	Unsafe Actions 1 - 4
1	**Communication**
1.1	**Violation (by individual)**: one individual fully aware that he was taking a risk by not complying with the work standard or procedure but still decided to do the job that way, e.g. not following a procedure
1.2	**Violation (by group)**: people fully aware that they were taking a risk by not complying with the work standard or procedure but still decided to do the job that way, e.g. solving a problem knowing that they have to infringe "actively break" on the rules or procedures.
1.3	**Violation (by supervisor)**: a supervisor or other management employee fully aware that he was taking a risk by not complying with the work standard or procedure but still decided to do the job that way.
1.4	**Operation of equipment without authority**: A person decided unilaterally to operate equipment or machinery without obtaining prior authorization to do so from the appropriate person. It is irrelevant if the person is trained in the use of the equipment, only that he did not obtain authorization.
1.5	**Improper position or posture for task**: the person did not follow the human kinetic practices. The person was working on an unsafe, unstable or non-standard work floor or was placing body parts in unsafe positions.
1.6	**Overexertion of physical capability**: did more than a person is physically able to do, e.g. carrying or lifting too much weight, etc.
1.7	**Work or motion at improper speed**: the person involved was not working at the proper speed, not taking time to do things safely, e.g. driving a forklift too fast, slewing a load too fast, adding chemicals too fast or too slow, etc.
1.8	**Improper lifting**: material being lifted, either by human or mechanical means, was lifted contrary to acceptable practices or was over the capacity of the person or the lifting equipment.
1.9	**Improper loading**: the equipment was improperly loaded, e.g. a vehicle or centrifuge loaded to one side or overloaded or wrong product in wrong cycle.
1.10	**Shortcuts**: the person involved in the work took a shortcut instead of performing the work in accordance with the procedures.
1.11	**Other**: if none of the above categories apply, this category can be used.

2	**Use of Tools and Equipment**
2.1	**Improper use of equipment**: equipment was used for activities for which it was not designed or equipment was misused, e.g. operating equipment beyond the maximum recommended temperature, lifting a pipe with a forklift.
2.2	**Improper use of tools**: tools were used for activities for which they were not designed or tools were misused, e.g. possibly wrong tool for job, using excessive force on a tool, etc.
2.3	**Use of defective equipment (aware)**: knowing that the equipment was defective and still going on with the work, e.g. running a forklift with leaking hydraulics.
2.4	**Use of defective tools (aware)**: knowing that tools were defective and still using them.
2.5	**Improper placement of tools, equipment or materials**: material or equipment placed in potentially hazardous position.
2.6	**Operation of equipment at improper speed**: an operating limit was exceeded – the speed of a grinding wheel, the assembly line was speeded up, operating throughput was surpassed, etc.
2.7	**Operation of equipment without authority**: the person involved operated equipment for which he was not authorized to do so, because either he did not have a work permit or, for the person working in his own department, he was told by his supervisor he was not allowed to work on it. This also applies in situations where operating the equipment is not in the person's job description and therefore, understood that he is not authorized to operate the equipment, e.g. operating a forklift or crane without training or being certified or operating process equipment that is not included in the workers job function.
2.8	**Servicing of equipment in operation**: an attempt was made to service equipment without turning it off – trying to clear a stuck conveyor, working on an engine while its running, rodding out a plugged line, etc.
2.9	**Other**: if none of the above categories apply, this category can be used.

3	Use of Protective Methods
3.1	**Lack of knowledge of hazards present**: knowing that the situation was not normal, the person involved in the incident was not informed or warned about the hazards.
3.2	**Personal Protective Equipment not used**: equipment prescribed in the procedures was not used.
3.3	**Improper use of Personal Protective Equipment**: the required Personal Protective Equipment was used, but it was not used in the proper way, e.g. non-fitting gas mask or wrong size of safety glasses or incorrect type of respirator, not maintaining or inspecting the equipment correctly.
3.4	**Servicing of energised equipment**: the equipment was not electrically or mechanically isolated or safeguarded according to lockout, red tag or line and equipment operating procedures.
3.5	**Equipment or materials not secured**: equipment, materials or person was not secured against movement or falling, e.g. ladder not secured, load not rigged properly, no toe boards on scaffolding, etc.
3.6	**Disabled guards, warning systems or safety devices**: the proper guards, warning systems or other safety devices were in place, but were disabled or overridden to allow the work to proceed without these protections.
3.7	**Removal or overriding of guards, warning systems or safety devices**: the proper guards, warning systems or other safety devices had been removed at some prior time and not reinstalled or reactivated.
3.8	**Personal Protective Equipment not available**: the necessary personal protective equipment was not available to employees at their work site.
3.9	**Other:** if none of the above categories apply, this category can be used

