



**OCCUPATIONAL HEALTH  
STATISTICS IN THE OIL AND GAS  
INDUSTRY IN LATIN AMERICA  
AND THE CARIBBEAN**

***ARPEL MEMBER COMPANIES  
STATISTICS FOR THE YEAR 2004***



ARPEL REPORT

OCCUPATIONAL HEALTH STATISTICS IN THE OIL  
AND GAS INDUSTRY IN LATIN AMERICA AND THE  
CARIBBEAN

ARPEL MEMBER COMPANIES STATISTICS FOR  
THE YEAR 2004

**Author**

Irene Alfaro, Chem. Eng.

*ARPEL, March 2006*

**Occupational Health and Safety ARPEL Report N° 21-2006**

*Occupational health statistics in the oil and gas industry in Latin America and the Caribbean – ARPEL Member Companies statistics for the year 2004*

March 2006

Regional Association of Oil and Natural Gas Companies in Latin America and the Caribbean - ARPEL

Javier de Viana 2345 - Zip Code 11200 Montevideo, URUGUAY.

Phone: (598-2) 410 69 93

Fax: (598-2) 410 92 07

E-mail: [arpel@arpel.org.uy](mailto:arpel@arpel.org.uy)

<http://www.arpel.org>

**Authors**

This Report was prepared upon request of ARPEL and its Environment, Health and Safety Committee by:

**Irene Alfaro, Chem. Eng.**

ARPEL Projects Manager

Javier de Viana 2345

Montevideo - Uruguay

Phone: (598-2) 410 69 93 ext. 139

E-Mail: [arpel@arpel.org.uy](mailto:arpel@arpel.org.uy)

The ARPEL Occupational Health and Safety Working Group assisted in detailed drafting and revision.

**Reviewers**

|                 |           |
|-----------------|-----------|
| Pablo Neerman   | ANCAP     |
| Sergio Rossato  | PETROBRAS |
| Julio Piscocoya | PETROPERÚ |

**Copyright**

ARPEL has the author's rights of this document. Each copy, photocopy, reproduction, translation or reduction to any electronic means or machine-readable form of this document, total or partial, must have an explicit acknowledgement of the source (ARPEL).

**Disclaimer**

Whilst every effort has been made to ensure the accuracy of the information contained in this publication, neither ARPEL, nor any of its members will assume liability for any use made thereof.



## TABLE OF CONTENTS

|     |   |    |
|-----|---|----|
| 1.0 | EXECUTIVE SUMMARY .....   | 4  |
| 2.0 | ARPEL STATISTICS SUMMARY .....  | 6  |
| 2.1 | <i>Total occupational illnesses' rate (by functional unit and category); data for the year 2004.....</i>                        | 7  |
| 2.2 | <i>Occupational illnesses' gravity rate (by functional unit and category); data for the year 2004.....</i>                      | 9  |
| 2.3 | <i>Occupational illnesses' frequency rate with lost workdays (by functional unit and category); data for the year 2004.....</i> | 10 |
| 2.4 | <i>Permanent disabilities' rate (by functional unit and category); data for the year 2004 .....</i>                             | 11 |
| 2.5 | <i>Fatal occupational illnesses' rate (by functional unit, and category); data for the year 2004...</i>                         | 12 |
| 3.0 | OFFSHORE ACTIVITIES .....   | 13 |
| 4.0 | GLOSSARY OF TERMS ACCORDING TO ARPEL CRITERIA .....   | 14 |
| 5.0 | REFERENCES AND BIBLIOGRAPHY .....   | 17 |
| 6.0 | APPENDIX A.....   | 18 |
| 6.1 | <i>Data regarding ARPEL Member Companies: Company totals.....</i>   | 18 |
| 6.2 | <i>Data regarding contractors of ARPEL Member Companies: Contractors total.....</i>   | 21 |
| 7.0 | APPENDIX B.....   | 24 |



## LIST OF FIGURES

|               |   |    |
|---------------|---|----|
| Figure 2.1.1: | Occupational illnesses' rate (by functional unit); Data for the year 2004.....  | 7  |
| Figure 2.1.2: | Occupational illnesses' total rate (by Category) – Combined Data - All functions -<br>Year 2004 .....                       | 7  |
| Figure 2.2.1: | Occupational illnesses' gravity rate (by functional unit); data for the year 2004.....                                      | 9  |
| Figure 2.2.2: | Occupational illnesses' gravity rate (by category) - Combined Data, all functions -<br>Year 2004 .....                      | 9  |
| Figure 2.3.1: | Occupational illnesses' frequency rate with lost workdays (by functional unit); data<br>for the year 2004 .....             | 10 |
| Figure 2.3.2: | Occupational illnesses' frequency rate with lost workdays (by category) -<br>Combined Data, all functions – year 2004 ..... | 10 |
| Figure 2.4.1: | Permanent disabilities' rate (by functional unit); data for the year 2004.....  | 11 |
| Figure 2.4.2: | Permanent disabilities' rate (by category) – Combined Data – all functions – year<br>2004.....                              | 11 |

## LIST OF TABLES

|              |  |    |
|--------------|--|----|
| Table 2.1:   | List of the companies that answered to the 2004 study on Occupational Health<br>Statistics in the oil and gas industry in Latin America and the Caribbean. ....  | 6  |
| Table 6.1.1: | Data regarding ARPEL Member Companies –Company totals (including offshore<br>activities) – Function E&P; data for the year 2004. ....                            | 18 |
| Table 6.1.2: | Data regarding ARPEL Member Companies –Company totals (including offshore<br>activities) – Function Refining; data for the year 2004. ....                       | 18 |
| Table 6.1.3: | Data regarding ARPEL Member Companies –Company totals (including offshore<br>activities) – Function Transport; data for the year 2004. ....                      | 19 |
| Table 6.1.4: | Data regarding ARPEL Member Companies –Company totals (including off shore<br>activities) – Function Distribution; data for the year 2004.....                   | 19 |
| Table 6.1.5: | Data regarding ARPEL Member Companies –Company totals (including off shore<br>activities) – Function Others; data for the year 2004.....                         | 20 |
| Table 6.1.6: | Data regarding ARPEL Member Companies –Company totals (including offshore<br>activities) – All functions; data for the year 2004.....                            | 20 |
| Table 6.2.1: | Data regarding contractors of ARPEL Member Companies – Contractors totals<br>(including offshore activities) - Function E&P; data for the year de 2004.....      | 21 |
| Table 6.2.2: | Data regarding contractors of ARPEL Member Companies – Contractors totals<br>(including offshore activities) - Function Refining; data for the year de 2004..... | 21 |
| Table 6.2.3: | Data regarding contractors of ARPEL Member Companies – Contractors total<br>(including offshore activities) - Function Transport; data for the year de 2004..... | 22 |



|              |   |    |
|--------------|---|----|
| Table 6.2.4: | Data regarding contractors of ARPEL Member Companies – Contractors total (including offshore activities) - Function Distribution; data for the year de 2004. .... | 22 |
| Table 6.2.5: | Data regarding contractors of ARPEL Member Companies – Contractors total (including offshore activities) - Function Others; data for the year de 2004. ....       | 23 |
| Table 6.2.6: | Data regarding contractors of ARPEL Member Companies – Contractors total (including offshore activities) – All functions; data for the year de 2004.....          | 23 |



## 1.0 EXECUTIVE SUMMARY

The ARPEL Occupational Health and Safety Working Group focuses in compiling information on occupational injuries, illnesses, and fatalities in the oil industry in Latin America and the Caribbean since 1997.

This Group decides to enlarge the studies done so far by also compiling statistics specific to Occupational Health in order to deeply analyze information on this regard. This first report intends to analyze occupational health issues in the oil industry for participating ARPEL Member Companies, for the year 2004.

This report analyzes five reactive indicators considering the total number of occupational illnesses, their gravity and frequency, permanent disabilities and fatal occupational illnesses. Data regarding workers of the companies was compiled separately from data regarding contractors, and a "combined" result is provided as well. All main sectors of the oil industry are included, gathered within five categories: Exploration and Production, Refining, Transport, Distribution and Others.

Selected results:

- Total reported Hours Worked (in thousands) in this report rises to 34,775, considering both companies and contractors, and belongs to 5 Member Companies.
- The Total Occupational Illnesses' Rate (for all functional units) for companies and contractors combined was of 1.075 occupational illnesses by 200,000 hours worked (Companies alone: 2.231. Contractors alone: 0.065). The functional unit with the largest number of occupational illnesses was "Distribution" for workers of the Companies, with 5.766 occupational illnesses by 200,000 hours worked.
- The occupational illness that had the largest Total Occupational Illnesses' Rate (for all functional units), for companies and contractors combined, was muscle-skeletal disorders and traumas, with 0.782 occupational illnesses by 200,000 hours worked. It represented 72% of the total registered occupational illnesses.
- On average for all the functional units, the workers of the Companies lost 33.31 days by 200,000 hours worked, compared to 0.02 days lost by Contractors. The function that lost the largest number of days was "Distribution", for workers of the Company, with 141.98 days lost by 200,000 hours worked.
- The muscle-skeletal disorders and traumas was the occupational illness that causes the largest number of workdays lost (for all functional units), for companies and contractors combined, with 15.06 days lost by 200,000 hours worked. It was the cause of 98% of the total workdays lost.
- The occupational illnesses' frequency rate with lost workdays for all the functional units for the Combined result (Company and Contractors), corresponds to 0.834 lost workdays cases by 200,000 hours. (Companies only: 1.762. Contractors only: 0.022).
- The occupational illness that causes the largest number of lost workdays (for all functional units) for the workers of the company and contractor combined was the muscle-skeletal disorders and traumas, with 0.753 cases of lost workdays by 200,000 hours worked. It was the cause of 91% of the total workdays lost.
- Permanent disabilities were only registered in "Refining". On average for all the functional units, Contractors registered 0.022 permanent disabilities by 200,000 hours worked, meanwhile the company workers registered 0,012 permanent disabilities by 200,000 hours





- worked.
- The permanent disabilities registered were caused by Intoxications in 67% and by muscle-skeletal disorders and traumas in 33%.
  - Fatalities due to Occupational illnesses were not registered in the year 2004.



