

Safety Benchmarking

in the oil and gas industry
in Latin America and
the Caribbean

Arpel Database - User's Manual
7th Edition, 2017

February 2018

ARPEL PUBLICATION N° BE05-2017



BENCHMARKING

SAFETY BENCHMARKING IN THE OIL AND GAS INDUSTRY IN LATIN AMERICA AND THE CARIBBEAN ARPEL DATABASE - USER'S MANUAL

7th Edition, 2017

Copyright

The copyright of this document, whether in print or electronically stored on a CD or diskette or otherwise is held by the Regional Association of Oil, Gas and Biofuels Sector Companies in Latin America and the Caribbean (ARPEL). Any copy of this document must include this copyright notice. The user shall give—in future use of this document - full credit to ARPEL for being the source of information.

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.

ARPEL, April 2017



TABLE OF CONTENTS

1. INTRODUCTION	1
1.1. FRAMEWORK	1
1.2. CONTENT.....	1
1.3. REVIEW AND UPDATE OF THIS MANUAL	1
1.4. DATA USES	2
1.5. RETENTION OF COMPANY INFORMATION.....	2
2. OVERVIEW OF THE ARPEL SAFETY DATABASE	3
3. GUIDELINES AND DATA ELEMENTS COMMON TO ALL TABLES.....	5
4. FUNCTION CATEGORIES	7
4.1. FUNCTION DEFINITIONS	7
4.2. OFFSHORE DATA.....	9
5. OCCUPATIONAL INJURIES, ILLNESSES AND FATALITIES DATA.....	10
6. OCCUPATIONAL INCIDENTS REPORTS.....	14
6.1. OCCUPATIONAL FATAL INCIDENT REPORT (ARPEL Table OFI for Company and Contractors)	19
6.2. OCCUPATIONAL NON FATAL INCIDENT REPORT (ARPEL Table SONFI for Company and Contractors)	22
7. SAFETY PROACTIVE INDICATORS.....	23
8. DATA TABLES	25
8.1. GENERAL INSTRUCTIONS:.....	25
9. TABLE OF EQUIVALENCE OF DAYS AWAY FROM WORK DERIVED FROM DEATH, PERMANENT TOTAL DISABILITY, OR PERMANENT PARTIAL DISABILITY INJURIES (REF. ANSI Z16.1)	37

1. INTRODUCTION

1.1. FRAMEWORK

This manual provides definitions, procedures, and instructions for those in the oil and gas industry that collect and report safety data to ARPEL. The manual also should be useful to those companies interested in analyzing the data.

1.2. CONTENT

Chapter 2 provides an overview of the ARPEL safety database, including the mechanisms to present data to ARPEL.

Chapters 3 and 4 provide guidelines and definitions applicable to all ARPEL tables and reports. Chapters 5, 6 and 7 provide guidelines and definitions to the specific data included in the individual tables and reports.

Samples of the nine data collection tables are included in Chapter 8 of this manual:

- ◆ **ARPEL Table OIC (Company):** Safety benchmarking in the oil and gas industry in Latin America and the Caribbean for the Year ____ - Company Total
- ◆ **ARPEL Table OIC (Contractors):** Safety benchmarking in the oil and gas industry in Latin America and the Caribbean for the Year ____ - Contractors Total
- ◆ **ARPEL Table OIO (Company):** Safety benchmarking in the oil and gas industry in Latin America and the Caribbean for the Year ____ - Off-shore activity – Company Total
- ◆ **ARPEL Table N°OIO (Contractors):** Safety benchmarking in the oil and gas industry in Latin America and the Caribbean for the Year ____ - Off-shore activity – Contractors Total
- ◆ **ARPEL Table N°OFI (Company):** Occupational Fatal Incident Report
- ◆ **ARPEL Table N°OFI (Contractors):** Occupational Fatal Incident Report
- ◆ **ARPEL Table N°SONFI (Company):** Occupational NON Fatal Incident Report
- ◆ **ARPEL Table N°SONFI (Contractors):** Occupational NON Fatal Incident Report
- ◆ **ARPEL Table N°PI (Company):** Proactive Safety Indicators in the Oil & Gas Industry in Latin America and the Caribbean for the Year _____ - Company Total (including off-shore activities)

Tables OFI and SONFI are used to submit information on individual incidents, fatal or not, respectively. The other tables are used to submit annual statistics on occupational injuries, illnesses and fatalities (and their causes). The reporting criteria are outlined in this manual.

Chapter 9 provides the “Table of equivalence of days away from work derived from death, permanent total disability, or permanent partial disability injuries (ref. ANSI Z16.1)” which has to be used to fill the OIC form column 5(i) to calculate the Gravity of Fatal or Permanent Disability Injury Cases.

1.3. REVIEW AND UPDATE OF THIS MANUAL

The original version of this manual was an adaptation of the “API Fire and Safety Data System Users Manual” (API, 1987 Edition) prepared by ARPEL. Comments on ways to improve it should be sent to ARPEL Executive Secretariat, to *Pablo Ferragut* (pferragut@arpel.org.uy)



1.4. DATA USES

This database has many valuable uses. For example, at the company level the data can be used to:

- ◆ Compare company performance to industry trends.
- ◆ Identify companies doing particularly well in reducing injuries and illnesses.
- ◆ Promote the improvement in safety management through the exchange of experiences.
- ◆ Publicly defend plans for new facilities such as refineries, on the basis of past performance of similar facilities.

At the industry level, the data can be used to:

- ◆ Identify trends or particular problems needing attention.
- ◆ Support industry position on legislative and regulatory issues.
- ◆ Promote good public relations.
- ◆ Defend the industry's good record.

ARPEL produces its Annual Reports on safety data prior to mid-year for the previous calendar year. These reports are compilations of reported data on occupational injuries, illnesses and fatalities, for the previous year. The Annual Reports are distributed to all ARPEL Member Companies, through the ARPEL Portal.

1.5. RETENTION OF COMPANY INFORMATION

Participating companies should be aware that certain data is published with company codes, whereas other information appears without any reference to the companies or codes. The distributions are outlined below:

Safety Benchmarking in the Oil & Gas Industry in Latin America and the Caribbean:
Each company's data will be identified through a secret code.

Occupational Fatal and NON Fatal Incidents:
*Company individual codes or names will **not be** indicated.*

2. OVERVIEW OF THE ARPEL SAFETY DATABASE

ARPEL sends out the data collection report forms to Member Companies in January of the next year to the data's one. ARPEL maintains a master mailing list of the one or two contacts (described below) in each company who are responsible for seeing that the company's data are entered onto the tables and duly submitted to ARPEL on time.

1. **Contact persons in the Company for submitting data**

The corporate safety director or equivalent and, if desired, one other company-designated individual, will receive the data request from ARPEL, together with this User's Manual and the ARPEL tables for the annual compilation of data. Each company shall determine the appropriate internal routing assignments for data collection, and notify ARPEL of its designated one or two contacts.

ARPEL Executive Secretariat is responsible for requesting data to its Member Companies, as well as for ensuring that they, through their contact persons, have access to this User's Manual and to the corresponding data tables.

2. **ARPEL e-mail address for sending data**

All data tables should be completed and submitted to Pablo Ferragut (pferragut@arpel.org.uy).

3. **Company Responsibilities**

In general, the companies participating in ARPEL Safety Database are continuously collecting data on their occupational injuries, illnesses and fatalities, as well as analyzing the –eventual- incidents that occur in their facilities. Their task in reporting to ARPEL is to accumulate this information from the various internal sources **that corresponds to operations in Latin America and the Caribbean countries** and summarize it on the ARPEL tables according to the guidelines and definitions provided in this manual. ***This information must be submitted to ARPEL between 1st January and 15th March of the following year.***

Besides the mentioned data submission period, the companies are invited to submit the incident analysis forms (OFI and SONFI) in any moment of the year. This will allow to update the APREL incidents database more frequently.

4. **Deadline**

Data on occupational injuries, illnesses and fatalities is all due to ARPEL by 15th March for the previous calendar year.

5. **Late Data**

There is no "late call" for data reports. If a company's data is not submitted by the due date, it will be excluded from the annual report. Late data, however, will be added to the ARPEL database for future use.

6. **ARPEL Data Processing and Analysis**

All data received by ARPEL is logged in and reviewed for completeness. Also, totals are recalculated as are other arithmetic tasks represented on the forms. ARPEL staff may



communicate with the company contacts, if necessary, to complete the forms and correct any anomaly that could be detected.

The database is formed by the records from all of the participating companies in each annual report. Narrative summaries of individual fatal and non fatal incidents are also compiled, and computerized.

7. *Distribution of Annual Reports*

ARPEL Executive Secretariat is responsible for distributing the Annual Reports. ARPEL prepares and disseminates announcements concerning the availability and accessing details once the final report is completed. Successive annual editions of said report are accessible at the Library of the ARPEL Portal.

Internal dissemination of the reports or portions of the reports is left to the discretion of the reporting company

3. GUIDELINES AND DATA ELEMENTS COMMON TO ALL TABLES

These guidelines apply to all ARPEL safety data collection tables. Any questions related to report definitions not addressed in this manual should be directed to ARPEL Executive Secretariat, to Miguel Moyano (mmoyano@arpe.org.uy) and Pablo Ferragut (pferragut@arpe.org.uy).

1. **Completion of the Tables**

All entries on every table should be filled in, to indicate that data has not been overlooked. **Do not leave any blank cells in any case.**

- If the cell is NOT applicable to the reporting company, i.e., if the functions is not performed by the company (e.g. E&P), enter “nr” (not relevant); **do not enter “0”**.
- If there is no available data for a particular cell, but the function is performed by the company, you should put “nda” (no data available). **Do not enter “0”**
- **If you enter “0”** in any cell, this will be interpreted as if the function is performed by the company, that there is data available, and that this data is “0”.

The ARPEL Secretariat will check all the tables received and contact the companies if there are omissions or other inconsistencies detected. Time and effort for both ARPEL and the company can be saved if the tables are completely and accurately filled in.

2. **Use of consistent definitions**

Reporters to ARPEL should follow the definitions provided in this Manual. If a company cannot exactly follow a definition because of the particular way it keeps its own records, it has to be informed.

