 to 2.8.3 represent the fatal incidents' rate for workers of the Companies, Contractors and Combined respectively, for the term 1997/2005. The corresponding tabulated results are shown in APPENDIX A.

The "Total" Combined represents data reported by the following number of companies according to the year considered:

Year	Number of companies which reported data:	
	For this rate	For the Global Statistic
1997	10	10
1998	13	15
1999	8	11
2000	8	10
2001	10	13
2002	15	15
2003	16	16
2004	17	17
2005	17	17

2.9 Comparative incidence rates (by company); data for the year 2005

This Chapter shows the results of individual companies for each of the incidents referred above, for all the functional units. Each letter represents a company that reported data.

In the cases where the data provided was not only for the Company but also for Contractors, the Combined result represents the average of the Company and Contractors data. For the cases where only the data for the Company was provided, the Combined result matches the Company result.

2.9.1 Total incidents' rate by company

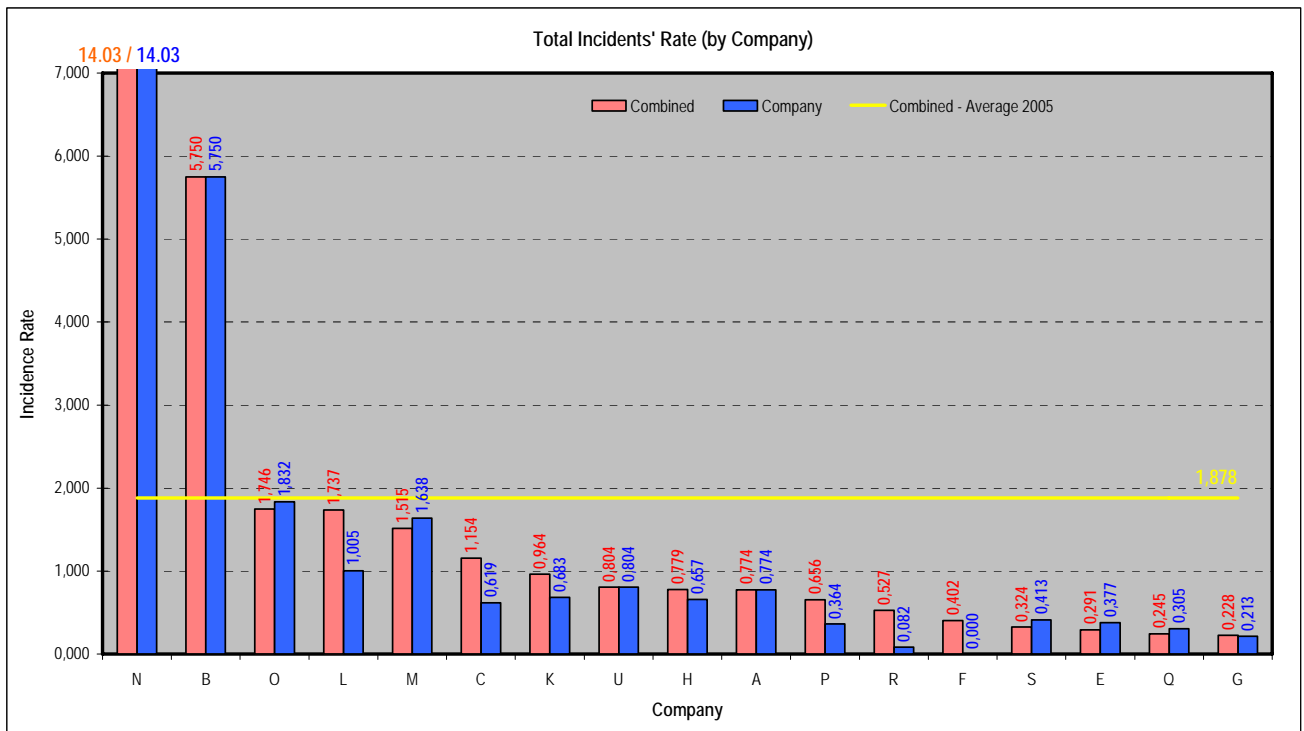


Figure 2.9.1

2.9.2 Incidents' gravity rate by company

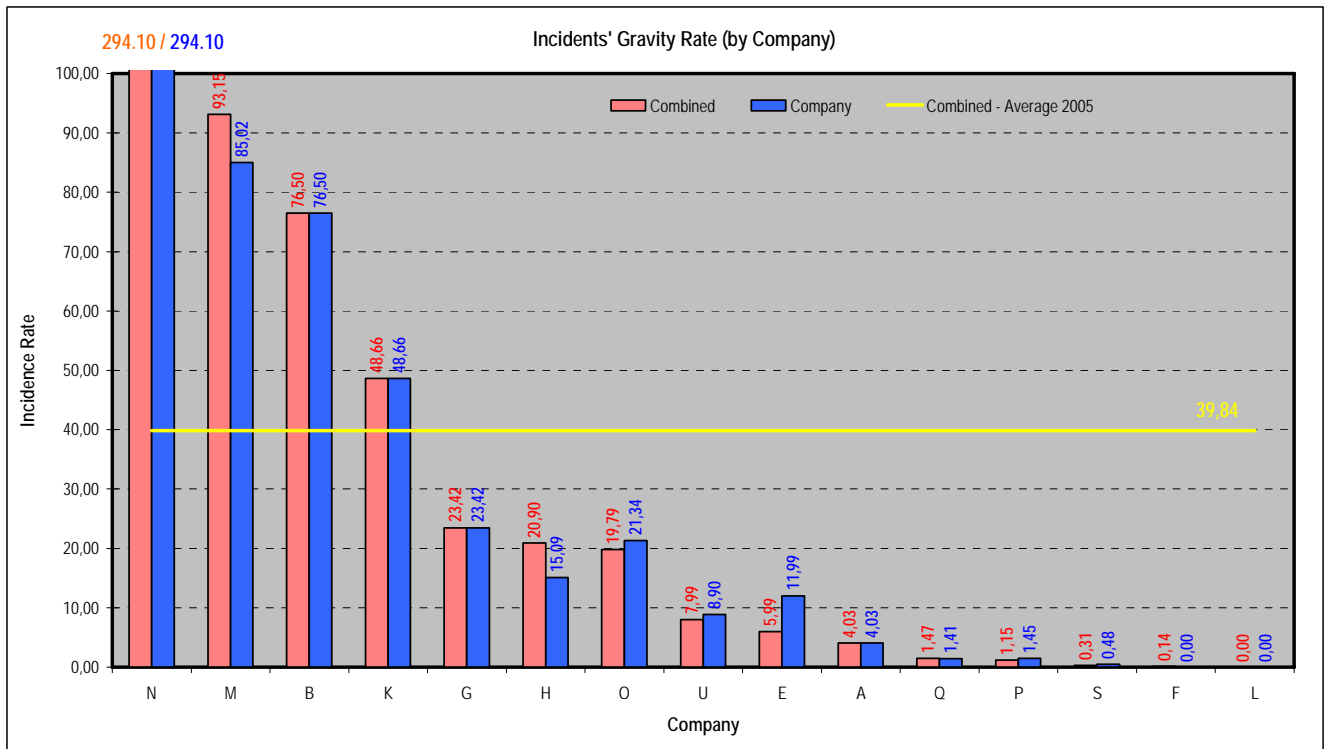


Figure 2.9.2

2.9.3 Incidents' frequency rate with lost workdays by company

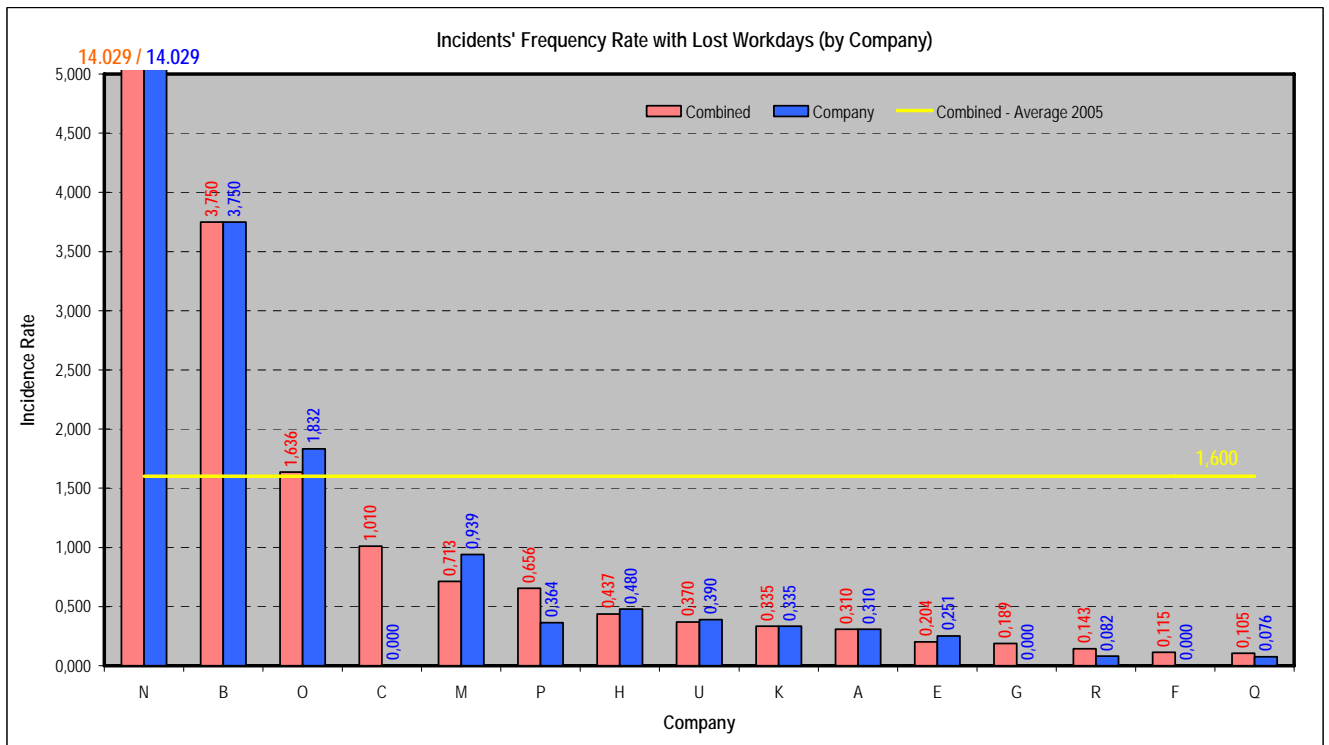


Figure 2.9.3

2.9.4 Fatal incidents' rate by company

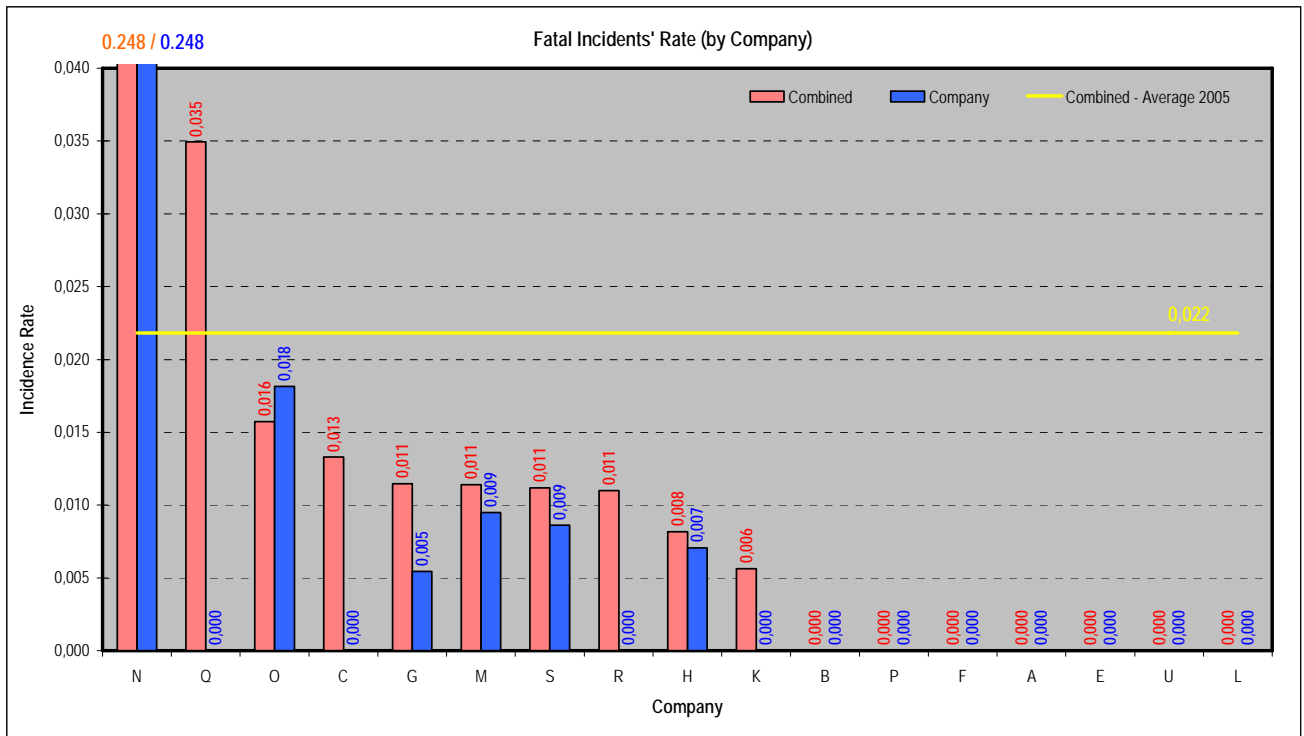


Figure 2.9.4

3.0 OFFSHORE ACTIVITIES

