

PETRONAS TECHNICAL STANDARDS
HEALTH, SAFETY AND ENVIRONMENT

PERFORMANCE MONITORING AND REPORTING
(GUIDELINE)

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PREFACE

Petronas Technical Standards (PTS) are based on the experience acquired during the involvement with the design, construction, operation and maintenance of processing units and facilities. Where appropriate they are based on, or reference is made to, national and international standards and codes of practice. The objective is to set the recommended standard for good technical practice applied by PETRONAS in oil and gas production facilities, oil refinery, gas processing, chemical plants, marketing facilities or any other such facility, and thereby to achieve maximum technical and economic benefit from standardisation.

The information set forth in these publications is provided to users for their consideration and decision to implement. This is of particular importance where PTS may not cover every requirement or diversity of condition at each locality. The system of PTS is expected to be sufficiently flexible to allow individual operating units to adapt the information set forth in PTS to their own environment and requirements.

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AMENDMENT RECORD SHEET

Chap No.	Section No.	Description	Iss. No.	Date	Rev No.	Date	App'd by: (init.)
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1. **INTRODUCTION**

PETRONAS' HSE Policy requires every PETRONAS Operating Unit (OPU) / Joint Venture (JV) to have a systematic approach to HSE management, towards compliance with national legislation and the achievement of continuous improvement. This requires a systematic approach for the collection of health, safety and environmental (HSE) data for performance monitoring and reporting.

PETRONAS Group will also publish an annual (external) report setting out its HSE performance. Individual Businesses and OPU / JV may also publish similar reports. The Group's report will include data for companies under PETRONAS operational control i.e. entities in which a member company of the PETRONAS has full authority to introduce and implement its HSE policy.

It is the intention to report data on a 100% basis (i.e. "as operated"), even where the Group interest is less than 100%. Data from companies which were disposed of or acquired are generally included only for the period that the companies were under operational control.

Companies not under operational control in which the Group has an interest may agree to report. Provided such a company adopts and implements its HSE Policy (including the setting of HSE performance targets and adopting the procedure for an HSE management system) and permits external verification of its data and the processes for their generation, its data can then be included.

PETRONAS' report will include a verification statement from its auditors about the accuracy and completeness of the data reported. This requires verification undertaken throughout the organisation. To facilitate this process, as well as to ensure consistency and allow for benchmarking within Businesses, the HSE parameters to be measured and the methods and factors to be used for their calculation and measurement need to be standardised.

This guide has therefore been produced to provide clarity on the standardised parameters to be collected and reported for purposes of Group reporting. The guide can also be used by individual OPU / JV to help with HSE reporting at company level. It is recognised that in some OPU / JV, data collection may follow local or national requirements and may therefore deviate from this reporting format.

The guide starts by considering health and safety issues to be reported and then presents the environmental issues. For each issue, details are provided on the background to the issues, the parameters to be reported, the methods to use and appropriate references. The appendices provide further details as well as an abbreviation of terms.

This guide is based on and fully consistent with PTS 60.0102 "Group HSE MS Manual"

2. **SCOPE AND FREQUENCY OF REPORTING**

Health, safety and environmental performance data are to be collected for:

- Internal OPU / JV performance reporting and review. A quarterly performance review is recommended on HSE issues for which targets have been set and continuous performance has to be demonstrated; see Section 3.1.
- Internal performance reporting and review; see Appendices 1, 2 and 3.
- External performance reporting at Group level on an annual basis; see Appendices 1, 2 and 3.
- The initiatives and responsibilities for the reporting of data lie with the OPU / JV.

3 **HSE ISSUES**

3.1 **TARGETS**

Background:

OPU / JV are requested to set and use targets for performance measurement.

The following table contains the full list of HSE targets. All OPU / JV should set improvement targets for the coming year and projections / forecasts for the following four years for each of the HSE parameters (where these are applicable to their activities). The data will be consolidated into PETRONAS Group targets. To allow aggregation of the targets to the Business level, some underlying data need to be included as indicated in the table, with the actual targets in bold.

Methods:

For further explanation on these subjects and particularly for details on measurements, calculations and conversion factors reference is made to the following chapters of this report.