Any deviations should be described as footnote on the corresponding table or separately attached. **IT IS EXTREMELY IMPORTANT THAT ANY DEVIATION FROM ARPEL DEFINITIONS BE NOTED**; otherwise, the annual industry performance analysis and future studies may be distorted.

As each participating company’s own data system evolves, ARPEL hopes that the company can adapt to the definitions described in this manual.

3. **Data Aggregation**

Reporters to ARPEL should provide the level of detail requested on each table. If data cannot be subdivided according to ARPEL categories, the requested totals should be provided.

4. **Yearly Reporting**

To help sustain the credibility of the reporting system, **IT IS IMPORTANT TO REPORT EVERY YEAR**, not just when things go well or, at the other extreme, when unusual events happen.



5. Proper Incident Reporting

Each company's tables should cover all of its petroleum and petrochemical operations. All of the incidents that meet the criteria in this manual should be included in the data submitted to ARPEL.

If a company's table only covers selected subsidiaries of a parent corporation, then its report should include the incidents and other required data only for those subsidiaries. For instance, on tables OIC and OIO, the injuries reported should be those experienced by the employees included in the "Average Number of Employees" column. The objective is to compare injuries and illnesses to the corresponding employees at risk.

6. Functions Definitions

The ARPEL function (department) categories do not necessarily correspond to Standard Industrial Classification (SIC) codes. The functions definitions are given in the next chapter. **The function categories to be used for ARPEL reporting purposes are defined in Chapter 4 of this manual.**

7. Occupational Injuries, Illnesses, and Fatalities Reporting Criteria

In general, ARPEL criteria for classifying and reporting injuries, illnesses, and fatalities should be consistent with those prescribed by the Occupational Safety and Health Administration (OSHA) or with the country's legislation (if applicable). **Please refer to Chapter 5 of this manual.**

8. Person Responsible for Submitting Data

The company name, address and the name of the member of the ARPEL Safety Benchmarking Project Team (SBPT) must be submitted on the data form.

According to decisions made by CASYSIA (2012), the individual responsible for the accuracy and for submitting the information is the CASYSIA delegate.

9. Reported Functions

Some petroleum companies have operations or subsidiaries dealing with solar energy, coal, shale, or mineral mining or other fields that are not in the mainstream of the oil and gas industry operations. Data on these activities may confuse the picture of the oil and gas industry safety record, thus **it should not be reported.**

10. Joint Venture Operations

In this case, the basis for injury, illness and fatality reporting is that each employer (company) reports cases pertaining to its own employees and contractors **only.**

4. FUNCTION CATEGORIES

Function categories are listed below:

1. **Exploration and Production (E&P)**
2. **Refining**
3. **Transport**
 - a. Pipelines for liquids
 - b. Pipelines for gases
 - c. *Pipelines not separated*
 - d. Maritime
4. **Distribution**
5. **Others**

Definitions to all function categories are described in the following Section.

As a general rule, incidents involving employees or contractors should be reported by the function that hired the employee or contractor, the function for which the contractor is providing its services, even if they were doing another task at the moment of the incident.

4.1. FUNCTION DEFINITIONS

Definitions are given below to remind users of the most common services that are part of each function.

1. **Exploration and Production**

Geophysical, seismographic, and geological operations, including their administrative and engineering aspects. These can be onshore or offshore, and include transportation of personnel or equipment to and from the site.

Petroleum and natural gas producing operations, including maintenance and servicing of production properties. These can include transportation to and from a site and can be offshore or onshore.

Hands-on operations of drilling rigs, including transportation of the equipment to and from the drill site, rigging up, drilling operations, and dismantling the equipment, either onshore or offshore.

2. **Refining**

Refining of crude oil to produce gasoline, kerosene, distillate fuels, residual fuels, lubricants, and other products derived from crude petroleum.

Producing or manufacturing petrochemicals are to be reported as part of this function if chemicals are derived from petroleum, be these processes separated or not from the refining process. The manufacture of other types of chemicals or related products derived from petrochemicals, such as plastic containers, should not be included. Marketing, sales, and distribution of petrochemicals should be reported in "Others" category.



This function also includes the processing of natural gas to produce liquid products such as ethane, liquefied petroleum gases, and natural gasoline.

3. *Transport*

a. Pipelines for liquids

Gathering system and trunk line operations for crude oil. Transportation via pipeline of liquid refined and semi refined products. Pipeline station operations for liquids and others 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 included in that function, **not** here.

b. Pipelines for gases

Gas gathering and trunk line operations of natural gas transmission lines up to the point of retail distribution. Pipeline station operations for gases.

c. Pipelines – not separated

An alternative data entry for those companies unable to report data divided by functions (a) and (b).

d. Maritime

Ships: Includes vessels that are owned, operated, and manned under the petroleum company's supervision. This may include vessels on coastal or transoceanic trips, including international runs, as well as inland waterway tank ships and barges operations, and their associated portion of land-based marine operations. Also includes exceptional circumstance of a "bare boat" charter where the vessel is chartered but the petroleum company provides the crew. It does not include "straight charter" vessels where both crew and vessel are hired for specific runs.

Personnel: In addition to seagoing employees or contractors, it 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 according to OSHA definitions or the country legislation (if applicable) as those used for other employees to allow for comparability with other functions.

4. *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 "Others" 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.

5. *Others*¹

Laboratory research and development operations, where they are a distinct managerial unit. Research and development activities that are an integral part of other functions remain with those functions.

Typical general support services **not** attached to one function, such as general building operations and maintenance, communications and correspondence services, motor pool, automotive repair, and aircraft operations. This category also includes other blue-collar support services, such as print shop and graphics operations, mailroom, and stationery/forms/office supplies.

Administrative and white collar support functions such as legal, controller, medical, public affairs, employee relations, files/libraries, computer operations, etc., which are **not** included with other functions. This category also includes credit card operations and petrochemical marketing/sales/distribution, and engineering activities, such as mechanical, electrical, and civil, if **not** included in other functions.

4.2. OFFSHORE DATA

Data on injuries, illnesses, and fatalities that occur “offshore” are to be reported in function E&P. “Offshore” primarily refers to structures or platforms in the water that are used for exploration, production, or drilling. Incidents associated with platforms under construction are to be included. For the sake of providing a clear definition, there has to be some piece of structure in place or being placed to count as offshore. Offshore also includes incidents involving transportation of people or equipment from a shore base to the facility, or from the facility to the shore. It includes incidents in the water, in the air, or in transferring from a vessel or aircraft to the offshore facility.

Offshore does **not** include sea travel on tankers from distant ports to an offshore facility (which should be reported in the “Maritime Transport” function). Offshore does **not** include shore-side personnel in an offshore district or other land-based office (such as those in accounting, engineering or human resources), unless the employee is assigned to work offshore more than 50% of his/her regularly assigned job. In addition, offshore does **not** include remote locations on shore, which should be included in other onshore categories.

The principle that only “on duty” injuries or illnesses are counted remains the same for offshore workers as for onshore workers. Only “hours worked” that is, hours spent on duty, are reported. However, different companies have different policies regarding when an offshore worker is on duty. There may be an 8-hours shift, a 12-hours shift, or a round-the-clock 24-hours shift a day. Whatever the shift length be, the report should show the number of hours that employees are on duty (on shift) and the corresponding number of injuries and illnesses that occurred on duty. For example, injuries should not be reported on a 24-hours basis if hours are reported on a 12-hours basis, or else the injury rate would be exaggerated.

¹ Except for credit cards accounting, this category is considered as support to functions and installations not included in any of the other categories that are more specific. The support personnel and the installations within one function are included in that function.



5. OCCUPATIONAL INJURIES, ILLNESSES AND FATALITIES DATA

This chapter describes the guidelines and data elements exclusive to Tables OIC and OIO, on occupational injuries, illnesses and fatalities in the Oil & Gas Industry in Latin America and the Caribbean. Copies of the tables appear on Chapter 8. Note that there are two tables for reporting occupational injuries, illnesses and fatalities for the company; and two for contractors. Tables OIO are for reporting offshore data. Each employer should report those cases pertaining to its employees and contractors.

The indicators and the totals are computed in the shaded cells of the tables. The computed quantities will be recomputed by ARPEL and checked against the totals reported. The reporting company does not have to fill in the shaded cells because they are automatically fulfilled once the corresponding data is entered. If data **cannot** be provided at the level of detail requested in the table, the totals should be provided.

The following is a list of the definitions of the data elements on Tables OIC and OIO:

1. **Function**

The definitions of all function categories are included in Chapter 4 of this manual

2. **Average Number of Employees and/or Contractors**

The average number of full time employees and/or contractors for the reporting year (which may significantly differ from the number of workers at year end).

3. **Hours Worked (Thousands)**

Current hours worked should be divided by 1,000. It should be reported in thousand hours worked a year.

NOTE: Based on review of historical data, ARPEL has determined that 1,800 to 2,700 hours per employee per year is a reasonable range for the "Hours Worked" entry for most functions in Latin America and the Caribbean. As data is entered into ARPEL tables, Columns 2 and 3 for each entry line will be compared; the table will accept the data as valid. However, data outside the 1,800 to 2,700 hours-per-employee range will be "flagged" for verification. If data reported is outside that range, a red note will appear in the Excel form. Therefore, reporting companies may wish to perform this reasonableness check and verify (and footnote on the table) any data that fall outside this range in order to avoid a verification call from ARPEL staff.

4. **Recordable Cases - Column 4**

This part of the form collects information about work-related injuries, illnesses and fatalities of the petroleum industry in the different functions of the industry.

Column 4(a) – Injuries: All occupational injuries should be recorded. Workers involved in incidents that require first aids and subsequently go back to work, should **not** be considered in this column. Occupational injuries resulting in deaths are not included.

Column 4(b) – Illnesses: Occupational Illnesses are to be reported, including those resulting in deaths.

An occupational illness is any abnormal condition or disorder, other than one resulting from an occupational injury, caused by exposure to environmental factors associated with employment. Occupational illnesses may be caused by inhalation, absorption, ingestion of

or direct contact with the hazard, as well as exposure to physical and psychological hazards. They will generally result from prolonged or repeated exposure. Examples of occupational illnesses are noise induced hearing loss, respiratory disease such as asbestosis and asthma, skin disease such as contact dermatitis, upper limb and neck disorder and mental ill-health.