The previous chapter presented the results of the four reactive rates, for all the activities of the Member Companies of the Regional Association of Oil and Natural Gas Companies in Latin America and the Caribbean (ARPEL) that reported data, including offshore activities. This chapter presents the results of the same four incidents' rates applied to offshore activities, with Exploration and Production as the only applicable function.

Of the seventeen Member Companies that reported data for the year 2005, five reported data regarding offshore activities. In previous years, data regarding offshore activities was only reported in 1998, 1999, 2002, 2003 and 2004. In 1998, two companies reported data, in 1999 only one company did so, whereas in 2002, 2003, and 2004 four companies reported their offshore activities data. The corresponding tabulated results are shown in APPENDIX A.

3.1 Total incidents' rate – Offshore activities – term 1998/2005

Year	Number of companies that reported data related to this rate	Total reported hours worked (company and contractors) – in thousands	Hours worked utilized to calculate this rate (company and contractors) – in thousands
1998	2	42,960	42,960
1999	1	33,376	33,376
2002	4	100,880	100,880
2003	4	101,741	101,725
2004	4	70,649	70,649
2005	5	101,311	101,311

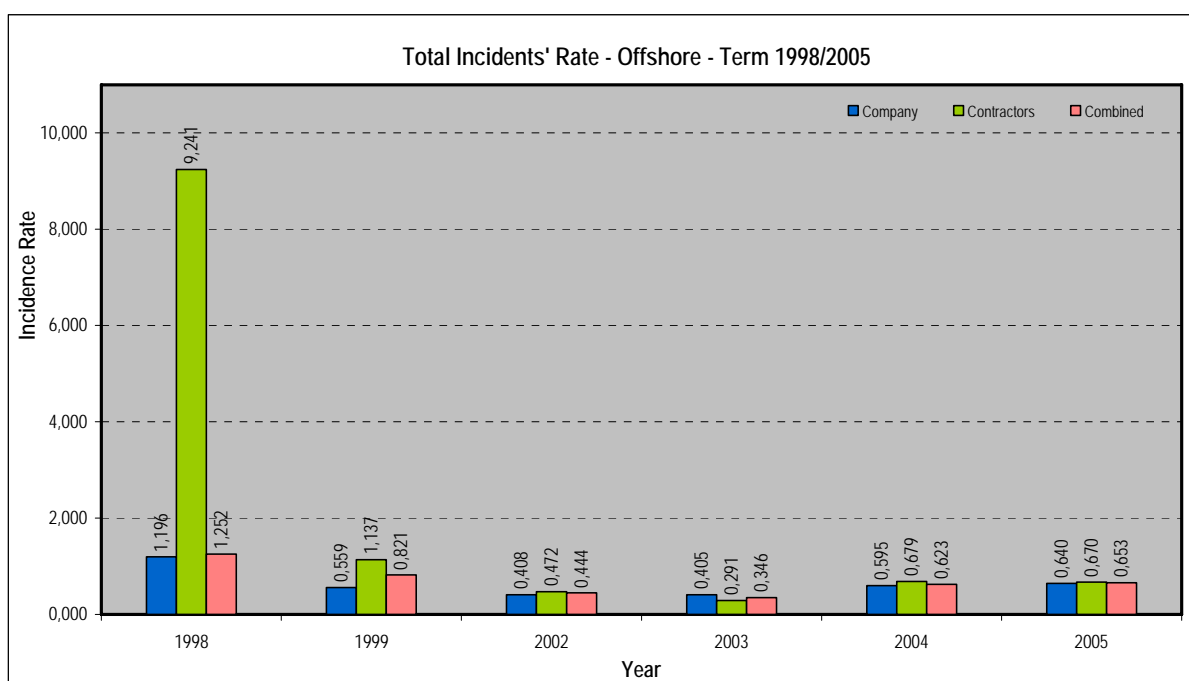


Figure 3.1

3.2 Incidents' gravity rate – Offshore activities – term 1998/2005

Year	Number of companies that reported data related to this rate	Total reported hours worked (company and contractors) – in thousands	Hours worked utilized to calculate this rate (company and contractors) – in thousands
1998	1	42,960	40,377
1999	1	33,376	33,376
2002	2	100,880	3,450
2003	4	101,741	50,785
2004	4	70,649	49,084
2005	5	101,311	76,883

