

Glossary of risk management terms

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Origin:

- DOE Department of Energy (USA)
- HSE Health and Safety executing (UK)
- STF Stichting Tripod Foundation

Term or phrase	Description	Origin
Accident	See incident	
Accountability	The expectation that an individual or an organization is answerable for results; to explain its actions, or be subject to the consequences judged appropriate by others; the degree to which individuals accept responsibility for the consequences of their actions, including the rewards or sanctions.	DOE
Action	Externally observable, physical behaviour (bodily movements or speech).	DOE
Active Error	An active human error is an intended or unintended action that has an immediate negative consequence for the system.	HSE
Active Error	Action (behavior) that changes equipment, system, or plant state. Triggering immediate undesired consequences	DOE
Active Failure	An act or occurrence that renders a control or defence ineffective, thereby increasing the potential for release or exposure of a hazard or increasing the potential harm caused by the release. (A term used in Tripod Beta analysis).	
Acute Effect	Effect that occurs suddenly and in a short time following exposure.	
Administrative Control	Direction that informs people about what to do, when to do it, where to do it, and how well to do it, and are usually documented in various written policies, programs, and plans	DOE
Agent of change (Agent)	Anything with the potential to change, harm or damage an Object upon which it is acting	STF
ALARP	As Low as Reasonably Practicable	
Alignment	The extent to which the values, processes, management, and existing factors within an organization influence human performance in a complementary and non-contradictory way; facilitating organizational processes and values to support desired safe behavior	DOE
Appraisal	A structured process used to review, evaluate and form opinions on a risk based control framework, and its effectiveness.	
As Low As Reasonably Practicable (ALARP)	This level represents the point, objectively assessed, at which the time, trouble, difficulty and cost of further reduction measures become unreasonably disproportionate to the additional risk reduction obtained	
Asset	Individual items or combinations of items of hardware. Depending on the context, it can be used to describe anything from a valve to a depot.	
Asset Damage	A direct loss of or damage to plant, equipment, tools or materials resulting from an incident	
Assumption	A condition taken for granted or accepted as true without verification of the facts.	DOE
Assurance Plan	An outline of the various forms of appraisal that will take place over a stated time frame, to provide assurance regarding the effectiveness of a risk based control framework.	
At-Risk Practice	A behavior or habit that increases the chance for error during an action, usually adopted for expedience, comfort, or convenience	DOE
Attitude	An unobservable state of mind, or feeling, toward an object or subject	DOE
Audit	An independent and systematic review of a company or part of a company on certain aspects of the business (e.g. business controls, procedures, financial statement, etc.). Examples of audit types are quality audit, safety audit, internal audit and financial audit.	
Audit Opinion	An Audit Opinion is an assessment of 'the overall level of control for the subject area', and shall be provided for all HSE Audits. The audit team shall base its Audit Opinion on the standards, requirements, or policies specified in the audit terms of reference. The Audit Opinion shall be classified using terms 'Good', 'Fair', 'Unsatisfactory', or 'Unacceptable'.	
Barrier	A measure, which reduces the probability of releasing an Agents potential for harm and reducing it consequences.	STF
Barrier	Anything that keeps operations or processes within safe limits, or protects a system or person from a hazard. (See also controls and defense.)	DOE
Barrier	A measure which reduces the probability of realising a hazards potential for harm and of reducing its consequence. Barriers may be physical, (materials, protective devices, shields, segregation, etc.) or non-physical (procedures, inspection, training, drills).	
Barrier	A means of containing a hazard. Can be engineering or procedural. Also referred to as Control.	
Barrier	A measure that inhibits the presence of a threat or prevents the triggering of an undesired hazardous event.	
Barrier	A measure taken to reduce the probability of release of a hazard. A measure put in place to block the effect of a threat.	
Baseline Measurement Survey	Quantified personal exposure data obtained to compare against the relevant Occupational Exposure Limit(s).	
Basic Risk Factor	A system for categorising underlying causes. An indicator of an aspect of management system where a failure exists, and by implication where the remedy lies.	STF
Behavior	The mental and physical efforts to perform a task; observable (movement, speech) and non-	DOE

	observable (thought, decisions, emotional response, and so forth) activity by an individual— Generally, we treat observable behavior as measurable and controllable.	
Behavioural Safety	A range of safety improvement programs based on identification of behaviours, which could contribute to accidents. Systematic observation of workers and the analysis of trends to identify corrective actions.	
Belief	Acceptance of and conviction in the truth, existence, or validity of something, including assumptions about what will be successful	DOE
Benchmarking	A process of comparing products, processes, and practices against the best in class, the toughest competitors or those companies recognized as industry leaders; discovering innovative thinking or approaches	DOE
Biological Agents	For example, insects and mites, moulds, yeasts, bacteria and viruses, as far as they are related to the working environment.	
Biological Effect Monitoring	Biological effect monitoring is the measurement of a reversible biochemical change caused by the absorption of the substance; the degree of change being below that associated with toxic injury and not associated with a known, irreversible pathological effect.	
Biological Monitoring	Biological monitoring involves the measurement of a hazardous substance or its metabolites in body fluids, usually blood, urine or exhaled breath. A metabolite of a substance is either a breakdown product or modified (more soluble) form suitable for excretion by the kidney in the urine or by the liver into the intestine.	
Bow-tie Diagram	A pictorial representation of how a hazard can be hypothetically released and further developed into a number of consequences. The left hand side of the diagram is constructed from the fault tree (causal) analysis and involves those threats associated with the hazard, the controls associated with each threat and any factors that escalate likelihood. The right hand side of the diagram is constructed from the hazard event tree (consequence) analysis and involves escalation factors and recovery preparedness measures. The centre of the bow tie is commonly referred to as the 'top event'.	
Causal Analysis	The process of determining potential combinations of circumstances leading to a top event.	
CDC	Centres for Disease Control	
Change Management	A methodical planning process to establish the direction of change, align people and resources, and implement the selected modifications throughout an organization, large or small	DOE
Chemical Agent	For example, irritants, carcinogens, systemic poison, sensitizers. They may be present in the working environment as gases, vapours, mists/ aerosols, fumes dusts, liquids or solids.	
Chronic Health Effect	Chronic health effects are those, which occur gradually over a long period of time following repeated and prolonged exposure to relatively low levels or concentrations of a hazardous agent. In certain cases a short- term exposure may result in a chronic health effect.	
Chronic Release	The continuous or on-going release of a discharge, emission or exposure.	
CMO	Chief Medical Officer	
Coaching	The process of facilitating changes in behavior of another person through direct interaction, feedback, collaboration, and positive relationships. (See also feedback.)	DOE
Cognitive (cognition) Competence	Descriptive of mental activity related to sensing and thinking phases of information processing; perception, awareness, problem-solving, decision-making, and judgment An objective description of the skill and / or experience required for effective performance in an area of expertise. A specific skill, knowledge or ability that is specified to perform a role within an occupation, staff position or job function to a specified proficiency.	DOE
Competent Person	An individual who by a combination of training, practical and theoretical knowledge and actual experience of the subject matter to enable him or her to carry out, authorise, approve, or manage the designated task or activity.	
Confined Space	Confined space means any enclosed or partially enclosed space, either above or below ground or deck level, where entry is possible and where there is a risk of oxygen deficiency, or the accumulation of dusts or gases which are flammable or hazardous to health. Entry refers to not only complete body entry, but also to partial entry where only the head is inserted, e.g. into manhole openings, hatches, pipe ends, void space above floating roofs, etc.	
Confined Space	A fully or partially enclosed space where there is a risk of serious injury from hazardous substances or conditions within the confined space or nearby.	
Confined Space Entry	Entry means either complete body entry or inserting a head into man way openings, hatches, pipe ends etc.	
Consequence	Result of an incident or chronic exposure - injury, death or illness, environmental damage, loss or damage to assets or reputation.	
Consequence	An event or chain of events that result from the release of a hazard.	