Flaring Targets

In order to ascertain the amount of continuous flaring that is being carried out in line with our Minimum Environmental Expectations (MEE), the flaring target has been split into two parts:

“Total hydrocarbon to flare(s)” (target 5): should include all hydrocarbons to flare including purge gas, gas for pilot burner(s) and operational upsets and gas from well testing.

“Residual flaring” (pilots, operational upsets, etc) with MEE implemented (target 5a) should only include purge gas, gas for pilot burner(s) and operational upsets.

Hence the difference between 5 and 5a will be the amount of “continuous flaring”.

From 01.01.2008, OPU / JV are expected to have only “residual flaring”.

Venting Targets

As above, in order to determine the amount of continuous venting that is being carried out in line with MEE, the venting target has been split into two parts as follows:

“Total hydrocarbons disposed to vent” (target 6): this should include all hydrocarbons to vent including purge gas, operational upsets etc.

“Residual hydrocarbon venting” (target 6a): this should only include purge gas, operational upsets etc. Hence the difference between 6 and 6a will be the amount of “continuous venting”.

From 01.01.2004, OPU / JV are expected to have only “residual venting”.

Oil in produced water

Average oil in produced water (target 7): refers to the average concentration of oil in produced water discharged to the surface environment i.e. to sea, fresh / brackish water and evaporation ponds/pits (see Section 6.7).

Oil Spills

Oil spills (target 8): OPU / JV are requested to set targets for spills exceeding 100 kg (excluding those caused by sabotage), lost to water or land (see Section 6.9). For all practical purposes, 100 kg equals 100 litres of spilt oil.

Energy efficiency (target 9) is primarily meant for producing ventures.

Waste Targets

These have been confined to hazardous waste as follows:

Hazardous waste to disposal (target 10)

Hazardous waste generated (target 10a) however we recommend that non hazardous waste continues to be monitored internally within the OPU / JV

CO₂ (target 11): is to be based on the flaring and energy use (fuel combustion) targets and should cover all sources as defined in Section 6.6.2

CH₄ (target 12) is to be based on methane from all sources as defined in 6.6.2

GWP - Global Warming Potential (target 13)

This includes CH₄ and CO₂ from all sources calculated as CO₂ equivalents. This differs from the calculation in the PMR Questionnaire in that N₂O is not included.

The N₂O contribution to GWP is deemed to be insignificant for the purpose of target setting. SO₂ (target 14): only a few OPU / JV have sulphur levels requiring active management and thus target setting. All other OPU / JV are requested to include as a

minimum a SO₂ emission forecast on the basis of normal operations.

Similarly only a few OPU / JV have identified **NO_x** emissions (target 15) being significant enough for their operations to require improvement target setting: other OPU / JV are requested, as a minimum, to include a NO_x emission forecast on the basis of normal operations.

Parameters / Data required for reporting (year 2004 example):

N.B: All grey boxes must be filled in with numerical data. A clear distinction should be made between 'nil' (= zero) and n/a (not applicable). If the later is the case, please type n/a in the comment box. Please also ensure that none of these cells have been left blank.

	SI Unit	2004 actual	2005 LE	2005 target ^{*1}	2006 target	2007 target	2008 target	2009 target	2010 target
Fatalities (company/contractor)	no.								
Fatalities (3rd party)	no.								
Lost Time Injury Frequency (LTIF, company/contractor)	no. per mln hours								
Total Reportable Case Frequency (TRCF, company/contractor)	no. per mln man-hours								
Total Reportable Occupational Illness Frequency (TROIF, company only)	no. per mln hours								
Estimated Number of Exposure Hours (contractor)	hours								
Estimated Number of Exposure Hours (company)	hours								
Total Hydrocarbons to Flare	tonnes								
Residual Hydrocarbons to Flare (pilots, upsets, etc) with MEE implemented	tonnes								
Total Hydrocarbons Disposed to Vent	tonnes								
Residual Hydrocarbons to Vent (purge, upsets, etc) with MEE implemented	tonnes								
Average Oil in Produced Water (to surface environment)	mg/l								
Estimated Produced Water Discharged to Surface Environment	m3								
Oil Discharged with Produced Water to Surface Environment	mg/l								
Oilspills >100 kg includes sabotage	tonnes								
Energy Consumed	GJ								
Energy efficiency	GJ/tonnes hc eq. prod.								
Hydrocarbon eq. Production	tonnes								
GWP calculated in CO2 equivalent ^{*2}	mln tonnes CO2 equiv.								