Only new cases are reportable, i.e. new cases diagnosed during the reporting year

Column 4(c) – Fatalities: A fatality resulting from an occupational injury or illness should be included in the year in which the injury event occurred or the occupational illness was recorded.

In reporting to ARPEL, injuries and illnesses are to be classified according to the legislation/regulations (if applicable) of the country where the company is reporting its operations.

Column 4(d) - Total (Recordable Cases): it is the sum of columns 4(a), 4(b) and 4(c).

5. **Extent and Outcome of Injuries and Illnesses - Column 5**

Each case must be classified as to its extent and outcome as follows:

Column 5(e) Restricted Workday Cases: All nonfatal cases that imply days of restricted activity on any scheduled workday after the day of the injury or illness, or both, should be shown in Column 5(e). Fatalities should be excluded; as they are entered in Column 4(c).

Column 5(f) Lost Workday Cases: 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 should be shown in column 5(f). The day on which an injured worker goes home early does not count. **Fatalities should be excluded; as they are entered in Column 4(c).**

Column 5(g) Medical Treatment Cases: Treatment of injuries/illnesses provided by doctors, matriculated professionals or non-medical persons. The medical treatment does not include first aids² even if they are given by a doctor or by a matriculated professional.

Column 5(h) Number of Days Away From Work: Enter the total number of days (consecutive or not) after the day of the injury or illness on which the workers involved in cases entered in Column 5(f) were scheduled to work but could not because of an occupational injury or illness until the day they came back to normal work. **Include weekends, holidays, etc., even if the employee was not scheduled to work (the day the person starts working is excluded).**

Equally to the fatalities criteria, if an incident occurs in one year, but it generates lost workdays in the following year, the lost workdays must be registered in the year in which the incident occurred.

² A first aid case consists of a single treatment and the following observation of cuts, burnings, scratches and other similar minor injuries, which do not generally require medical attention. A case can be classified as such if a doctor, or other health matriculated professional, provides the first aid. The administration of one dose of medicine prescribed in the first visit due to a minor injury is also considered First Aid. The regular use of non-prescribed medicine, freezing bags, heat treatments and other multiple antiseptic applications does not affect the classification.



Column 5(i) Cases of Total or Partial Permanent Disability.

Permanent total disability: Any injury other than death which permanently and totally incapacitates an employee from following any gainful occupation, or which results in the loss, or the complete loss of use, of any of the following organs/members in one accident: a) both eyes, b) one eye and one hand, or arm, or leg, or foot, c) any two of the following not on the same limb: hand, arm, foot, or leg.

Permanent partial disability: Any injury other than death or permanent total disability which results in the loss, or complete loss of use, of any member or part of a member of the body, or any permanent impairment of functions of the body or part thereof, regardless of any pre-existing disability of the injured member or impaired body function.

Column 5(j) Number of days away from due to fatality or permanent disability (p/ANSI equivalence): Is the number of days (agreed by convention) charged to cases of fatalities, permanent total disability or permanent partial disability, according to the “Table of equivalence of days away from work caused by death, permanent total disability or permanent partial disability (ANSI z16.1)”, which is included in chapter 9. This column has a different color because the value is a number of conventional days (not necessarily actual days), which allows for a better data comparability for the cases of fatality, total permanent disability or partial permanent disability.

6. Reactive Indicators - Column 6

All reactive indicators recorded in Column 6 refer to 1,000,000 hours worked. Since Column 3 is reported in thousands of hours, the simplified formulae for calculating Columns 6(j), 6(k), 6(l), 6(m) and 6(n) are as follows:

$$\text{Column 6(k)} = \frac{\text{Column 4(d)} \times 1000}{\text{Column 3}} = \text{Total Incidents' Rate}$$

$$\text{Column 6(l)} = \frac{\text{Column 5(h)} \times 1000}{\text{Column 3}} = \text{Incidents' Gravity Rate}$$

$$\text{Column 6(m)} = \frac{\text{Column 5(f)} \times 1000}{\text{Column 3}} = \text{Incidents' Frequency Rate with Lost Workdays}$$

$$\text{Column 6(n)} = \frac{\text{Column 4(c)} \times 1000}{\text{Column 3}} = \text{Fatal Incidents' Rate}$$

$$\text{Column 6(o)} = \frac{\text{Column 5(i)} \times 1000}{\text{Column 3}} = \text{Fatalities or Permanent Disabling incidents' Frequency Rate}$$

$$\text{Column 6(p)} = \frac{\text{Column 5(j)} \times 1000}{\text{Column 3}} = \text{Fatalities or Permanent Disabling incidents' Gravity Rate}$$

The report will also show the combined (company and contractors) reactive indicators. In these cases, the indicators are calculated as the total sum of company and contractors incidents, divided by the total sum of hours worked by company and contractors. In other words is a simple weighted average. The indicators are expressed in terms of million hours worked.

7. Tables OIO- Offshore Activities

These tables report data on offshore injuries, illnesses and fatalities **only. ALL OFFSHORE DATA ON INJURIES, ILLNESSES, FATALITIES AND HOURS WORKED SHOULD ALSO BE INCLUDED IN TABLES OIC.**

Offshore activities are defined in Chapter 4. All definitions of the columns are the same as for Tables OIC. As previously noted, the only difference is that the shift lengths (hours worked per day) may be different for offshore workers than onshore workers.

Additional supplemental information related to hours worked per day offshore is requested in the box entitled "Supplemental Information". The number of regular hours worked per day or the number of hours of exposure while "on-duty" should be reported in the first line of this box. For example, it might be 8 hours, 12 hours, or 24 hours. On the second line, please report the typical duty cycle for offshore employees, such as 7 days on, 7 days off. These two lines together provide a basis for interpreting the "number of hours worked" reported for offshore employees.



6. PROCESS SAFETY

A summary of the process safety events definitions and classification is presented below. It is based on the CCPS report *Process Safety Leading and Lagging Metrics*. For further information please see the report³. In every case, the report is based on the standard API 754, 2nd edition, April 2016, and on the API *Guide to Reporting Process Safety Events v3.0*⁴.

6.1. Process Safety Incident (PSI) (TIER 1 – PSE according to según API - 754)

According to API-754 an incident is reported as a Process Safety Incident if it meets all four of the following criteria:

1. Process Involvement

A process must have been directly involved in the damage caused. For this purpose, the term "process" is used broadly to include the equipment and technology needed for chemical, petrochemical and refining production, including reactors, tanks, piping, boilers, cooling towers, refrigeration systems, etc. An incident with no direct chemical or process involvement, e.g., an office building fire, even if the office building is on a plant site, is not reportable. An employee injury that occurs at a process location, but in which the process plays no direct part, is not reportable as a PSI (though it could be an OSHA or other agency reportable injury). The intent of this criterion is to identify those incidents that are related to process safety, as distinguished from personnel safety incidents that are not process-related. For example, a fall from a ladder resulting in a lost workday injury is not reportable simply because it occurred at a process unit. However, if the fall resulted from a chemical release, then the incident is reportable.

2. Reporting Thresholds

An unplanned or uncontrolled release of any material, including non-toxic and non-flammable materials (e.g., steam, hot condensate, nitrogen, compressed CO₂ or compressed air⁵), from a process that results in one or more of the consequences listed below:

1. An employee or contractor day(s) away from work injury and/or fatality, or hospital admission and/or fatality of a third party (non-employees/contractor)
 2. An officially declared community evacuation or community shelter-in-place;
 3. Fires or explosions resulting in greater than or equal to \$100,000 of direct cost to the company, or;
 4. An acute release of flammable, combustible, or toxic chemicals greater than the chemical release threshold quantities described on the table below. Note that the table has an additional threshold quantity level column which is recommended for indoor releases
- Releases include pressure relief device (PRD) discharges, whether directly or via a downstream destructive device that results in liquid carryover, discharge to a potentially unsafe location, on-site shelter-in-place, or public protective measures (e.g., road closure)

³ http://www.aiche.org/sites/default/files/docs/pages/CCPS_ProcessSafety_Lagging_2011_2-24.pdf

⁴ Guide to Reporting Process Safety Events. Version 3.0. (API, 2016) http://www.api.org/~media/Files/Oil-and-Natural-Gas/Refining/Process%20Safety/API_Guide_to_Report_PSE_Version_3.pdf

⁵ Steam, hot condensate, and compressed or liquefied air are only included in this definition if their release results in one of the consequences other than a threshold quantity release. However, other nontoxic, nonflammable gases with defined UNDG Division 2.2 thresholds (such as nitrogen, argon, compressed CO₂) are included in all consequences including, threshold releases