## 2.0 ARPEL STATISTICS SUMMARY

This report represents the first annual compilation related to occupational illnesses, for companies of the oil industry in Latin America and Caribbean. Five Member Companies of the Regional Association of Oil and Natural Gas Companies in Latin America and the Caribbean (ARPEL) reported data. Two of them reported data about Contractors.

Unless the contrary is specified, all rates are reported as "incidents by 200,000 hours worked". In order to make a brief report only a numeric value is provide and units are as mentioned.

*Table 2.1: List of the companies that answered to the 2004 study on Occupational Health Statistics in the oil and gas industry in Latin America and the Caribbean.*

|            |                     |
|------------|---------------------|
| ANCAP      | Pan American Energy |
| PETROPERU  | PETROTRIN           |
| STAATSOLIE |                     |

The definitions for the functions utilized in the figures of the following chapters correspond to the ARPEL User's Manual, 1<sup>st</sup> Edition (2005).

*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 occupational illnesses' rate (by functional unit and category); data for the year 2004**

The Total occupational illnesses' rate is defined through the following formula:

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

(Please see Chapter 6.0 and 8.0 in the User's Manual)

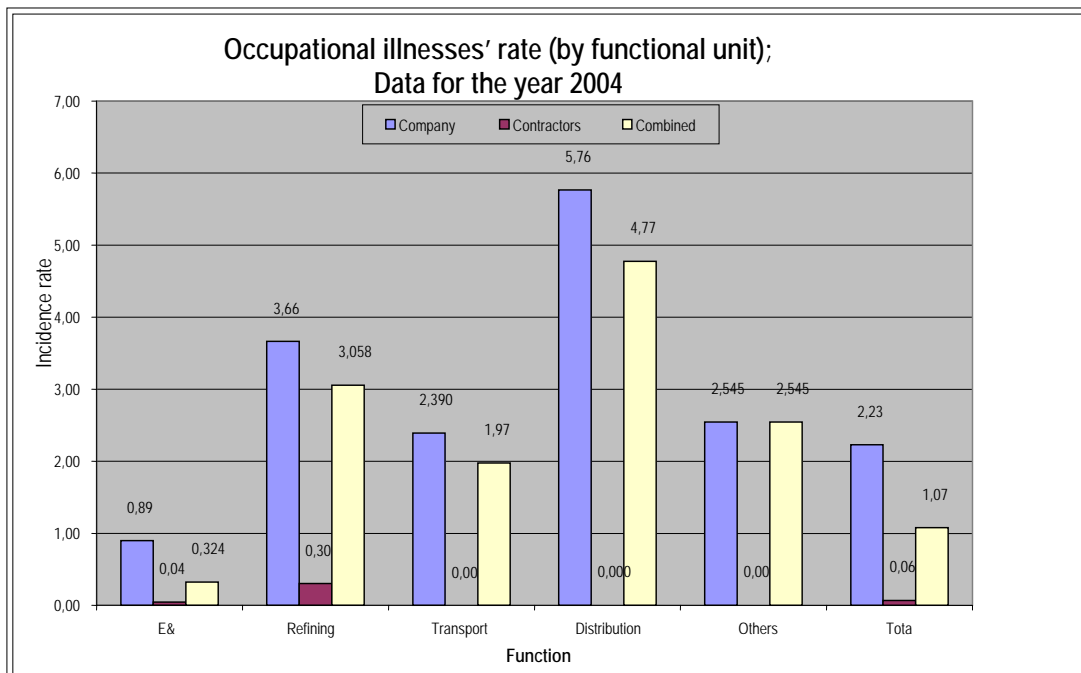


Figure 2.1.1

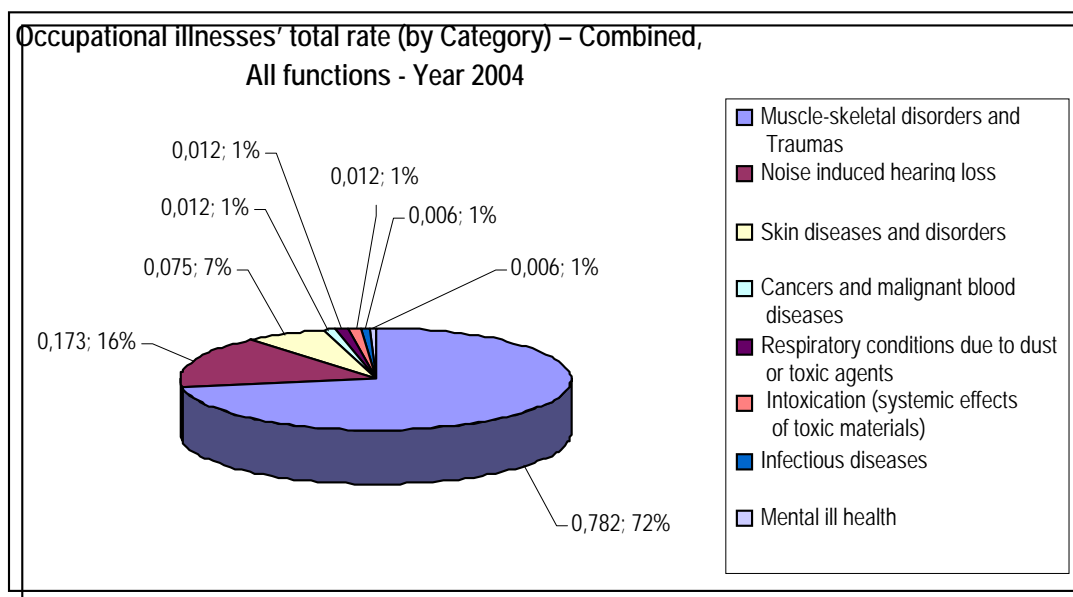


Figure 2.1.2



The tabulated results are in the APPENDIX A.



**2.2 Occupational illnesses' gravity rate (by functional unit and category); data for the year 2004**

The occupational illnesses' gravity rate is defined by the following formula:

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

(Please see Chapters 6.0 and 8.0 in the User's Manual)

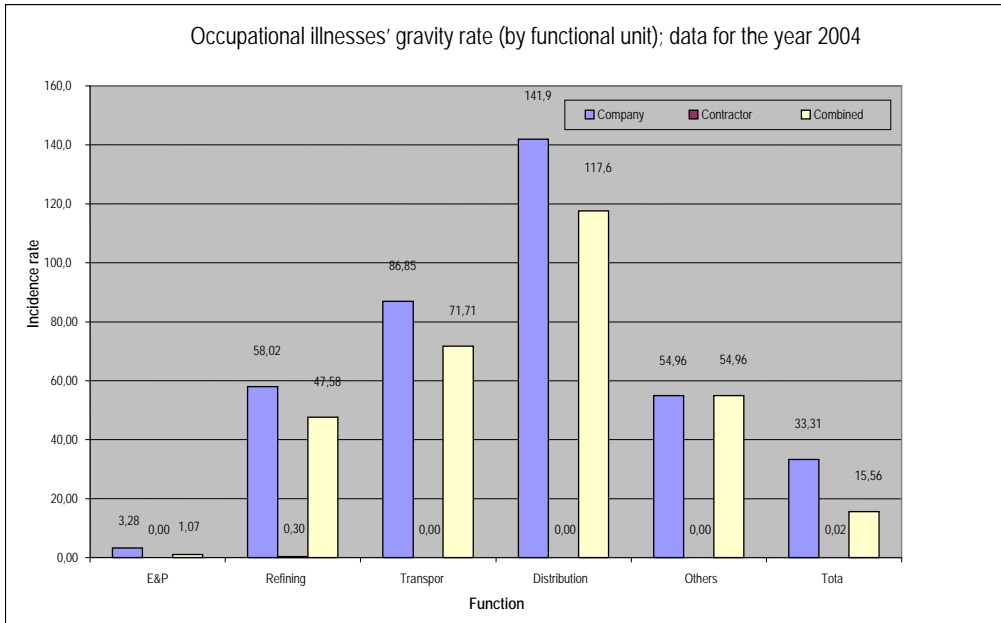


Figure 2.2.1

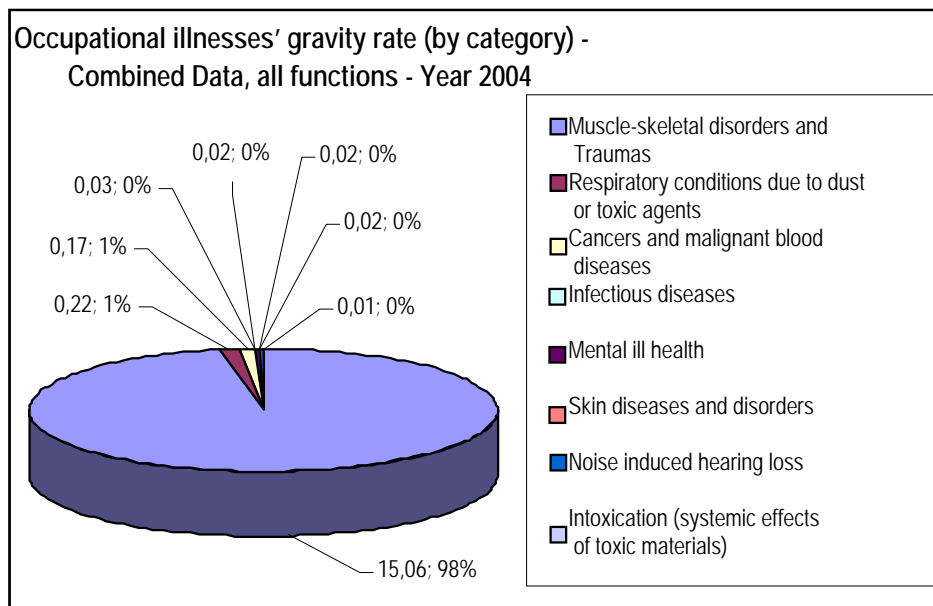


Figure 2.2.2

The tabulated results are in the APPENDIX A



**2.3 Occupational illnesses' frequency rate with lost workdays (by functional unit and category); data for the year 2004**