Please refer to EP95-0325 for detailed definitions & procedures

^{*1} This should be the target from BP2004 submission. If not, please explain.

^{*2} For Target Setting Purposes GWP is calculated using the following formula: $GWP = CO_2 \text{ (all sources)} + (CH_4 \text{ (all sources)} * 21) + (N_2O \text{ (all sources)} * 310)$

It is recognised that some OPU/JVs may use, for internal purposes, other systems for target setting. However, use of such target setting systems does not exclude an OPU/JV from the task to develop targets on the above mentioned parameters as input for the EP Business target setting.

Literature:

Kuyper, J., Alsem, W.H.M., Müssig, S., Van der Velden, J. and Herenius, T.A., 1996. Ranking of air emission reduction projects in a company environmental plan. Proc. 3rd Int. Conf. on Health, Safety and Environment in Oil and Gas Production, 9-12 June 1996, New Orleans.

Binks, S.L.M., 1997. A tool for measuring and reporting environmental performance and ranking environmental investment. 2nd Speciality Conference on Environmental Progress in the Petroleum and Petrochemical Industries, Bahrain, 17-19 November 1997.

Bohm, J. Th. C. 1962 Methodology for assessing the relative environmental impact of waste materials. Shell International PM 1992 Environmental Conference, November 30 – December 04, The Hague

Environmental Target Setting and Ranking (ETSAR) Part 1: Methodology. Part 2: Envi Discharge Objective. Shell UK Exploration and Production 4/EN/95/012 and 4/EN/95/013, 1995

3.2 AWARDS RECEIVED

Background:

OPU / JV are expected to provide in section 1 of the annual environmental performance questionnaire (see Appendix 3) narrative information on the type and number of external Health, Safety and/or Environmental awards received during the year of reporting and also to include this number in line 79 of the questionnaire.

Parameter:

Number of external H, S and/or E awards received.

Explanation and methods:

Awards should be external, e.g. award winning HSE report.

3.3 EXTERNAL CERTIFICATION

Background:

PTS 60.0101 Group HSE Management System requires that
....."Such a system should be set up in a way that can be externally certified against an international system standard".....

All OPU / JV operating major facilities must have the environmental component of their HSE management system certified to ISO 14001 or EMAS.

Parameters:

External HSE or Environmental report.

External verification of HSE or Environmental report.

State of certification of the management system.

Data required for reporting:

Information on HSE reporting, verification and certification are to be provided in Section 1 of the annual environmental performance questionnaire (see Appendix 3).

Explanation:

External certification is normally not expected for NVOs, although there may be specific situations where certification is desirable, to demonstrate to stakeholders that sound environmental management practices are in place.

Currently ISO 14001 is the only international standard for environmental management systems. The standard outlines the specification for environmental management systems to enable the formulation of policy and objectives, taking into account legislative requirements and information about significant environmental impacts. The key features that an environmental management system must ensure are:

- a commitment to prevent pollution
- compliance with the local laws and regulations
- a process for continuous improvement is in place.

With the development and acceptance of OSHAS 18001 by industry, it will become the yardstick to demonstrate to stakeholders that sound Occupational Health and Safety practices are also in place.

Literature:

Council Regulation (EEC) No. 1836/93 of 29 June 1993 allowing voluntary participation by companies in the industrial sector in a Community eco-management and audit scheme. OJ L 168/1, 10 July 1993.

Environmental management systems - Specification with guidance for use. International Standard ISO 14001, 1996(E)

Occupational Safety and Health management system – use of Occupational Safety and Health Assessment Series

Environmental management systems - General guidelines on principles, systems and supporting techniques. International Standard ISO 14004, 1996(E)

PTS 60.0101 Group HSE Management System Manual.

Jackson, S.L., 1997. The ISO 14001 Implementation Guide - creating an integrated management system. John Wiley & Sons, New York.

PTS 60.0303 Documenting a HSE Management System and HSE Cases

4 **HEALTH**

4.1 **TOTAL REPORTABLE OCCUPATIONAL ILLNESS**

Definition:

Total Reportable Occupational Illness is the number of occupational illnesses. Any identified Occupational Illness known to the Company is to be included, even if no lost/restricted workdays are involved and/or no medical treatment is given. A single exposure can give rise to several Occupational Illness cases.