Threshold Release Category	Material Hazard Classification ^{a,c,d,e,f}	Threshold Quantity (outdoor release)	Threshold Quantity (indoor release)
T1-1	TIH Zone A Materials	≥ 5 kg (11 lb)	≥ 0.5 kg (1.1 lb)
T1-2	TIH Zone B Materials	≥ 25 kg (55 lb)	≥ 2.5 kg (5.5 lb)
T1-3	TIH Zone C Materials	≥ 100 kg (220 lb)	≥ 10 kg (22 lb)
T1-4	TIH Zone D Materials	≥ 200 kg (440 lb)	≥ 20 kg (44 lb)
T1-5	Flammable Gases, or Liquids with Initial Normal Point ≤ 35 °C (95 °F) and Flash Point < 23 °C (73 °F), or Other Packing Group I Materials (excluding acids/bases)	≥ 500 kg (1100 lb)	≥ 50 kg (110 lb)
T1-6	Liquids with Normal Boiling Point > 35 °C (95 °F) and Flash Point < 23 °C (73 °F), or Other Packing Group II Materials (excluding acids/bases)	≥ 1000 kg (2200 lb) or ≥ 7 bbl	≥ 100 kg (220 lb) or ≥ 0.7 bbl
T1-7	Liquids with Flash Point ≥ 23 °C (73 °F) and ≤ 60 °C (140 °F), or Liquids with Flash Point > 60 °C (140 °F) released at a temperature at or above Flash Point, or strong acids/bases (see definition 2.2, Terms and Definitions), or Other Packing Group III Materials	≥ 2000 kg (4400 lb) or ≥ 14 bbl	≥ 200 kg (440 lb) or ≥ 1.4 bbl
It is recognized that threshold quantities given in kg and lb or in lb and bbl are not exactly equivalent. Companies should select one of the pair and use it consistently for all recordkeeping activities.			
In determining the Threshold Release Category for a material, one should first use the toxic (TIH Zone) or flammability (Flash Point and Boiling Point) or corrosiveness (Strong Acid or Base vs. Moderate Acid or Base) characteristics. Only when the hazard of the material is not expressed by those simple characteristics (e.g., reacts violently with water) is the UNDGL Packing Group used.			
<p>a Many materials exhibit more than one hazard. Correct placement in Hazard Zone or Packing Group shall follow the rules of DOT 49 CFR 173.2a or UN Recommendations on the Transportation of Dangerous Goods, Section 2. See Annex F²⁵.</p> <p>b A structure composed of four complete (floor to ceiling) walls, floor, and roof.</p> <p>c For solutions not listed on the UNDG, the anhydrous component shall determine the TIH zone or Packing Group classification. The threshold quantity of the solution shall be back calculated based on the threshold quantity of the dry component weight.</p> <p>d For mixtures where the UNDG classification is unknown, the fraction of threshold quantity release for each component may be calculated. If the sum of the fractions is equal to or greater than 100 %, the mixture exceeds the threshold quantity. Where there are clear and independent toxic and flammable consequences associated with the mixture, the toxic and flammable hazards are calculated independently. See Annex E²⁷ PSE Examples & Questions 49-53.</p> <p>e A LOPC of Liquids with Flash Point > 60 °C (140 °F) and ≤ 93 °C (200 °F) released at a temperature below Flash Point cannot be Tier 1 PSE based upon quantity released no matter the volume.</p> <p>f A LOPC of a moderate acid/base cannot be Tier 1 PSE based upon quantity released no matter the volume.</p>			

3. Location

An incident satisfies the location criteria if:

The incident occurs in production, distribution, storage, utilities or pilot plants of a facility reporting metrics under these definitions. This includes tank farms, ancillary support areas (e.g., boiler houses and waste water treatment plants), and distribution piping under control of the site.

All reportable incidents occurring at a location will be reported by the company that is responsible for operating that location. This applies to incidents that may occur in contractor work areas as well as other incidents.

At tolling operations and multi-party sites, the company that operates the unit where the incident initiated should record the incident and count it in their PSI metric.



4. Acute Release

A “1-hour” rule applies for the purpose of the reporting under this metric, i.e. the release of material reaches or exceeds the reporting threshold in any 1-hour period. If a release does not exceed the threshold quantity (TQ) level during any 1-hour period, it would not be treated as a PSI. Typically, acute releases occur in 1-hour or less; however, there may be some releases that would be difficult to prove if the threshold amount release occurred in 1-hour. (Example: A large inventory of flammable liquid is spilled from a tank or into a dike overnight due to a drain valve being left upon prior to a transfer operation. It may not be discovered for several hours, so it is difficult to know the exact time when the threshold quantity was exceeded.) If the duration of the release cannot be determined, the duration should be assumed to be 1 hour.

6.2. Process Safety Incident (PSI) (TIER 2 – PSE according to API – 754)

A Tier 2 PSE is an event that involves loss of primary containment (LOPC) with lesser consequence than a PSI event.

The count of Tier 2 Process Safety Events represent those loss of primary containment (LOPC) incidents with a lesser consequence than a PSI. Tier 2 PSEs, even those that have been contained by secondary systems, indicate barrier system weaknesses that may be potential precursors of future, more significant incidents. In that sense, Tier 2 PSEs can provide a company with opportunities for learning and improvement of its process safety performance.

The same criteria of Process Involvement, Location and Acute Release applied for PSI Tier 1 is applied for Tier 2 PSI. The difference is that Tier 2 has a lesser consequence. A Tier 2 LOPC is an unplanned or uncontrolled release of any material, including non-toxic and non-flammable materials (e.g. steam, hot condensate, nitrogen, compressed CO₂ or compressed air), from a process that results in one or more of the consequences listed below and is not reported in Tier 16:

1. an employee, contractor or subcontractor recordable injury;
2. a fire or explosion resulting in greater than or equal to \$2,500 of direct cost to the Company;
3. An acute release of flammable, combustible, or toxic chemicals from the primary containment (i.e., vessel or pipe) greater than the release threshold quantities described on the following table, note that table 2 has a threshold quantity level column which are recommended for indoor releases. o including pressure relief device (PRD) discharges, whether directly or via a downstream destructive device that results in liquid carryover, discharge to a potentially unsafe location, on-site shelter-in-place, or public protective measures (e.g., road closure)

Threshold Release Category	Material Hazard Classification ^{a,c,d,e,f}	Threshold Quantity (outdoor release)	Threshold Quantity (indoorb release)
T2-1	TIH Zone A Materials	≥ 0.5 kg (1.1 lb)	≥ 0.25 kg (0.55 lb)
T2-2	TIH Zone B Materials	≥ 2.5 kg (5.5 lb)	≥ 1.25 kg (2.75 lb)
T2-3	TIH Zone C Materials	≥ 10 kg (22 lb)	≥ 5 kg (11 lb)
T2-4	TIH Zone D Materials	≥ 20 kg (44 lb)	≥ 10 kg (22 lb)
T2-5	Flammable Gases, or Liquids with Normal Boiling Point ≤ 35 °C (95 °F) and Flash Point < 23 °C (73 °F), or Other Packing Group I Materials (excluding acids/bases)	≥ 50 kg (110 lb)	≥ 25 kg (55 lb)
T2-6	Liquids with Normal Boiling Point > 35 °C (95 °F) and Flash Point < 23 °C (73 °F), or Other Packing Group II Materials (excluding acids/bases)	≥ 100 kg (220 lb) or 0.7 bbl	≥ 50 kg (110 lb) or 0.35 bbl
T2-7	Liquids with Flash Point ≥ 23 °C (73 °F) and ≤ 60 °C (140 °F), or, Liquids with Flash Point > 60 °C (140 °F) released at a temperature at or above Flash Point, or strong acids/bases (see definition 2.2, Terms and Definitions), or UNDG Class 2, Division 2.2 (non-flammable, non-toxic gases) excluding air, or Other Packing Group III Materials	≥ 200 kg (440 lb) or ≥ 1.4 bbl	≥ 100 kg (220 lb) or ≥ 0.7 bbl
T2-8	Liquids with Flash Point > 60 °C (140 °F) and □ 93 °C (200 °F) released at a temperature below Flash Point, or Moderate acids/bases (see definition 2.1, Terms and Definitions)	≥ 1000 kg (2200 lb) or ≥ 7 bbl	≥ 500 kg (1100 lb) or ≥ 3.5 bbl
It is recognized that threshold quantities given in kg and lb or in lb and bbl are not exactly equivalent. Companies should select one of the pair and use it consistently for all recordkeeping activities.			
In determining the Threshold Release Category for a material, one should first use the toxic (TIH Zone) or flammability (Flash Point and Boiling Point) or corrosiveness (Strong Acid or Base vs. Moderate Acid or Base) characteristics. Only when the hazard of the material is not expressed by those simple characteristics (e.g., reacts violently with water) is the UNDG Packing Group used.			
a Many materials exhibit more than one hazard. Correct placement in Hazard Zone or Packing Group shall follow the rules of DOT 49 CFR 173.2a or UN Recommendations on the Transportation of Dangerous Goods, Section 2. See Annex F ²⁵ .			
b A structure composed of four complete (floor to ceiling) walls, floor and roof.			
c For solutions not listed on the UNDG, the anhydrous component shall determine the TIH zone or Packing Group classification. The threshold quantity of the solution shall be back calculated based on the threshold quantity of the dry component weight.			
d For mixtures where the UNDG classification is unknown, the fraction of threshold quantity release for each component may be calculated. If the sum of the fractions is equal to or greater than 100 %, the mixture exceeds the threshold quantity. Where there are clear and independent toxic and flammable consequences associated with the mixture, the toxic and flammable hazards are calculated independently. See Annex E ²⁶ , PSE Examples & Questions 49-53.			
e A LOPC of Liquids with Flash Point > 60 °C (140 °F) and □ 93 °C (200 °F) released at a temperature below Flash Point cannot be Tier 1 PSE based upon quantity released no matter the volume.			
f A LOPC of a moderate acid/base cannot be Tier 1 PSE based upon quantity released no matter the volume.			

6.3. Process Safety Data

This section describes the guidelines and information elements for the Process Safety form, about process safety events in the oil and gas industry in Latin America and the Caribbean. A copy of the form is available on chapter 9.

Each process safety event must be reported in an individual row of the form, entering the following information:

1. Level

Please define if the event was Tier 1 or Tier 2, following the definitions of sections 6.1 and 6.2.

2. Function

The function categories are defined on chapter 4.

3. Activity

The events must be classified depending on the type of activity that was being performed when the event happened:

1. Commissioning
2. Shutdown
3. Normal Operation Activity
4. Other



4. Consecuencia

Please fill with “yes” or “no” in each of the consequences that are listed below:

1. Fatality or lost workdays
2. Hospital admission or fatality of a third party
3. Community evacuation
4. Fire or explosion
5. Discharge of pressure release devices
6. Released material

5. Fatal events

Please indicate the following in case of Tier 1 events:

1. If at least one fatality happened as a consequence of the event, enter “yes” or “no” in the corresponding cell
2. In case that there were fatalities, please enter the number of fatalities registered for:
 - a. Company or contractors employees
 - b. Third parties

6.4. Indicadores de Seguridad de Procesos

Process Safety Indicators will be the frequency rate of PSI by million and 200 thousand hours worked, in order to make international comparison easier.