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

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

(Please see Chapters 6.0 and 8.0 in the User's Manual)

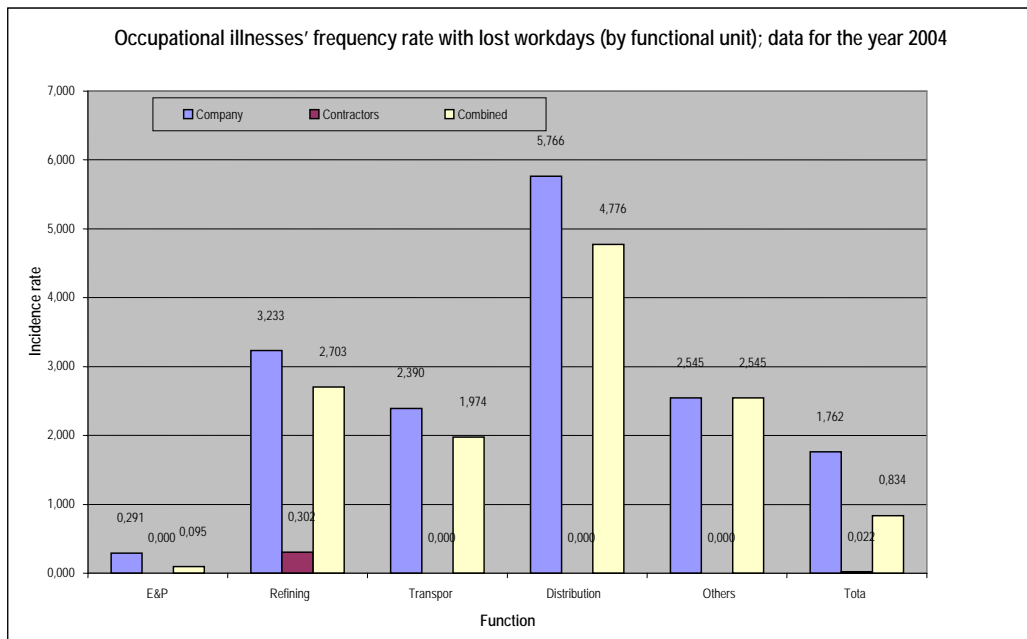


Figure 2.3.1

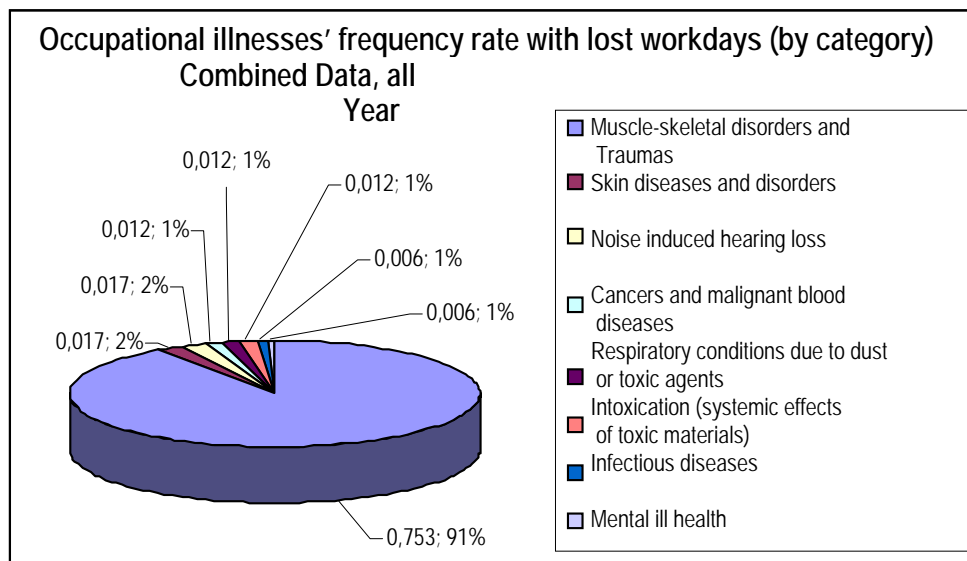


Figure 2.3.2

The tabulated results are in the APPENDIX A



**2.4 Permanent disabilities' rate (by functional unit and category); data for the year 2004**

The Permanent disabilities' rate is defined through the following formula:

$$\text{Permanent disabilities' rate} = \frac{\text{Cases involving days away from work} \times 200}{\text{Thousand hours worked}}$$

(Please see Chapter 6.0 and 8.0 in the User's Manual)

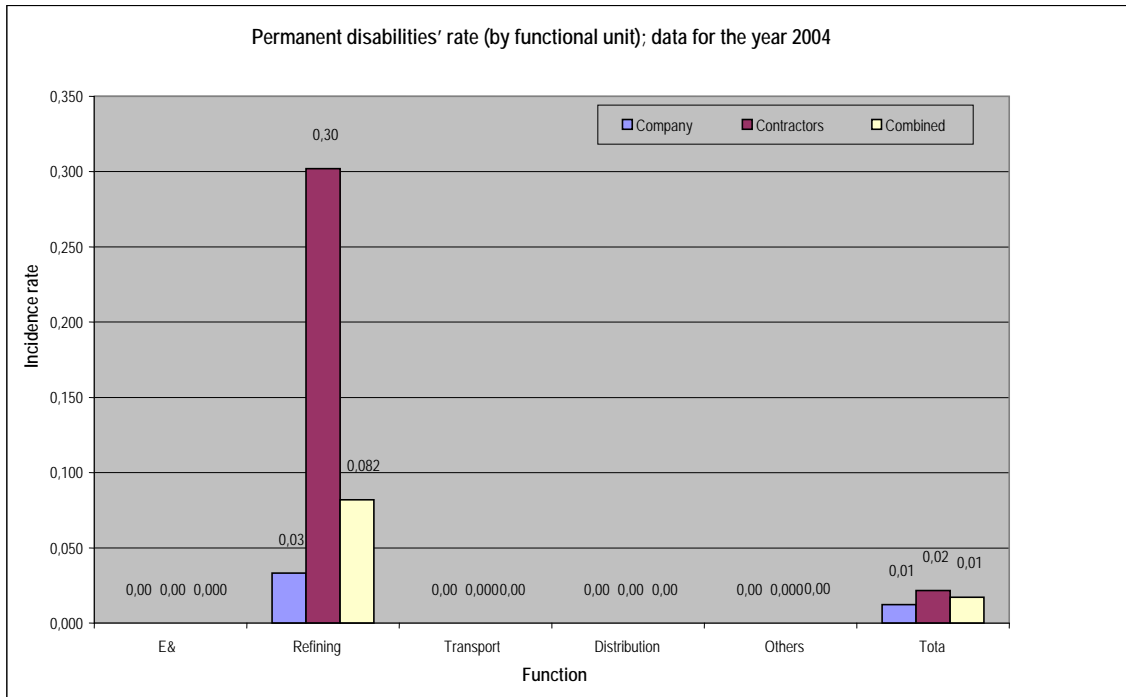


Figure 2.4.1

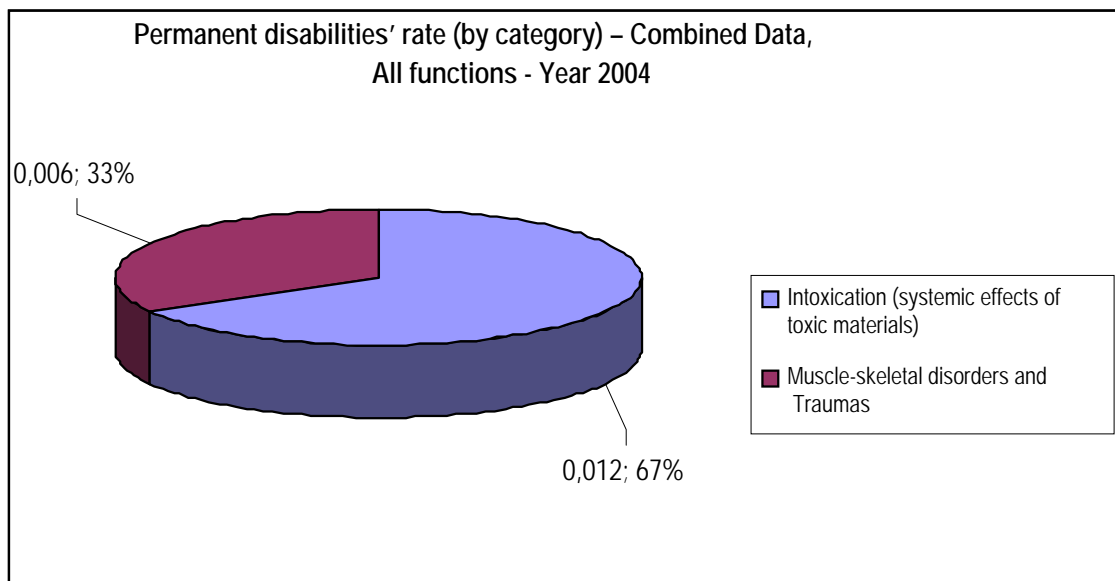


Figure 2.4.2

The tabulated results are in the APPENDIX A



**2.5 Fatal occupational illnesses' rate (by functional unit, and category); data for the year 2004**

The Fatal occupational illnesses' rate is defined by the following formula:

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

(Please see Chapters 6.0 and 8.0 in the User's Manual)

The tabulated results are in the APPENDIX A. In this case graphics are not presented because none of the five companies reported fatal occupational illnesses for the year 2004.