Consequential Business Loss The indirect loss associated with	The indirect loss associated with incidents resulting in asset damage, environmental impact or impact on company reputation. It comprises elements such as loss of production (expressed as profit margin), process unit downtime, product quality costs, cost of environmental clean up, cost of recovery/ disposal of waste and cost of reprocessing off-grade material. The intention is to estimate the order of magnitude of the loss so that the incident can be assessed on the RAM and the appropriate resources put into investigation. It should not be necessary to conduct a detailed accounting of the full range of indirect costs. Consequential business loss should be estimated on a 100% equity basis. When consequential business loss results from an incident with impact on the environment or company reputation, the consequences should be assessed under both asset damage and the environmental/ reputation categories of the RAM and the highest rating used to determine the extent of investigation and follow up.	
Continual Improvement	Process of enhancing the management system to achieve improvements in overall performance in line with the organisation's policy.	
Contract	An agreement between two parties for the supply of goods or the provision of services. Contracts can cover both one-off requirements (e.g. purchase orders or lump sum services contracts) and long- term agreements.	
Contract Holder	Someone in the organisation who has responsibility for monitoring / ensuring compliance with the contract.	
Contractor	An organisation or person that provides or has the potential to provide services to the company.	
Contractor	Contractors are parties working for the reporting operating unit (OU) either as a direct contractor or as a sub-contractor where the OU exercises HSE management control. The need for management control can be established by applying a risk analysis based evaluation.	
Controls	Devices, methods, or practices that make an activity or process go safely, effectively, efficiently, predictably, and according to high standards to protect key assets from human error—usually taking an engineered, administrative, cultural, or oversight form. (See also defenses, barrier, and positive control.)	DOE
Control (measure)	A measure that inhibits the presence of a threat or prevents the triggering of an undesired hazardous event.	
Control (of a hazard)	Limiting the extent and/or duration of a hazardous event to prevent escalation.	
Complacency	Self-satisfaction accompanied by unawareness of actual dangers, hazards, or deficiencies; being unconcerned in a hazardous environment	DOE
Core diagram	A pictorial model of the sequence of events of an incident. A Tripod Beta tree containing only the Agent-Object-Event trios, i.e. without the Tripod causation path and barriers.	STF
Cost Benefit Analysis	The means used to assess the relative cost and benefit of a number of risk reduction alternatives. The ranking of the risk reduction alternatives evaluated is usually shown graphically.	
Critical Step	A procedure step, series of steps, or action that, if performed improperly, will cause irreversible harm to equipment, people, or the environment.	DOE
CSE	Confined Space Entry	
Culture	An organization's system of commonly held values and beliefs that influence the attitudes, choices and behaviors of the individuals of the organization. (See also safety culture.)	DOE
Cultural Control	Leadership practices that teach (consciously and unconsciously) their organizations how to perceive, think, feel, and behave	OHSA
Cumulative Impact	The potential impact that results when the particular project impact is added to previous or current other project impacts.	
Customer	Person, people or organisational unit receiving upon request goods and or services.	
Defences	All controls, barriers and recovery preparedness measures in place to manage a hazard.	
Defense	Means or measures taken to prevent or catch human error, to protect people, plant, or property against the results of human error, and to mitigate the consequences of an error. (See also barrier and controls.)	DOE
Defense-in-Depth	The set of redundant and diverse defenses, barriers, controls, and safeguards to protect personnel and equipment from human error, such that a failure with one defense would be compensated for by another defensive mechanism to prevent or mitigate undesirable consequences.	DOE
Defensive Driving	An approach to driving that seeks to minimise exposure to risks through anticipation of these risks and adopting specific techniques to avoid them.	
Dependency	The increased likelihood of human error due to the person's unsafe reliance on or relationship with other seemingly independent defense mechanisms. (See also team error.)	DOE
Derogation	The process by which a deviation may be applied to a mandatory rule or procedure.	
Due Diligence During a merger, acquisition or divestment, the	During a merger, acquisition or divestment, the intense examination of the other party to confirm its value and composition. The purpose of due diligence is to undertake a comprehensive review of the other party's operations, processes, capabilities and financial position. This includes HSE management standards. This review should provide	

	senior management with reasonable assurance that a transaction is feasible, that the new activities result in a viable and robust enterprise and that the risks associated with the transaction are acceptable.	
Duration	The length of time (day, year, decade) for which an impact may be discernible and the nature of the impact over time; may be constant, intermittent, and repetitive. If repetitive it includes the frequency of the impact.	
Effect	Actual or potential consequence of a hazard.	
Effective barrier	A barrier that was effective in restoring control or preventing further consequential injury or damage following an actual event.	STF
EIA	Environmental Impact Assessment	
EMAS	European Union Eco- Management and Audit Scheme	
Enforcing Authority	The authority responsible for enforcing national and local health, safety and environmental legislation and other relevant statutory requirements. It may be either a national body or a local authority.	
Engineered Controls	Those physical items (hardware, software, and equipment) in the working environment designed to modify behavior and choices, or limit the consequences of undesired actions or situations. These controls may be active (requires action/change of state) or passive (defense requires no action).	DOE
Engineering Control	The control of exposure to a hazardous agent by the design of plant and equipment, e.g. containment, exhaust ventilation, mechanical aids.	
Environment	The surroundings and conditions in which a company operates or which it may affect, including living systems (human and other) therein.	
Environment	Surroundings in which an organisation operates, including air, water, land, natural resources, flora, fauna, humans, and their interrelation.	
Environmental Aspect	Element of an organisation's activities, products or services that can interact with the environment. A significant environmental aspect is an environmental aspect that has or can have a significant environmental impact.	
Environmental Effect	A direct or indirect impingement of the activities, products and services of the company upon the environment, whether adverse or beneficial.	
Effects Evaluation	A documented evaluation of the environmental significance of the effects of the company's activities, products and services (existing and planned).	
Environmental Impact	Any change to the environment, whether adverse or beneficial, wholly or partially resulting from an organisation's activities, products or services.	
Environmental Impact Assessment (EIA)	A full and systematic identification, description and assessment of the hazards and effects of the proposed project on the natural environment. The assessment will include all activities during construction, operation, decommissioning and abandonment.	
Environmental Management Audit	A systematic and documented verification process of objectively obtaining and evaluating evidence to determine whether an organisation's environmental management system conforms to the environmental management system audit criteria set by the organisation, and for communication of the results of this process to management.	
Environmental Management System	The part of the overall management system that includes organisational structure, planning activities, responsibilities, practices, procedures, processes and resources for developing, implementing, achieving, reviewing and maintaining the environmental policy.	
Environmental Objective	Overall environmental goal, arising from the environmental policy, that an organisation sets itself to achieve, and which is quantified where practicable.	
Environmental Performance	Measurable results of the environmental management system, related to an organisation's control of its environmental aspects, based on its environmental policy, objectives and targets.	
Epidemiology	Epidemiology is the study of the occurrence of disease in human populations. Epidemiology studies in industry enable us to establish the relationship between work environment and the health, type of illnesses and ultimate causes of death of working people. To be effective, epidemiology must be based on accurate data on the occurrence of disease, types of jobs and exposures. The quality of the statistical analysis, and therefore the information produced, improves with (i) large number of people and (ii) longer follow-up periods.	
Error	An action that unintentionally departs from an expected behavior	DOE
Error of Commission	An error that involves performance of an action other than the expected action	DOE
Error of Omission	Failure to take an expected action.	DOE
Error Precursors	Unfavorable factors that increase the chances of error during the performance of a specific task by a particular individual. (See also human nature, individual capabilities, task demands, and work environment.)	DOE
Error-likely Situation	A work situation in which there is greater opportunity for error when performing a specific action or task due to error precursors (also known as "error trap")	DOE
Ergonomics	A multidisciplinary activity dealing with interactions between man and his total working environment. The factors that affect the smooth interface between man and his working	