4	Inattention / Lack of Awareness
4.1	**Improper decision making or lack of judgement**: the situation was wrongly judged and the wrong decision was made. Eg deciding to do the job without following the procedure, not locking and tagging out as required, working on live equipment knowing the hazards.
4.2	**Distracted by other concerns**: the person involved was distracted and not attentive to the work in progress, therefore, the person was not aware or aware too late that something had gone wrong. Or had other issues on their mind.
4.3	**Inattention to footing and surroundings**: the person was just walking around and did not notice the obstacle or the surface conditions of the ground.
4.4	**Horseplay**: person(s) involved in the event were engaged in inappropriate activities, including practical jokes or clowning around.
4.5	**Acts of violence**: any type of physical or mental confrontations that can cause bodily injury or mental anguish.
4.6	**Failure to warn/make safe**: an individual had knowledge of a dangerous condition or activity, but did not warn current or future persons of the exposure, e.g. not tagging a defective tool or piece of defective equipment.
4.7	**Use of drugs or alcohol**: person(s) involved in the event were determined to be under the influence of drugs or alcohol.
4.8	**Routine activity without thought**: the person involved was performing a routine activity, such as walking, sitting down, stepping, etc. without conscious thought and was exposed to a hazard as a result.
4.9	**Other**: if none of the above categories apply, this category can be used

	Unsafe conditions 5 - 8
5	**Protective Systems**
5.1	**Inadequate guards or protective devices**: adequate guards and protective devices that were needed to protect the worker were not present.
5.2	**Defective guards or protective devices**: guards and protective devices were installed but failed at the time of the incident.
5.3	**Inadequate Personal Protective Equipment**: the personal Protective Equipment used was not adequate for the situation at the time of the incident or the wrong type of Personal Protective Equipment was specified.
5.4	**Defective Personal Protective Equipment**: the Personal Protective Equipment was sufficient, but the Personal Protective Equipment used was defective at the time of the incident.
5.5	**Inadequate warning systems**: adequate warning systems were present but failed to provide notice at the time of the incident
5.6	**Defective warning systems**: adequate warning systems were present but failed at the time of the incident.
5.7	**Inadequate isolation of process or equipment**: the equipment was not properly isolated and the people involved were exposed to chemicals, hot surfaces, electricity, etc.
5.8	**Inadequate safety devices**: safety devices such as pressure relief valves or turbine over speed trips were present, but did not act quickly enough to prevent the accident.
5.9	**Defective safety devices**: safety devices such as pressure relief valves or turbine over speed trips failed to activate.
5.10	**Other**: if none of the above categories apply, this category can be used

6	**Transportation, Equipment and Tools**
6.1	**Defective**: **vehicle, plant etc.**: the right vehicle, plant was being used, but was defective.
6.2	**Inadequate vehicle, plant for the purpose**: the necessary vehicle, plant to perform the function was not available, e.g. forklift being used as a crane..
6.3	**Improperly prepared vehicle, plant etc.**: the vehicle, plant was not prepared adequately prior to the job or maintenance work, e.g. a vehicles pre check not done prior to leaving the premises.
6.4	**Defective equipment**: the right type of equipment was being used, but the equipment was defective.
6.5	**Inadequate equipment for the purpose**: the necessary type of vehicle to perform the function was not available, e.g. forklift being used as a crane.
6.6	**Improperly prepared equipment**: the right equipment was being used, but the equipment had not been properly repaired or serviced for use. e.g. a vessel not thoroughly cleaned off process chemicals prior to entry.
6.7	**Defective tools**: the right kind of tool was selected but the tool involved was defective.
6.8	**Inadequate tools**: the tools were not adequate for this purpose, or the proper tools were not supplied.
6.9	**Improperly prepared tools**: the tools were not prepared properly before the job, e.g. not repaired properly or not cleaned of contaminants.
6.10	**Other**: if none of the above categories apply, this category can be used