### 3.0 OFFSHORE ACTIVITIES

The previous chapter presented the results of the five 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 five incidents' rates applied to offshore activities, with Exploration and Production as the only applicable function.

Of the five Member Companies that reported data for the year 2005, only one reported data regarding offshore activities, so the statistics are not included.



## 4.0 GLOSSARY OF TERMS ACCORDING TO ARPEL CRITERIA

- a) **Case involving days away from work.**  
All non fatal cases that result in the worker being away from work for at least one scheduled workday after the occupational illness was diagnosed
- b) **Case involving medical treatment.**  
All treatment cases of occupational 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 the occupational illness was diagnosed.
- d) **Company worked.**  
Any individual employed by the reporting company or included in its salary registration.
- e) **Contractor.**  
Any individual employed by the reporting company or included in its salary registration.
- f) **Fatal occupational illnesses' rate.**  
The total fatalities resulting from an occupational illness by 200,000 hours worked. (See formula 4 in APPENDIX B).
- g) **Hours worked.**  
The hours worked by day both by the workers of the company and the contractors (recorder separately).
- h) **Occupational illnesses' frequency rate with lost workday.**  
The number of lost workdays cases by 200,000 hours worked. Cases of Medical Treatment are not included. (See formula 3 in APPENDIX B).
- i) **Occupational illnesses' 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) **Numbers of day away from work.**  
The total number of days (consecutive or not) after the day the occupational illness is diagnosed, 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 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) **Permanent diseases' rate.**  
The total permanent diseases by 200,000 hours worked. (See formula 5 in APPENDIX B).
- l) **Recordable case - fatality.**  
A fatality resulting from an occupational illness. The fatality should be loaded to the year in which it was recorded, independently of the year the occupational illness had been diagnosed.
- m) **Recordable case – occupational illnesses.**  
Any occupational illness without permanent disease. The occupational illness categories are defined in Chapter V of the User Manual 1<sup>st</sup> edition, 2005. Occupational illnesses resulting in fatalities are included.
- n) **Recordable case – permanent disease.**  
Case of people who have incapacity to work due to health problems. The incapacity can be partial and applicable to people who have retired of the labor activity in advance due to health problems, to people who still are in activity but with a chronic disease, and to people who have a permanent incapacity to work.
- o) **Recordable cases – total.**  
The sum of recordable cases – permanent diseases, recordable case -occupational illnesses and recordable case - fatalities.
- p) **Total occupational illnesses' rate.**  
The total recordable cases (permanent disease, occupational illnesses or fatalities) by 200,000 hours worked. (See formula 1 in APPENDIX B)
- q) **Work relatedness.**  
An illness must be considered to be work-related (occupational illness) if an event or exposure in the work environment either caused or contributed to the resulting condition or significantly aggravated a pre-existing illness. Work-relatedness is presumed for 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.





## 5.0 REFERENCES AND BIBLIOGRAPHY

The following documents were utilized to develop this report:

1. ARPEL'S User Manual – "Occupational health statistics in the oil and gas industry in Latin America and the Caribbean" – 1<sup>st</sup> Edition, 2005. ARPEL. Montevideo. 23 pages.
2. "Health and safety incident reporting system users' guide - 2003 data" – The International Association of Oil and Gas Producers. Report N° 6.5/350. London. January, 2004. 24 pages.
3. "Summary of U.S. Occupational Injuries, Illnesses, and Fatalities in the Petroleum Industry - 1996". American Petroleum Industry. Publication 2375 of API. Washington, DF, September, 1997. 46 pages.



## 6.0 APPENDIX A

### 6.1 Data regarding ARPEL Member Companies: Company totals.

This table gathers all the information from the ARPEL Member Companies that reported data for the year 2004.

**Table 6.1.1: Data regarding ARPEL Member Companies –Company totals (including offshore activities) – Function E&P; data for the year 2004.**

| Function 1 : E&P                                   |  |                        |                        |                                       |  |                 |           |                   |                 |             |              |              |              |                        |            |
|--|--|------------------------|------------------------|---------------------------------------|--|-----------------|-----------|-------------------|-----------------|-------------|--------------|--------------|--------------|------------------------|------------|
| Occupational Illnesses - Category                  | Recordable Cases                           |                        |                        |                                       | Extent and outcome of occupational illnesses |                 |           |                   | Incidence rates |             |              |              |              |                        |            |
|  | a  | b                      | c                      | d                                     | e  | f               |           | g                 | h               |             | i            | j            | k            | l                      | m          |
|  | Fatalities (cause: occupational illnesses) | Permanent disabilities | Occupational illnesses | Total (cause: occupational illnesses) | Lost workdays                                | N° CASES with : |           | Medical treatment | N° DAYS:        |             | Total        | Gravity      | Frequency    | Permanent disabilities | Fatalities |
| Muscle-skeletal disorders and traumas              | 0  | 0                      | 14                     | 14                                    | 12   | 0               | 12        | 135               | 0,340           | 3,28        | 0,291        | 0,000        | 0,000        |                        |            |
| Cancers and malignant blood diseases               | 0  | 0                      | 0                      | 0                                     | 0  | 0               | 0         | 0                 | 0,000           | 0,00        | 0,000        | 0,000        | 0,000        |                        |            |
| Infectious diseases                                | 0  | 0                      | 0                      | 0                                     | 0  | 0               | 0         | 0                 | 0,000           | 0,00        | 0,000        | 0,000        | 0,000        |                        |            |
| Mental ill health                                  | 0  | 0                      | 0                      | 0                                     | 0  | 0               | 0         | 0                 | 0,000           | 0,00        | 0,000        | 0,000        | 0,000        |                        |            |
| Noise induced hearing loss                         | 0  | 0                      | 23                     | 23                                    | 0  | 0               | 23        | 0                 | 0,558           | 0,00        | 0,000        | 0,000        | 0,000        |                        |            |
| Intoxication (systemic effects of toxic materials) | 0  | 0                      | 0                      | 0                                     | 0  | 0               | 0         | 0                 | 0,000           | 0,00        | 0,000        | 0,000        | 0,000        |                        |            |
| Respiratory conditions due to dust or toxic agents | 0  | 0                      | 0                      | 0                                     | 0  | 0               | 0         | 0                 | 0,000           | 0,00        | 0,000        | 0,000        | 0,000        |                        |            |
| Skin diseases and disorders                        | 0  | 0                      | 0                      | 0                                     | 0  | 0               | 0         | 0                 | 0,000           | 0,00        | 0,000        | 0,000        | 0,000        |                        |            |
| Other occupational illnesses                       | 0  | 0                      | 0                      | 0                                     | 0  | 0               | 0         | 0                 | 0,000           | 0,00        | 0,000        | 0,000        | 0,000        |                        |            |
| <b>Total</b>                                       | <b>0</b>                                   | <b>0</b>               | <b>37</b>              | <b>37</b>                             | <b>12</b>                                    | <b>0</b>        | <b>35</b> | <b>135</b>        | <b>0,898</b>    | <b>3,28</b> | <b>0,291</b> | <b>0,000</b> | <b>0,000</b> |                        |            |
| Hours Worked - E&P (in thousands)                  |  |                        |                        |                                       | 8241   |                 |           |                   |                 |             |              |              |              |                        |            |
| Average number of employee - E&P                   |  |                        |                        |                                       | 4343   |                 |           |                   |                 |             |              |              |              |                        |            |

Note:

- Item 3(h) (Number of days away from work) includes all calendar days (weekends and holidays too).

**Table 6.1.2: Data regarding ARPEL Member Companies –Company totals (including offshore activities) – Function Refining; data for the year 2004.**

| Function 2 : Refining                              |  |                        |                        |                                       |  |                 |           |                   |                 |              |              |              |              |                        |            |
|--|--|------------------------|------------------------|---------------------------------------|--|-----------------|-----------|-------------------|-----------------|--------------|--------------|--------------|--------------|------------------------|------------|
| Occupational Illnesses - Category                  | Recordable Cases                           |                        |                        |                                       | Extent and outcome of occupational illnesses |                 |           |                   | Incidence rates |              |              |              |              |                        |            |
|  | a  | b                      | c                      | d                                     | e  | f               |           | g                 | h               |              | i            | j            | k            | l                      | m          |
|  | Fatalities (cause: occupational illnesses) | Permanent disabilities | Occupational illnesses | Total (cause: occupational illnesses) | Lost workdays                                | N° CASES with : |           | Medical treatment | N° DAYS:        |              | Total        | Gravity      | Frequency    | Permanent disabilities | Fatalities |
| Muscle-skeletal disorders and traumas              | 0  | 1                      | 85                     | 86                                    | 86   | 39              | 11        | 1670              | 2,866           | 55,66        | 2,866        | 0,033        | 0,000        |                        |            |
| Cancers and malignant blood diseases               | 0  | 0                      | 2                      | 2                                     | 2  | 2               | 0         | 30                | 0,067           | 1,00         | 0,067        | 0,000        | 0,000        |                        |            |
| Infectious diseases                                | 0  | 0                      | 1                      | 1                                     | 1  | 0               | 0         | 5                 | 0,033           | 0,17         | 0,033        | 0,000        | 0,000        |                        |            |
| Mental ill health                                  | 0  | 0                      | 1                      | 1                                     | 1  | 1               | 0         | 4                 | 0,033           | 0,13         | 0,033        | 0,000        | 0,000        |                        |            |
| Noise induced hearing loss                         | 0  | 0                      | 7                      | 7                                     | 3  | 0               | 0         | 3                 | 0,233           | 0,10         | 0,100        | 0,000        | 0,000        |                        |            |
| Intoxication (systemic effects of toxic materials) | 0  | 0                      | 0                      | 0                                     | 0  | 0               | 0         | 0                 | 0,000           | 0,00         | 0,000        | 0,000        | 0,000        |                        |            |
| Respiratory conditions due to dust or toxic agents | 0  | 0                      | 1                      | 1                                     | 1  | 0               | 0         | 26                | 0,033           | 0,87         | 0,033        | 0,000        | 0,000        |                        |            |
| Skin diseases and disorders                        | 0  | 0                      | 12                     | 12                                    | 3  | 0               | 0         | 3                 | 0,400           | 0,10         | 0,100        | 0,000        | 0,000        |                        |            |
| Other occupational illnesses                       | 0  | 0                      | 0                      | 0                                     | 0  | 0               | 0         | 0                 | 0,000           | 0,00         | 0,000        | 0,000        | 0,000        |                        |            |
| <b>Total</b>                                       | <b>0</b>                                   | <b>1</b>               | <b>109</b>             | <b>110</b>                            | <b>97</b>                                    | <b>41</b>       | <b>11</b> | <b>1741</b>       | <b>3,666</b>    | <b>58,02</b> | <b>3,233</b> | <b>0,033</b> | <b>0,000</b> |                        |            |
| Hours Worked - E&P (in thousands)                  |  |                        |                        |                                       | 6001   |                 |           |                   |                 |              |              |              |              |                        |            |
| Average number of employee - E&P                   |  |                        |                        |                                       | 2821   |                 |           |                   |                 |              |              |              |              |                        |            |

Note:

- Item 3(h) (Number of days away from work) includes all calendar days (weekends and holidays too).