	environment are: Body posture and movement (sitting, standing, lifting, pulling and pushing). Environmental factors (noise, vibration, lighting, climate). Information and operation (information gained visually or through other senses, controls relation between displays and control). Tasks and jobs (appropriate tasks, interesting jobs). Where ergonomics has not been taken into account in the design of workstations and tasks, staff may suffer, for example, discomfort, muscular- skeletal problems, psychological stress. Also called Human Factors Engineering.	
Escalation	An increase in the consequences of a hazardous event.	
Escalation Control Measure	Measure put in place to block or mitigate the effects of escalation factors. Types include guards or shields (coatings, inhibitors, shutdowns), separation (time and space), reduction in inventory, control of energy release (lower speeds, safety valves, different fuel source) and non-physical or administrative (procedures, warnings, training, drills)	
Escalation Factor	Condition that leads to increased risk due to loss of controls or loss of recovery capabilities (mitigation or life saving). Escalation factors include: abnormal operating conditions, e.g. maintenance mode, operating outside design envelope; environmental variations, e.g. extreme weather and tidal conditions; failure of barriers, e.g. maintenance failure, due to explosion or fire, introduction of ignition source; human error, e.g. lapses, rule violations; no barrier provided, e.g. not possible or too expensive. Escalation Factors may concurrently affect the control and/or recovery of more than one hazard.	
Escalation Factor Controls	Controls put in place to manage conditions that lead to increased risk due to loss of controls or loss of recovery measures.	
ESHIA	Environmental, Social and Health Impact Assessment	
Event	An undesirable change in the state of structures, systems, or components or human/organizational conditions (health, behavior, controls) that exceed established significance criteria.	DOE
Event	An unplanned and unwanted happening involving the release or exposure of an Agent. It is a 'change of state', whereby an Object is adversely affected (or threatened) by an Agent.	STF
Event	An occurrence or situation represented as a node in event and fault trees (e.g. gas leak, status of gas detection system, status of ESD system).	
Event Tree	A tree-like diagram used to determine alternative potential scenarios arising from a particular hazardous event. It may be used quantitatively to determine the probability or frequency of different consequences arising from the hazardous event.	
Event Tree	A tree-like diagram consisting of nodes and connecting lines used to formulate potential escalation scenarios. The nodes correspond to the different stages in an escalating incident sequence, and the two lines that lead out of the nodes correspond to the paths of success or failure in mitigation of the incident. Event tree analysis evaluates the potential outcomes following a hypothetical top event. With event trees one looks 'forward' in time to determine what could occur, e.g. consequence of an event.	
Expectations	Established, explicit descriptions of acceptable organizational outcomes, business goals, process performance, safety performance, or individual behavior (specific, objective, and doable)	DOE
Exposure	The amount of the hazard to which a person has been exposed (dose). This is a combination of the magnitude, frequency and duration of exposure.	
Exposure Hours	The total number of hours of employment including paid overtime and training but excluding leave, sickness and unpaid overtime hours. Exposure hours should be calculated separately for company and contractor personnel. Time off duty, even if this time is spent on company premises, is not included in the calculation of exposure hours, but incidents during this time are included in statistics if they are the result of failure or absence of management controls. In many company sites the number of exposure hours can be calculated from computer controlled access or time keeping records. In the absence of more accurate methods exposure hours can also be calculated from a headcount and nominal working hours per person.	
Exposure Profile	Nature and degree of exposure to hazards.	
Exposure Rating	The chance of over- exposure to a health hazard when compared against agreed control standards. It is evaluated as Very Low, Low, Medium, High or Very High.	
External Audit	An External HSE Audit is an audit led by an auditor from outside the Company. External auditors are typically used to provide greater independence, more external credibility, competence and experience not available internally, or are provided in response to specific stakeholder requirements, for example of joint venture partners or stock exchange regulations. External HSE Audits may also be used for HSE performance verification purposes or to achieve certification of all or part of an Operating Unit's HSE-MS.	
FAC	First Aid Case	
Factor	An existing condition that positively or adversely influences behavior. (See also organizational factors.)	DOE

Failed barrier	A barrier rendered ineffective by an immediate cause	STF
Fallible Decision	A term used in Tripod Beta analysis for decisions and actions by (senior) managers, sometimes a long time ago, that lead to Latent Failures.	
Fallibility	A fundamental, internal characteristic of human nature to be imprecise or inconsistent.	DOE
Fatality	A death resulting from a work related injury or occupational illness, regardless of the time intervening between the incident causing the injury or exposure or causing illness and the death.	
Fault Tree	A tree like diagram based upon the application of 'and/or' logic used to identify alternative sequences of hardware faults and human errors that result in system failures or hazardous events. When quantified, fault trees allow system failure probability or frequency to be calculated.	
Fault Tree	A tree-like diagram showing how hardware faults and human errors combine using 'and/or' logic to cause system failures. When quantified, fault trees allow system failure probability to be calculated. With fault trees one looks 'backwards' in time to determine what has to happen for an event to occur.	
Feedback	Information about past or present behavior, and results that is intended to improve individual and organization performance.	DOE
Fire Resistant	The ability of materials to resist a fire for specific periods of time, if tested from either side, whilst still retaining properties of insulation, integrity and stability.	
Fire Wall	A screen, wall or dividing partition set up in open air to protect LPG tanks, pipes or equipment from radiated heat and to ensure enough dispersion distance in the event of a leak from a protected tank. A screen, wall or dividing partition set up in open air to protect LPG tanks, pipes or equipment from radiated heat and to ensure enough dispersion distance in the event of a leak from a protected tank.	
Fires and Explosions	Normally taken to mean all fires that necessitated the use of a fire extinguisher or other extinguishing means, e.g. shut off fuel or switch off electricity supply. Fires with no visible flame, e.g. oil soaked insulation, should also be included. All flammable explosions or overpressure explosions should be included, irrespective of the extent of containment.	
First Aid Case (FAC)	Any single treatment and subsequent observation of minor scratches, cuts, burns, splinters, etc. that do not normally require medical care by a physician. Such treatment and observation is considered first aid case even if provided by a physician or registered professional personnel.	
Fitness to Work Standard	A set of physical and psychological requirements necessary for the execution of Specific Work that may include statutory requirements. The FTW standards should detail the required acceptance criteria and test methods where applicable.	
Fitness to Work (FTW)	Means an employee is currently in a physical and psychological condition in which he/she can carryout Specific Work, without significant risk to either him/herself, the business and / or third parties. FTW is a category of occupational health controls, like elimination, substitution, engineering, procedures and personal protective equipment.	
Flawed Defenses	Defects with engineered, administrative, cultural, or oversight controls that, under the right circumstances, fail to: protect plant equipment or people against hazards, prevent the occurrence of active errors mitigate the consequences of error (See also anatomy of an event and defense-in-depth.)	DOE
FRED	Fire, Release, Explosion and Dispersion (Modelling Tool)	
FTW	Fitness To Work	
Fugitive Emissions	Point source emissions due to leakage from process equipment such as pump and compressor seals, and piping items such as valves and flanges.	
Functional Requirements	The minimum criteria which must be satisfied to meet the stated health, safety and environmental objectives.	
Gap Analysis	The process of comparison of actual results or behavior with desired results or behavior, followed by an exploration of why the gap exists	DOE
General Failure Type (GFT)	A term used in Tripod Beta analysis for an element of a system for categorising latent failures: An indicator of an aspect of hazard management where a failure exists, and by implication where the remedy lies.	
Geographical Limit	Possible extent to which the potential impacts could spread on the local, regional, national, or global level.	
Hazard	The potential to cause harm, including ill health and injury, damage to property, products or the environment; production losses or increased liabilities.	
Hazard Analysis	The systematic process of developing an understanding of hazards. The process consists of hazard identification, assessment and risk determination.	
Hazard and Operability (Study) (HAZOP)	A structured hazard identification and assessment tool in the design and operation of a facility. It is the application of a formal systematic examination to process and engineering intentions of new and existing facilities to assess the potential of mal-operation or malfunction of individual items of equipment and their consequential effects on the facility as a whole. HAZOP is typically carried out during project	