- Tier 1 PSE Rate $_{1,000,000} = (\text{Total Tier 1 PSE Count} / \text{Total Work Hours}) \times 1,000,000$
- Tier 1 PSE Rate $_{200,000} = (\text{Total Tier 1 PSE Count} / \text{Total Work Hours}) \times 200,000$
- Tier 2 PSE Rate $_{1,000,000} = (\text{Total Tier 2 PSE Count} / \text{Total Work Hours}) \times 1,000,000$
- Tier 2 PSE Rate $_{200,000} = (\text{Total Tier 2 PSE Count} / \text{Total Work Hours}) \times 200,000$
- Tier 1 + Tier 2 PSE Rate $_{1,000,000} = ((\text{Total Tier 1} + \text{Tier 2 PSE Count}) / (\text{Total Work Hours})) \times 1,000,000$
- Tier 1 + Tier 2 PSE Rate $_{200,000} = ((\text{Total Tier 1} + \text{Tier 2 PSE Count}) / (\text{Total Work Hours})) \times 200,000$

7. OCCUPATIONAL INCIDENTS REPORTS⁶

Reports on Occupational Fatal and NON Fatal Incidents are voluntary and due at ARPEL by 15th March. These reports should be submitted along with all data tables on incidents statistics for the reporting company.

Unlike the other tables to submit annual statistical information, the Occupational Incidents Reports (Tables OFI and SONFI) procedure requires narrative information on individual incidents that have resulted in employees' or contractors' death (FATAL), or in more than one person injured, and with lost workdays (NON FATAL). Each employer is to report incidents **only** pertaining to its employees and contractors.

Samples of the reports are included in Chapter 8 of this manual. One **OFI Occupational Fatal Incident Report** is to be used for each incident that results in one or more fatalities. One **SONFI Severe Occupational NON Fatal Incident Report** is to be used for each NON fatal incident with more than one injured people and with lost workdays.

There may be occasions when one incident being reported is a contributory or precipitating factor or happens to be in progress at the time of occurrence of a second (or third) incident. In this case, a separate **incident report** should be prepared and submitted for **each** identifiable incident; the link between such incidents (if any) should also be explained on each report. For example, one worker could be fatally burned in a flash fire and another worker could be killed by an unrelated equipment failure while fighting the fire. In this instance, the separate fatal incident reports would simply refer to the employee's participation as a firefighter; the only link between the two incidents.

7.1. OCCUPATIONAL FATAL INCIDENT REPORT (ARPEL Table OFI for Company and Contractors)

1. Number of Fatalities in this Incident

The total number of workers or contractors who died as a result of the particular incident being reported. "Delayed" deaths that occur after the incident are to be included if they were a result of the incident. For example, if a fire killed one person outright, and a second person died three weeks later from lung damage caused by the fire, **both** deaths should be reported.

In some cases, a delayed fatality occurs in the next calendar year after the incident. For example, if the above fire occurred on 21st December, 2009, the second consequent death would have occurred on January 2010. **ALL FATALITIES FROM AN INCIDENT SHOULD BE INCLUDED IN THE REPORT FOR THE YEAR OF THAT INCIDENT.** In the above case, the fatality in 2009 should be reported with the 2009 data.

⁶ This chapter only describes the guidelines and data elements in the Occupational Fatal and NON Fatal Incidents Tables, OFI-1 and OFI-2. The reader should also refer to Chapter III, Guidelines and Data Elements common to All Tables and to Chapter IV, Function Categories.



2. **Sex and Age of Victim**

The sex of each victim should be reported as an “M” for male and “F” for female. Age should be reported in years; an estimate should be reported if the exact age is not known. For example, three fatalities: two males aged 25 and 52, and one female aged 32, would be reported as follows:

M-25, M-52, F-32

3. **Function (Department) of Worker**

The function chosen should be consistent with the definitions contained in this manual. Generally an entry should be made for the function to which the worker was assigned (e.g. the function that paid his or her salary, not where he or she was at the time of the incident). If workers from more than one function are involved, the number involved should be entered for each function.

4. **Offshore / Onshore**

A cross (X) should be entered in the appropriate box to indicate whether the incident occurred offshore or onshore.

5. **Activity during which the incident occurred**

Entries should be made in the boxes that best describe the activity of each worker killed in the incident. If two or more had the same activity, that number should be entered in the appropriate category.

- **TRANSPORT - WATER**
- **TRANSPORT - LAND** - incidents involving motorized vehicles designed for transporting people and goods over land, e.g. cars, buses, trucks. Pedestrians struck by a vehicle are classified as land transport incidents. Incidents from a mobile crane would only be land transport incidents if the crane were being moved between locations.
- **TRANSPORT - AIR** - incidents involving aircraft, either fixed wing or helicopters. Injuries caused by accidents on the ground at airports are classified in one of the other categories.
- **SEISMIC OPERATIONS**
- **OPERATIONS** - includes normal, start-up or shut-down operations
- **ADMINISTRATIVE**
- **MAINTENANCE, INSPECTION**
- **HEAVY EQUIPMENT OPERATION** - Operations with: Crane or drag line, road-building machinery, bulldozer or other off-road vehicle and forklift.
- **DRILLING**
- **DIVING**
- **CONSTRUCTION**
- **OTHER (PLEASE DESCRIBE)** - Others **not** included in the classifications above. Please provide a short description of the Type of Activity when using this category.

6. *Type of Incident*

Check the box that indicates the general type of incident it was. If the general categories do not apply, check the “Other” box and write in a few key words the type of incident. The general categories are⁷:

Motor Vehicle Incident: A fatality caused by being injured within or by a motor vehicle. Include pedestrian fatalities under “Struck by Equipment”.

Other Transportation (Aircraft, Train, Ship): Generally, any transportation incident other than those involving motor vehicles.

Fires and Explosions: A fatality caused by burns, toxic gases, or other effects of a fire or explosion. “Explosion” here means a rapid combustion, **not** an overpressure.

Drowning.

Caught In or Between: Includes fatalities such as those caused by being crushed or otherwise injured by machinery or other objects, caught between steel beams being moved, caught between a ship and a dock, etc.

Struck by Equipment: An injury caused by being struck by a derailer, a forklift, dropped hand tools, etc. Occupational fatalities involving employee pedestrians are to be included here.

Fall: A fatality caused by falling over something or falling off or onto something.

Toxic Gas or Liquid: A fatality from toxic gases or liquids that **did not** result from a fire or combustion explosion. Fatalities from pipe overpressures that release toxic gases should be included here.

Electrocution

Confined Spaces.

Assault or violent act.

Pressure releases.

Others (please describe): To be used for types of incidents that do not fit in the above categories. Please provide a short description of the Type of Incident when using this category.

7. *Narrative Description of the Incident, Including Circumstances that Led to Fatalities*

Some narrative can be provided on every fatal incident, though some details may have to be withheld on legal advice. Provide at least as much as was provided to the press and

⁷ A fatality could involve more than one of these categories. Use the one that best describes the causal event from the point of view of describing prevention programs. For example, a fall caused by being struck by a crane would be classified as “Struck by Equipment”—that is the action that should have been prevented, even though a fall was involved.



public services such as the medical report, fire incident report, police report, etc. Caveats as to the uncertainties on various points of information may be included.

If possible, the narrative should include a factual description of the incident, how it came about, how the victim(s) happened to be involved, and circumstances that contributed to the fatality (e.g. lack of use of protective gear contrary to company policy).

8. Which was the exact cause of the incident, and how can said incident be prevented?

At this point you should provide a more detailed description of the incident, so as to make this information instructive to others, in order to take the necessary precautions to prevent future similar incidents.

8a. Element/s of the management system that failed and made the incident happen according to the Root Cause Analysis (RCA).

8b. Learned Lessons.

8c. Include photos/explanatory pictures (optional)

7.2. OCCUPATIONAL NON FATAL INCIDENT REPORT (ARPEL Table SONFI for Company and Contractors)

These tables are equivalent to OFI, except for the fact that they refer to Occupational NON Fatal Incidents, with more than one person injured, and with lost workdays. Each incident should be reported in a separate table.

8. SAFETY PROACTIVE INDICATORS

Safety Proactive Indicators data is due at ARPEL by 15th March, along with the other data tables on incidents statistics for the reporting company.

Estos indicadores incluyen únicamente datos de la compañía, debiendo excluirse los datos de contratistas.

A sample of the table to submit this data, PI-1, can be found in Chapter 8 of this manual. Shaded cells in the table must not be completed by the reporting company. These items are automatically calculated, except if data cannot be provided at the requested level of detail in the table (e.g. functions), in which case the total should be directly entered in the corresponding shaded cell.

The following is a list of the data elements on the Proactive Indicators Table:

1. *Function – Column 1*

All definitions of the function categories are included in Chapter 4 of this manual.

Task Planned Observations (TPO) – Column 2

2. *Number of Task Planned Observations (cumulative)⁸ – Column 2(a)*

The total number of planned task observations completed by company's employees in the reporting period.

Definition: Task Planned Observations⁹

"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.

3. *Average Number of Employees – Column 2(b)*

This item is defined in Chapter 5 of this manual. The corresponding value is automatically computerized from the one given in ARPEL Table N° OIC-1 (Company).

4. *TPO Rate⁶ – Column 2(c)*

$$\text{TPO Rate} = \frac{\text{Number of Task Planned Observations recorded in the reported period}}{\text{Average Number of Employees in the reported period}}$$

$$\text{Column 2(c)} = \frac{\text{Column 2(a)}}{\text{Column 2(b)}} = \text{TPO Rate}$$

⁸ Formulae for safety proactive indicators and related parameters were provided by RepsolYPF

⁹ TPO definition is a combination of definitions used by RepsolYPF and ANCAP



Safety Training Intensity (STI) – Column 3

5. *Safety Training Hours (cumulative)*¹⁰ – Column 3(d)

Total number of hours related to safety training activities provided in the reporting period.

6. *Hours Worked (Thousands)* – Column 3(e)

This item is defined in Chapter 5 of this manual. The corresponding value is automatically computerized from the one given in ARPEL Table N° OIC-1 (Company)

7. *STI Rate*¹¹ – Column 3(f)

$$\text{STI Rate} = \frac{\text{Total hours of safety training provided in the reporting period} \times 100}{\text{Total recordable number of hours worked in the same period of time}}^{12}$$

$$\text{Column 3(f)} = \frac{\text{Column 3(d)} \times 100}{\text{Column 3(e)} \times 1,000} = \text{STI Rate}$$

¹⁰ Formulae for safety proactive indicators and related parameters were provided by RepsolYPF

¹¹ See 7

¹² “Total recordable number of hours worked in the same period of time” are calculated as “Hours Worked (Thousands)” multiplied by 1,000.