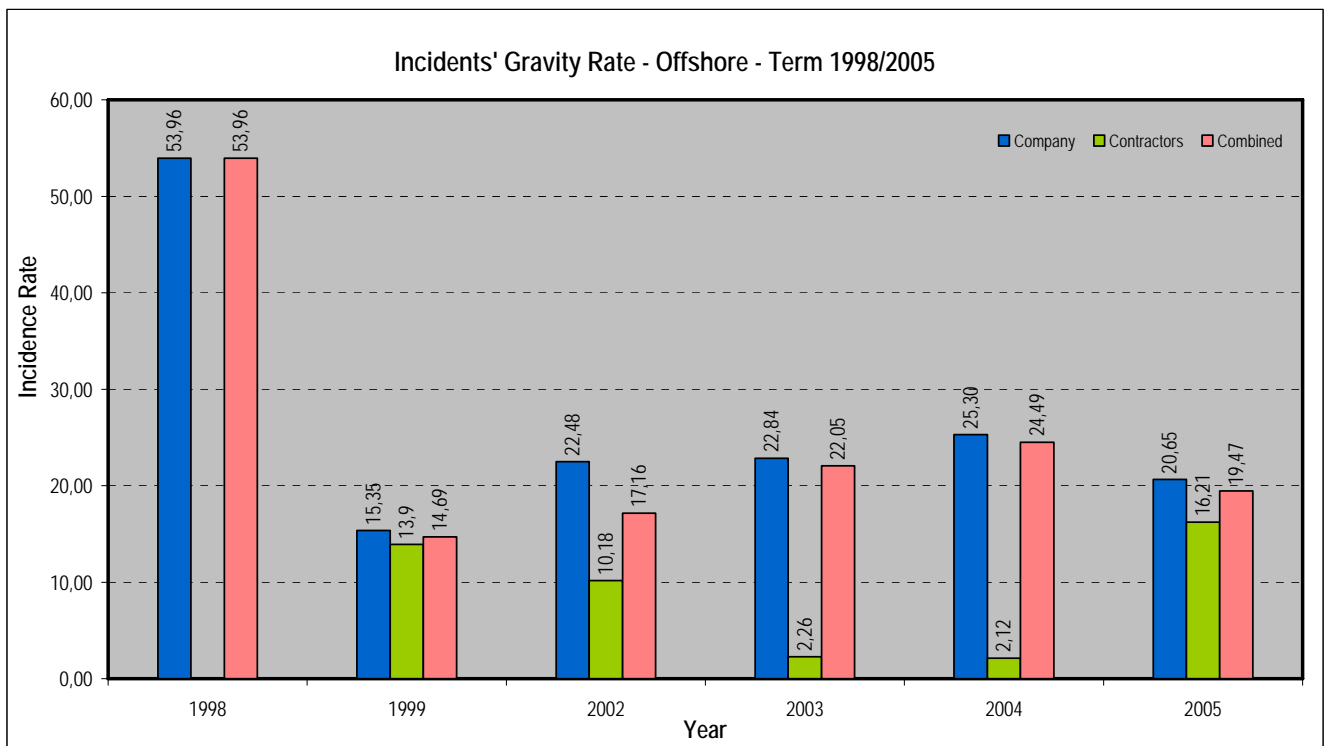


Figure 3.2

3.3 Incidents' frequency rate with lost workdays – Offshore activities – term 1998/2005

Year	Number of companies that reported data related to this rate	Total reported hours worked (company and contractors) – in thousands	Hours worked utilized to calculate this rate (company and contractors) – in thousands
1998	2	42,960	42,960
1999	1	33,376	33,376
2002	3	100,880	100,877
2003	4	101,741	50,785
2004	4	70,649	70,649
2005	4	101,311	32,549

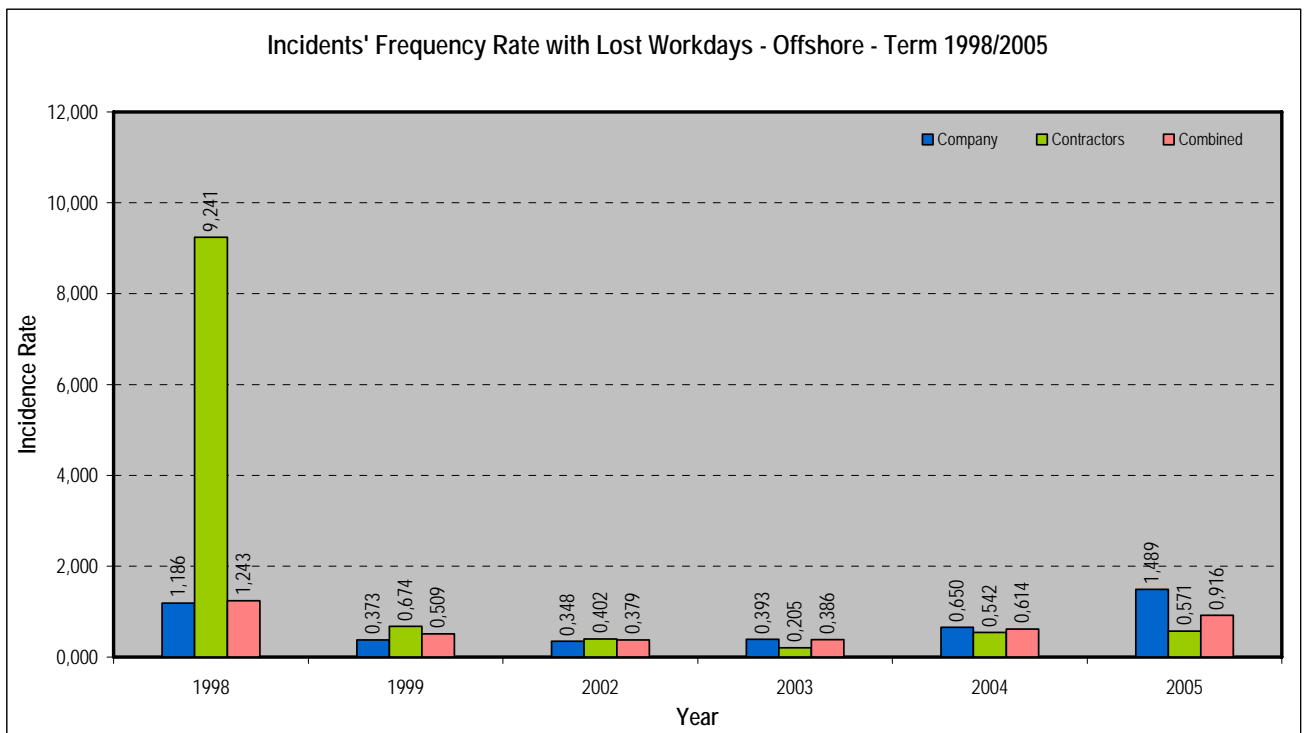


Figure 3.3

3.4 Fatal incidents' rate – Offshore activities – term 1998/2005

Year	Number of companies that reported data related to this rate	Total reported hours worked (company and contractors) – in thousands	Hours worked utilized to calculate this rate (company and contractors) – in thousands
1998	2	42,960	42,960
1999	1	33,376	15,123
2002	3	100,880	100,877
2003	4	101,741	101,725
2004	4	70,649	70,649
2005	5	101,311	101,311

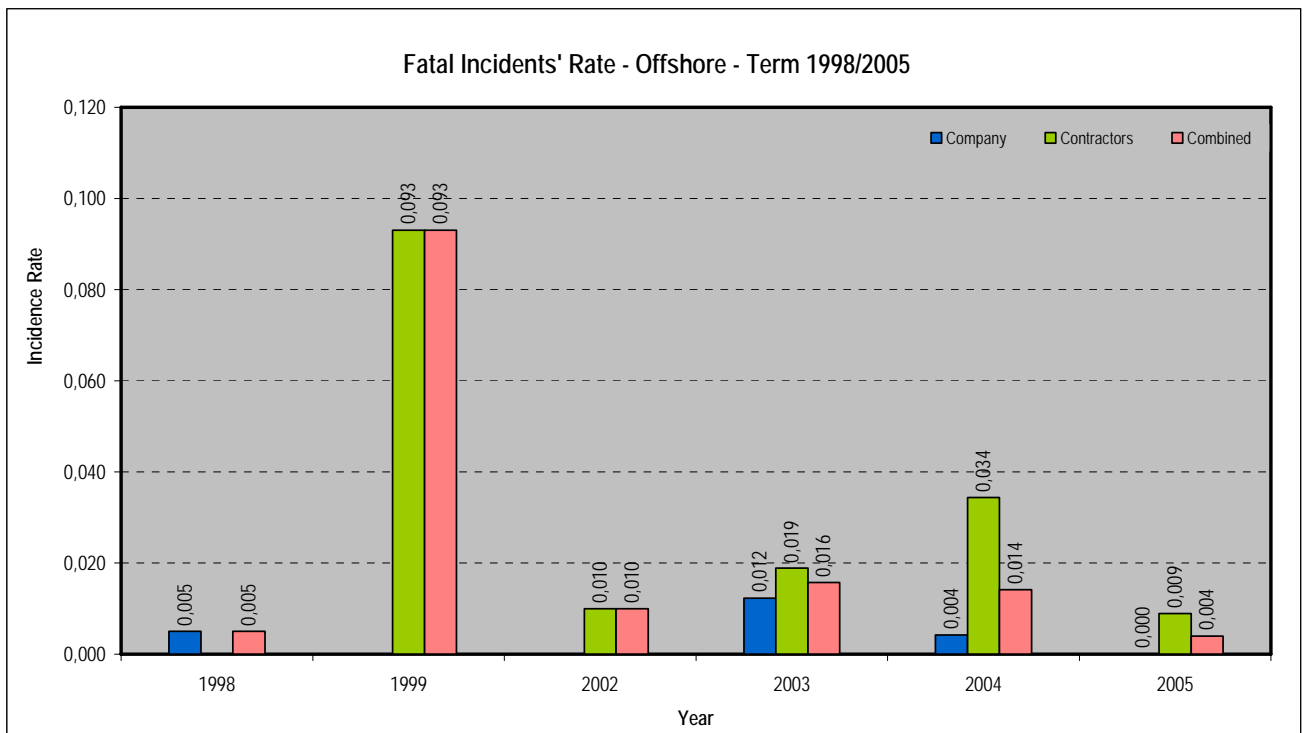


Figure 3.4

4.0 FATALITIES CAUSES

The different fatalities causes in the oil industry are reported in this chapter, for the participating ARPEL Member Companies, for the year 2005. At the same time, and for comparative reasons, the corresponding results for the years 2001, 2002, 2003 and 2004 are presented too.