- Occupational illness: an occupational illness is any abnormal condition or disorder of an employee, other than one resulting from an occupational injury, caused by exposure to environmental factors associated with employment

This includes both acute and chronic illnesses and or diseases. They may be caused by inhalation, absorption, ingestion of or direct contact with the hazard, as well as exposure to physical and psychological hazards.

- Reporting will include cases which are required to be reported to the authorities as part of national schemes and all other cases judged by a competent occupational health advisor to be work-related.
- Frequency is the number of occupational illnesses per year per million working hours.
- Work-related: is where the balance of probability is 50% or more that the case was caused by work or work related environmental factors.
- Only new cases (incidence) are reportable, i.e. new cases diagnosed during the reporting year. Existing cases are reportable if diagnosed for the first time during the reporting year. It is useful to keep records on existing cases (prevalence) as well but these are not reportable as part of this system. Exacerbation or recurrence of existing occupational or existing general illnesses is reportable if caused by new exposures at work (see below for further explanation). Cases should be reported whether or not they result in time lost from work.

In order to facilitate the understanding, reporting, investigation and follow-up of occupational illnesses, they should be classified in one of the categories shown below. These categories are assigned to cover the most frequently occurring occupational illnesses.

Parameter:

Total Reportable Occupational Illness (TROI)

Unit:

Number

Explanation and methods:

Scope

Contractor TROI data are to be included. Company and Contractor employees should be reported separately. Contractor reporting may be excluded by the Company, on the basis of risk considerations (e.g. if the risk to the Company is low and further risk reductions can only be achieved at excessive costs).

In order to facilitate the understanding, reporting, investigation and follow-up of occupational illnesses, they should be reported in one of the following 10 categories.

1. Back problems and lower limb disorders
2. Cancers and malignant blood disease
3. Infections and preventable disease
4. Mental ill health
5. Noise induced hearing loss
6. Poisoning
7. Respiratory disease due to dust or toxic agents
8. Skin disease and disorders
9. Upper limb and neck disorders
10. Other occupational illnesses.

The quarterly and annual data should be reported by using Excel spreadsheets (hard copy attached in Appendix 1).

- Company and Contractor data should be recorded on separate sheets
- Occupational Illness Frequency is a measure of incidence so only new cases should be reported
- All calculations based on per million working hours exposure

Methods

1. Determining whether an illness is occupational

Occupational illness is any abnormal condition or disorder of an employee, other than one resulting from an occupational injury, caused by exposure to environmental factors associated with employment.

In some cases the relationship between exposures at work and an illness may be easy to recognise. In other cases, where the occupational cause is not direct and apparent, it may be difficult to determine accurately whether an employee's illness is occupational in nature. In order to determine whether an illness is occupational, the following questions should be asked:

- a. Has an illness clearly been identified?
- b. Does it appear that the illness is caused by suspected agents or other work-related conditions?
- c. Are these suspected agents present or have they been present in the work environment?
- d. Was the ill employee exposed to these agents in the work environment?
- e. Was the exposure to a sufficient degree and/or duration to result in the illness?
- f. Was the illness attributable mainly to a non-occupational exposure?

It is not always possible to establish beyond all doubt whether an illness is occupational or not. However, the importance of reporting occupational illnesses lies in its value as a health management tool rather than a scientific means to determine each individual illness case. Therefore, **good-faith determination** whether an illness is occupational or not suffices, even if this leads to the inclusion of suspected occupational illnesses for which definite proof is lacking.

Identification of occupational illnesses may be made by a physician or any other person who by training or experience is capable to do so. Supervisors, employees and others may be able to identify some ailments such as skin disorders without the benefit of specialised medical training; however, they are encouraged to seek medical advice where possible. Other more difficult to identify conditions would require evaluation by properly trained medical personnel. It is strongly recommended that companies set up an internal verification system for occupational illness reporting. In addition, it is necessary to train medical staff and other staff, as applicable, in reporting requirements in order to improve the quality of reporting. Contractor reporting should be made part of contractual requirements.