9. DATA TABLES

This Chapter includes all tables referred in Chapters 1 to 8.

GENERAL INSTRUCTIONS:

- ◆ If you have any doubt on how to complete the tables, please **REFER TO THE ARPEL USER'S MANUAL OR CONTACT THE ARPEL EXECUTIVE SECRETARIAT.**
- ◆ All entries on every table should be filled in, to indicate that data has not been overlooked. **Do not leave any blank cells in any case.**
 - If the cell is NOT applicable to the reporting company, i.e., if the functions is not performed by the company (e.g. E&P), enter "nr" (not relevant); **do not enter "0"**.
 - If there is no available data for a particular cell, but the function is performed by the company, you should put "nda" (no data available). **Do not enter "0"**
 - **If you enter "0"** in any cell, this will be interpreted as if the function is performed by the company, that there is data available, and that this data is "0".

COVER:



Company	
Country	
State	
City	
Address	
EP&SI member ¹	
Telephone Number	
Fax	
E-Mail	

1. Safety Project Team (SPT)

Subsidiary and Affiliated Companies included in this Data Form	
Subsidiary / Affiliated Companies	Country

Please select the functions that you will report

Company	Contractors
<input type="checkbox"/> E&P total (Company)	<input type="checkbox"/> E&P total (Contractors)
<input type="checkbox"/> Refining (Company)	<input type="checkbox"/> Refining (Contractors)
<input type="checkbox"/> Transport-pipelines for liquids (Company)	<input type="checkbox"/> Transport-pipelines for liquids (Contractors)
<input type="checkbox"/> Transport-pipelines for gases (Company)	<input type="checkbox"/> Transport-pipelines for gases (Contractors)
<input type="checkbox"/> Transport-pipeline not separated (Company)	<input type="checkbox"/> Transport-pipeline not separated (Contractors)
<input type="checkbox"/> Transport Maritime (Company)	<input type="checkbox"/> Transport Maritime (Contractors)
<input type="checkbox"/> Distribution (Company)	<input type="checkbox"/> Distribution (Contractors)
<input type="checkbox"/> Others (Company)	<input type="checkbox"/> Others (Contractors)
<input type="checkbox"/> E&P offshore (Company) / Form OIO	<input type="checkbox"/> E&P offshore (Contractors) / Form OIO

Reactive Indicators Formulae (Tables OIC and OIO)

$$\text{Column 6(k)} = \frac{\text{Column 4(d)} \times 1000}{\text{Column 3}}$$

$$\text{Column 6(l)} = \frac{\text{Column 5(h)} \times 1000}{\text{Column 3}}$$

$$\text{Column 6(m)} = \frac{\text{Column 5(f)} \times 1000}{\text{Column 3}}$$

$$\text{Column 6(n)} = \frac{\text{Column 4(c)} \times 1000}{\text{Column 3}}$$

$$\text{Column 6(o)} = \frac{\text{Column 5(i)} \times 1000}{\text{Column 3}}$$

$$\text{Column 6(p)} = \frac{\text{Column 5(j)} \times 1000}{\text{Column 3}}$$

Proactive Indicators Formulae (Table PI)

$$\text{Column 2(c)} = \frac{\text{Column 2(a)}}{\text{Column 2(b)}}$$

$$\text{Column 3(f)} = \frac{\text{Column 3(d)} \times 100}{\text{Column 3(e)} \times 1000}$$



OIC TABLES:

- ◆ When entering data in Column (3) – Hours Worked (Thousands), please enter the total number of hours worked divided by 1,000
- ◆ The number of employees and/or contractors recorded in Column (2) should be the **average** number of employees and/or contractors for the year in order to account for fluctuations in the workforce throughout the year.



ARPEL Table OIC (Company) - Company totals (Including offshore activities) - COMPANY DATA YEAR 2011

1 Function	2 Average number of employees	3 Hours Worked (Thousands)	4 Registrable Cases				5 Extent and outcome of injuries and illnesses						6 Reactive Indicators											
			a Injuries	b Illnesses	c Fatalities	d Total	e Cases of			h Number of days away from work	i Cases of Total or Partial Disability	j Number of days away from work due to fatality or permanent disability (p/ANSI equiv.)	k Total	l Gravely	m Frequency with lost Workdays	n Fatalities	o Frequency with Fatalities or Permanent disability cases	p Gravity of Fatal or Permanent Disability Injury cases						
							f Restricted Workdays	g Lost Workdays	Medical Treatment															
E&P						0												NR	NR	NR	NR	NR	NR	
Refining						0												NR	NR	NR	NR	NR	NR	
Transport-pipelines for liquids						0												NR	NR	NR	NR	NR	NR	
Transport-pipelines for gases						0												NR	NR	NR	NR	NR	NR	
Transport-pipelines not separated						0												NR	NR	NR	NR	NR	NR	
Transport-maritime						0												NR	NR	NR	NR	NR	NR	
Distribution						0												NR	NR	NR	NR	NR	NR	
Others						0												NR	NR	NR	NR	NR	NR	
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	NR	NR	NR	NR	NR	NR	NR

Note: Item 5(h) (Number of days away from work) includes all calendar days (weekends and holidays are included)



ARPEL Table OIC (Company) - Company totals (Including offshore activities) - CONTRACTORS DATA YEAR 2011

1 Function	2 Average number of employees	3 Hours Worked (Thousands)	4 Registrable Cases				5 Extent and outcome of injuries and illnesses						6 Reactive Indicators											
			a Injuries	b Illnesses	c Fatalities	d Total	e Cases of			h Number of days away from work	i Cases of Total or Partial Disability	j Number of days away from work due to fatality or permanent disability (p/ANSI equiv.)	k Total	l Gravely	m Frequency with lost Workdays	n Fatalities	o Frequency with Fatalities or Permanent disability cases	p Gravity of Fatal or Permanent Disability Injury cases						
							f Restricted Workdays	g Lost Workdays	Medical Treatment															
E&P						0												NR	NR	NR	NR	NR	NR	
Refining						0												NR	NR	NR	NR	NR	NR	
Transport-pipelines for liquids						0												NR	NR	NR	NR	NR	NR	
Transport-pipelines for gases						0												NR	NR	NR	NR	NR	NR	
Transport-pipelines not separated						0												NR	NR	NR	NR	NR	NR	
Transport-maritime						0												NR	NR	NR	NR	NR	NR	
Distribution						0												NR	NR	NR	NR	NR	NR	
Others						0												NR	NR	NR	NR	NR	NR	
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	NR	NR	NR	NR	NR	NR	NR

Note: Item 5(h) (Number of days away from work) includes all calendar days (weekends and holidays are included)

OIO TABLES:

- ◆ When entering data in Column (3) – Hours Worked (Thousands), please enter the total number of hours worked divided by 1,000, rounded to the nearest thousand hours. EXAMPLE: 50,639 hours worked should be recorded in Column (3) of the table as 51.
- ◆ The number of employees and/or contractors recorded in Column (2) should be the **average** number of employees and/or contractors for the year in order to account for fluctuations in the workforce throughout the year.



ARPEL Table N° OIO (Company) - Offshore activities - COMPANY DATA YEAR 2011

1 Function	2 Average number of employees	3 Hours Worked (Thousands)	4 Registrable Cases				5 Extent and outcome of injuries and illnesses						6 Reactive Indicators									
			a Injuries	b Illnesses	c Fatalities	d Total	e Casos de:			h Number of days away from work	i Cases of Total or Partial Permanent Disability	j Number of days away from work due to fatality or permanent	k Total	l Gravity	m Frequency with lost Workdays	n Fatalities	o Frequency with Fatalities or Permanent disability cases	p Gravity of Fatal or Permanent Disability Injury cases				
							Restricted Workdays	Lost Workdays	Medical Treatment													
			Supplementary information:																			
E&P						0											NR	NR	NR	NR	NR	NR
Off-Shore Total	0	0	0	0	0	0	0	0	0	0	0	0	0	NR	NR	NR	NR	NR	NR	NR	NR	NR

Supplementary information:

Shift information for offshore workers:

Hours worked or exposure hours per day while on duty

Duty cycle:

Days on

Days off

FOOTNOTES: Please add any comments regarding the data you provided in tables OIC and OIO

Notes:



ARPEL Table N° OIO (Company) - Offshore activities - CONTRACTORS DATA YEAR 2011

1 Function	2 Average number of employees	3 Hours Worked (Thousands)	4 Registrable Cases				5 Extent and outcome of injuries and illnesses						6 Reactive Indicators									
			a Injuries	b Illnesses	c Fatalities	d Total	e Casos de:			h Number of days away from work	i Cases of Total or Partial Permanent Disability	j Number of days away from work due to fatality or permanent	k Total	l Gravity	m Frequency with lost Workdays	n Fatalities	o Frequency with Fatalities or Permanent disability cases	p Gravity of Fatal or Permanent Disability Injury cases				
							Restricted Workdays	Lost Workdays	Medical Treatment													
			Supplementary information:																			
E&P						0											NR	NR	NR	NR	NR	NR
Off-Shore Total	0	0	0	0	0	0	0	0	0	0	0	0	0	NR	NR	NR	NR	NR	NR	NR	NR	NR

Supplementary information:

Shift information for offshore workers:

Hours worked or exposure hours per day while on duty

Duty cycle:

Days on

Days off

FOOTNOTES: Please add any comments regarding the data you provided in tables OIC and OIO



PI TABLE:

- ◆ If data cannot be given with the level of detail required by the table (by functions), the required totals should be provided instead.