All fatal incidents reported with their corresponding explanation of cause were considered for the graphics, no matter whether were they related to the workers of the companies or contractors. These causes were presented as a function of the percentage of fatalities they caused.

Fatalities causes –Year 2005

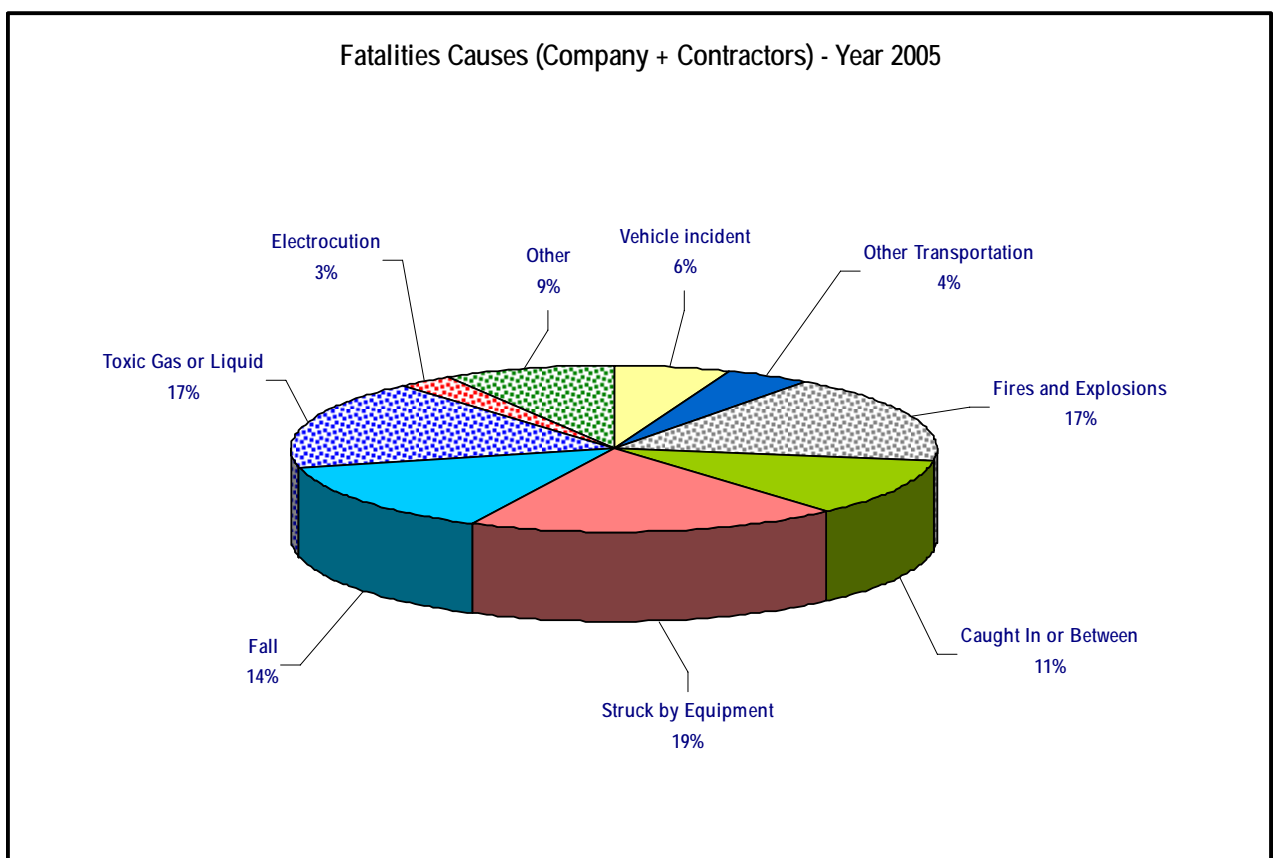


Figure 4.1

Fatality causes - comparative results - Term 2001-2005

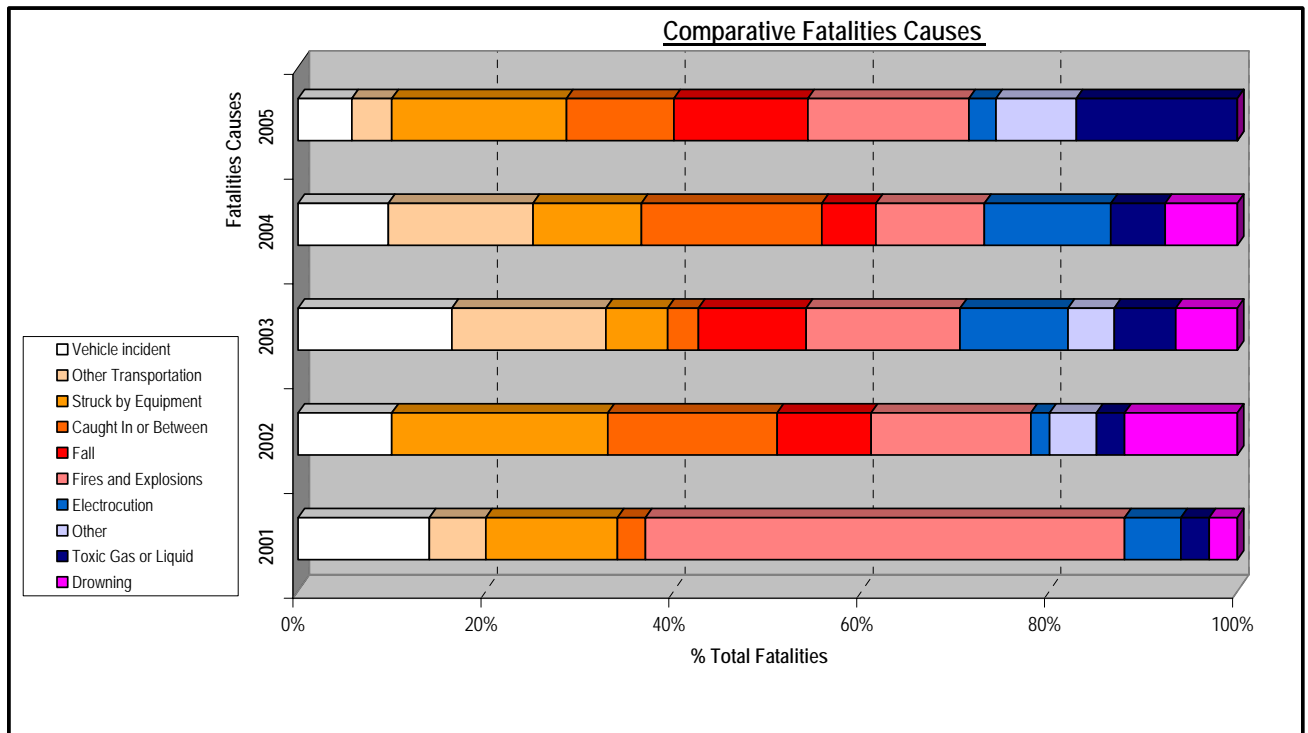


Figure 4.2

Figure 4.1 represents the different fatalities causes reported for the year 2005 as a function of the total fatalities reported with their explanation of cause (70).

Moreover, figure 4.2 is a graphic comparison of the relative incidence (percent of each year's total fatalities) of the different fatality causes for the term 2001-2005. A total of 70 fatalities were reported with cause explanation for the year 2005, 52 for the year 2004, 61 for the year 2003, 58 for the year 2002, and 35 for the year 2001.

According to the analysis of these comparative results, the three causes which caused the greatest percentage (weighted average) of fatal incidents in the last five years were: "Fires and Explosions" (20%), "Struck by Equipment" (15%) and "Vehicle Incidents" together with "Caught in or between" (11%).