2. Distinguishing between occupational illnesses and work injuries

Whether a case involves a work injury or occupational illness is determined by the nature of the original event or exposure that caused the case, not by the resulting condition of the affected employee. Work injuries are caused by a single event in the working environment, or a number of events close together in time. Cases resulting from anything other than a single event, or a number of events close together in time, are considered occupational illnesses. This concept of occupational illness includes both acute illnesses resulting from exposures of short duration and chronic illnesses. Exposures can be by inhalation, absorption, ingestion, or direct contact.

3. Common subjective symptoms

Complaints of such common subjective symptoms as general malaise, headache, nausea, etc. are not reportable if they are not caused or mainly caused by exposures at work. However, in evaluating these cases, one should be aware that many subjective complaints may be symptomatic of a wide range of diseases, a number of which are occupational in origin. In this regard, one should pay attention to the distribution of such subjective complaints with respect to time and place, particularly when such complaints are observed to occur among one or more groups of employees.

Literature:

PTS 60.0504 Incident classification and reporting.

4.2 FATALITIES DUE TO OCCUPATIONAL ILLNESS

Definition:

A death resulting from an occupational illness regardless of the time intervening between the beginning of the illness and death

Parameter:

Fatalities due to Occupational Illnesses

Unit:

Number

Explanation and methods:

Scope

OPU / JV and Contractor employees are to be reported separately.

For internal reporting, refer to PTS 60.0504 Incident Classification and Reporting Guidelines

Method

The classification of fatalities as work-related is ultimately the responsibility of the Business Organisation HSE Adviser although the OPU / JV may propose a classification in its investigation report.

Obligation to report death from occupational illness

Cases should be reported regardless whether they occur in service or after retirement, if the cause of death is work-related. Where the fatality occurs within 12 months, Act 514, Occupational Safety and Health Act requires a report being made to the Department of Occupational Safety and Health, Kuala Lumpur

Non-accidental death cases

Non-accidental deaths involving OPU / JV staff, Contractor staff or third parties that may be work-related shall be reported and investigated before a classification is attempted. Guidance on such an investigation is provided in PTS 60.0504 Incident Classification and Reporting.

All third party fatalities are to be reported if they are the result of work-related activities and investigated in line with PTS 60.0504 Incident Classification and Reporting.

Third party fatalities will be included in the statistics if the incident resulted from a failure of management controls that should have been in place. Third party fatalities caused solely by the behaviour of the third party when all reasonable OPU / JV and Contractor management controls were in place, can be proposed to the Business Organisation HSE Adviser as “not to be included in the statistics”. Final classification, on the basis of the investigation report, is the responsibility of the Business Organisation HSE Adviser.

All work-related third party fatalities resulting from assault, sabotage and theft are to be included in the statistics.

Literature:

PTS 60.0504 Incident classification and reporting.

Act 514 Occupational Safety and Health Act - OSHA

4.3 LOST TIME OCCUPATIONAL ILLNESS

Definition:

Lost Time Occupational Illnesses are the sum of occupational illnesses due to Fatalities, Permanent Total Disabilities, Permanent Partial Disabilities and Lost Workday Cases caused by occupational illness but excludes Restricted Work Cases and Medical Treatment Cases caused by occupational illness.

PETRONAS’ approved definition and explanation of these terms is given in Appendix 1 of PTS 60.0504 Incident Classification and Reporting.

Parameter:

Lost Time Occupational Illness (LTOI)

Unit:

Number

Explanation and methods:

Scope

Both OPU / JV and contractor employees to report.

Method

The decision as to whether an illness is classified as a Restricted Work Case or a Lost Workday Case should, if possible, be reached after consultation with a OPU / JV medical adviser.

Literature:

PTS 60.0504 Incident classification and reporting

4.4 EXPOSURE HOURS

Definition:

The total number of hours of employment including paid overtime but excluding leave, sickness and other absences.

Parameter:

Exposure hours

Unit:

Hours

Explanation and methods:

Scope

This includes both company employees and contractor (and sub-contractor) employees. These are to be reported separately

Methods

OPU / JV and contractor hours to be reported separately

The OPU / JV checks and confirms that all its contractors have a system to accumulate exposure hours and report them to PETRONAS.

Time off-duty, even if this time is spent on OPU / JV premises, is not accumulated for the calculation of exposure hours, although incidents during this time shall be included if they are the result of failure or absence of management controls.

Literature:

PTS 60.0504 Incident classification and reporting.