**Table 6.1.3: Data regarding ARPEL Member Companies –Company totals (including offshore activities) – Function Transport; data for the year 2004.**

| Function 3 : Transport                             |  |                        |                        |                                       |   |                   |                |          |                 |         |           |                        |            |
|--|--|------------------------|------------------------|---------------------------------------|---|-------------------|----------------|----------|-----------------|---------|-----------|------------------------|------------|
| 1  | 2  |                        |                        |                                       | 3   |                   |                |          | 4               |         |           |                        |            |
| Occupational Illnesses - Category                  | Recordable Cases                           |                        |                        |                                       | Event and outcome of occupational illnesses |                   |                |          | Incidence rates |         |           |                        |            |
|  | a  | b                      | c                      | d                                     | e   | f                 | g              | h        | i               | j       | k         | l                      | m          |
|  | Fatalities (cause: occupational illnesses) | Permanent disabilities | Occupational illnesses | Total (cause: occupational illnesses) | N° CASES with :                             |                   |                | N° DAYS: | Total           | Gravity | Frequency | Permanent disabilities | Fatalities |
| Lost workdays                                      |  |                        |                        |                                       | Restricted workdays                         | Medical treatment | Away from work |          |                 |         |           |                        |            |
| Muscle-skeletal disorders and traumas              | 0  | 0                      | 3                      | 3                                     | 3   | 0                 | 0              | 109      | 2,390           | 86,85   | 2,390     | 0,000                  | 0,000      |
| Cancers and malignant blood diseases               | 0  | 0                      | 0                      | 0                                     | 0   | 0                 | 0              | 0        | 0,000           | 0,00    | 0,000     | 0,000                  | 0,000      |
| Infectious diseases                                | 0  | 0                      | 0                      | 0                                     | 0   | 0                 | 0              | 0        | 0,000           | 0,00    | 0,000     | 0,000                  | 0,000      |
| Mental ill health                                  | 0  | 0                      | 0                      | 0                                     | 0   | 0                 | 0              | 0        | 0,000           | 0,00    | 0,000     | 0,000                  | 0,000      |
| Noise induced hearing loss                         | 0  | 0                      | 0                      | 0                                     | 0   | 0                 | 0              | 0        | 0,000           | 0,00    | 0,000     | 0,000                  | 0,000      |
| Intoxication (systemic effects of toxic materials) | 0  | 0                      | 0                      | 0                                     | 0   | 0                 | 0              | 0        | 0,000           | 0,00    | 0,000     | 0,000                  | 0,000      |
| Respiratory conditions due to dust or toxic agents | 0  | 0                      | 0                      | 0                                     | 0   | 0                 | 0              | 0        | 0,000           | 0,00    | 0,000     | 0,000                  | 0,000      |
| Skin diseases and disorders                        | 0  | 0                      | 0                      | 0                                     | 0   | 0                 | 0              | 0        | 0,000           | 0,00    | 0,000     | 0,000                  | 0,000      |
| Other occupational illnesses                       | 0  | 0                      | 0                      | 0                                     | 0   | 0                 | 0              | 0        | 0,000           | 0,00    | 0,000     | 0,000                  | 0,000      |
| <b>Total</b>                                       | 0  | 0                      | 3                      | 3                                     | 3   | 0                 | 0              | 109      | 2,390           | 86,85   | 2,390     | 0,000                  | 0,000      |
| Hours Worked - E&P (in thousands)                  |  |                        |                        |                                       |   |                   |                |          | 251             |         |           |                        |            |
| Average number of employee - E&P                   |  |                        |                        |                                       |   |                   |                |          | 121             |         |           |                        |            |

Note:

- Item 3(h) (Number of days away from work) includes all calendar days (weekends and holidays too).

**Table 6.1.4: Data regarding ARPEL Member Companies –Company totals (including off shore activities) – Function Distribution; data for the year 2004.**

| Function 4 : Distribution                          |  |                        |                        |                                       |   |                   |                |          |                 |         |           |                        |            |
|--|--|------------------------|------------------------|---------------------------------------|---|-------------------|----------------|----------|-----------------|---------|-----------|------------------------|------------|
| 1  | 2  |                        |                        |                                       | 3   |                   |                |          | 4               |         |           |                        |            |
| Occupational Illnesses - Category                  | Recordable Cases                           |                        |                        |                                       | Event and outcome of occupational illnesses |                   |                |          | Incidence rates |         |           |                        |            |
|  | a  | b                      | c                      | d                                     | e   | f                 | g              | h        | i               | j       | k         | l                      | m          |
|  | Fatalities (cause: occupational illnesses) | Permanent disabilities | Occupational illnesses | Total (cause: occupational illnesses) | N° CASES with :                             |                   |                | N° DAYS: | Total           | Gravity | Frequency | Permanent disabilities | Fatalities |
| Lost workdays                                      |  |                        |                        |                                       | Restricted workdays                         | Medical treatment | Away from work |          |                 |         |           |                        |            |
| Muscle-skeletal disorders and traumas              | 0  | 0                      | 15                     | 15                                    | 15  | 2                 | 0              | 381      | 5,405           | 137,30  | 5,405     | 0,000                  | 0,000      |
| Cancers and malignant blood diseases               | 0  | 0                      | 0                      | 0                                     | 0   | 0                 | 0              | 0        | 0,000           | 0,00    | 0,000     | 0,000                  | 0,000      |
| Infectious diseases                                | 0  | 0                      | 0                      | 0                                     | 0   | 0                 | 0              | 0        | 0,000           | 0,00    | 0,000     | 0,000                  | 0,000      |
| Mental ill health                                  | 0  | 0                      | 0                      | 0                                     | 0   | 0                 | 0              | 0        | 0,000           | 0,00    | 0,000     | 0,000                  | 0,000      |
| Noise induced hearing loss                         | 0  | 0                      | 0                      | 0                                     | 0   | 0                 | 0              | 0        | 0,000           | 0,00    | 0,000     | 0,000                  | 0,000      |
| Intoxication (systemic effects of toxic materials) | 0  | 0                      | 0                      | 0                                     | 0   | 0                 | 0              | 0        | 0,000           | 0,00    | 0,000     | 0,000                  | 0,000      |
| Respiratory conditions due to dust or toxic agents | 0  | 0                      | 1                      | 1                                     | 1   | 0                 | 0              | 13       | 0,360           | 4,68    | 0,360     | 0,000                  | 0,000      |
| Skin diseases and disorders                        | 0  | 0                      | 0                      | 0                                     | 0   | 0                 | 0              | 0        | 0,000           | 0,00    | 0,000     | 0,000                  | 0,000      |
| Other occupational illnesses                       | 0  | 0                      | 0                      | 0                                     | 0   | 0                 | 0              | 0        | 0,000           | 0,00    | 0,000     | 0,000                  | 0,000      |
| <b>Total</b>                                       | 0  | 0                      | 16                     | 16                                    | 16  | 2                 | 0              | 394      | 5,766           | 141,98  | 5,766     | 0,000                  | 0,000      |
| Hours Worked - E&P (in thousands)                  |  |                        |                        |                                       |   |                   |                |          | 555             |         |           |                        |            |
| Average number of employee - E&P                   |  |                        |                        |                                       |   |                   |                |          | 258             |         |           |                        |            |

Note:

- Item 3(h) (Number of days away from work) includes all calendar days (weekends and holidays too).