5.0 SAFETY PROACTIVE INDICATORS

5.1 Task planned observations rate

The task planned observations rate (TPO) is defined by the following formula:

$$\text{TPO rate} = \frac{\text{number of task planned observations recorded in the reported period}}{\text{Average number of employees in the reported period}}$$

(Please see Chapters 6.0 and 10.0 in the User's Manual)

Year 2005			
Function	Number of companies that reported data related to this rate	Total reported hours worked (company ⁴) – in thousands	Hours worked utilized to calculate this rate (company ¹) – in thousands
E&P	6	118,288	24,838
Refining	6	86,112	9,955
Transport	4	12,507	2,712
Distribution	3	59,001	16,652
Others	4	53,628	5,071
Total	9	329,536	59,228

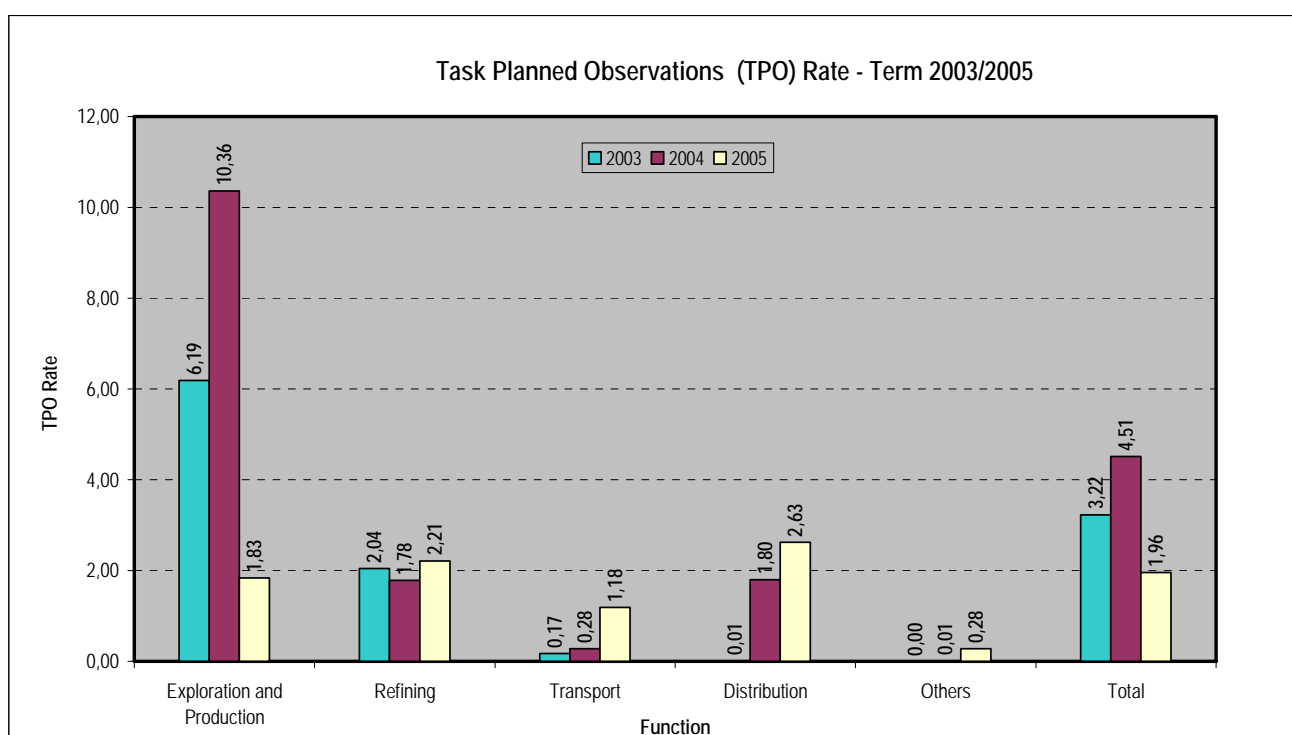


Figure 5.1

⁴ One company reported data consolidated for workers from the company and contractors. For this company, the total reported hours worked and those utilized to calculate this rate, are the sum of those of the company and those of contractors.

5.2 Safety training intensity rate

The safety training intensity rate (STI) is defined by the following formula:

$$\text{STI rate} = \frac{\text{Total hours of safety training provided in the reporting period}}{\text{Total recordable number of hours worked in the same period of time}} \times 100$$

(Please see Chapters 6.0 and 10.0 in the User's Manual)

Year 2005			
Function	Number of companies that reported data related to this rate	Total reported hours worked (company ⁵) – in thousands	Hours worked utilized to calculate this rate (company ²) – in thousands
E&P	8	261,295	101,411
Refining	8	184,208	47,023
Transport	5	26,916	25,854
Distribution	4	127,236	25,177
Others	6	118,440	53,942
Total	11	718,095	254,843

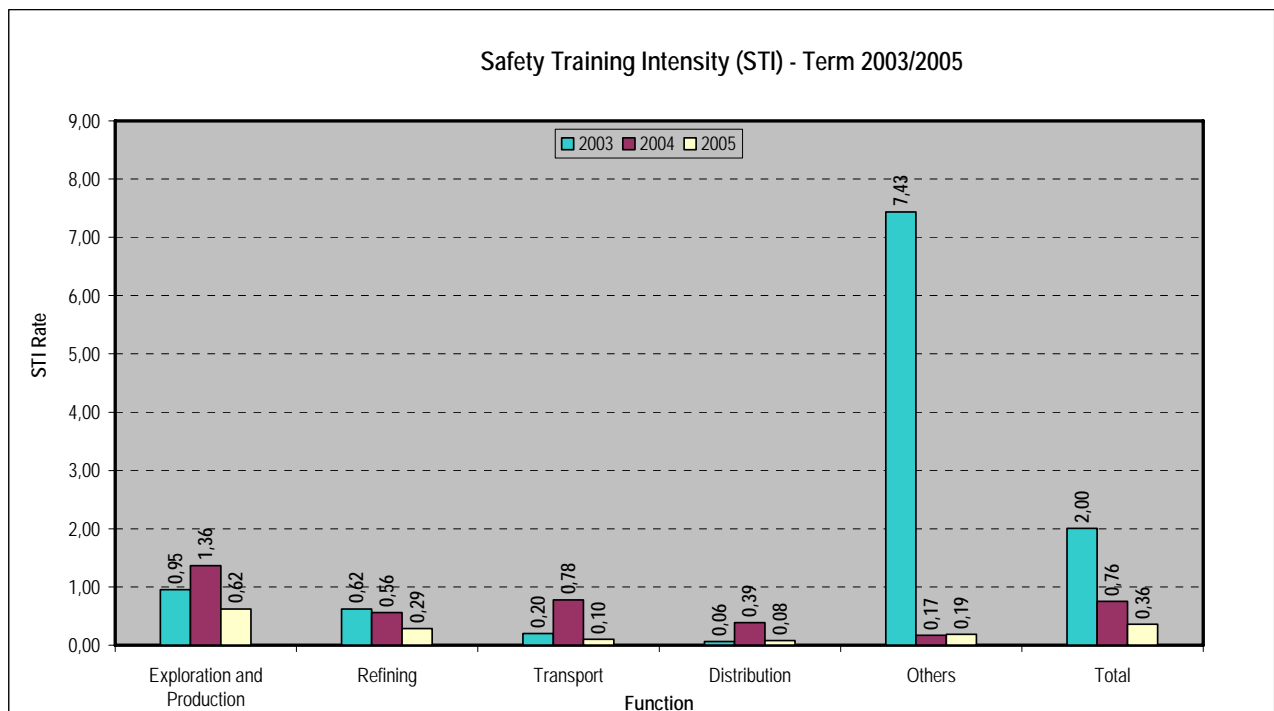


Figure 5.2

Figures 5.1 and 5.2 represent task planned observations and safety training intensity rates respectively for the term 2003 - 2005. The corresponding tabulated results are shown in APPENDIX A.

⁵ One company reported data consolidated for workers from the company and contractors. For this company, the total reported hours worked and those utilized to calculate this rate, are the sum of those of the company and those of contractors.

6.0 GLOSSARY OF TERMS ACCORDING TO ARPEL CRITERIA

a) Case involving days away from work

All nonfatal cases that result in the worker being away from work for at least one scheduled workday after the day of the injury or illness. The day on which the worker goes home before the finalization of his workday is not considered in this item. Fatalities, as well as the days of restricted labor activity are excluded, because they are recorded separately.

b) Case involving medical treatment

All treatment cases of injuries / illnesses managed by doctors, registered professionals or non-medical personnel. The medical treatment does not include first aids (one single treatment and the following observation of scratches, cuts, burns, splinters and other episodes without gravity that generally do not require medical attention) even if a doctor or a registered professional provides them.

c) Case involving restricted workdays

All non-fatal cases that imply days of restricted activity of his/her usual activities after the day of the injury or illness. Fatalities must be excluded.

d) Company worker

Any individual employed by the reporting company or included in its salary registration.

e) Contractor

Any individual directly involved in the execution of an assigned work for the reporting company, according to a contract.

f) Fatal incidents' rate

The total of fatalities by 200.000 hours worked (See formula 4 in APPENDIX C).

g) Hours worked

The hours worked by both the workers of the company and the contractors (recorded separately).

h) Incidents' frequency rate with lost workdays

The number of lost workdays cases by 200.000 hours worked. Cases of restricted workdays and Cases of Medical Treatment are not included. (See Formula 3 in APPENDIX C).

i) Incidents' gravity rate

The number of lost workdays per 200.000 hours worked. (See Formula 2 in APPENDIX C). Note that ARPEL definition of lost workdays includes all calendar days (including weekends and holidays). See also "number of days away from work" on item j.

j) Number of days away from work

The total number of days (consecutive or not) after the day of the injury or illness on which the workers involved (according to the definition of *case involving days away from work*) should have worked but didn't as a result of the occupational injury or illness, until the day they get back to work. The day the person starts working is excluded. **Weekends and holidays are included, even if the employee was not scheduled to work.**

k) Recordable case - fatality

A fatality resulting from an occupational injury or illness. The fatality should be loaded to the year in which the injury event occurred or the occupational illness was recorded.

l) Recordable case - illness

Any occupational incident resulting from an illness (according to the provided classification by the legislation/regulation [if applicable] of the country where the company reports its activities). Occupational illnesses resulting in fatalities are included.

m) Recordable case - injury

Any occupational incident resulting in an injury (according to the provided classification by the legislation/regulation [if applicable] of the country where the company reports its activities). Occupational injuries resulting in fatalities are included.

n) Recordable cases - total

The sum of recordable cases – injuries, recordable cases – illnesses, and recordable cases – fatalities.

o) Safety training intensity (STI)