7	Work Exposure
7.1	**Fire and explosion**: the incident was caused by a fire and/or explosion.
7.2	**Noise or vibration**: the incident was caused by exposure to extremely high noise levels or vibration e.g. shock effect, process equipment, and high noise or vibration producing tools.
7.3	**Energised electrical systems**: incident caused by system not fully de-energised.
7.4	**Energised systems, other than electrical**: incident was caused by a system not fully isolated from gravitational, pneumatic, hydraulic or chemical energy sources.
7.5	**Radiation**: the incident was caused by dangerous radiation, e.g. x-ray or gamma ray, high frequency radiation, laser, NORM etc.
7.6	**Temperature extremes**: the incident was caused by an exposure to extreme high or low temperatures.
7.7	**Hazardous chemicals**: the incident was caused by extremely hazardous chemicals used in the process, e.g. reactive, toxic or ecologically dangerous chemicals.
7.8	**Mechanical hazards**: the incident was caused by sharp edges, moving machinery or equipment, etc.
7.9	**Physical hazards:** the incident was caused by contact with a physical hazard
7.10	**Clutter or debris**: housekeeping was inadequate or work location was not clean and orderly.
7.11	**Storms or acts of nature**: the incident was a direct or indirect result of flooding, high wind, hail storm, etc.
7.12	**Slippery floors or walkways**: the incident was caused by a slippery walking or working surface.
7.13	**Other**: if none of the above categories apply, this category can be used

8	Workplace Environment / Layout
8.1	**Congestion or restricted motion**: layout of the workplace was poor and not enough clearances were available or accessibility to equipment or tools was poor.
8.2	**Inadequate or excessive illumination**: the workplace was poorly illuminated or the visibility was poor.
8.3	**Inadequate ventilation**: poor ventilation, e.g. the temperature could rise too high, concentrations of chemicals could rise or oxygen levels could decrease, etc.
8.4	**Unprotected height**: a contributing factor was work at an unprotected height, e.g. scaffold building, in towers, or on roofs, etc.
8.5	**Inadequate workplace layout**: the controls, labels or displays used to monitor the work were not adequate, e.g. the controls were out of normal reach, labels or displays were out of sight. Can also include misinformation – such as mislabelled equipment or chemicals.
8.6	**Other**: if none of the above categories apply, this category can be used

	Human factors 9 - 14
9	**Physical Capabilities**
9.1	**Vision deficiency**: the incident happened because the person involved had a vision deficiency, e.g. could not see over long distance, could not see alarms on the panel, etc.
9.2	**Hearing deficiency**: the incident happened because the person involved had a hearing deficiency, e.g. could not hear the alarm.
9.3	**Other sensory deficiency**: a deficiency, like reduced feel or smell, contributed to the incident.
9.4	**Reduced respiratory capacity**: asthma, silicosis, asbestosis and other elated diseased contributed to the incident or seriousness of the incident.
9.5	**Other permanent physical disabilities**: all other physical disabilities not mentioned above, e.g. weak back, ankles, etc.
9.6	**Temporary disabilities**: Disabilities, which are temporary, like broken bones, muscle pain, migraine headache, etc.
9.7	**Inability to sustain body positions**: the incident happened because the person involved did not have the capability to sustain the required body position for a longer time.
9.8	**Restricted range of body movement**: a physical condition restricted the person's movement and was not planned for in the job activity, e.g. a temporary or permanent physical disability, wearing of Personal Protective Equipment, unusual weight, unusual heights, etc.
9.9	**Substance sensitivities or allergies**: the person involved in the incident was medically proven to be allergic or sensitive to the substances involved.
9.10	**Inadequate size or strength**: the person assigned to the work did not have the size or strength to complete the task safely, e.g. could not reach, could not lift, etc.
9.11	**Diminished capacity due to medication**: the side effects of medication limited the person's physical capability.
9.12	**Diminished capacity due to inadequate intake of substance**: the person's diminished physical capability was due to insufficient substance intake, i.e. water, food, etc
9.13	**Other**: if none of the above categories apply, this category can be used

10	**Physical Conditions**
10.1	**Previous injury or illness**: the incident happened because the person involved was ill (fever or any other kind of illness) or had an existing injury before the incident happened.
10.2	**Fatigue**: the person involved in the incident was fatigued due to workload or to lack of rest, e.g. too long working hours without time to relax, working more than 8 hours per shift, working double shifts over a long period of time, or working for a too long period (e.g. no days off over a period of more than seven days).
10.3	**Diminished performance**: the surroundings or conditions have led to less than ordinary performance, e.g. temperature extremes, lack of oxygen due to high elevations, atmospheric pressure change, such as encountered during diving work.
10.4	**Blood sugar deficiency**: at the time of the incident, the person involved had low blood sugar. This should be medically established.
10.5	**Impairment due to drug or alcohol use**: at the time of the incident, the person involved was under the influence of alcohol or drugs.
10.6	**Other**: if none of the above categories apply, this category can be used.