**Table 6.1.5: Data regarding ARPEL Member Companies –Company totals (including off shore activities) – Function Others; data for the year 2004.**

| Occupational Illnesses - Category                  | Recordable Cases                           |                        |                        |                                       | Extent and outcome of occupational illnesses |                     |                   |                | Incidence rates |         |           |                        |            |
|--|--|------------------------|------------------------|---------------------------------------|--|---------------------|-------------------|----------------|-----------------|---------|-----------|------------------------|------------|
|  | a  | b                      | c                      | d                                     | e  | f                   | g                 | h              | i               | j       | k         | l                      | m          |
|  | Fatalities (cause: occupational illnesses) | Permanent disabilities | Occupational illnesses | Total (cause: occupational illnesses) | N° CASES with :                              |                     |                   | N° DAYS:       | Total           | Gravity | Frequency | Permanent disabilities | Fatalities |
|  |  |                        |                        |                                       | Lost workdays                                | Restricted workdays | Medical treatment | Away from work |                 |         |           |                        |            |
| Muscle-skeletal disorders and traumas              | 0  | 0                      | 15                     | 15                                    | 15   | 0                   | 0                 | 324            | 2,545           | 54,96   | 2,545     | 0,000                  | 0,000      |
| Cancers and malignant blood diseases               | 0  | 0                      | 0                      | 0                                     | 0  | 0                   | 0                 | 0              | 0,000           | 0,00    | 0,000     | 0,000                  | 0,000      |
| Infectious diseases                                | 0  | 0                      | 0                      | 0                                     | 0  | 0                   | 0                 | 0              | 0,000           | 0,00    | 0,000     | 0,000                  | 0,000      |
| Mental ill health                                  | 0  | 0                      | 0                      | 0                                     | 0  | 0                   | 0                 | 0              | 0,000           | 0,00    | 0,000     | 0,000                  | 0,000      |
| Noise induced hearing loss                         | 0  | 0                      | 0                      | 0                                     | 0  | 0                   | 0                 | 0              | 0,000           | 0,00    | 0,000     | 0,000                  | 0,000      |
| Intoxication (systemic effects of toxic materials) | 0  | 0                      | 0                      | 0                                     | 0  | 0                   | 0                 | 0              | 0,000           | 0,00    | 0,000     | 0,000                  | 0,000      |
| Respiratory conditions due to dust or toxic agents | 0  | 0                      | 0                      | 0                                     | 0  | 0                   | 0                 | 0              | 0,000           | 0,00    | 0,000     | 0,000                  | 0,000      |
| Skin diseases and disorders                        | 0  | 0                      | 0                      | 0                                     | 0  | 0                   | 0                 | 0              | 0,000           | 0,00    | 0,000     | 0,000                  | 0,000      |
| Other occupational illnesses                       | 0  | 0                      | 0                      | 0                                     | 0  | 0                   | 0                 | 0              | 0,000           | 0,00    | 0,000     | 0,000                  | 0,000      |
| <b>Total</b>                                       | 0  | 0                      | 15                     | 15                                    | 15   | 0                   | 0                 | 324            | 2,545           | 54,96   | 2,545     | 0,000                  | 0,000      |
| Hours Worked - E&P (in thousands)                  |  |                        |                        |                                       | 1179   |                     |                   |                |                 |         |           |                        |            |
| Average number of employee - E&P                   |  |                        |                        |                                       | 568  |                     |                   |                |                 |         |           |                        |            |

Note:

- Item 3(h) (Number of days away from work) includes all calendar days (weekends and holidays too).

**Table 6.1.6: Data regarding ARPEL Member Companies –Company totals (including offshore activities) – All functions; data for the year 2004.**

| Total  |  |                        |                        |                                       |  |                     |                   |                |                 |         |           |                        |            |
|--|--|------------------------|------------------------|---------------------------------------|--|---------------------|-------------------|----------------|-----------------|---------|-----------|------------------------|------------|
| Occupational Illnesses - Category                  | Recordable Cases                           |                        |                        |                                       | Extent and outcome of occupational illnesses |                     |                   |                | Incidence rates |         |           |                        |            |
|  | a  | b                      | c                      | d                                     | e  | f                   | g                 | h              | i               | j       | k         | l                      | m          |
|  | Fatalities (cause: occupational illnesses) | Permanent disabilities | Occupational illnesses | Total (cause: occupational illnesses) | N° CASES with :                              |                     |                   | N° DAYS:       | Total           | Gravity | Frequency | Permanent disabilities | Fatalities |
|  |  |                        |                        |                                       | Lost workdays                                | Restricted workdays | Medical treatment | Away from work |                 |         |           |                        |            |
| Muscle-skeletal disorders and traumas              | 0  | 1                      | 132                    | 133                                   | 131  | 40                  | 23                | 2619           | 1,639           | 32,28   | 1,615     | 0,012                  | 0,000      |
| Cancers and malignant blood diseases               | 0  | 0                      | 2                      | 2                                     | 2  | 2                   | 0                 | 30             | 0,025           | 0,37    | 0,025     | 0,000                  | 0,000      |
| Infectious diseases                                | 0  | 0                      | 1                      | 1                                     | 1  | 0                   | 0                 | 5              | 0,012           | 0,06    | 0,012     | 0,000                  | 0,000      |
| Mental ill health                                  | 0  | 0                      | 1                      | 1                                     | 1  | 1                   | 0                 | 4              | 0,012           | 0,05    | 0,012     | 0,000                  | 0,000      |
| Noise induced hearing loss                         | 0  | 0                      | 30                     | 30                                    | 3  | 0                   | 23                | 3              | 0,370           | 0,04    | 0,037     | 0,000                  | 0,000      |
| Intoxication (systemic effects of toxic materials) | 0  | 0                      | 0                      | 0                                     | 0  | 0                   | 0                 | 0              | 0,000           | 0,00    | 0,000     | 0,000                  | 0,000      |
| Respiratory conditions due to dust or toxic agents | 0  | 0                      | 2                      | 2                                     | 2  | 0                   | 0                 | 39             | 0,025           | 0,48    | 0,025     | 0,000                  | 0,000      |
| Skin diseases and disorders                        | 0  | 0                      | 12                     | 12                                    | 3  | 0                   | 0                 | 3              | 0,148           | 0,04    | 0,037     | 0,000                  | 0,000      |
| Other occupational illnesses                       | 0  | 0                      | 0                      | 0                                     | 0  | 0                   | 0                 | 0              | 0,000           | 0,00    | 0,000     | 0,000                  | 0,000      |
| <b>Total</b>                                       | 0  | 1                      | 180                    | 181                                   | 143  | 43                  | 46                | 2703           | 2,231           | 33,31   | 1,762     | 0,012                  | 0,000      |
| Hours Worked - E&P (in thousands)                  |  |                        |                        |                                       | 16227  |                     |                   |                |                 |         |           |                        |            |
| Average number of employee - E&P                   |  |                        |                        |                                       | 8131   |                     |                   |                |                 |         |           |                        |            |

Note:

- Item 3(h) (Number of days away from work) includes all calendar days (weekends and holidays too).





## 6.2 Data regarding contractors of ARPEL Member Companies: Contractors total

This table gathers all the information from the contractors of the ARPEL Member Companies that reported data for the year 2004, along with the corresponding rates.

**Table 6.2.1: Data regarding contractors of ARPEL Member Companies – Contractors totals (including offshore activities) - Function E&P; data for the year de 2004**

| Function 1 : E&P                                   |  |                        |                        |                                       |  |                   |                |          |                 |             |              |                        |              |
|--|--|------------------------|------------------------|---------------------------------------|--|-------------------|----------------|----------|-----------------|-------------|--------------|------------------------|--------------|
| 1  | 2  |                        |                        |                                       | 3  |                   |                |          | 4               |             |              |                        |              |
| Occupational Illnesses - Category                  | Recordable Cases                           |                        |                        |                                       | Extent and outcome of occupational illnesses |                   |                |          | Incidence rates |             |              |                        |              |
|  | a  | b                      | c                      | d                                     | e  | f                 | g              | h        | i               | j           | k            | l                      | m            |
|  | Fatalities (cause: occupational illnesses) | Permanent disabilities | Occupational illnesses | Total (cause: occupational illnesses) | N° CASES with :                              |                   |                | N° DAYS: | Total           | Gravity     | Frequency    | Permanent disabilities | Fatalities   |
| Lost workdays                                      |  |                        |                        |                                       | Restricted workdays                          | Medical treatment | Away from work |          |                 |             |              |                        |              |
| Muscle-skeletal disorders and traumas              | 0  | 0                      | 3                      | 3                                     | 0  | 0                 | 0              | 0        | 0,035           | 0,00        | 0,000        | 0,000                  | 0,000        |
| Cancers and malignant blood diseases               | 0  | 0                      | 0                      | 0                                     | 0  | 0                 | 0              | 0        | 0,000           | 0,00        | 0,000        | 0,000                  | 0,000        |
| Infectious diseases                                | 0  | 0                      | 0                      | 0                                     | 0  | 0                 | 0              | 0        | 0,000           | 0,00        | 0,000        | 0,000                  | 0,000        |
| Mental ill health                                  | 0  | 0                      | 0                      | 0                                     | 0  | 0                 | 0              | 0        | 0,000           | 0,00        | 0,000        | 0,000                  | 0,000        |
| Noise induced hearing loss                         | 0  | 0                      | 0                      | 0                                     | 0  | 0                 | 0              | 0        | 0,000           | 0,00        | 0,000        | 0,000                  | 0,000        |
| Intoxication (systemic effects of toxic materials) | 0  | 0                      | 0                      | 0                                     | 0  | 0                 | 0              | 0        | 0,000           | 0,00        | 0,000        | 0,000                  | 0,000        |
| Respiratory conditions due to dust or toxic agents | 0  | 0                      | 0                      | 0                                     | 0  | 0                 | 0              | 0        | 0,000           | 0,00        | 0,000        | 0,000                  | 0,000        |
| Skin diseases and disorders                        | 0  | 0                      | 1                      | 1                                     | 0  | 0                 | 1              | 0        | 0,012           | 0,00        | 0,000        | 0,000                  | 0,000        |
| Other occupational illnesses                       | 0  | 0                      | 0                      | 0                                     | 0  | 0                 | 0              | 0        | 0,000           | 0,00        | 0,000        | 0,000                  | 0,000        |
| <b>Total</b>                                       | <b>0</b>                                   | <b>0</b>               | <b>4</b>               | <b>4</b>                              | <b>0</b>                                     | <b>0</b>          | <b>1</b>       | <b>0</b> | <b>0,047</b>    | <b>0,00</b> | <b>0,000</b> | <b>0,000</b>           | <b>0,000</b> |
| Hours Worked - E&P (in thousands)                  |  |                        |                        |                                       | 17055  |                   |                |          |                 |             |              |                        |              |
| Average number of employee - E&P                   |  |                        |                        |                                       | 7500   |                   |                |          |                 |             |              |                        |              |

Note:

- Item 3(h) (Number of days away from work) includes all calendar days (weekends and holidays too).