ARPEL Table N° PI (Company) - Proactive indicators - COMPANY DATA (including offshore activities) - YEAR 2011

1 Function	2 Tasks Planned Observations (TPO)			3 Safety Training Intensity (STI)		
	a	b	c	d	e	f
	Number of Task Planned Observations (cumulative)	Average number of employees	TPO rate	Safety training hours (cumulative)	Hours worked (in thousands)	STI rate (%)
E&P		0	NR		0	NR
Refining		0	NR		0	NR
Transport-pipelines for liquids		0	NR		0	NR
Transport-pipelines for gases		0	NR		0	NR
<i>Transport-pipelines not separated</i>		0	NR		0	NR
Transport-maritime		0	NR		0	NR
Distribution		0	NR		0	NR
Others		0	NR		0	NR
Total	0	0	NR	0	0	NR

PROCESS SAFETY FORMS



ARPEL Process Safety Form - 2016 DATA

Tier	Function	Activity	Consequences (mark all that apply)							Fatal events			Additional information Which was the material released?	
			Fatality or LWD of company or contractors employees	Injury of company or contractors employees	Hospital admission or third party fatality/Hospitalización o muerte de un tercero	Evacuation of the community	Fire or explosion	Discharge of pressure release devices	Material released	One or more fatalities are consequence of the event?	Number of employees and contractors fatalities	Total number of third party fatalities		



ARPEL Process Safety Form - 2016 DATA

Function	Hours Worked (in thousands)	# Incidents Tier 1	# Incidents Tier 2	Incidents Tier 1/1.000.000 HW	Incidents Tier 1/200.000 HW	Incidents Tier 2/1.000.000 HW	Incidents Tier 2/200.000 HW
E&P		0	0	NA	NA	NA	NA
Refining		0	0	NA	NA	NA	NA
Transport-pipelines for liquids		0	0	NA	NA	NA	NA
Transport-pipelines for gases		0	0	NA	NA	NA	NA
<i>Transport-pipelines not separated</i>		0	0	NA	NA	NA	NA
Transport-maritime		0	0	NA	NA	NA	NA
Distribution		0	0	NA	NA	NA	NA
Others		0	0	NA	NA	NA	NA
Total	0	0	0	NA	NA	NA	NA

* Please enter only the information regarding Hours Worked. In case that some of the functions does not apply to your company, please enter NA

** The incidents count is done automatically from the data entered on the sheet PSI

*** The indicators are calculated automatically

OFI TABLES:



ARPEL Table OFI - Occupational Fatal Incident Report - COMPANY DATA - YEAR 2016

Please complete one report per fatal incident to be reported (with more than one injured workers)

1. Number of fatalities in this incident:

2. Sex and Age of the victims (e.g. M33 / F25):

3. Function (to which the worker was assigned not where he or she was at the time of the incident):

4. Activity during which the incident occurred:

5. Type of Incident:

6. Explanation, causes and description of the incident:
Please refer to the User's Manual (7th Edition, 2017), Chapter VIII, for an example of how to report the narrative information of the fatality.

7. Which was the exact cause of the incident, and how can said incident be prevented?
Please provide enough details so as to make this information instructive to others.

7a. Element/s of the management system that failed according to Root Cause Analysis

7b. Lessons Learned

7c. Include photos/explanatory pictures (optional)

NOTE: Your company's name will not be disclosed in any fatality report published by ARPEL.

ARPEL Table OFI N° _____ (Company)



ARPEL Table OFI - Occupational Fatal Incident Report - CONTRACTORS DATA - YEAR 2016

Please complete one report per fatal incident to be reported (with more than one injured workers)

1. Number of fatalities in this incident:

2. Sex and Age of the victims (e.g. M33 / F25):

3. Function (to which the worker was assigned not where he or she was at the time of the incident):

4. Activity during which the incident occurred:

5. Type of Incident:

6. Explanation, causes and description of the incident:

Please refer to the User's Manual (7th Edition, 2017), Chapter VIII, for an example of how to report the narrative information of the fatality.

7. Which was the exact cause of the incident, and how can said incident be prevented?

Please provide enough details so as to make this information instructive to others.

7a. Element/s of the management system that failed according to Root Cause Analysis

7b. Lessons Learned

7c. Include photos/explanatory pictures (optional)

NOTE: Your company's name will not be disclosed in any fatality report published by ARPEL.

ARPEL Table OFI N° _____ (Contractors)

OFI TABLES: EXAMPLE OF NARRATIVE FOR ITEMS 7 AND 8

Electrocution in Inspection and Maintenance activities.

7. Explanation, causes and description of the incident:

On a rainy afternoon, during a unit turnaround, a Contractor of the Maintenance Department was withdrawing waste, using a wheelbarrow. On the way, the wheel of the wheelbarrow stepped on an electrical cable (which fed a board in the area where the maintenance was done). The operator was electrocuted and died on its way to a hospital.

8. Which was the exact cause of the incident, and how can said incident be prevented?

The incident was a direct electrical contact, in which the operator closed an electrical circuit between the ground and the live wire, because:

Additionally, the cable between the two boards had parts repaired with electrical tape, one of which was damaged and made contact with the metal wheel of the truck.

The portable electric board of the contractor (located near the area where the maintenance was done) had differential circuit breaker (as it was described in the work permit for the task), but the board from which it was powered (provided by the Company) did not (it was done from a thermal switch, as shown in the photo of section 8c).

8a. Element/s of the management system that failed according to the Root Cause Analysis

Legal requirements and others: The entire facility did not meet the requirements for preventing electrical contacts

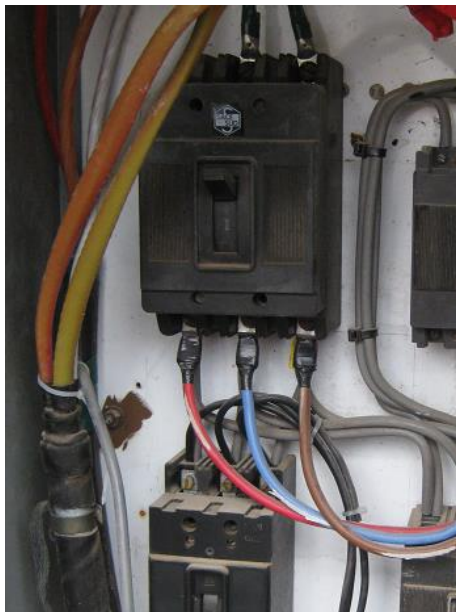
Operational Control: The issuer of the work permit did not control preventive measures against electrical contacts beyond the place where the tasks were being carried out.

8b. Lessons Learned

- a) Adjust the boards of the Company to legal requirements in order to prevent electrical contacts (including protection against wire damage).
- b) Incorporate the control of these measures on work permits and requirements for contractors.
- c) Train the staff responsible for issuing work permits and control contractors in those requirements.



8c. Include photos/explanatory pictures (optional)



SONFI TABLES:



ARPEL Table OFI - Occupational NON Fatal Incident Report - COMPANY DATA - YEAR 2016

Please complete one report per NON fatal incident to be reported (with more than one injured workers)

1. Number of injured workers in this incident:

2. Sex and Age of the victims (e.g. M33 / F25):

3. Function (to which the worker was assigned not where he or she was at the time of the incident):

4. Activity during which the incident occurred:

5. Type of Incident:

6. Explanation, causes and description of the incident:

Please refer to the User's Manual (7th Edition, 2017), Chapter VIII, for an example of how to report the narrative information of the fatality.

7. Which was the exact cause of the incident, and how can said incident be prevented?

Please provide enough details so as to make this information instructive to others.

7a. Element/s of the management system that failed according to Root Cause Analysis

7b. Lessons Learned

7c. Include photos/explanatory pictures (optional)

NOTE: Your company's name will not be disclosed in any fatality report published by ARPEL.

ARPEL Table SONFI N° _____ (Company)



ARPEL Table OFI - Occupational NON Fatal Incident Report - CONTRACTORS DATA - YEAR 2016

Please complete one report per NON fatal incident to be reported (with more than one injured workers)

1. Number of injured workers in this incident:

2. Sex and Age of the victims (e.g. M33 / F25):

3. Function (to which the worker was assigned not where he or she was at the time of the incident):

4. Activity during which the incident occurred:

5. Type of Incident:

6. Explanation, causes and description of the incident:

Please refer to the User's Manual (7th Edition, 2017), Chapter VIII, for an example of how to report the narrative information of the fatality.

7. Which was the exact cause of the incident, and how can said incident be prevented?

Please provide enough details so as to make this information instructive to others.

7a. Element/s of the management system that failed according to Root Cause Analysis

7b. Lessons Learned

7c. Include photos/explanatory pictures (optional)

NOTE: Your company's name will not be disclosed in any fatality report published by ARPEL.

ARPEL Table SONFI N° _____ (Contractors)

SONFI TABLES: EXAMPLE OF NARRATIVE FOR ITEMS 7 AND 8

Fire while loading a tank truck.

7. Explanation, causes and description of the incident:

In a tank truck, which had five compartments, xylene and MTBE had been loaded, and toluene was being loaded. This was done discharging by gravity three intermediate bulk containers (IBC) of 500 liters each, from a forklift (because the tank truck was not going to be completely filled), through a hose with aluminum nozzle.

The driver was on top of the tank truck, checking the loading of toluene, when around 10:30 am a fire started in the compartment. When abandoning the place, he fell from the truck, suffering a broken leg. A worker of the Pump Room was near him filling the other IBC that was going to be discharged. According to his testimony, when he heard the screams, the driver was already on the floor, so the worker closed the valves of the tank, withdrew the elevator with toluene and aided the driver, suffering minor burns and irritation from the smoke.

Firemen arrived about 11 am, extinguishing the fire by around 12:30 pm (other than the tanker, the fire had spread to the IBC that was being charged, and to a storage tank). An ambulance also arrived, which transported the two injured employees to a hospital.

8. Which was the exact cause of the incident, and how can said incident be prevented?

The most likely hypothesis considered is that the fire was started by static electricity during the loading of toluene, with subsequent spread by the presence of vapors (of toluene itself or from the other products being handled) and other combustible materials in the area, because:

- a) Toluene generates, in closed containers (as the compartments of the truck) flammable mixtures in all conditions of temperature above its flash point (4 °C).
- b) Toluene, because of its low electrical conductivity, could generate static electricity, especially if when loading non-metallic containers (such as IBC, plastic).
- c) Although the truck was grounded, there was not an equi-potential bonding between the mouth of the compartment and the metal nozzle. This may have caused the discharge of static electricity between them, which ignited the vapors of toluene present in the tank.