11	Mental state
11.1	**Poor judgement**: although the person involved was well trained at the time of the incident, the person did not choose an appropriate course of action.
11.2	**Memory failure**: although the person involved was well trained at the time of the incident, the person could not remember how to act or react.
11.3	**Poor coordination or reaction time**: although the person involved knew exactly which actions to take, the person was not capable of coordinating all the required actions or the reaction time was too slow.
11.4	**Emotional disturbance**: the incident happened because the person involved was emotionally disturbed.
11.5	**Fears or phobias**: the incident happened because the person involved had a fear or phobia, e.g. someone who is afraid of working on heights, climbing ladders or claustrophobia, etc.
11.6	**Low mechanical aptitude**: the person was confused on what actions to take because they did not understand basic elements of how mechanical things work.
11.7	**Low learning aptitude**: the person involved had been well trained, but was confused due to limited learning capability.
11.8	**Influenced by medication**: the persons mental state was diminished due to side effects of medication (e.g. drowsy, light-headed).
11.9	**Depression**: The person was suffering from depression and was under medical treatment.
11.10	**Other**: if none of the above categories apply, this category can be used.

12	Mental stress
12.1	**Preoccupation with problems**: the person involved in the incident was preoccupied with problems and was not fully concentrated on the activities in progress, e.g. problems at work or at home.
12.2	**Frustration**: the incident happened because the person involved was frustrated, e.g. lack of management support, work load is unrealistic, trying to do the job with limited resources, doing his very best and seeing no results, etc.
12.3	**Confusing directions / demands**: the person involved in the incident felt the work was not well defined with proper direction or demands. Too many people giving instructions.
12.4	**Conflicting directions / demands**: conflicting directions or demands led to an incident, e.g. urgency of a job but still having to follow lengthy time consuming safety procedures or too many safety critical jobs required to be completed simultaneously i.e. too many priorities.
12.5	**"Meaningless" or "degrading" activities**: the person involved in the incident felt the work the person was doing was meaningless, e.g. cleaning up and the next day it is filthy again, degrading or too much experience or education for this low classified job.
12.6	**Emotional overload**: the person was under high stress from either work or personal issues those effects their emotional state.
12.7	**Extreme judgement / decision demands**: the work being done required judgement and decision making that created stress, e.g. time sensitive decisions, high stakes in the outcome, incomplete information on which to base the decision.
12.8	**Extreme concentration or perception demands**: the work environment contributed to the incident, as the work required great concentration, e.g. a person is so absorbed in what they are doing, and they fail to recognise a hazard.
12.9	**Extreme boredom**: the person is adversely affected by monotonous or repetitive work.
12.10	**Other**: if none of the above categories apply, this category can be used.

13	Conduct
13.1	**Improper performance is rewarded**: although the supervisor knew that the person was not following the safety procedures, guidelines of TA's/JSA's, the person felt they were being rewarded by saving time because the job was completed quickly. The worker may also have felt rewarded by performing improperly e.g. if by taking shortcuts, an unpleasant job is finished quicker, such as saving time/effort or opportunity to enable other more pleasant activities to be followed, in not following the prescribed work method, procedure, standard, practice or rule?
13.2	**Improper supervisory example**: supervisors not setting the proper example to the people working in their organisations or under their direction.
13.3	**Inadequate identification of critical safe behaviours**: the person failed to identify, recognise or apply critical safe behaviours e.g. locking sand tagging out which were critical and necessary to preventing failure leading to potential risk exposures resulting in safety incidents.
13.4	**Inadequate reinforcement of critical behaviours**: a supervisor seeing someone not following the safety procedures and guidelines and not correcting them immediately is an example of inadequate reinforcement of "critical safe behaviour" or performance standards. Similarly, supervisors must note when employees are performing correctly to adequately reinforce the correct performance standards. Peer pressure can also play a role, if proper performance is criticised.
13.5	**Inappropriate aggression**: either the people were aggressive or actions were done and decisions were taken in an aggressive manner without really having an overview or regard of the consequences.
13.6	**Improper use of production incentives**: the use of the incentives for production or timelines has created an incentive to ignore safety requirements.
13.7	**Supervisor implied haste**: the incident was caused by the supervisor's implication that urgency in completing the work was more important than safety considerations.
13.8	**Employee perceived haste**: the incident was caused by the employee's assumption that urgency in completing the work more important than safety considerations.
13.9	**Habit / personal performance:** the incident was caused by the employees settled or regular tendency or practice, which is hard to give up.
13.10	**Vandalism**: Deliberate act of damage or destruction of company property or equipment.
13.11	**Other**: if none of the above categories apply, this category can be used.