4.5 HEALTH DATA FOR QUARTERLY REPORTING TO PETRONAS.

OPU / JV are required to report Total Reportable Occupational Illness (TROI) by the end of each quarter. The data should be reported by completing the spreadsheet (see Appendix 1a). For quarterly reporting the following data are required:

- Total number of exposure hours
- Number of Reportable Occupational Illnesses by category (1-10) and the total. Contractor data should be reported on a separate spreadsheet.

4.6 HEALTH DATA FOR ANNUAL REPORTING TO PETRONAS.

OPU / JV are required to report the reportable occupational illnesses (TROI) and lost time occupational illnesses (LTOI) over the previous year. The data should be reported by completing the spreadsheet (see Appendix 1a).

The following data should be reported:

- Total reportable illnesses (10 categories)
- Occupational fatalities (10 categories)
- Total lost time illnesses (10 categories)
- Total number of exposure hours.

Other data mentioned in the spreadsheet should be reported if available.

In addition, information on health policies and programmes, contractor health management, medical emergency response and assurance and reviews are to be reported on a separate sheet (see Appendix 1b).

4.7 MONETARY PAYMENTS FOR ANNUAL DECLARATION TO PETRONAS.

Starting from full compliance with national laws, regulations and standards, as well as with international 'soft laws' (i.e. applicable international conventions and agreements), OPU / JV are expected to report on any situations of non-compliance leading to fines.

OPU / JV are expected to provide information on the health consequences of their operations in the year of reporting in terms of claims and cost for compensation of damage or nuisance.

Parameters:

Fines due to non-compliance with laws, regulations and permits (number and cost).
Compensatory payments (number and cost)

Payments made proactively to avoid prosecution, not included in the above (number and cost).

Data required for Group reporting

- Health fines due to non-compliance with laws, regulations and permits
- Health compensation payments
- Health proactive payments to avoid prosecution and not included above

Explanation:

Only those claims paid out during the year of reporting are to be reported, even if the event occurred some time ago. Payments to avoid prosecution are those cases where a decision is taken to settle with a party for the explicit purpose of avoiding prosecution or where a company consistently does not comply with regulations and proactively makes payments as a result, even without the initiation/threat of a prosecution.

5 SAFETY**5.1 FATALITIES DUE TO INJURIES****Definition:**

A death resulting from a work related injury regardless of the time intervening between the injury and death.

Parameter:

Fatalities due to Injuries

Unit:

Number

Explanation and methods:**Scope**

OPU / JV employees, contractor employees and third parties to be reported separately

Method

The classification of fatalities as work-related is ultimately the responsibility of Corporate HSE although the OPU / JV may propose a classification in its investigation report.

Non-accidental deaths involving OPU / JV staff, Contractor staff or third parties that may be work-related shall be reported and investigated before a classification is attempted. Guidance on such an investigation is provided in Appendix 7 of PTS 60.0504 Incident Classification and Reporting Guidelines.

All third party fatalities are to be reported if they are the result of work-related activities as defined in Section 3.5 of PTS 60.0504 Incident Classification and Reporting Guidelines. They are reported and investigated in line with the procedure given in Appendix 2 of PTS 60.0504 Incident Classification and Reporting Guidelines and also the requirements of Act 514, Occupational Safety and Health Act - OSHA

Third party fatalities will be included in the statistics if the incident resulted from a failure of management controls that should have been in place. Third party fatalities caused solely by the behaviour of the third party when all reasonable OPU / JV and Contractor management controls were in place, can be proposed to Corporate HSE Adviser as “not to be included in the statistics”. Final classification, on the basis of the investigation report, is the responsibility of Corporate HSE

All work-related third party fatalities resulting from assault, sabotage and theft are to be included in the statistics.

Literature:

PTS 60.0504 Incident classification and reporting

Act 514 Occupational Safety and Health Act – OSHA

5.2 TOTAL REPORTABLE CASES**Definition:**

A reportable case, as a performance measure in the “Total Recordable Case”, is either a fatality, lost time injury, restricted work case or medical treatment case. Total Recordable Cases is the sum total of all recordable cases. These injuries are monitored as all of them as appropriate have the potential for escalation to more serious consequences.

Total Reportable Cases are the sum of Fatalities due to injuries, Permanent Total Disabilities, Permanent Partial Disabilities, Lost Workday Cases, Restricted Work Cases and Medical Treatment Cases.