8a. Element/s of the management system that failed according to Root Cause Analysis

Legal and other: during the toluene loading the prescriptions of NFPA 77 regarding the prevention of fires caused by static electricity were not complied. The tank truck had no rails or other means of fall protection.

Operational control: The loading procedure does not cover some preventive measures established in NFPA 77.

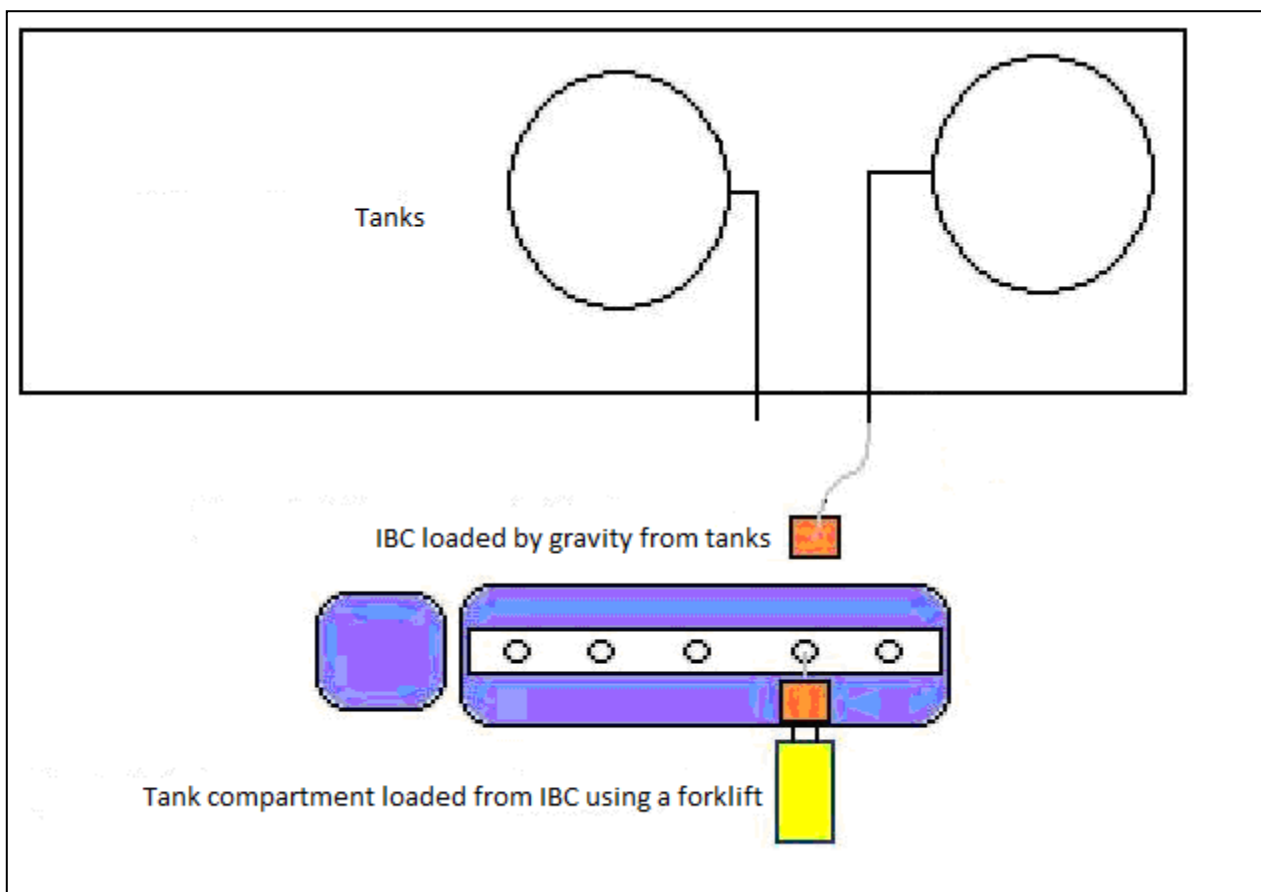
Incident investigation: After a fire in early 2004 corrective or preventive actions had NOT been taken.



8b. Lessons Learned

- a) Do not transport or store flammable liquids (MTBE, toluene, xylenes, etc.) in plastic IBCs, as established by NFPA 30.
- b) If it's necessary to use them as intermediaries to load incomplete tanks, maintain an equipotential bonding between the mouth of a compartment and the nozzle of the hose at least for one minute after the end of the loading of an IBC.
- c) To prevent the spread of fire through fire in the truck, maintain at least 4.5 m of separation between the tank-truck and the areas that are storing and loading IBCs.
- d) Incorporate the above recommendations to the loading procedure.

8c. Include photos/explanatory pictures (optional)



10. TABLE OF EQUIVALENCE OF DAYS AWAY FROM WORK DERIVED FROM DEATH, PERMANENT TOTAL DISABILITY, OR PERMANENT PARTIAL DISABILITY INJURIES (REF. ANSI Z16.1)

TABLE OF EQUIVALENCE OF DAYS AWAY FROM WORK DERIVED FROM DEATH, PERMANENT TOTAL DISABILITY, OR PERMANENT PARTIAL DISABILITY INJURIES (REF. ANSI Z16.1)					
<p>DEATH: Death caused by workplace injuries carries an assignment of 6,000 days.</p> <p>PERMANENT TOTAL DISABILITY: Any injury other than death which permanently and totally incapacitates an employee from following any gainful occupation, or which results in the loss, or the complete loss of use, of any of the following in one accident: a) both eyes, b) one eye and one hand, or arm, or leg, or foot, c) any two of the following not on the same limb: hand, arm, foot, or leg. Permanent Total Disability Injuries carries an assignment of 6,000 days.</p> <p>PERMANENT PARTIAL DISABILITY: Any injury other than death or permanent total disability which results in the loss, or complete loss of use, of any member or part of a member of the body, or any permanent impairment of functions of the body or part thereof, regardless of any pre-existing disability of the injured member or impaired body function. In these cases, the assignment of days away from work shall be made using the following table of scheduled charges.</p>					
TABLE OF CHARGES OF DAYS AWAY FROM WORK (ANSI Z16.1)					
A.	Loss of members - Traumatic or Surgical (Amputation involving all or part of bone. If the bone is not involved at all, the real lost workdays shall be computed)				
FINGERS, THUMB AND HAND					
	Thumb	Index	Middle	Ring	Little
Distal phalange	300	100	75	60	50
Middle phalange	200	150	120	100
Proximal phalange	600	400	300	240	200
Metacarpal	900	600	500	450	400
Hand at wrist	3000				
TOE, FOOT AND ANKLE					
		Great Toe	Each of other toes		
Distal phalange		150	35		
Intermediate phalange		75		
Proximal phalange		300	150		
Metatarsal		600	350		
Foot at ankle		2400			
ARM					
Any point above elbow, including shoulder joint			4500		
Any point above wrist and at or below elbow			3600		
LEG					
Any point above knee			4500		
Any point above ankle and at or below knee			3000		
B.	IMPAIRMENT OF FUNCTION				
One eye (loss of sight), whether or not there is sight in the other eye			1800		
Both eyes (loss of sight), in one accident			6000		
One ear (complete loss of hearing), whether or not there is hearing in the other ear			600		
Both ears (complete loss of hearing), in one accident			3000		
Unrepaired hernia			50		

Regional Association of Oil, Gas and Biofuels Sector Companies in Latin America and the Caribbean

ARPEL is a non-profit association gathering companies and institutions of the oil, gas and biofuels sector in Latin America and the Caribbean. It was founded in 1965 with the primary purpose of promoting industry integration and growth as well as seeking ways to maximize its contribution to sustainable energy development in the region. Its membership represents over 90% of the upstream and downstream activities in the region and includes national and international oil companies, companies providing technology, goods and services to the industry value chain, and oil, natural gas and biofuels sector institutions. Since 1976 ARPEL holds Special Consultative Status with United Nations Economic and Social Council (ECOSOC). In 2006, the association declared its adherence to UN Global Compact principles.

Mission

To foster and facilitate industry development and integration, continuous operational improvement and effective management of environmental and social issues, by:

- developing, sharing and disseminating best practices;
- carrying out studies that translate in information of value;
- broadening knowledge and helping build required competencies;
- networking and engaging members and stakeholders in constructive dialogue.

Vision

A growing, competitive and integrated oil, gas and biofuels industry that achieves operational and management excellence, and effectively contributes to the sustainable energy development in Latin America and the Caribbean.

Value proposition

ARPEL is a well established industry association in Latin America and the Caribbean, offering members a unique means for networking, sharing knowledge, joining efforts and building synergies in favor of the industry's competitive and sustainable development. As a recognized regional body of representation, the association also seeks to advocate in favor of the common interests of its membership and to enhance the industry's public image and reputation. A significant part of ARPEL's value is reflected in its condition of cost-effective vehicle for the development of regional publications on best practices, emerging issues and sectoral studies, of value-added service center, and of means of access to non-reimbursable financial resources for projects related to the social and environmental management improvement of its member companies.

Socio-environmental sustainability

Operational excellence

Sectoral development

April, 2012

Member Companies



Member Institutions



Javier de Viana 1018 - 11200 Montevideo, Uruguay

Tel.: +598 - 2410 6993 - Fax: +598 - 2410 9207

E-mail: info@arpel.org.uy

Web site: <http://www.arpel.org>



BENCHMARKING

Safety Benchmarking

in the oil and gas industry in Latin America and
the Caribbean

Arpel Database - User's Manual
7th Edition, 2017



ARPEL is a non-profit association gathering oil, gas and biofuels sector companies and institutions in Latin America and the Caribbean. Founded in 1965 as a vehicle of cooperation and reciprocal assistance among sector companies, its main purpose is to actively contribute to industry integration and competitive growth, and to sustainable energy development in the region. Its membership currently represents over 90% of the upstream and downstream activities in the region and includes national, international and independent operating companies, providers of technology, goods and services for the value chain, and national and international sector institutions.



Regional Headquarters:

Javier de Viana 1018. CP 11200, Montevideo, Uruguay
Ph.: +(598) 2410 6993 | info@arpel.org.uy

www.arpel.org