14	Skill level
14.1	**Inadequate assessment of required skills**: the person involved believed they had the proper skills to perform the work, but in fact, lacked required skills.
14.2	**Inadequate practice of skill**: the person involved was theoretically experienced but lacked practice in performing the task.
14.3	**Infrequent performance of skill**: the person was trained in the job but the activity involved in the incident was done on a very low frequency or the person involved rarely performed the activity.
14.4	**Lack of coaching on skill**: the incident happened because the person involved did not have the coaching of a supervisor or experienced co-worker.
14.5	**Insufficient review of instruction to establish skill**: the person involved had training, but was not given the opportunity to practice or perform the task as part of training to firmly establish the skill.
14.6	**Other**: if none of the above categories apply, this category can be used.

	Workplace factors 15 - 23
15	**Training / Knowledge Transfer**
15.1	**Inadequate knowledge transfer**: a well-developed training effort was in place, but failed to transfer the necessary knowledge. Reasons for this could include the inability of delegates to comprehend (material beyond their level, language difficulties), inadequate instructor qualification, inadequate training equipment (lack of props or means to illustrate the topic) or misunderstood directions on the part of the delegates.
15.2	**Inadequate recall of training materials**: a well-developed training effort was successful in transferring the necessary knowledge, but delegates were not able to recall the material when needed. This could be the result of training not being reinforced on the job, or an inadequate retraining frequency.
15.3	**Inadequate training effort**: some training was conducted, but it failed to accomplish the necessary knowledge transfer. Potential causes include inadequate training program design, poorly developed training objectives, inadequate orientation programs, inadequate initial training efforts or poor means to determine if delegates have indeed mastered the material being taught.
15.4	**No training provided:** there was no effort made to train the particular person in this subject. Reasons for this can include a failure to identify training was necessary, reliance on out of date or inaccurate training records, a change in work methods or a conscious decision to forego training.
15.5	**Other**: if none of the above categories apply, this category can be used.

16	**Management / Supervision / Employee Leadership**
16.1	**Conflicting roles / responsibilities**: who was to be responsible for what was not clear and well defined. This could include unclear reporting relationships, unclear assignments of responsibilities, improper delegation or conflicting situations where more than one party appears to be responsible for the same issue
16.2	**Inadequate leadership/supervision**: the person assigned with the responsibility for aspects for safety had not carried out their responsibility to the degree necessary for safe work. This could include lax standards of performance being tolerated, inadequate accountability for safety performance, and little performance feedback, inadequate knowledge of conditions at the work site or inadequate safety promotion.
16.3	**Inadequate identification of worksite/ job hazards**: the incident was caused by the failure to perform or properly respond to a loss exposure study, such as a HAZOP review or Job Safety Analysis.
16.4	**Inadequate correction of worksite / job hazards**: a hazard or incident had previously occurred to draw attention to a deficiency, but there was an inadequate effort to correct that deficiency.
16.5	**Inadequate management of change system**: the incident happened because a system or procedure did not exist or was incomplete to ensure that changes which affect the process are adequately assessed, documented and communicated.
16.6	**Inadequate incident reporting / investigation system**: the incident reporting and investigation procedures and guidelines were not followed for incidents that happened in the department. Therefore, the learning experiences and recommendations that could have prevented similar incidents were not discovered or lack of tracking system to ensure follow-up was done or not communicating the results of the investigations.
16.7	**Inadequate or lack of safety meetings**: safety meetings were not held or did not transfer essential knowledge about safety issues related to the incident.
16.8	**Inadequate performance measurement and assessment**: the means to measure and track safety performance were inadequate, leaving the organisation unsure of what needed to be done.
16.9	**Inadequate application of work performance standards:** Management regularly failed to consistently apply work performance standards such as compliance to procedural requirements resulting in employees performing substandard work.
16.10	**No or Inadequate visible felt leadership**: Leadership do not demonstrate a safety presence or engage employees on safety issues in the work place. E.g., attend safety meetings and toolbox talks etc.
16.11	**Other**: if none of the above categories apply, this category can be used.