	specification and implementation phases or during operation.	
Hazard Assessment	The process whereby the results of an analysis of a hazard are considered against either judgement, standards, or criteria which have been developed as a basis for decision making.	
Hazard Identification (Study) (HAZID)	A structured brainstorming technique for identification of potential hazards and threats in the early stages of a project.	
Hazard Rating	A rating allocated to a health hazard dependent on the severity of its potential ill-health effect. It is the equivalent of Consequence Category 'Harm to people'.	
Hazardous Area	A place where vapour may be present in flammable concentrations.	
Hazardous Event	The 'release' of a hazard. The undesired event at the end of the fault tree and at the beginning of an event tree. The centre point in a Hazard 'Bow- Tie. An incident, which occurs when a hazard is realised (e.g. release of gas, fire, loss of buoyancy). Where others follow one hazardous event, then the 'Top Event' is the first hazardous event. Containment, Structural Failure, Dropped Objects, Exceeding Occupational Exposure Limit, Loss of Control, Falls to Same Level, Falls to Lower Level, Oxygen Deficiency, and Loss of Separation, Electrical Shock, and Explosion.	
Hazards and Effects Management Process (HEMP)	The structured hazard analysis methodology involving hazard Identification, Assessment, Control and Recovery and comparison with screening and performance criteria. To manage a hazard completely requires that all four steps must be in place and recorded.	
Hazards and Effects Register	A hazard management communication document that demonstrates that hazards have been identified, assessed, are being properly controlled and that recovery preparedness measures are in place in the event control is ever lost.	
HAZID	Hazard Identification (Study)	
HAZOP	Hazard and Operability (Study)	
HBS	Health Baseline Study	
Health	Health is a state of complete physical, mental, and social well-being, and not merely the absence of disease or injury.	
Health Determinant	A factor known or strongly suspected to have a potential to cause changes in health status.	
Health Hazard	The potential to cause harm to health. Health hazards may be biological, chemical, physical, ergonomic or psychological in nature. 'Health hazards' are also known as 'agents hazardous to health' and 'hazardous agents'. These terms are interchangeable.	
Health Impact	Any change in health risk (or in the determinant of health status) of a group of people, which is reasonably attributable to a project program or policy.	
Health Risk	The likelihood that a health hazard will cause harm in the actual circumstance of exposure. Health Risk= Hazard x Exposure.	
Health Risk Assessment (HRA)	The identification of health hazards in the workplace and subsequent evaluation of risk to health. This assessment takes into account existing or proposed control measures. Where appropriate, the need for further measures to control exposure is identified.	
Health Surveillance	Measures for monitoring the health of the workforce if risk to health cannot reasonably be excluded.	
Health, Safety and Environmental Management System (HSE-MS)	The company structure, responsibilities, practices, procedures, processes and resources for implementing health, safety and environmental management.	
Heavy Goods Vehicle (HGV)	A large goods vehicle having a gross vehicle weight, including any trailer, of 3.5 tonnes or above.	
HEMP	Hazards and Effects Management Process	
HFE	Human Factors Engineering	
HIA	Health Impact Assessment	
Hierarchy of Controls	The means of controlling exposure to health hazards, listed in preferential order as follows: Elimination / Substitution (alternatives). Engineering (plant and equipment). Procedural. Personal Protective Equipment.	
High Risk Incident (HRI)	An incident for which the combination of potential consequences and probability are assessed to be in the high risk (red shaded) area of the RAM. HRIs can be incidents that result in injuries, illnesses or damage to assets, the environment or company reputation, or they can be near misses.	
HRA	Health Risk Assessment	
HSE	Health, Safety and Environment	
HSE-MS	Health, Safety and Environment Management System	
HSE-MS Custodian	The HSE-MS Custodian is responsible for preparing the HSE-MS manual for review by the HSE-MS Holder. He is responsible for ensuring that revisions and updates are prepared when necessary. The Custodian ensures that the distribution of the manual is controlled and maintains a list of persons/positions who receive the manual and subsequent updates. The HSE Adviser normally fills this role.	

HSE-MS Holder	On behalf of the management team, the HSE-MS Holder is responsible for the overseeing of the HSE- MS. This role is normally filled by a member of the Management Team of the company such as the Operations Manager.	
HSE-MS Owner	The HSE-MS Owner is ultimately responsible for the implementation of the HSE-MS and is the final approval of the contents of the HSE- MS Manual. A General Manager normally fills this role.	
HSE Case	A demonstration of how the Company HSE objectives are being met in a methodical and auditable reference document. A completed HSE Case will provide a reference document to all information relevant to the safety and health of the operations personnel, environment and resources on an installation.	
HSE Case	A fully documented demonstration of Risk Management - required by "critical operations and installations", i.e. those with HSSE risks in the defined High-Risk area of the Risk Assessment Matrix.	
HSE Case Custodian	The HSE Case Custodian is appointed by the HSE Case Holder and is responsible for the contents of the HSE Case. He/she is responsible for ensuring that revisions and updates are prepared when necessary and for ensuring that distribution of the document is properly controlled. In some cases, the HSE Case Holder and the HSE Case Custodian may be the same person and the specific tasks listed under those two roles will be combined into one.	
HSE Case Holder	The HSE Case Holder is appointed by, and is accountable to, the HSE Case Owner for the management of the HSE Case. Specific responsibilities include: Initiating appropriate programmes to ensure the awareness and proper use of the HSE Case by the organisation. Reviewing the HSE Case to ensure that it is technically correct with accurate representation of the controls in place to manage the HSE hazards effectively. Managing the reviews and revisions of the HSE Case.	
HSE Case Owner	The HSE Case Owner is ultimately responsible for the management of the facility or operation covered by the HSE Case, and is the final approval authority of the contents of the HSE Case. Specific responsibilities include: Approving the HSE Case as a whole. Approving all the changes to the HSE Case.	
HSE Policy	A public statement of the intentions and principles of action of the company regarding its health, safety and environmental effects, giving rise to its strategic and detailed objectives.	
HSSE	Health, Safety, Security and Environment	
HSSE Assurance	HSSE Assurance is provided by a combination of HSSE Self-Appraisal and HSSE Audit processes which in aggregate confirm that all the elements of an HSE- MS are in place and are effective, so that the objective of reducing HSSE risks to a level that is as low as is reasonably practicable can be achieved.	
HSSE Audit	A process used to provide a systematic, independent assessment of the consistent and effective application of all or part of an HSE- MS.	
HSSE Audit Programme	An HSE Audit Programme is the risk- based combination of Internal and External HSE Audits that is planned to take place over a stated time frame, which in aggregate with Self- Appraisals provides assurance that the HSE-MS is effective. The HSE Audit Programme is an important part of an Operating Unit's overall Assurance Plan.	
HSSE Critical Activity	Activity that has been identified by the Hazards and Effects Management Process as vital to ensure asset integrity, prevent incidents, and/ or mitigate adverse HSE effects.	
HSSE Critical Position	An HSSE Critical Position is a position that can impact significantly on the execution of HSSE Critical Activities at the operational level and / or management level, because it bears responsibility for performing Level 1 and / or Level 2 HSSE Critical Tasks as documented in the relevant HSE MS or HSE Cases.	
HSSE Critical Task	An HSSE Critical Task is an action required for the execution of an HSSE Critical Activity. HSSE Critical Tasks are divided into two levels. Level 1 HSSE Critical Tasks are operational tasks required for the execution of HSSE Critical Activities, where actions (or inactions) taken while performing such tasks could lead directly to a Significant Incident. These tasks are normally associated with the Control or Recovery elements of the Hazards and Effects Management Process (HEMP) (e.g. those HSSE Critical Tasks performed by plant operators, technicians, vehicle drivers, aircraft pilots, ship's captains, control during / after emergency, recovery from emergency, etc.). Refer to the appropriate HSSE MS and HSE Cases to identify these tasks. Level 2 HSSE Critical Tasks: tasks required for the execution of HSSE Critical Activities, where action (or inaction) while performing such tasks could lead indirectly to a Significant Incident. These tasks include the "Identification" and "Assessment" elements of the HEMP and are normally supervisory-related, such as identifying and assessing staffing requirements to implement processes, and the control and recovery elements of HEMP. Refer to the appropriate HSE-MS and HSE Cases to identify these tasks.	
HSSE Review	An HSSE Review is an appraisal process without an overall opinion being given on the standard of controls. HSSE Reviews are often performed as an aid to fulfilling the	

	requirements of the 'Management Review' element of the Group Procedure for an HSE-MS. The methodology may be quite informal, for example, a structured management discussion, or may be identical to that employed in an HSSE Audit, except for the lack of an overall Audit Opinion.	
Human Error	A phrase that generally means the slips, lapses, and mistakes of humankind	DOE
Human Error	A wrong action or wrong decision by a person, resulting in an unintentional and undesirable consequence. They are classified as slips, lapses, and mistakes.	STF
Human Error Probability	The probability that an error will occur during the performance of a particular job or task within a defined time period.	HSE
Human Factors	The study of how human beings function within various work environments as they interact with equipment in the performance of various roles and tasks (at the human-machine interface): ergonomics, human engineering, training, and human resources	DOE
Human Factors Engineering (HFE)	The more generalised term for Ergonomics.	
Human failure	The actions and omissions of individuals that create substandard acts. It is a term used to collectively refer to both human errors and to violations.	STF
Human-machine interface	The boundary across which information is transmitted between the process and the worker, e.g. analogue displays, VDUs.	HSE
Human-Machine Interface	The point of contact or interaction between the human and the machine.	DOE
Human Nature	The innate characteristics of being human; generic human limitations or capabilities that may incline individuals to err or succeed under certain conditions as they interact with their physical and social environments.	DOE
Human Performance	A series of behaviors executed to accomplish specific results	DOE
Human reliability	The probability that a task will be successfully completed within a required minimum time.	HSE
Human Reliability	The probability of successful performance of human activities, whether for a specific act or in general	DOE
ICIR	Incident Classification, Investigation and Reporting	
IDLH	Immediately Dangerous to Life and Health	
Individual	An employee in any position in the organization; that is, worker, supervisor, staff, manager, and executive	DOE
Individual Capabilities	Unique mental, physical, and emotional abilities of a particular person that fail to match the demands of the specific task	DOE
Infrequently Performed Task	Activity rarely performed although covered by existing normal or abnormal procedures.	DOE
Initiating Action	A human action, either correct, in error, or a violation; that results in an event. (See also Anatomy of an Event.)	DOE
Immediate cause	An action or omission by a person, or group of people, that causes a barrier to fail. An immediate cause occurs close to the failed barrier in time, space or causal relationship and negates the barrier.	STF
Immediately Dangerous to Life and Health (IDLH)	OSHA defines IDLH as "any condition that poses an immediate or delayed threat to life or that would cause irreversible adverse health effects or that would interfere with an individual's ability to escape unaided from a permit space". The National Institution of Occupational Safety and Health (NIOSH) define the purpose of establishing an IDLH as "to ensure that the worker can escape from a given contaminated environment in the event of failure of the respiratory protection equipment". NIOSH has established IDLH values for a number of chemicals that are toxic by inhalation. When an IDLH is not available, specialist advice should be sought to establish an equivalent to IDLH.	
Inadequate barrier	A barrier identified and established by the organisation as a management control measure which was implemented as designed, but still failed to prevent escalation as the design of the barrier did not fully take into account the circumstances of the Events	STF
Incident	An event or chain of events, which caused, or could have caused injury, illness and / or damage (loss) to people, assets, the environment, a business, or third parties	STF
Incident	An event or chain of events, which cause, or could have caused injury, illness and/or damage (loss) to assets, the environment or third parties. An incident involves the release or near release of a hazard. (The word 'accident' is used to denote an incident that has caused injury, illness and/or damage, but the term also has connotations of 'bad luck' in common speech and is therefore avoided in technical HSSE language.	
Incident	An unplanned event or chain of events that has, or could have, resulted in injury or illness or damage to assets, the environment or company reputation. Incidents do not include operations, maintenance, quality or reliability incidents which had no HSSE consequence or potential. Incidents do not include degradation or failure of plant or equipment resulting solely from normal wear and tear.	
Independent HSE- MS Audit	Independent HSE-MS Audits are a specific type of Independent HSE Audit that have the entire HSE-MS in question as their scope. As with all independent HSE audits, they shall be led by an auditor approved by the Business HSE Adviser, and who does not come from the audited operating unit.	