The proportion of the total hours worked which were assigned to safety training activities in the reporting period.

p) Safety training intensity rate

The percentage cumulative safety training hours over the total number of hours worked in the reporting period. (See Formula 6 in APPENDIX C).

q) Task planned observations (TPO)

"Task planned observations" (TPO) are safety observations performed according to a systematic method. They constitute a recorded visual analysis in which the sequence of tasks, maneuvers and operations required to attain a pre-established result within the company is studied by well-trained and qualified personnel. This study includes hazard

identification and risk management during normal task performance, and comprises observations of immediate and basic aspects as well as systemic ones. Observations are recorded in a pre-established form according to a given procedure to determine all deviations that result in an increased probability of any material or human resources loss.

r) Task planned observations rate

The quotient between the number of task planned observations performed during the reporting year and the average number of workers in the same period. (See formula 5 in APPENDIX C).

s) Total incidents' rate

The total rate (Recordable cases) of occupational injuries, illnesses or fatalities by 200,000 hours worked. (See formula 1 in APPENDIX C).

t) Work relatedness

An injury or illness must be considered to be work-related if an event or exposure in the work environment either caused or contributed to the resulting condition or significantly aggravated a pre-existing injury or illness. Work-relatedness is presumed for injuries and illnesses resulting from events or exposures occurring in the work environment, defining the work environment as the establishment and other locations where one or more employees are working or are present as a condition of their employment. The work environment includes not only physical locations, but also the equipment or materials used by the employee during the course of his or her work.

7.0 REFERENCES AND BIBLIOGRAPHY

The following documents were utilized to develop this report:

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 2. "European Downstream Oil Industry Safety Performance - statistical summary of reported incidents - 1996". CONCAWE Safety Management. RA 1250, Report No. 4/97. Brussels. December 1997. 16 pages
 3. "Summary of U.S. Occupational Injuries, Illnesses, and Fatalities in the Petroleum Industry - 1996". American Petroleum Industry. API's Publication 2375. Washington, DF, September 1997. 46 pages
 4. "E&P Industry Safety Performance Accident Data - 1997". The Oil Industry International Exploration & Production Forum. Report No. 6.72/281. London, October 1998. 78 pages
 5. "Safety Performance of the Global E&P Industry - 1998". The Oil Industry International Exploration & Production Forum. Report No. 6.80/295. London, July 1999. 85 pages.
 6. ARPEL User's Manual - Statistics on Incidents in the Oil and Gas Industry in Latin America and the Caribbean - 4th Edition, 2004. ARPEL. Montevideo. 30 pages
 7. Occupational Safety and Health Administration - Regulations (Standards - 29CFR) - Determination of work relatedness -1904.5" - http://www.osha.gov/pls/oshaweb/owadisp.show_document?p_table=STANDARDS&p_id=9636.
 8. "OGP Safety Performance Indicators - 2005 data". Report No. 379. May, 2006. 108 pages.
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8.0 APPENDIX A

Tabulated results: totals for the companies, contractors, and combined

Please refer below for the tables with the data utilized to generate the corresponding graphic for each incidents' rate discussed in chapter 2.0, for the term 1997/2005.

Table 8.1: Tabulated results – total incidents' rate by functional unit (ARPEL, term: 1997-2005)

Function	Data Category	ARPEL 1997	ARPEL 1998	ARPEL 1999	ARPEL 2000	Weighted Average (1997-2000)	ARPEL 2001	ARPEL 2002	ARPEL 2003	ARPEL 2004	ARPEL 2005
E&P	Company	3,966	1,554	0,291	0,233	0,710	0,575	0,453	0,348	0,440	0,556
	Contractors	5,705	4,878	2,173	0,798	3,178	1,076	0,564	0,519	0,614	0,812
	Combined	5,058	2,701	0,695	0,446	1,410	0,954	0,520	0,456	0,556	0,725
Refining	Company	3,962	1,001	0,459	2,109	0,968	0,867	0,533	0,400	0,563	0,744
	Contractors	5,514	4,408	3,039	0,974	3,397	1,671	0,566	0,540	0,705	1,793
	Combined	4,645	1,559	0,758	1,950	1,408	1,274	0,543	0,442	0,607	1,117
Transport	Company	3,480	2,184	0,432	0,264	0,892	0,106	0,357	0,295	0,438	1,008
	Contractors	4,211	2,296	1,479	0,219	1,892	1,243	0,326	0,245	0,351	1,608
	Combined	3,777	2,207	0,517	0,253	1,078	0,195	0,344	0,271	0,391	1,434
Distribution	Company	3,797	1,099	0,136	2,003	0,759	3,171	0,928	0,873	0,523	0,405
	Contractors	n/a	1,781	0,438	0,497	0,862	0,373	0,441	0,398	0,288	0,453
	Combined	3,797	1,200	0,175	1,454	0,862	2,259	0,755	0,693	0,438	0,422
Others	Company	1,303	0,926	0,094	0,206	0,326	1,376	0,688	0,402	0,357	0,376
	Contractors	6,459	4,271	2,063	0,009	2,952	0,555	0,375	0,315	0,210	0,685
	Combined	4,210	2,509	0,348	0,112	1,056	0,864	0,488	0,344	0,264	0,587
Total	Company	3,439	1,288	0,265	1,064	0,729	1,064	0,557	0,433	0,470	0,562
	Contractors	5,751	4,335	2,200	0,542	3,008	1,092	0,497	0,439	0,476	0,908
	Combined	4,589	2,246	0,578	0,899	1,282	1,083	0,526	0,437	0,474	0,762

Table 8.2: Tabulated results – Incidents’ gravity rate by functional unit (ARPEL, term: 1997-2005)

Function	Data Category	ARPEL 1997	ARPEL 1998	ARPEL 1999	ARPEL 2000	Weighted Average (1997-2000)	ARPEL 2001	ARPEL 2002	ARPEL 2003	ARPEL 2004	ARPEL 2005
E&P	Company	43,98	106,65	13,44	41,69	35,85	29,28	14,73	17,53	42,55	36,18
	Contractors	96,35	35,16	47,90	12,21	45,69	58,80	69,87	41,28	14,60	56,02
	Combined	76,86	82,00	20,84	30,57	39,03	36,48	51,31	27,19	29,46	45,31
Refining	Company	29,16	47,55	24,13	17,46	27,76	16,30	19,94	23,63	52,44	52,60
	Contractors	63,32	190,14	65,84	6,33	85,79	125,29	92,68	67,85	105,02	126,19
	Combined	44,19	81,86	28,96	15,90	38,82	31,21	50,46	30,79	60,29	65,08
Transport	Company	139,86	70,19	13,42	18,53	31,21	8,81	13,29	10,89	37,07	42,82
	Contractors	175,03	328,86	240,20	1,63	206,36	0,00	2,04	5,23	5,90	6,79
	Combined	154,15	122,76	31,81	14,49	57,27	8,36	7,89	9,61	32,68	35,45
Distribution	Company	43,74	69,64	14,99	15,74	26,58	19,07	18,41	14,96	14,90	19,69
	Contractors	n/a	13,32	1,26	6,71	6,20	5,65	5,28	6,29	3,91	6,16
	Combined	43,74	61,29	13,24	12,45	25,19	17,17	14,02	12,35	12,42	17,59
Others	Company	12,16	16,53	1,45	6,15	5,40	11,95	16,01	12,47	14,02	11,69
	Contractors	143,52	176,43	132,04	0,00	119,88	8,06	149,93	41,28	2,76	16,68
	Combined	86,21	92,19	18,28	3,21	36,29	16,80	81,27	16,04	13,41	11,94
Total	Company	41,70	66,13	11,69	23,84	24,84	20,28	17,12	17,91	34,82	33,20
	Contractors	103,74	128,31	74,91	6,99	80,23	64,03	71,28	37,65	23,04	59,09
	Combined	72,56	85,68	21,92	18,51	38,24	30,19	45,77	23,66	31,48	40,40

Note: Table 8. 2: ARPEL includes weekends and holidays in the definition of number of days away from work

Table 8.3: Tabulated results – Incidents' frequency rate with lost workdays by functional unit (ARPEL, term: 1997-2005)

Function	Data Category	ARPEL 1997	ARPEL 1998	ARPEL 1999	ARPEL 2000	Weighted Average (1997-2000)	ARPEL 2001	ARPEL 2002	ARPEL 2003	ARPEL 2004	ARPEL 2005
E&P	Company	0,686	0,849	0,143	0,387	<i>0,333</i>	0,351	0,372	0,335	0,366	0,689
	Contractors	1,575	1,398	0,814	0,731	<i>1,072</i>	0,556	0,427	0,549	0,379	0,442
	Combined	1,244	1,038	0,287	0,517	<i>0,549</i>	0,448	0,402	0,419	0,374	0,499
Refining	Company	0,905	0,358	0,174	0,489	<i>0,289</i>	0,218	0,437	0,406	0,400	1,079
	Contractors	1,682	1,366	0,685	0,611	<i>1,008</i>	0,558	0,928	1,796	0,341	0,641
	Combined	1,247	0,601	0,233	0,506	<i>0,429</i>	0,267	0,536	0,608	0,381	0,858
Transport	Company	1,723	1,402	0,254	0,290	<i>0,547</i>	0,163	0,193	0,248	0,356	0,470
	Contractors	2,218	0,804	n/a	0,219	<i>0,998</i>	0,000	0,144	0,296	0,271	0,310
	Combined	1,924	1,281	0,254	0,273	<i>0,597</i>	0,141	0,184	0,255	0,310	0,437
Distribution	Company	1,208	0,547	0,116	1,528	<i>0,444</i>	2,358	0,818	0,823	0,401	0,484
	Contractors	n/a	0,925	0,219	0,314	<i>0,457</i>	0,268	0,299	0,320	0,201	0,189
	Combined	1,208	0,603	0,129	1,086	<i>0,453</i>	1,966	0,637	0,658	0,328	0,327
Others	Company	0,416	0,419	0,045	0,345	<i>0,173</i>	0,551	0,530	0,351	0,300	0,330
	Contractors	1,742	1,465	0,558	0,486	<i>0,970</i>	0,704	0,324	1,184	0,210	0,170
	Combined	1,163	0,914	0,111	0,412	<i>0,401</i>	0,629	0,452	0,414	0,242	0,248
Total	Company	0,874	0,643	0,124	0,534	<i>0,314</i>	0,595	0,455	0,411	0,368	0,637
	Contractors	1,671	1,364	0,719	0,563	<i>1,010</i>	0,557	0,452	0,678	0,311	0,390
	Combined	1,270	0,869	0,220	0,543	<i>0,483</i>	0,581	0,454	0,482	0,336	0,480