17	Contractor Selection and Oversight
17.1	**Lack of contractor pre-qualification**: a contractor firm was hired to perform work without successfully completing a pre-qualification review.
17.2	**Inadequate contractor pre-qualifications**: a pre-qualification review was conducted, but it failed to identify deficiencies in the contractor's capabilities.
17.3	**Inadequate contractor selection**: the selection of a contractor was made without all relevant data, or without proper consideration or due diligence of the contractors safety management capabilities.
17.4	**Use of a non-approved contractor**: a contractor firm who did not meet pre-qualification criteria was hired to perform work.
17.5	**Lack of job oversight**: a contractors firm's work was not inspected or audited to identify deficiencies in outcomes or methods.
17.6	**Inadequate oversight**: a contractors firm's work was inspected or audited, but deficiencies present were not identified.
17.7	**Other**: if none of the above categories apply, this category can be used.

18	Engineering Design
18.1	**Inadequate technical design**: the incident was caused by poor technical design or engineering standards, weak materials of construction, valves in the wrong location, lines across walkways, etc. The reasons for inadequate technical design can be faulty input into the design process (bad information) or faulty design output (a bad design).
18.2	**No/ inadequate risk assessment**: No risk assessment was undertaken at any stage (conceptual, construction, commissioning etc.) on the facility process or equipment. The adequacy of safety equipment had not been systematically measured.
18.3	**Inadequate standards, specifications and/or design criteria**: although the design criteria and specifications had been followed, the specifications and criteria were not adequate and had to be adopted.
18.4	**Inadequate assessment of potential failure**: the incident was caused by the fact that the potential failure was not adequately assessed in the initial design stage.
18.5	**Inadequate ergonomic design**: the incident was caused by a poor ergonomic design, meaning that there was not an optimal tuning between the equipment and human working with the equipment.
18.6	**Inadequate monitoring of construction**: although all design specifications and criteria had been followed, inspections during the construction were not done adequately.
18.7	**Inadequate assessment of operational readiness**: the incident happened because the procedure for handover from construction to production was not followed, software changes were not fully tested or operating manuals and training were not completed.
18.8	**Inadequate monitoring of initial operation**: the incident happened because there was not enough monitoring and analyses of the initial operation information.
18.9	**Inadequate evaluation and/or documentation of change**: the incident happened because unevaluated changes were made and an unsafe situation was introduced. Documentation and communication of the changes was required and could have been overlooked.
18.10	**Other**: if none of the above categories apply, this category can be used.

19	Work planning
19.1	**Inadequate work planning or scheduling**: the work being done was not adequately planned or scheduled in terms of people, equipment, materials, procedures or permits.
19.2	**Inadequate preventive maintenance or inspection**: the incident happened because the failing piece of equipment was not included in a preventive maintenance or inspection program, was overdue, or was wrongly overhauled.
19.3	**Inadequate repair or refurbishment**: the incident happened because the equipment failed due to wrong or insufficient reparative maintenance.
19.4	**Excessive wear and tear**: the incident happened because the equipment that failed showed excessive wear and tear due to corrosion, erosion, misuse, etc.
19.5	**Inadequate reference materials or publications**: the person doing the work did not have the proper owner's manual, vendor information, repair procedure, etc. to have proper knowledge to do the work.
19.6	**Inadequate audit / inspection / monitoring**: the incident happened because the equipment failed due to inadequate audit, inspection and monitoring because the required audit / inspection / monitoring was not done adequately or was not done adequately or was not done at all.
19.7	**Inadequate job placement (wrong person for the job)**: the selection process was not successful in choosing a suitable worker for the particular job assignment.
19.8	**Other**: if none of the above categories apply, this category can be used.

20	Purchasing, Material Handling and Material Control
20.1	**Incorrect item received**: the correct item was ordered, but an incorrect item was received. Reasons for this can include incorrect specifications to vendors, inaccurate information on the requisition, and inadequate control on who can modify orders, an unauthorised substitution by the vendor, inadequate product acceptance procedures or a failure to verify receipt of proper goods.
20.2	**Inadequate research on materials / equipment**: the lack of knowledge led to the wrong item being ordered.
20.3	**Inadequate mode or route of shipping**: the hazard was created during shipment of the item – either by lost custody or product degradation.
20.4	**Improper handling of materials**: the hazard was created due to improper handling of the material.
20.5	**Improper storage of material or spare parts:** Materials and spare parts were stored in such a way that there was risk of them falling down, resulting a damage or injury
20.6	**Inadequate material packing:** Packing of materials was not adequate for safeguarding the material against harm
20.7	**Material shelf life exceeded:** Materials were not removed when their shelf life expired and became unhealthy or unsafe for use due to their age.
20.8	**Improper identification of hazardous materials**: the materials were not properly identified and appropriate handling procedures were not used.
20.9	**Improper salvage or waste disposal**: the hazard was created when an item was improperly de-commissioned and disposed
20.10	**Inadequate use of health and safety data**: the hazard was created when relevant health and safety information was not exchanged or used.
20.11	**Other**: if none of the above categories apply, this category can be used.