Injury	Any injury such as a cut, fracture, sprain, amputation, etc., that results from a single instantaneous exposure.	
Interested Party	Individual or group concerned with or affected by the environmental performance of an organisation.	
ISM	International Safety Management (Code)	
ISO	International Standards Organisation	
Issue	An issue is an emerging or unresolved matter that has the potential to have an impact on the Company's reputation.	
JCP	Job Competence Profile	
JHA	Job Hazard Analysis	
Job	A combination of tasks and duties that define a particular position within the organization usually related to the functions required to achieve the organization's mission, such as Facility Manager or Maintenance Technician.	DOE
Job Hazard Analysis (JHA)	A formal process by which persons involved in a task meet to assess the work, identify hazards involved and recommend controls and safe working practices.	
Job Hazard Analysis (JHA)	A job hazard analysis (JHA) is a method for analysing the hazards and identifying the controls and recovery measures needed to control the hazards. It is a step in the application of the Hazards and Effects Management Process (HEMP) to operations, maintenance and construction activities. Job Safety Analysis (JSA) and Task Safety Analysis (TSA) are equivalent terms.	
Job Site	The physical location where people touch and alter the facility.	DOE
Job-Site Conditions	The unique factors associated with a specific task and a particular individual; factors embedded in the immediate work environment that influence the behavior of the individual during work. (See also error precursors and organizational factors.)	DOE
Joint Venture Not Under Operational Control (JVNUOC)	A joint venture with a third party where the Company does not operate the facility /operation / business on behalf of the Joint Venture.	
Joint Venture Under Operational Control (JVUOC)	A joint venture with a third party where the Company operates the facility / operation / business on behalf of the Joint Venture.	
JVNUOC	Joint Venture Not Under Operational Control	
Knowledge & Skill	The understanding, recall of facts, and abilities a person possesses with respect to a particular job position or for a specific task	DOE
Knowledge-based Performance	Behavior in response to a totally unfamiliar situation (no skill, rule or pattern recognizable to the individual); a classic problem solving situation that relies on personal understanding and knowledge of the system, the system's present state, and the scientific principles and fundamental theory related to the system	DOE
Knowledge Worker	An individual who primarily develops and uses knowledge or information. (e.g. scientist, engineer, manager, procedure writer)	DOE
KPI	Key Performance Indicator	
Lapse	An error due to a failure of memory or recall. (See also slip and mistake.)	DOE
Lapse	A momentary failure of memory causing a person to forget to perform a required action. It is a type of human error.	STF
Latent Condition	An undetected situation or circumstance created by past latent errors that are embedded in the organization or production system lying dormant for periods of time doing no apparent harm. (See also latent organizational condition)	DOE
Latent errors	An erroneous action or decision where the negative consequences are apparent only after a period of time and when combined with other conditions or events	HSE
Latent Error	Errors (typically committed by knowledge workers) resulting in undetected organizational conditions or equipment flaws that lay dormant and may be hidden from view until revealed later by an event, near miss, testing, or self-assessment.	DOE
Latent Failure	A defect or deficiency in a hazard management system that creates a condition promoting unsafe acts or increasing the chance of active failure. Latent Failure is a term used in Tripod Beta analysis as well as in the analysis of activities in an HSE Case.	
Latent Organizational Condition or Weakness	Undetected deficiencies in organizational processes, equipment, or values that create job-site conditions that either provoke error or degrade the integrity of defenses.	DOE
Leader	An individual who takes personal responsibility for his or her performance and the facility's performance, and attempts to influence the organization's processes and/or the values of others.	DOE
Leadership	The behavior (actions) of individuals to influence the behaviors, values, and beliefs of others.	DOE
Leadership Practices	Techniques, methods, or behaviors used by leaders to guide, align, motivate, and inspire individuals relative to the organization's vision	DOE
LFL	Lower Flammable Limit	
Likelihood	How likely it is that a particular consequence will occur, based on past experience.	
Likelihood Analysis	The process of estimating the likelihood of an event. Also referred to as probability	

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	analysis.	
LOPA	Layers Of Protection Analysis	
Lost Time Injuries (LTI)	The sum of injuries resulting in fatalities, permanent total disabilities and lost workday cases, but excluding restricted work cases and medical treatment cases.	
Lost Time Injury Frequency (LTIF)	The number of lost time injuries per million exposure hours.	
Lost Workday Case (LWC)	Any work related injury that renders the injured person temporarily unable to perform their normal work or restricted work on any day after the day on which the injury occurred. Any day includes rest day, weekend day, scheduled holiday, public holiday or subsequent day after ceasing employment. This definition is different from the OSHA definition, which considers restricted work as a lost workday case. A single incident can give rise to several lost workday cases, depending on the number of people injured as a result of that incident.	
Lost Workdays (LWD)	The total number of calendar days on which the injured person was temporarily unable to work as a result of a lost workday case. In the case of a fatality or permanent total disability no lost workdays are recorded.	
Lower Flammable Limit (LFL)	The lower flammable limit of a hydrocarbon or other flammable vapour in air, above which the vapour will burn when ignited. Concentrations are normally expressed as % LFL. Lower Explosive Limit (LEL) is an equivalent parameter.	
LPG	Liquefied Petroleum Gas	
LTI	Lost Time Injury	
LTIF	Lost Time Injury Frequency	
LWC	Lost Workday Case	
MAC	Maximum allowable concentration	
Magnitude of Impact	The probable severity of each potential adverse impact in terms of degrees, extensiveness, scale, or period. Includes the seriousness of the impact and the number of persons and groups affected; the size of the change over baseline conditions; and exceeds over known threshold values.	
Management (manager)	That group of people given the positional responsibility and accountability for the performance of the organization	DOE
Management Practices	Techniques, methods, or behaviors used by managers to set goals, plan, organize, monitor, assess, and control relative to the organization's mission. (See also practices.)	DOE
Management Review	An element of the HSE-MS, also referred to as 'Review', which is a review process conducted by an Operating Unit's management that considers the suitability and effectiveness of their own HSE-MS. It is a form of Self-Appraisal. It may draw on the results of independent appraisals (for example, HSE Audits) or other self-appraisal techniques (for example, HSE performance monitoring).	
Manual of Permitted Operations (MOPO)	Defines the limit of safe operation permitted for a particular asset if control and/or mitigation measures are reduced and/or removed with the objective of maintaining a tolerable level of risk. Considers combinations of hazards and hazardous events.	
Medical Surveillance	An assessment of an employee's health using medical or biological procedures (biological effect monitoring) to identify any significant abnormalities attributed to exposure to hazardous agents, at as early stage as possible.	
Medical Treatment Case (MTC)	Any work related injury that involves neither lost workdays or restricted workdays, but which requires treatment by a physician or other medical specialist. Medical treatment does not include first aid even if a physician or registered professional personnel provide this. Refer to guidance in	
MEL	Maximum Exposure Limit	
Mental Model	Structured organization of knowledge a person has about how something works (usually in terms of generalizations, assumptions, pictures, or key words); a mental picture of the underlying way in which a system functions, helping to describe causes, effects, and interdependencies of key inputs, factors, activities, and outcomes	DOE
MES	Minimum Environmental Standards	
Method Statement	Similar to Job Hazard Analysis but usually associated with construction work and prepared by a contractor for company approval.	
MHMS	Minimum Health Management Standards	
Minimum Health Management Standards	The Minimum Health Management Standards set down the minimum requirements for the management of health in companies where the Company has operational control. The seven Minimum Health Management Standards are: Health risk assessment, Monitoring of health performance and incident reporting and investigation Health impact assessment, Human Factors Engineering in new projects, Product stewardship, Fitness to work, Local health facilities and medical emergency response.	
Missing barrier	A barrier not identified by the organisation as management control measure but was required.	STF
Mistakes	Errors arising from a correct intention that led to incorrect action(s). These errors may arise from lack of knowledge or incorrect diagnosis.	HSE