Table 8.4: Tabulated results – Fatal incidents' rate by functional unit (ARPEL, term: 1997-2005)

Function	Data Category	ARPEL 1997	ARPEL 1998	ARPEL 1999	ARPEL 2000	Weighted Average (1997-2000)	ARPEL 2001	ARPEL 2002	ARPEL 2003	ARPEL 2004	ARPEL 2005
E&P	Company	0,009	0,016	0,001	0,015	<i>0,006</i>	0,016	0,006	0,005	0,006	0,006
	Contractors	0,027	0,021	0,051	0,013	<i>0,032</i>	0,018	0,014	0,019	0,014	0,008
	Combined	0,020	0,017	0,012	0,014	<i>0,014</i>	0,018	0,011	0,014	0,011	0,007
Refining	Company	0,000	0,009	0,005	0,003	<i>0,005</i>	0,003	0,006	0,005	0,005	0,012
	Contractors	0,006	0,046	0,013	0,019	<i>0,022</i>	0,030	0,030	0,018	0,008	0,015
	Combined	0,003	0,018	0,006	0,005	<i>0,008</i>	0,010	0,013	0,009	0,006	0,013
Transport	Company	0,017	0,017	0,000	0,005	<i>0,005</i>	0,000	0,003	0,004	0,008	0,000
	Contractors	0,025	0,050	0,058	0,067	<i>0,052</i>	0,079	0,013	0,011	0,011	0,008
	Combined	0,020	0,024	0,005	0,020	<i>0,012</i>	0,011	0,008	0,007	0,010	0,005
Distribution	Company	0,000	0,024	0,000	0,005	<i>0,005</i>	0,005	0,005	0,005	0,002	0,003
	Contractors	n/a	0,185	0,082	0,000	<i>0,095</i>	0,017	0,010	0,023	0,017	0,049
	Combined	0,000	0,048	0,010	0,003	<i>0,016</i>	0,007	0,007	0,012	0,007	0,020
Others	Company	0,000	0,002	0,000	0,000	<i>0,000</i>	0,007	0,003	0,000	0,002	0,000
	Contractors	0,024	0,025	0,021	0,009	<i>0,020</i>	0,010	0,011	0,008	0,004	0,009
	Combined	0,013	0,013	0,003	0,004	<i>0,006</i>	0,009	0,008	0,006	0,003	0,006
Total	Company	0,004	0,012	0,001	0,007	<i>0,004</i>	0,009	0,005	0,004	0,004	0,006
	Contractors	0,021	0,035	0,040	0,015	<i>0,031</i>	0,019	0,015	0,016	0,011	0,012
	Combined	0,013	0,019	0,008	0,009	<i>0,011</i>	0,013	0,010	0,011	0,008	0,009

Tabulated results: Offshore Activities for the companies, contractors, and combined

Please refer below for the tables with the data utilized to generate the corresponding graphic for each incidents' rate discussed in chapter 3.0, for the term 1997/2005.

Table 8.5: Tabulated results: Offshore Activities – Incidents' rates by functional unit (ARPEL, term: 1997-2005)

Function	Data Category	1						2					
		Total Incidents' Rate						Incidents' Gravity Rate					
		ARPEL 1998	ARPEL 1999	ARPEL 2002	ARPEL 2003	ARPEL 2004	ARPEL 2005	ARPEL 1998	ARPEL 1999	ARPEL 2002	ARPEL 2003	ARPEL 2004	ARPEL 2005
E&P	Company	1,196	0,559	0,408	0,405	0,595	0,640	53,96	15,35	22,48	22,84	25,30	20,65
	Contractors	9,241	1,137	0,472	0,291	0,679	0,670	n/a	13,90	10,18	2,26	2,12	16,21
	Combined	1,252	0,821	0,444	0,346	0,623	0,653	53,96	14,69	17,16	22,05	24,49	19,47
Total	Company	1,196	0,559	0,408	0,405	0,595	0,640	53,96	15,35	22,48	22,84	25,30	20,65
	Contractors	9,241	1,137	0,472	0,291	0,679	0,670	n/a	13,90	10,18	2,26	2,12	16,21
	Combined	1,252	0,821	0,444	0,346	0,623	0,653	53,96	14,69	17,16	22,05	24,49	19,47

Function	Data Category	3						4					
		Incidents' Frequency Rate with Lost Workdays						Fatal Incidents' Rate					
		ARPEL 1998	ARPEL 1999	ARPEL 2002	ARPEL 2003	ARPEL 2004	ARPEL 2005	ARPEL 1998	ARPEL 1999	ARPEL 2002	ARPEL 2003	ARPEL 2004	ARPEL 2005
E&P	Company	1,186	0,373	0,348	0,393	0,65	1,49	0,005	n/a	n/a	0,012	0,004	0,000
	Contractors	9,241	0,674	0,402	0,205	0,54	0,57	0,000	0,093	0,010	0,019	0,034	0,009
	Combined	1,243	0,509	0,379	0,386	0,61	0,92	0,005	0,093	0,010	0,016	0,014	0,004
Total	Company	1,186	0,373	0,348	0,393	0,65	1,49	0,005	n/a	n/a	0,012	0,004	0,000
	Contractors	9,241	0,674	0,402	0,205	0,54	0,57	0,000	0,093	0,010	0,019	0,034	0,009
	Combined	1,243	0,509	0,379	0,386	0,61	0,92	0,005	0,093	0,010	0,016	0,014	0,004

Note: Item 2: ARPEL includes weekends and holidays in the definition of number of days away from work.

Table 8.6: *Tabulated results: Task planned observations rate by functional unit for companies (ARPEL, 2003/2005)*

Functional Unit	TPO incidence rate 2003	TPO incidence rate 2004	TPO incidence rate 2005
Exploration and Production	6,19	10,36	1,83
Refining	2,04	1,78	2,21
Transport	0,17	0,28	1,18
Distribution	0,01	1,80	2,63
Others	0,00	0,01	0,28
Total	3,22	4,51	1,96

Note: One company reported consolidated data for company and contractors.

Table 8.7: *Tabulated results: Safety training intensity rate by functional unit for companies (ARPEL, 2003/2005)*

Functional Unit	STI incidence rate ARPEL 2003	STI incidence rate ARPEL 2004	STI incidence rate ARPEL 2005
Exploration and Production	0,95	1,36	0,62
Refining	0,62	0,56	0,29
Transport	0,20	0,78	0,10
Distribution	0,06	0,39	0,08
Others	7,43	0,17	0,19
Total	2,00	0,76	0,36

Note: One company reported consolidated data for company and contractors.

9.0 APPENDIX B

9.1 Data regarding ARPEL Member Companies: Totals for companies

This table gathers all the information from the ARPEL Member Companies that reported data for the year 2005. Indicators utilized in the incidents' rates are calculated.

Table 9.1: Data regarding ARPEL Member Companies - Totals for companies (including offshore activities); data for the year 2005

1 Function	2 Key ¹ Average Number of Employees	3 Hours Worked (Thousands)	4 Recordable Cases				5 Extent and outcome of injuries and illnesses				6 Incidence Rates				
			a	b	c	d	e	f	g	h	i	j	k	l	
			Injuries	Illnesses	Fatalities	Total	Cases of:			Number of days away from work	Total	Gravity	Frequency with Lost Workdays	Fatalities	
							Restricted Workdays	Lost Workdays	Medical Treatment						
E&P	1	99.746	210.182	534	44	6	584	0	289	128	36.834	0,556	36,18	0,689	0,006
Refining	2	81.912	174.488	637	2	10	649	7	285	191	44.152	0,744	52,60	1,079	0,012
Transport	3	11.013	23.996	119	2	0	121	1	53	7	4.832	1,008	42,82	0,470	0,000
Distribution	4	57.604	124.492	250	0	2	252	21	130	98	12.256	0,405	19,69	0,484	0,003
Others	5	52.530	115.395	217	0	0	217	1	85	16	6.510	0,376	11,69	0,330	0,000
Total		302.805	648.553	1.757	48	18	1.823	30	842	440	104.584	0,562	33,20	0,637	0,006

Notes:

- Item 5(h) (number of days away from work) includes all calendar days (including weekends and holidays).
- ¹Defined passwords within the ARPEL User's Manual, 4th Edition, 2004.
- Because many companies reported incomplete data which could not be used to calculate all the incidents rates, it's only possible to calculate each rate from the corresponding hours worked, which don't necessarily match the value in column 3 (total reported). For that reason, it's impossible to obtain each rate's real value by applying the corresponding formula to data in tables 9.1 to 9.4 directly. For example, suppose company "A" reported 10,000 total hours worked (that are included in column 3 of tables 9.1 to 9.4) but suppose it didn't report data to calculate the Incidents' gravity rate. Then, the 10,000 hours cannot be used to calculate this rate (that company could not be considered to calculate the Incidents' gravity rate and the hours worked this company reported were not considered when calculating this rate).
- Recordable cases (column 4): The total doesn't necessarily match the sum of "Injuries" + "Illnesses" + "Fatalities" because some companies reported the total recordable cases without the corresponding splitting among Injuries, Illnesses and Fatalities. For that reason, in those cases the Total value can be greater than the sum of "Injuries" + "Illnesses" + "Fatalities".

