

# GLOSSARY

## Carbon Dioxide

A very important greenhouse gas (GHG) due to the large emission levels, both natural and man-made. Greenhouse gases are gases that contribute to the formation of an insulating blanket around the earth. Water vapour, carbon dioxide, methane, nitrous oxide and halogenated hydrocarbons are the main greenhouse gases.

## CFCs

Chlorofluorocarbons are man-made gases known to destroy the ozone layer. Also greenhouse gases. Used in chemical processes and in refrigeration. They are being phased out under the Montreal Protocol. (See Halon).

## Discharge

This is used as a general term for all releases of contaminants into the environment, be they gas, liquid or solid, or a combination thereof. The term 'emission' is used exclusively for releases into the atmosphere, 'effluent' is restricted to releases into surface water and 'waste' is used for remaining releases, such as disposal to landfill or treatment by incineration. A contaminant is a compound which is present in the environment in concentrations higher than the background level, but not necessarily causing a negative impact.

## Drill Cuttings

Earth and rocks removed during a drilling operation to make an exploration or production well for oil and gas production. Cuttings are invariably contaminated with drilling fluids (oil based or other mud).

## Environment

The term 'environment' is used here to indicate the whole complex of living, organisms and the non-living components surrounding them, and their interrelationships. A negative impact on the environment is an adverse effect on populations, ecosystems or natural habitats leading to a disturbance of their structure or functioning beyond the range of normal variation, or to a restriction in the human use of the environment.

## Exposure Hours

This is the total number of hours of employment including overtime and training but excluding leave, sickness and other absences. One million exposure hours is roughly equivalent to 600 people working or one year.

## Flaring and Venting

Respectively the burning of combustible gases and the release of gases to the atmosphere without burning.

## GWP

Global Warming Potential

## Halon

A member of the halocarbon family of chemicals. (i.e. those containing carbon and halogens fluorine, bromine and chlorine) used in fire extinguishing equipment and believed to contribute to stratospheric ozone depletion. There are United Nations agreements (Montreal Protocol) for the phase-out of halons.

## HCFC

Hydro-chlorofluorocarbon is also known as soft CFC. A chemical compound comprising one or more carbon atoms surrounded by chlorine, fluorine and at least one hydrogen atom. Together with halons and CFC, they are man made gases now known to destroy the stratospheric ozone layer, also known as ozone depleting substances (ODS). They are used in refrigeration/air-conditioning.

## HFC

Hydrofluorocarbon

## HSSE

Health, Safety, Security & Environment.

## Incident

An unplanned event or chain of events which has, or could have caused injury or illness and/or damage to the environment, third parties or company assets.

# GLOSSARY

## Lost Time Injury (LTI)

The sum of fatalities, permanent total disabilities, permanent partial disabilities and lost workday cases. Permanent total disability is any work injury that incapacitates an employee permanently. Permanent partial disability is any work injury which results in the permanent loss of use, of any part of the body or any permanent impairment of functions of parts of the body, regardless of any pre-existing disability of the impaired body function. A lost workday case is any work injury, other than a permanent partial disability, which renders the injured person temporarily unable to perform any regular job or restricted work on any day after the injury was received.

## Lost Time Injury

The number of lost time injuries per Frequency million exposure hours worked during the period. (LTIF)

## NOx

A general term for nitrogen oxide gases. These are produced by combustion and can contribute to the formation of smog and acidification.

## Oil-Based Mud

A specifically formulated fluid used to lubricate and cool the drill during a drilling operation, to remove the cuttings and to control well pressure. (N.B. The EP operation of Shell Malaysia was amongst the first in the Shell Group and in Malaysia, to stop the use of oil-based mud in 1992)

## Ozone

A reactive form of oxygen. Ozone plays an important role both at ground level and in the upper atmosphere. In the upper atmosphere it acts as a filter for ultraviolet radiation but is destroyed by halogenated hydrocarbons (halons and CFCs). At ground level, it is produced by reactions with VOCs and NOx, and as a constituent of photochemical smog, it is an irritant and can cause breathing difficulties.

## Produced Water

When oil is produced it is accompanied by water naturally present in the reservoir or injected into the reservoir to ensure sufficient pressure. The amount of water produced increases as the well ages. The water may contain some heavy metals as well as chemicals used for treatment.

## SOx

Sulphur Oxide. Contributes to climate effects, acidification and other air quality problems.

## Sustainable Development

Development which meets the needs of the present without compromising the ability of future generations to meet their own needs.

## Tonne

A metric measure of weight. 1 tonne equals 1000 kilogrammes (kg); 1 kilotonne equals 1000 tonnes.

## Total Recordable Cases

The sum of fatalities, permanent total disabilities, permanent partial disabilities, lost workday cases, restricted work cases and medical(TRC)treatment cases. A medical treatment case is any work injury that involves neither lost workdays nor restricted workdays but which requires treatment by, or under the specific orders of a physician or could be considered as being in the province of a physician.

## Total Recordable

The number of total recordable cases (lost-time and non lost-time injuries) per million exposure hours worked during the period. Case Frequency (TRCF)

## VOCs

Volatile organic compounds. Organic compounds (i.e. compounds of carbon) which evaporate at normal ambient temperatures. In addition to hydrocarbons (i.e. compounds of carbon and hydrogen), VOCs include oxygenated compounds and compounds containing sulphur and halogens. VOCs contribute to the formation of ground level ozone through reaction with NOx and sunlight. VOCs can include toxics such as benzene and 1.3-butadiene.