**Table 6.2.2: Data regarding contractors of ARPEL Member Companies – Contractors totals (including offshore activities) - Function Refining; data for the year de 2004**

| Function 2 : Refining                              |  |                        |                        |                                       |  |                   |                |          |                 |             |              |                        |              |
|--|--|------------------------|------------------------|---------------------------------------|--|-------------------|----------------|----------|-----------------|-------------|--------------|------------------------|--------------|
| 1  | 2  |                        |                        |                                       | 3  |                   |                |          | 4               |             |              |                        |              |
| Occupational Illnesses - Category                  | Recordable Cases                           |                        |                        |                                       | Extent and outcome of occupational illnesses |                   |                |          | Incidence rates |             |              |                        |              |
|  | a  | b                      | c                      | d                                     | e  | f                 | g              | h        | i               | j           | k            | l                      | m            |
|  | Fatalities (cause: occupational illnesses) | Permanent disabilities | Occupational illnesses | Total (cause: occupational illnesses) | N° CASES with :                              |                   |                | N° DAYS: | Total           | Gravity     | Frequency    | Permanent disabilities | Fatalities   |
| Lost workdays                                      |  |                        |                        |                                       | Restricted workdays                          | Medical treatment | Away from work |          |                 |             |              |                        |              |
| Muscle-skeletal disorders and traumas              | 0  | 0                      | 0                      | 0                                     | 0  | 0                 | 0              | 0        | 0,000           | 0,00        | 0,000        | 0,000                  | 0,000        |
| Cancers and malignant blood diseases               | 0  | 0                      | 0                      | 0                                     | 0  | 0                 | 0              | 0        | 0,000           | 0,00        | 0,000        | 0,000                  | 0,000        |
| Infectious diseases                                | 0  | 0                      | 0                      | 0                                     | 0  | 0                 | 0              | 0        | 0,000           | 0,00        | 0,000        | 0,000                  | 0,000        |
| Mental ill health                                  | 0  | 0                      | 0                      | 0                                     | 0  | 0                 | 0              | 0        | 0,000           | 0,00        | 0,000        | 0,000                  | 0,000        |
| Noise induced hearing loss                         | 0  | 0                      | 0                      | 0                                     | 0  | 0                 | 0              | 0        | 0,000           | 0,00        | 0,000        | 0,000                  | 0,000        |
| Intoxication (systemic effects of toxic materials) | 0  | 2                      | 0                      | 2                                     | 2  | 0                 | 2              | 2        | 0,302           | 0,30        | 0,302        | 0,302                  | 0,000        |
| Respiratory conditions due to dust or toxic agents | 0  | 0                      | 0                      | 0                                     | 0  | 0                 | 0              | 0        | 0,000           | 0,00        | 0,000        | 0,000                  | 0,000        |
| Skin diseases and disorders                        | 0  | 0                      | 0                      | 0                                     | 0  | 0                 | 0              | 0        | 0,000           | 0,00        | 0,000        | 0,000                  | 0,000        |
| Other occupational illnesses                       | 0  | 0                      | 0                      | 0                                     | 0  | 0                 | 0              | 0        | 0,000           | 0,00        | 0,000        | 0,000                  | 0,000        |
| <b>Total</b>                                       | <b>0</b>                                   | <b>2</b>               | <b>0</b>               | <b>2</b>                              | <b>2</b>                                     | <b>0</b>          | <b>2</b>       | <b>2</b> | <b>0,302</b>    | <b>0,30</b> | <b>0,302</b> | <b>0,302</b>           | <b>0,000</b> |
| Hours Worked - E&P (in thousands)                  |  |                        |                        |                                       | 1325   |                   |                |          |                 |             |              |                        |              |
| Average number of employee - E&P                   |  |                        |                        |                                       | 616  |                   |                |          |                 |             |              |                        |              |

Note:

- Item 3(h) (Number of days away from work) includes all calendar days (weekends and holidays too).



**Table 6.2.3: Data regarding contractors of ARPEL Member Companies – Contractors total (including offshore activities) - Function Transport; data for the year de 2004.**

| Function 3 : Transport                             |  |                        |                        |                                       |  |                   |                |          |                 |             |              |                        |              |
|--|--|------------------------|------------------------|---------------------------------------|--|-------------------|----------------|----------|-----------------|-------------|--------------|------------------------|--------------|
| 1  | 2  |                        |                        |                                       | 3  |                   |                |          | 4               |             |              |                        |              |
| Occupational Illnesses - Category                  | Recordable Cases                           |                        |                        |                                       | Extent and outcome of occupational illnesses |                   |                |          | Incidence rates |             |              |                        |              |
|  | a  | b                      | c                      | d                                     | e  | f                 | g              | h        | i               | j           | k            | l                      | m            |
|  | Fatalities (cause: occupational illnesses) | Permanent disabilities | Occupational illnesses | Total (cause: occupational illnesses) | N° CASES with :                              |                   |                | N° DAYS: | Total           | Gravity     | Frequency    | Permanent disabilities | Fatalities   |
| Lost workdays                                      |  |                        |                        |                                       | Restricted workdays                          | Medical treatment | Away from work |          |                 |             |              |                        |              |
| Muscle-skeletal disorders and traumas              | 0  | 0                      | 0                      | 0                                     | 0  | 0                 | 0              | 0        | 0,000           | 0,00        | 0,000        | 0,000                  | 0,000        |
| Cancers and malignant blood diseases               | 0  | 0                      | 0                      | 0                                     | 0  | 0                 | 0              | 0        | 0,000           | 0,00        | 0,000        | 0,000                  | 0,000        |
| Infectious diseases                                | 0  | 0                      | 0                      | 0                                     | 0  | 0                 | 0              | 0        | 0,000           | 0,00        | 0,000        | 0,000                  | 0,000        |
| Mental ill health                                  | 0  | 0                      | 0                      | 0                                     | 0  | 0                 | 0              | 0        | 0,000           | 0,00        | 0,000        | 0,000                  | 0,000        |
| Noise induced hearing loss                         | 0  | 0                      | 0                      | 0                                     | 0  | 0                 | 0              | 0        | 0,000           | 0,00        | 0,000        | 0,000                  | 0,000        |
| Intoxication (systemic effects of toxic materials) | 0  | 0                      | 0                      | 0                                     | 0  | 0                 | 0              | 0        | 0,000           | 0,00        | 0,000        | 0,000                  | 0,000        |
| Respiratory conditions due to dust or toxic agents | 0  | 0                      | 0                      | 0                                     | 0  | 0                 | 0              | 0        | 0,000           | 0,00        | 0,000        | 0,000                  | 0,000        |
| Skin diseases and disorders                        | 0  | 0                      | 0                      | 0                                     | 0  | 0                 | 0              | 0        | 0,000           | 0,00        | 0,000        | 0,000                  | 0,000        |
| Other occupational illnesses                       | 0  | 0                      | 0                      | 0                                     | 0  | 0                 | 0              | 0        | 0,000           | 0,00        | 0,000        | 0,000                  | 0,000        |
| <b>Total</b>                                       | <b>0</b>                                   | <b>0</b>               | <b>0</b>               | <b>0</b>                              | <b>0</b>                                     | <b>0</b>          | <b>0</b>       | <b>0</b> | <b>0,000</b>    | <b>0,00</b> | <b>0,000</b> | <b>0,000</b>           | <b>0,000</b> |
| Hours Worked - E&P (in thousands)                  |  |                        |                        |                                       | 53   |                   |                |          |                 |             |              |                        |              |
| Average number of employee - E&P                   |  |                        |                        |                                       | 24   |                   |                |          |                 |             |              |                        |              |

Note:

- Item 3(h) (Number of days away from work) includes all calendar days (weekends and holidays too).

**Table 6.2.4: Data regarding contractors of ARPEL Member Companies – Contractors total (including offshore activities) - Function Distribution; data for the year de 2004.**

| Function 4 : Distribution                          |  |                        |                        |                                       |  |                   |                |          |                 |             |              |                        |              |
|--|--|------------------------|------------------------|---------------------------------------|--|-------------------|----------------|----------|-----------------|-------------|--------------|------------------------|--------------|
| 1  | 2  |                        |                        |                                       | 3  |                   |                |          | 4               |             |              |                        |              |
| Occupational Illnesses - Category                  | Recordable Cases                           |                        |                        |                                       | Extent and outcome of occupational illnesses |                   |                |          | Incidence rates |             |              |                        |              |
|  | a  | b                      | c                      | d                                     | e  | f                 | g              | h        | i               | j           | k            | l                      | m            |
|  | Fatalities (cause: occupational illnesses) | Permanent disabilities | Occupational illnesses | Total (cause: occupational illnesses) | N° CASES with :                              |                   |                | N° DAYS: | Total           | Gravity     | Frequency    | Permanent disabilities | Fatalities   |
| Lost workdays                                      |  |                        |                        |                                       | Restricted workdays                          | Medical treatment | Away from work |          |                 |             |              |                        |              |
| Muscle-skeletal disorders and traumas              | 0  | 0                      | 0                      | 0                                     | 0  | 0                 | 0              | 0        | 0,000           | 0,00        | 0,000        | 0,000                  | 0,000        |
| Cancers and malignant blood diseases               | 0  | 0                      | 0                      | 0                                     | 0  | 0                 | 0              | 0        | 0,000           | 0,00        | 0,000        | 0,000                  | 0,000        |
| Infectious diseases                                | 0  | 0                      | 0                      | 0                                     | 0  | 0                 | 0              | 0        | 0,000           | 0,00        | 0,000        | 0,000                  | 0,000        |
| Mental ill health                                  | 0  | 0                      | 0                      | 0                                     | 0  | 0                 | 0              | 0        | 0,000           | 0,00        | 0,000        | 0,000                  | 0,000        |
| Noise induced hearing loss                         | 0  | 0                      | 0                      | 0                                     | 0  | 0                 | 0              | 0        | 0,000           | 0,00        | 0,000        | 0,000                  | 0,000        |
| Intoxication (systemic effects of toxic materials) | 0  | 0                      | 0                      | 0                                     | 0  | 0                 | 0              | 0        | 0,000           | 0,00        | 0,000        | 0,000                  | 0,000        |
| Respiratory conditions due to dust or toxic agents | 0  | 0                      | 0                      | 0                                     | 0  | 0                 | 0              | 0        | 0,000           | 0,00        | 0,000        | 0,000                  | 0,000        |
| Skin diseases and disorders                        | 0  | 0                      | 0                      | 0                                     | 0  | 0                 | 0              | 0        | 0,000           | 0,00        | 0,000        | 0,000                  | 0,000        |
| Other occupational illnesses                       | 0  | 0                      | 0                      | 0                                     | 0  | 0                 | 0              | 0        | 0,000           | 0,00        | 0,000        | 0,000                  | 0,000        |
| <b>Total</b>                                       | <b>0</b>                                   | <b>0</b>               | <b>0</b>               | <b>0</b>                              | <b>0</b>                                     | <b>0</b>          | <b>0</b>       | <b>0</b> | <b>0,000</b>    | <b>0,00</b> | <b>0,000</b> | <b>0,000</b>           | <b>0,000</b> |
| Hours Worked - E&P (in thousands)                  |  |                        |                        |                                       | 115  |                   |                |          |                 |             |              |                        |              |
| Average number of employee - E&P                   |  |                        |                        |                                       | 49   |                   |                |          |                 |             |              |                        |              |