Mistake	Errors committed because the intent of the act was incorrect for the work situation, typically defined by the condition of the physical plant; incorrect decision or interpretation. (See also error and compare with slip.)	DOE
Mistake	Errors of judgement or decision-making failures that arise when the wrong thing is done but believed to be right at the time. There are classified into two types: knowledge based mistake, and rule-based mistake.	STF
Mitigation	Measures taken to reduce the consequences of a potential hazardous event. Mitigation measures include 'active' systems intended to detect and abate incidents (gas, fire, and smoke alarms, shutdowns, deluge, 'passive' systems intended to guarantee the primary functions (fire and blast walls, protective coatings, drain systems) and 'operational' systems intended for emergency management (contingency plans, training, drills).	
Mitigation	The limitation of undesirable effects of a particular event.	
Monitoring Activities	All activities related to the prevention or mitigation of hazardous events.	
MOSAG	Multi-Business Oil and Chemical Spill Advisory Group	
Motives	The personal (internal) goals, needs, interest, or purposes that tend to stimulate an individual to action.	DOE
MRO	Medical Review Officer	
MSDS	Material Safety Data Sheet	
MTC	Medical Treatment Case	
Near Miss	Any occurrence that could have resulted in undesirable consequences but did not; ranging from minor breaches in defenses to incidents in which all the available safeguards were defeated, but no actual losses were sustained	DOE
Near Miss	An incident that could have caused illness, injury or damage to assets, the environment or company reputation, or consequential business loss, but did not.	
Norm	A behavior or trait observed as typical for a group of people	DOE
NVQ	National Vocational Qualification	
Object	The item harmed (injured, damaged or lost), or changed, caused by an Agent.	STF
Occupational Exposure Limit (OEL)	The airborne concentration of chemical agents and levels of physical agents to which workers may be repeatedly exposed day after day without adverse effect. OELs are based on the best available information from industrial experience, from experimental human and animal studies, and when possible, from a combination of the three. The basis on which the values are established may vary from agent to agent; protection against impairment of health may be a guiding factor for some, whereas reasonable freedom from irritation, narcosis, nuisance or other forms of stress may form the basis for others. OELs are guidelines or recommendations in the control of potential health hazards. They are not fine lines between safe and dangerous concentration nor are they a relative index of toxicity. Commonly used terms applied in some countries are Maximum Exposure Limit (MEL), Maximum Allowable Concentration (MAC) and Threshold Limit Value (TLV).	
Occupational Health Adviser	A person, who, on the basis of professional expertise, assists line management with the development and implementation of the occupational health programme. Occupational health advisers may include occupational health physicians, medical advisers and occupational health nurses, occupational hygienists, safety advisers, toxicologists, health inspectors and ergonomists.	
Occupational Illness	Any work related abnormal condition or disorder, other than one resulting from an injury that is caused by or mainly caused by exposures at work. (50% or more probability that the illness was caused by exposures at work). Occupational illnesses include acute and chronic illness or diseases that may be caused by inhalation, absorption, ingestion or direct contact.	
OEL	Occupational Exposure Limit	
OGP	(International Association of) Oil and Gas Producers	
OHSAS	Occupational Health and Safety Assessment Series e.g. OHSAS 18001 a British Standard document.	
Organization	A group of individuals with a shared mission, set of processes, and values to apply resources and to direct people's behavior toward safe and reliable operation	DOE
Organisation	Company, corporation, firm, enterprise, authority or institution, or part or combination thereof, whether incorporated or not, public or private, that has its own functions and administration. For organisations with more than one operating unit, a single operating unit may be defined as an organisation.	
Organizational Factors	Task-specific sense: an existing job-site condition that influences behavior and is the result of an organizational process, culture, and other environmental factors 2) General sense: the aggregate of all management and leadership practices, processes, values, culture, corporate structures, technology, resources, and controls that affect behavior of individuals at the job site	DOE
OSHA	(US Department of Labour) Occupational Safety and Health Administration	
Oversight Control	Methods to monitor, identify, and close gaps in performance	DOE

People at Risk	The proportion of the population that may be affected, and the extent of these effects on various demographic groups, particularly women and children.	
Performance	Any activity that has some effect on the environment; the accomplishment of work. (See also human performance.)	DOE
Performance Criteria	The measurable standards set by company management to which an activity or system element is to perform. (Some companies may refer to performance criteria as goals or targets).	
Performance Indicator	Comparative, quantitative measures of actual events, against previously specified targets, which provide a qualitative indication of future projected performance based on current achievement.	
Performance Indicator	The metrics which are short term in nature, reflecting the level of progress made tactically or operationally in optimising output in line with the set of standards or goals	
Performance Gap	The difference between desired performance and actual performance, whether in terms of results or behavior	DOE
Performance Improvement	A systematic process of identifying and analyzing gaps in human performance, followed by developing and implementing interventions or corrective actions to close the gaps	DOE
Performance Indicators	Parameters measured to reflect the critical success factors of an organization. A Leading Indicator is a measure of results or outcomes. A Lagging Indicator is a measure of system conditions or behaviors which provide a forecast of future performance. (also known as “metrics”)	DOE
Performance Mode	One of three modes a person uses to process information related to one's level of familiarity and attention given to a specific activity. People will likely use multiple modes to complete a task. (See also Skill-based, Rule-based, and Knowledge-based performance.)	DOE
Performance Model	A systems perspective of the context of individual human performance, showing how plant results and individual behavior are interrelated with organizational processes and values through job-site conditions	DOE
Performance Monitoring	Review and comparison of performance against expectations and standards using problem reporting, feedback, reinforcement, coaching, observation data, event data, trend data, and so on. (See also performance indicator, performance gap, and gap analysis.)	DOE
Performance Problem	A discrepancy in performance with respect to expectations or operating experience, or an opportunity to improve performance created by changes in technology, procedures, or expectations. (See also performance gap.)	DOE
Performance shaping factors	Factors that influence the effectiveness of human performance and the likelihood of errors. Examples include design of displays and controls, training, fatigue, environmental and job design factors.	
PIF	Performance shaping factors or Performance influencing factors	
Performance influencing factors	Factors that influence the effectiveness of human performance and the likelihood of errors. Examples include design of displays and controls, training, fatigue, environmental and job design factors.	
Permanent Total Disability (PTD)	Any work related injury that permanently incapacitates an employee and results in termination of employment.	
Personal Protective Equipment (PPE)	The collective term describing clothing and equipment used to protect the individual against agents hazardous to health.	
PHA	Process Hazard Analysis	
Physical Agent	A term used in Health Risk Assessment to describe environmental factors such as noise and vibration, ionising and non-ionising radiation, extreme temperatures, humidity.	
Physical Effects Modelling	The estimation of the magnitude of a potential 'top event' using mathematical models and correlations. The models and correlations are typically design tools, such as: dispersion, fire-heat flux and temperature versus time, explosion overpressures and structural response.	
Physical Plant	Systems, structures, and components of the facility	DOE
Plant Change Control	Plant Change Control (also known as Plant Change Management) is a process that sets out to assure that changes to assets (plant), whether temporary or permanent, are designed and implemented in such a manner that process safety incidents with potential consequences for people, assets, environment or reputation are avoided. In addition, Plant Change Control should address other HSE items such as health risks, safety impacts, environmental impacts and HSE compliance.	
Plant Results	The outcomes of the organization in terms of production, events, personnel safety, external assessments, configuration, and so on	DOE
Population Stereotype	The way members of a group of people expect things to behave; for example, in the U.S., up, right (direction), or red implies on or energized.	DOE
Positive Control	Active measure(s) to ensure that what is intended to happen is what happens, and that is all that happens	DOE
PMR	Performance Monitoring and Reporting	
Policy (HSE)	A public statement of the intentions and principles of action of the company regarding its health, safety and environmental effects, giving rise to its strategic and detailed	