9.2 Data regarding contractors of ARPEL Member Companies: Totals for contractors

This table gathers all the information from the contractors of the ARPEL Member Companies that reported data for the year 2005. Indicators utilized in the incidents' rates are calculated.

Table 9.2: Data regarding contractors of ARPEL Member Companies - Totals for contractors (including offshore activities); data for the year 2005

1 Function	2 Key ¹ Average Number of Employees	3 Hours Worked (Thousands)	4 Recordable Cases				5 Extent and outcome of injuries and illnesses				6 Incidence Rates				
			a	b	c	d	e	f	g	h	i	j	k	l	
			Injuries	Illnesses	Fatalities	Total	Cases of:			Number of days away from work	Total	Gravity	Frequency with Lost Workdays	Fatalities	
							Restricted Workdays	Lost Workdays	Medical Treatment						
E&P	1	151.019	410.381	1.649	0	17	1.666	82	613	435	48.677	0,812	56,02	0,442	0,008
Refining	2	39.315	96.240	856	0	7	863	8	172	199	21.626	1,793	126,19	0,641	0,015
Transport	3	26.706	58.444	468	0	2	470	5	9	4	197	1,608	6,79	0,310	0,008
Distribution	4	14.639	68.846	139	0	17	156	5	58	23	704	0,453	6,16	0,189	0,049
Others	5	90.174	246.687	834	0	11	845	4	46	5	499	0,685	16,68	0,170	0,009
Total		321.853	880.597	3.946	0	54	4.000	104	898	666	71.703	0,908	59,09	0,390	0,012

Notes:

- Item 5(h) (number of days away from work) includes all calendar days (including weekends and holidays).
- ¹Defined passwords within the ARPEL User's Manual, 4th Edition, 2004.
- Because many companies reported incomplete data which could not be used to calculate all the incidents rates, it's only possible to calculate each rate from the corresponding hours worked, which don't necessarily match the value in column 3 (total reported). For that reason, it's impossible to obtain each rate's real value by applying the corresponding formula to data in tables 9.1 to 9.4 directly. For example, suppose company "A" reported 10,000 total hours worked (that are included in column 3 of tables 9.1 to 9.4) but suppose it didn't report data to calculate the Incidents' gravity rate. Then, the 10,000 hours cannot be used to calculate this rate (that company could not be considered to calculate the Incidents' gravity rate and the hours worked this company reported were not considered when calculating this rate).
- Recordable cases (column 4): The total doesn't necessarily match the sum of "Injuries" + "Illnesses" + "Fatalities" because some companies reported the total recordable cases without the corresponding splitting among Injuries, Illnesses and Fatalities. For that reason, in those cases the Total value can be greater than the sum of "Injuries" + "Illnesses" + "Fatalities".

9.3 Data regarding ARPEL Member Companies: Offshore activities

This table gathers all the information about offshore activities from the ARPEL Member Companies that reported data for the year 2005. Indicators utilized in the incidents' rates are calculated.

Table 9.3: Data regarding ARPEL Member Companies: Offshore activities; data for the year 2005

1 Function	2 Key ¹ Average Number of Employees	3 Hours Worked (Thousands)	4 Recordable Cases				5 Extent and outcome of injuries and illnesses				6 Incidence Rates				
			a	b	c	d	e	f	g	h	i	j	k	l	
			Injuries	Illnesses	Fatalities	Total	Cases of:			Number of days away from work	Total	Gravity	Frequency with Lost Workdays	Fatalities	
E&P	1	9.200	44.751	148	0	2	150	0	58						35
Total		9.200	44.751	148	0	2	150	0	58	35	1.647	0,670	16,21	0,571	0,009

Notes:

- Item 5(h) (number of days away from work) includes all calendar days (including weekends and holidays).
- ¹Defined passwords within the ARPEL User's Manual, 4th Edition, 2004.
- Because many companies reported incomplete data which could not be used to calculate all the incidents rates, it's only possible to calculate each rate from the corresponding hours worked, which don't necessarily match the value in column 3 (total reported). For that reason, it's impossible to obtain each rate's real value by applying the corresponding formula to data in tables 9.1 to 9.4 directly. For example, suppose company "A" reported 10,000 total hours worked (that are included in column 3 of tables 9.1 to 9.4) but suppose it didn't report data to calculate the Incidents' gravity rate. Then, the 10,000 hours cannot be used to calculate this rate (that company could not be considered to calculate the Incidents' gravity rate and the hours worked this company reported were not considered when calculating this rate).
 - Recordable cases (column 4): The total doesn't necessarily match the sum of "Injuries" + "Illnesses" + "Fatalities" because some companies reported the total recordable cases without the corresponding splitting among Injuries, Illnesses and Fatalities. For that reason, in those cases the Total value can be greater than the sum of "Injuries" + "Illnesses" + "Fatalities".

9.4 Data regarding contractors of the ARPEL Member Companies: Offshore activities

This table gathers all the information about offshore activities from the contractors of the ARPEL Member Companies that reported data for the year 2005. Indicators utilized in the incidents' rates are calculated

Table 9.4: Data regarding contractors of the ARPEL Member Companies: Offshore activities; data for the year 2005

1 Function	2 Key ¹ Average Number of Employees	3 Hours Worked (Thousands)	4 Recordable Cases				5 Extent and outcome of injuries and illnesses				6 Incidence Rates				
			a	b	c	d	e	f	g	h	i	j	k	l	
			Injuries	Illnesses	Fatalities	Total	Cases of:			Number of days away from work	Total	Gravity	Frequency with Lost Workdays	Fatalities	
E&P	1	27.647	56.560	179	3	0	181	0	91						40
Total		27.647	56.560	179	3	0	181	0	91	40	5.839	0,640	20,65	1,489	0,000

Notes:

- Item 5(h) (number of days away from work) includes all calendar days (including weekends and holidays).
- ¹Defined passwords within the ARPEL User's Manual, 4th Edition, 2004.
- Because many companies reported incomplete data which could not be used to calculate all the incidents rates, it's only possible to calculate each rate from the corresponding hours worked, which don't necessarily match the value in column 3 (total reported). For that reason, it's impossible to obtain each rate's real value by applying the corresponding formula to data in tables 9.1 to 9.4 directly. For example, suppose company "A" reported 10,000 total hours worked (that are included in column 3 of tables 9.1 to 9.4) but suppose it didn't report data to calculate the incidents' gravity rate. Then, the 10,000 hours cannot be used to calculate this rate (that company could not be considered to calculate the incidents' gravity rate and the hours worked this company reported were not considered when calculating this rate).
- Recordable cases (column 4): The total doesn't necessarily match the sum of "Injuries" + "Illnesses" + "Fatalities" because some companies reported the total recordable cases without the corresponding splitting among Injuries, Illnesses and Fatalities. For that reason, in those cases the Total value can be greater than the sum of "Injuries" + "Illnesses" + "Fatalities".

10.0 APPENDIX C

Formulas to calculate incidence rates

Following are shown the formulas utilized to calculate each one of the incidents' rate indicators.

1. Total incidents' rate

$$= \frac{\text{Column4}(d) * 200}{\text{Column3}}$$

Where:

Column 4(d) = total recordable cases

Column 3 = hours worked (in thousands)

2. Incidents' gravity rate

$$= \frac{\text{Column5}(h) * 200}{\text{Column3}}$$

Where:

Column 5(h) = number of days away from work

Column 3 = hours worked (in thousands)

Note: The ARPEL definition of Column 5(h) includes all calendar days (including weekends and holidays).
The API definition of Column 5(h) excludes weekends and holidays, unless the employee has been to work.

3. Incidents' frequency rate with lost workdays

$$= \frac{\text{Column5}(f) * 200}{\text{Column3}}$$

Where:

Column 5(f) = cases of lost workdays.

Column 3 = hours worked (in thousands)

4. Fatal incidents' rate

$$= \frac{\text{Column4}(c) * 200}{\text{Column3}}$$

Where:

Column 4(c) = number of fatalities

Column 3 = hours worked (in thousands)

5. Task planned observations rate

$$= \frac{\text{Column2}(a)}{\text{Column2}(b)}$$

Where:

Column 2(a) = number of task planned observations (cumulative)

Column 2(b) = average number of workers (company)

6. Safety training intensity rate

$$= \left[\frac{\text{Column3}(d)}{\text{Column3}(e) * 1000} \right] * 100$$

Where:

Column 3(d) = Safety training hours (cumulative)

Column 2(b) = hours worked (in thousands)