PETRONAS’ approved definition and explanation of these terms is given in Appendix 1 of PTS 60.0504 Incident Classification and Reporting Guide. In this document the term “Total Reportable Injury” is used to make a distinction between (safety type) injuries and (occupational) illnesses. Both can be used, the definitions are identical, but we prefer TRC.

Parameter:

Total Reportable Cases (TRC)

Unit:

Number.

Explanation and methods:

Scope

Company employees and contractor employees to be reported separately

Literature:

PTS 60.0504 Incident classification and reporting
Act 514 Occupational Safety and Health Act - OSHA

5.3 LOST TIME INJURY

Definition:

An injury is assessed to be a “lost time injury” when the injured cannot return for duty next shift or next day irrespective whether the following is days off, off shift, weekends or public holiday.

PETRONAS’ approved definition and explanation of these terms is given in Appendix 1 of the Incident Classification and Reporting Guide.

Parameter:

Lost Time Injury (LTI)

Unit:

Number

Explanation and methods:**Scope**

Company employees and contractors to report separately

Method

The decision as to whether an incident is classified as a Restricted Work Case or a Lost Workday Case should, if possible, be reached after consultation with a Company medical adviser.

Literature:

PTS 60.0504 Incident classification and reporting.

Act 514 Occupational Safety and Health Act – OSHA

5.4 EXPOSURE HOURS**Definition:**

An exposure hour is that “hour” when the person is under gainful employment, “doing a job” or the activity is considered to be “part of the job”. The time spent by everyone involved in the job’s execution is summed up to give the “Total Exposure Hours”, the total number of hours of employment including paid overtime but excluding leave, sickness and other absences.

Parameter:

Period at “work”

Unit:

Hours

Explanation and methods:**Scope**

Includes both OPU / JV employees and contractor (and sub-contractor) employees. These are to be reported separately.

Methods

OPU / JV and contractor hours to be reported separately.

The OPU / JV should check and confirm that all its contractors have a system to accumulate exposure hours and report them to PETRONAS.

Contractor activities that are excluded by the OPU / JV for reporting, on the basis of risk considerations (e.g. the risk to the OPU / JV is low and further risk reductions can only be achieved at excessive costs), will not accumulate exposure hours. (see previous comments)

Time off-duty, even if this time is spent on OPU / JV premises, is not accumulated for the calculation of exposure hours, although incidents during this time shall be included if they are the result of failure or absence of management controls. All company facilities are deemed to be under “control”

Literature:

PTS 60.0504 Incident classification and reporting.

5.5 SAFETY DATA FOR QUARTERLY REPORTING TO PETRONAS

The table in Appendix 2a should be brought up to date at the end of each quarter (monthly optional).

Literature:

PTS 60.0504 Incident classification and reporting

5.6 SAFETY DATA FOR ANNUAL REPORTING TO PETRONAS**5.6.1 Activity split**

The tables in Appendices 2a and 2b should be completed at the end of each year.

Definitions:

Onshore refers to all activities and operations that take place within a landmass, including those on swamps, rivers and lakes. Activities in bays, in major inland seas, e.g. the Caspian Sea, or in other inland seas directly connected to oceans are counted as offshore. Land-to-land aircraft operations are counted as onshore, even though flights are over water.

Offshore refers to all activities and operations that take place at sea, including inland seas directly connecting with oceans. Offshore includes transportation of people and equipment from shore to the offshore location either by vessel or helicopter.

The categorisation under onshore or offshore refers to the physical location of the incident, and not to an individual's normal place of work. For example, a mechanic who normally works onshore is called offshore for a repair job lasting 2 days. Whilst offshore, the mechanic suffers an injury resulting in a lost work day. As the mechanic's accumulated hours during the visit is counted as "offshore", the LWC should also be counted as an offshore incident.

Exploration covers geophysical, seismographic and geological activities, inclusive of administrative and engineering aspects, maintenance, materials, and transportation (i.e. all activities directly related to exploration). Exploration drilling is to be included under "drilling".

Production covers petroleum and natural gas production operations, including administrative and engineering aspects, minor construction, repairs, maintenance and servicing, materials supply and transportation (i.e. all activities directly related to production). It covers all mainstream production operations including wireline. It does not cover production drilling or workover activities.