	objectives.	
Potential Incident	An unsafe practice or a hazardous situation that could result in an incident but where an incident has not occurred.	
PPE	Personal Protective Equipment	
Practices	Behaviors usually associated with a role that can be applied to a variety of goals in a variety of settings. (See also work practices.)	DOE
Precondition	The detrimental influences on people, and their resulting 'state of mind' that increases their likelihood of performing a substandard act	STF
Precondition	A system state that promotes unsafe acts or increases the chance of active failure. A term used in Tripod Beta analysis.	
Prevention	Completely eliminating a threat, escalation factor or a hazard.	
Prevention Behaviors	Behaviors or practices oriented toward the prevention of errors or events. (See also production behaviors.)	DOE
Principles	A set of underlying truths that can be used to guide both individual performance and the management of human performance	DOE
Proactive	Preemptive measures to prevent events or avoid error by identifying and eliminating organizational and job-site contributors to performance problems before they occur; preventing the next event	DOE
Procedural Controls	These include: supervision, work methods, housekeeping, personal hygiene, information, instruction, and training.	
Procedure	A documented series of steps to be carried out in a logical order for a defined operation or in a given situation.	
Procedure	A series of steps to be carried out in a logical order for a defined operation or in a given situation.	
Process	A series of actions organized to produce a product or service; tangible structures established to direct the behavior of individuals in a predictable, repeatable fashion as they perform various tasks	DOE
Process	A logical sequence of inter-related activities.	
Production Behaviors	Behaviors oriented toward creating the organization's product from the resources provided. (Corollary to prevention behaviors.)	DOE
Product Stewardship	The responsible and ethical management of the health, safety and environmental aspects of a product throughout its life- cycle. The aim of Product Stewardship is to prevent injury to human health and damage to the environment by a continuous process of: Reduction of actual and potential risks associated with the manufacture, packaging, distribution, handling, use and disposal of products; Improvement in product design, hazard & risk assessment, advice, education, communication and customer support.	
PTD	Permanent Total Disability	
PTW	Permit To Work	
QRA	Quantitative Risk Assessment	
Quantitative Risk Assessment (QRA)	Quantitative evaluation of the risk imposed by a system design, whether those risks are from human, hardware or software failures, or environmental events, or from combinations of such failures/events.	
RAM	Risk Assessment Matrix	
Reactive	Taking corrective action in response to an event or error.	DOE
Recovery Measures	All technical, operational and organisational measures that limit the chain of consequences arising from the first hazardous event (or 'top event'). These can reduce the likelihood that the first hazardous event or 'top event' will develop into further consequences and provide mitigation capabilities should the 'top event' develop further. Also called recovery preparedness measures.	
Readiness	An individual's mental, physical, and emotional preparedness to perform a job as planned	DOE
Reinforcement	The positive consequences one receives when a specific behavior occurs that increases the probability the behavior will occur again	DOE
Reputation Impact	The negative impact on company reputation resulting from an incident. The negative impact can be in the form of adverse attention from media, politicians or action groups, or in public concern about company activities.	
Restricted Work Case (RWC)	Any work related injury which renders the injured person temporarily unable to perform all, but still some, of their normal work on any day after the day on which the injury occurred.	
Restricted Workdays (RWD)	The total number of calendar days counting from the day of starting restricted work until the person returns to his normal work. When restricted workdays follow a period of lost workdays, the restricted workdays are recorded in addition to the lost workdays, but the injury is recorded as a lost workday case only.	
Reversibility	How long it will take to mitigate the impact by natural means or without any intervention.	
Rigor	Completeness and accuracy in a behavior or process; cautiously accurate, meticulous, exhibiting strict precision during the performance of an action	DOE

Risk	A term that combines the chance that a specified undesired event will occur and the severity of the consequences of the event.	
Risk	The product of the chance that a specified undesired event will occur and the severity of the consequence of the event.	
Risk Assessment Matrix (RAM)	The matrix portraying risk as the product of probability and consequence, used as the basis for qualitative risk determination. The matrix portraying risk as the product of probability and consequence, used as the basis for qualitative risk determination. Considerations for the assessment of probability are shown on the horizontal axis. Considerations for the assessment of consequence are shown on the vertical axis. Four consequence categories are included: impact on people, assets, environment and reputation. Plotting the intersection of the two considerations on the matrix provides an estimate of the risk.	
Risk Assessment Matrix (RAM)	An analytical tool that standardises qualitative risk assessment and facilitates the categorisation of risk from threats to people, assets, environment and company reputation.	
Risk Classification	A rating used to derive an appreciation of the relative risk from a hazard. The Risk Assessment Matrix may be used to assist to determine this rating. Both the relative probability and the potential consequence are categorised by 5-point scales. The product of the two is the risk classification.	
Road Transport Incident	An incident involving a vehicle driven by a company or contractor employee, whether on or off the road, that has resulted in injury, illness or damage to assets, the environment or the company's reputation, irrespective of the cost of repair or responsibility for cause. A vehicle is defined as a car, van, light vehicle, heavy goods vehicle, road tanker, bus, motorcycle or any unit under tow, e.g. trailers, caravans, mobile generators. Incidents involving vehicles operating on aprons of public airfields. Damage as a result of normal wear and tear e.g. minor paint scratches, stone chips, and mechanical wear and tear. Incidents which occur when the vehicle was unattended, e.g. vandalism or other damage whilst the vehicle was parked. These would be considered as incidents rather than transport incidents.	
Root Cause	The most basic cause of an incident or accident that can reasonably be identified and that managers have the control to fix	HSE
Root Cause	A cause that, if corrected, will prevent recurrence of an event	DOE
Routine Exposure Monitoring	Exposure measurements carried out on a regular basis to a specified protocol to check if exposure conditions have changed.	
RSI	Repetitive Strain Injury	
Rule-Based Performance	Behavior based on selection of a defined path forward derived from one's recognition of the situation; follows an IF (symptom X), THEN (action Y) logic.	DOE
RWC	Restricted Work Case	
Safe	A condition in which all hazards inherent in an operation have either been eliminated or are controlled such that their associated risks are both below a tolerable threshold and are reduced to a level which is as low as reasonably practicable.	
Safety Culture	An organization's values and behaviors—modeled by its leaders and internalized by its members—that serve to make safety the overriding priority. (See also values and culture.)	DOE
Screening Criteria	The values or standards against which the significance of the identified hazard or effect can be judged. They should be based on sound scientific and technical information and may be developed by the company and industry bodies, or provided by the regulators. The targets or standards used to judge the tolerability of an identified hazard or effect.	
SD	Sustainable Development	
Self-Appraisal	Self-Appraisal is the process whereby staff, within a business, reviews the application of all or part of their own management system. It encompasses, but is not limited to, the use of checklists for routine inspections, or the appraisal process. Whilst Self-Appraisal forms an important part of the overall process of providing HSE Assurance, Self-Appraisals should be differentiated from, and are not a substitute for, HSE Audits, and vice versa.	
Self-Assessment	Formal or informal processes of identifying one's own opportunities for improvement by comparing present practices and results with desired goals, policies, expectations, and standards. (See also benchmarking and performance monitoring.)	DOE
Separation Distance	The horizontal distance between a specified feature and the nearest part of a specified hazardous facility.	
Severity	The degree to which an agent hazardous to health safety, the environment or reputation can cause harm. See also Hazard Rating.	
Shortcut	An action, perceived as more efficient by an individual, that is intended to accomplish the intent of actions rather than the specific actions directed by procedure, policy, expectation, or training. (See also violation.)	DOE
Shortfall	An area for improvement.	
SIA	Social Impact Assessment	