Note:

- Item 3(h) (Number of days away from work) includes all calendar days (weekends and holidays too).



**Table 6.2.5: Data regarding contractors of ARPEL Member Companies – Contractors total (including offshore activities) - Function Others; data for the year de 2004.**

| Function 5 : Others                                |  |                        |                        |                                       |  |                     |                   |                |                 |         |           |                        |            |
|--|--|------------------------|------------------------|---------------------------------------|--|---------------------|-------------------|----------------|-----------------|---------|-----------|------------------------|------------|
| Occupational Illnesses - Category                  | Recordable Cases                           |                        |                        |                                       | Extent and outcome of occupational illnesses |                     |                   |                | Incidence rates |         |           |                        |            |
|  | a  | b                      | c                      | d                                     | e  | f                   | g                 | h              | i               | j       | k         | l                      | m          |
|  | Fatalities (cause: occupational illnesses) | Permanent disabilities | Occupational illnesses | Total (cause: occupational illnesses) | N° CASES with :                              |                     |                   | N° DAYS:       | Total           | Gravity | Frequency | Permanent disabilities | Fatalities |
|  |  |                        |                        |                                       | Lost workdays                                | Restricted workdays | Medical treatment | Away from work |                 |         |           |                        |            |
| Muscle-skeletal disorders and traumas              | 0  | 0                      | 0                      | 0                                     | 0  | 0                   | 0                 | 0              | n/a             | n/a     | n/a       | n/a                    | n/a        |
| Cancers and malignant blood diseases               | 0  | 0                      | 0                      | 0                                     | 0  | 0                   | 0                 | 0              | n/a             | n/a     | n/a       | n/a                    | n/a        |
| Infectious diseases                                | 0  | 0                      | 0                      | 0                                     | 0  | 0                   | 0                 | 0              | n/a             | n/a     | n/a       | n/a                    | n/a        |
| Mental ill health                                  | 0  | 0                      | 0                      | 0                                     | 0  | 0                   | 0                 | 0              | n/a             | n/a     | n/a       | n/a                    | n/a        |
| Noise induced hearing loss                         | 0  | 0                      | 0                      | 0                                     | 0  | 0                   | 0                 | 0              | n/a             | n/a     | n/a       | n/a                    | n/a        |
| Intoxication (systemic effects of toxic materials) | 0  | 0                      | 0                      | 0                                     | 0  | 0                   | 0                 | 0              | n/a             | n/a     | n/a       | n/a                    | n/a        |
| Respiratory conditions due to dust or toxic agents | 0  | 0                      | 0                      | 0                                     | 0  | 0                   | 0                 | 0              | n/a             | n/a     | n/a       | n/a                    | n/a        |
| Skin diseases and disorders                        | 0  | 0                      | 0                      | 0                                     | 0  | 0                   | 0                 | 0              | n/a             | n/a     | n/a       | n/a                    | n/a        |
| Other occupational illnesses                       | 0  | 0                      | 0                      | 0                                     | 0  | 0                   | 0                 | 0              | n/a             | n/a     | n/a       | n/a                    | n/a        |
| <b>Total</b>                                       | 0  | 0                      | 0                      | 0                                     | 0  | 0                   | 0                 | 0              | n/a             | n/a     | n/a       | n/a                    | n/a        |
| Hours Worked - E&P (in thousands)                  |  |                        |                        |                                       |  |                     |                   |                | 0               |         |           |                        |            |
| Average number of employee - E&P                   |  |                        |                        |                                       |  |                     |                   |                | 0               |         |           |                        |            |

Note:

- Item 3(h) (Number of days away from work) includes all calendar days (weekends and holidays too).

**Table 6.2.6: Data regarding contractors of ARPEL Member Companies – Contractors total (including offshore activities) – All functions; data for the year de 2004**

| Total  |  |                        |                        |                                       |  |                     |                   |                |                 |         |           |                        |            |
|--|--|------------------------|------------------------|---------------------------------------|--|---------------------|-------------------|----------------|-----------------|---------|-----------|------------------------|------------|
| Occupational Illnesses - Category                  | Recordable Cases                           |                        |                        |                                       | Extent and outcome of occupational illnesses |                     |                   |                | Incidence rates |         |           |                        |            |
|  | a  | b                      | c                      | d                                     | e  | f                   | g                 | h              | i               | j       | k         | l                      | m          |
|  | Fatalities (cause: occupational illnesses) | Permanent disabilities | Occupational illnesses | Total (cause: occupational illnesses) | N° CASES with :                              |                     |                   | N° DAYS:       | Total           | Gravity | Frequency | Permanent disabilities | Fatalities |
|  |  |                        |                        |                                       | Lost workdays                                | Restricted workdays | Medical treatment | Away from work |                 |         |           |                        |            |
| Muscle-skeletal disorders and traumas              | 0  | 0                      | 3                      | 3                                     | 0  | 0                   | 0                 | 0              | 0,032           | 0,00    | 0,000     | 0,000                  | 0,000      |
| Cancers and malignant blood diseases               | 0  | 0                      | 0                      | 0                                     | 0  | 0                   | 0                 | 0              | 0,000           | 0,00    | 0,000     | 0,000                  | 0,000      |
| Infectious diseases                                | 0  | 0                      | 0                      | 0                                     | 0  | 0                   | 0                 | 0              | 0,000           | 0,00    | 0,000     | 0,000                  | 0,000      |
| Mental ill health                                  | 0  | 0                      | 0                      | 0                                     | 0  | 0                   | 0                 | 0              | 0,000           | 0,00    | 0,000     | 0,000                  | 0,000      |
| Noise induced hearing loss                         | 0  | 0                      | 0                      | 0                                     | 0  | 0                   | 0                 | 0              | 0,000           | 0,00    | 0,000     | 0,000                  | 0,000      |
| Intoxication (systemic effects of toxic materials) | 0  | 2                      | 0                      | 2                                     | 2  | 0                   | 2                 | 2              | 0,022           | 0,02    | 0,022     | 0,022                  | 0,000      |
| Respiratory conditions due to dust or toxic agents | 0  | 0                      | 0                      | 0                                     | 0  | 0                   | 0                 | 0              | 0,000           | 0,00    | 0,000     | 0,000                  | 0,000      |
| Skin diseases and disorders                        | 0  | 0                      | 1                      | 1                                     | 0  | 0                   | 1                 | 0              | 0,011           | 0,00    | 0,000     | 0,000                  | 0,000      |
| Other occupational illnesses                       | 0  | 0                      | 0                      | 0                                     | 0  | 0                   | 0                 | 0              | 0,000           | 0,00    | 0,000     | 0,000                  | 0,000      |
| <b>Total</b>                                       | 0  | 2                      | 4                      | 6                                     | 2  | 0                   | 3                 | 2              | 0,065           | 0,02    | 0,022     | 0,022                  | 0,000      |
| Hours Worked - E&P (in thousands)                  |  |                        |                        |                                       | 18548  |                     |                   |                |                 |         |           |                        |            |
| Average number of employee - E&P                   |  |                        |                        |                                       | 8189   |                     |                   |                |                 |         |           |                        |            |

Note:

- Item 3(h) (Number of days away from work) includes all calendar days (weekends and holidays too).



## 7.0 APPENDIX B

### Formulas to calculate incidence rates

Following are shown the formulas utilized to calculate each indicator.

1. Total occupational illnesses' rate

$$= \frac{\text{Column2}(d) * 200}{HW}$$

Where:

Column 2(d) = Total recordable cases

HW = Hours worked (in thousands)

2. Occupational illnesses' gravity rate

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

Where:

Column 3(h) = numbers of days away form work

HW = Hours worked (in thousands)

Note: ARPEL definition of Column 3(h) includes all calendar days (weekends and holidays too)  
The API definition of Column 3(h) excludes weekends and holydays, unless the employee has worked

3. Occupational illnesses' frequency rate with lost workdays.

$$= \frac{\text{Column3}(e) * 200}{HW}$$

Where:

Column 3(e) = Cases of lost workdays

HW = Hours worked (in thousands)



4. Fatal occupational illnesses' rate

$$= \frac{\text{Column2(a)} * 200}{HW}$$

Where:

Column 2(a) = number of fatalities resulting from an occupational illness

HW = Hours worked (in thousands).

5. Permanent diseases

$$= \frac{\text{Column2(b)} * 200}{HW}$$

Where:

Column 2(b) = number of permanent diseases

HW = Hours worked (in thousands)