21	Tools and Equipment
21.1	**Inadequate assessment of needs and risks**: the wrong tools and equipment were provided, as a result of the faulty assessment of what was needed to properly perform the work.
21.2	**Inadequate human factors / ergonomics consideration**: the tools and equipment provided did not reflect the needs of the person performing the work.
21.3	**Inadequate standards or specifications**: improper tools and/or equipment was provided, as a result of inadequate standards or specifications covering what should have been provided.
21.4	**Inadequate availability**: the needed tools or equipment were not available at the job site.
21.5	**Inadequate adjustment / repair / maintenance**: the proper tools and equipment were available, but were not in good repair when used.
21.6	**Inadequate salvage and reclamation**: tools and equipment that were removed from service for overhaul were not properly repaired or destroyed, creating a hazard.
21.7	**Inadequate removal or replacement of unsuitable items**: items that were no longer serviceable remained on the equipment.
21.8	**No equipment record history**: a hazard was created as a result of a failure to maintain proper records on the equipment.
21.9	**Inadequate equipment record history**: records were maintained, but failed to properly identify a hazard.
21.10	**Other**: if none of the above categories apply, this category can be used.

22	Work Rules / Policies / Standards / Procedures (PSP)
22.1	**Lack of PSP for the task**: there were no written PSP covering the work being performed at the time of the incident. This could be the result of a failure to assign responsibility for the development of PSP, or the failure to complete an adequate job safety analysis for the task.
22.2	**Inadequate development of PSP**: there was some PSP in place, but the PSP that were developed did not fully meet the needs of the work. This could be the result of inadequate coordination with design efforts, having un-knowledgeable people developing the PSP, not identifying the proper steps to take in problem situations or a poor format that made the PSP difficult to use. Were written procedure for the critical /job safety task available and were they based on a proper task/job safety analysis?
22.3	**Inadequate implementation of PSP, due to deficiencies**: there were PSP in place, but the implementation of the PSP was not complete due to deficiencies in these documents. This could include such things as contradictory requirements, confusing formats, inaccurate sequence of steps, technical errors, incomplete instructions, etc.
22.4	**Inadequate enforcement of PSP**: well established PSP were in place, but their use was not properly enforced, for reasons such as inadequate monitoring of the work being done, inadequate supervisory knowledge of what was to be done or inadequate reinforcement with labels or signs.
22.5	**Inadequate communication of PSP**: there was an appropriate PSP in place, but it had not been properly communicated. This could be the result of incomplete distribution, language difficulties, incomplete integration with training efforts or out of date PSP still in use.
22.6	**Inadequate task observation of PSP**: there was some informal task observation done for some PSP but not based on a risk based approach. This could be as a result of no or inadequate development of a proper task observation system in place.
22.7	**Other**: if none of the above categories apply, this category can be used.

23	Communication
23.1	**Inadequate horizontal communication between peers**: incident happened because there was no communication or no adequate communication between peers and colleagues.
23.2	**Inadequate vertical communication between supervisor and person**: incident happened because there was no communication or no adequate communication between supervision and workers, top bottom and bottom up in the same organisation.
23.3	**Inadequate communication between different organisations**: organisations other than their own were not properly informed.
23.4	**Inadequate communication between work groups**: the incident occurred because two or more individuals or groups were working on the same task, but did not properly communicate.
23.5	**Inadequate communication between shifts**: the incident occurred due to poor shift handover procedures, e.g. workers not expected to write a detailed account of problems in a log.
23.6	**Inadequate communication methods**: the normal means of communicating information were not adequate – phone lines busy, static on radios, writing was illegible, etc.
23.7	**No communication method available**: the proper tools (telephone, computer, mail, paging system for emergencies, tapes, recorder, slides and projector boards) were not available.
23.8	**Incorrect instructions**: the person involved was given instructions, but the instructions were not understood as meant and they were unclear or incomplete.
23.9	**Inadequate communication due to job turnover**: the person starting a task was not around to finish it and those assigned to complete the work did not have the necessary information.
23.10	**Inadequate communication of safety and health data, regulations or guidelines**: the safety and health data and new regulations were not discussed with the people performing the work.
23.11	**Standard terminology not used**: incident happened because either the terminologies were different in departments or there was confusion, e.g. different pieces of equipment have the same numbers. Standard codes and practices were not followed, e.g. colour coding for lines, electrical, etc.
23.12	**Verification / repeat back techniques not used**: a verbal message was misunderstood and went unidentified because there was no verification / repeat back of the message by the recipient.
23.13	**Messages too long**: confusion arose due to the length of the message.
23.14	**Speech interference**: a verbal message was not properly transmitted due to background noise, static or other distractions.
23.15	**Cultural/ethnic communication barriers:** confusion arose due to interpretation of instructions which were not understood as meant and was unclear.
23.16	**Other:** if none of the above categories apply, this category can be used.