Significant Incident	Incidents with consequences to the Company that have been rated 4 or 5 on the Risk Assessment Matrix (RAM).	
Situation Awareness	The accuracy of a person's current knowledge and understanding of actual conditions compared to expected conditions at a given time	DOE
Skill-Based Performance	Behavior associated with highly practiced actions in a familiar situation executed from memory without significant conscious thought.	DOE
Skill of the Craft	The knowledge, skills, and abilities possessed by individuals as a result of training or experience. Activities related to certain aspects of a task or job that an individual knows without needing written instructions	DOE
Slip	A physical action different than intended. (See also error, lapse, and compare with mistake.)	DOE
Slip	Unintended deviation by a person from a correct plan of action caused by attention failure or mistiming. It is a type of human error.	STF
SMART	Specific, Measurable, Achievable, Relevant, Time-bound	
Social Impact Assessment (SIA)	A full and systematic identification, description and assessment of the hazards and effects of the proposed project on the economic, social and cultural situation of the various communities (e.g. urban rural and nomadic communities, locally hired workers and their families and camp follower) who may be affected.	
Standard	A prescribed set of rules, conditions or requirements. Standard is an all- inclusive term denoting specifications, recommended practices, procedures, guidelines, philosophies and handbooks.	
Stand down	A period of time devoted by an organization toward the education, training, and sensitization of personnel on issues associated with performance improvement.	DOE
Statement of Fitness	An affirmation by the asset holder that (HSE) conditions are satisfactory to continue operation.	
Strategic objectives (HSE)	The broad goals, arising from the HSE policy, that a company sets itself to achieve, and which should be quantified wherever practicable.	
Substandard act	An action , error or omission that causes a barrier to fail. An immediate cause attributable to an erroneous human action.	STF
Substandard Act	Deviation from the intended behaviour or activity.	
Supervisor	That member of first-line management who directs and monitors the performance of individual contributors (front-line workers) in the conduct of assigned work activities	DOE
Sustainable Development	The most widely used definition of Sustainable Development is that of the Brundtland Commission: "Meeting the needs of the present without compromising the ability of future generations to meet their own needs".	
Swiss Cheese Model	Model which describes multiple layers of causes – immediate unsafe acts, latent workplace preconditions and organisational weaknesses, represented by holes in successive slices of Swiss Cheese through which an incident 'trajectory' can pass	
System	A network of elements that function together to produce repeatable outcomes; the managed transformation of inputs (resources) into outputs (results) supported with monitoring and feedback	DOE
System	The formal interaction of different items in order to produce a specific product or service.	
System Life Cycle	The evolution of a particular system from its concept through its design, building, testing, running and maintaining to the final removal of the system.	
Systems Thinking	Consideration of the multiple, diverse, and interrelated variables and their patterns that come to bear on a worker at the job site; knowledge of the interdependencies of processes and leadership dynamics on performance—the organizational nature of human performance. (See also Performance Model.)	DOE
Target	A detailed performance requirement, quantified where practicable, applicable to the organisation or parts thereof, that arises from the HSE objectives and that needs to be set and met in order to achieve those objectives.	
Target	The object of harm (injury, damage or loss) caused by a hazard. A term used in incident analysis and Tripod Beta analysis.	
Task	An activity with a distinct start and stop made up of a series of actions of one or more people; sometimes a discrete action	DOE
Task	A set pattern of operations, which alone, or together with other tasks, may be used to achieve a goal.	
Task Demands	Specific mental, physical, and team requirements that may either exceed the capabilities or challenge the limitations of human nature of the individual assigned to perform the task. (See also error precursor.)	DOE
Team Error	A breakdown of one or more members of a work group that allows other members of the same group to err due to either a mistaken perception of another's abilities or a lack of accountability within the individual's group	DOE
Third Parties	Persons or organisations that are not employed by or contracted to a company or contractor.	
Threat	A possible cause that will potentially release a hazard and produce an incident. Threat	

	classes include damage caused by: thermal (high temperature), chemical (corrosion), biological (bacteria), radiation (ultraviolet), kinetic (fatigue), electrical (high voltage), climatic condition (poor visibility), uncertainty (unknowns) or human factors (competence).	
Threat Barriers	All measures taken to reduce the probability of release of a hazard. Measures put in place to block the effect of a threat. Types include guards or shields (coatings, inhibitors, shutdowns), separation (time and space), reduction in inventory, control of energy release (lower speeds, safety valves, different fuel source) and administrative (procedures, warnings, training, drills).	
Threshold Level	No-observed adverse effect level; the highest dose at which no adverse effects are seen.	
TLV	Threshold Limit Value	
Tolerability Criteria	Expresses the level of risk deemed tolerable for a given period or phase of activities. May be expressed qualitatively or represented quantitatively on the Risk Assessment Matrix by shaded areas.	
Top event	The 'release' of a hazard. The undesired event at the end of the fault tree and at the beginning of an event tree. The centre point in a 'Bow-Tie' Diagram.	
Total Reportable Case Frequency (TRCF)	The number of total reportable cases per million exposure hours.	
Total Reportable Cases (TRC)	The sum of injuries resulting in fatalities, permanent total disabilities, lost workday cases, restricted work cases and medical treatment cases.	
Total Reportable Occupational Illness Frequency (TROIF)	The number of occupational illnesses per million exposure hours.	
Total Reportable Occupational Illness (TROI)	The sum of all identified occupational illnesses. Cases involving no lost or restricted workdays and no medical treatment are included. A single exposure can give rise to several occupational illness cases.	
Total Sickness Absence	Absence from work on grounds of incapacity to work due to any sickness and injury, work related or not, expressed as percentage of total workdays available. All other cases of absence such as pregnancy, childbirth, leave, training and seminars, are not included in the definition of absence.	
TRC	Total Reportable Cases	
TRCF	Total Reportable Case Frequency	
Trios	The linked combination of an Agent Object and Event. A combination node, i.e. Event/Agent or Event/Object, links trios to one another.	STF
Tripod Beta	Tripod Beta is a methodology for conducting the incident analysis in parallel with the investigation. Methodology for the analysis of the underlying (root) causes of incidents. Interaction between these two processes - investigation and analysis - provides the investigators with confirmation of the relevance of their fact gathering and highlights avenues of investigation pointing to the identification of latent failures. The benefit to the analysis process is that logical anomalies can be highlighted and resolved while the investigation is still active. The net result should be a deeper and more comprehensive investigation and a clearer understanding of the failures that must be addressed in order to make significant and lasting improvements in accident prevention.	
Tripod Beta tree	A complete pictorial model used to depict an incident	STF
Tripod causation path	The pathway between a failed barrier and the underlying cause and which contains the immediate cause and preconditions.	STF
TROI	Total Reportable Occupational Illnesses	
TROIF	Total Reportable Occupational Illness Frequency	
Uncontrolled release	An incident involving an accidental release of hydrocarbons, toxic substances, or other hazardous substances.	
Underlying cause	The organisational deficiency or anomaly creating the precondition that caused or influenced the commission of an immediate cause.	STF
Uneasiness	An attitude of apprehension and wariness regarding the capacity to err when performing specific human actions on plant components	DOE
Unsafe Act	An action, error or omission that renders a control or defence ineffective: an Active Failure caused by human action.	
Unsafe Attitudes	Unhealthy beliefs and assumptions about workplace hazards that blind people to the precursors to human error, personal injury, or physical damage to equipment	DOE
Unsafe Condition	A defective or hazardous situation that could result in an incident.	
Values	The central principles held in high esteem by the members of the organization around which decisions are made and actions occur, such as reactor safety. (See also culture and safety culture.)	DOE
Violation	Any deliberate deviation from the rules, procedures or instructions drawn up for health and safety	HSE
Violation	A deliberate, intentional act to evade a known policy or procedure requirement for personal advantage usually adopted for comfort, expedience, or convenience. (See also shortcut.)	DOE

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Violation	The deliberate deviation from a rule or procedure. The sub-categories are: routine, situational, optimising, exceptional and unintentional violations.	STF
Vulnerability	Susceptibility to external conditions that either aggravate or exceed the limitations of human nature, enhancing the potential to err; also the weakness, incapacity, or difficulty to avoid or resist error in the presence of error precursors. (See also error precursor.)	DOE
Work Environment	General influences of the work place, organizational, and cultural conditions that affect individual behavior at the job site. (See also error precursors.)	DOE
Work Related Activity	Those activities for which management controls are, or should have been, in place. Injuries occurring in the course of work related activities are work related injuries.	
Work Execution	Those activities related to the preparation for, performance of, and feedback on planned work activities	DOE
Worker	An individual who performs physical work on equipment, having direct contact (touching) with equipment, and is capable of altering its condition. (Compare with knowledge worker.)	DOE
Work Practices	Methods an individual uses to perform a task correctly, safely, and efficiently including equipment/material use, procedure use, and error detection and prevention. (See also practices.)	DOE
Worst case consequence	The worst possible HSSE consequences in terms of harm resulting from a hazardous event. For this to occur, all critical defences in place must have failed.	