	Management system failures 24 - 33
24	**Leadership**
24.1	**Management failed to show leadership in HSE:** decisions or failings or not setting a good example which detract from HSE standards
24.2	**Insufficient process to ensure adequate budgets or funding:** insufficient funding to maintain minimum HSE standards, manpower or facilities
24.3	**Inadequate provision of a suitable and sufficient annual HSE plan:** plan has not been devised, is not up to date, is not relevant to the operation, is not detailed enough or is not attainable
24.4	**Inadequate implementation of the Annual HSE Plan:** the plan has been devised but is not used as a document to manage HSE on ongoing basis
24.5	**Inadequate assurance of the implementation of the Annual HSE Plan:** there is no evidence of regular and sufficient reviews of progress on keeping in compliance with the plan by senior management
24.6	**Management encouraged behaviour focusing on operations/profit at expense of HSE:** evidence that operational deliverables are prioritised over meeting HSE obligations
24.7	**Management encouraged unsafe behaviour by inappropriate incentive targets:** Bonus arrangements are geared toward operational or profit targets rather than operating safely
24.8	**Management failed to invest sufficient time and energy in HSE management:** there is no evidence that senior management dedicate their personal time in progressing and managing HSE standards
24.9	**Management failed to enforce consequence management appropriately:** management have inconsistently or failed to implement consequence management when infringements have been recorded
24.10	**Management failed to priorities HSE as a key business requirement:** there is no evidence that HSE is a priority on the senior management agenda, no meetings with minutes, audits, reports, visits
24.11	**Other:** if none of the above categories apply, this category can be used.

25	**Risk management**
25.1	**Inadequate systems for learning from incidents:** no evidence of using lateral learnings to assess the HSE management system for shortfalls,
25.2	**Inadequate implementation of systems for learning from incidents:** no evidence of improvements or confirmation there is no problem as a result of reviewing lateral learnings
25.3	**Inappropriate safeguards and management checks to avoid shortcuts/shortfalls:** HSE audits, inspections, reviews are not taking place or documented with findings and remedial actions taken
25.4	**Inadequate provision or use of safeguards for ensuring stepouts issued are suitable and sufficient:** step outs from the HSE management system are not accompanied by suitable and sufficent risk assessments or MOPOs
25.5	**Inadequate processes and/or resource for quality check of HEMPs:** lack of competent resource to conduct HEMPs or to review existing HEMPS for their suitablity and sufficiency. No process to review HEMPs on a regular program
25.6	**Inadequate processes for communication of HEMP in TBTS, safety briefings etc:** the HEMP controls are not transferred into procedures, instructions or training
25.7	**Inappropriate systems to ensure the quality or update of specifications or procedures:** there is no program for the quality review or updating of specifications or procedures, or the program is not being followed
25.8	**Other:** if none of the above categories apply, this category can be used.

26	**Strategy and planning**
26.1	**Inadequate PDO or contractor HSE strategy:** the strategy does not address the key risk areas, or does not focus on the areas of focus necessary for improvement
26.2	**Inadequate HSE annual plan for maintaining and improving HSE standards**: A HSE plan is in existence but it does not address the issues identified in the investigation adequately to bring about an improvement. It is either not comprehensive, not adopted, not reviewed, 'copied and pasted' to tick the box, or it not appropriate for the work that the company is conducting, or does not address the significant risks that the workforce face.
26.3	**HSE Plan does not address key HSE business exposure:** the plan is not relevant to the operation being conducted, it is a generic plan, or is copied from previous years
26.4	**Inadequate HSE project plans in place to ensure suitable project management:** project plans do not have HSE concerns embedded into them or sufficient resources to deliver them
26.5	**Other:** if none of the above categories apply, this category can be used.

27	People and competency
27.1	**Inadequate resource to ensure adequate and competent contract holders and contract site reps:** unauthorised contract holders or site reps are managing a PDO contract
27.2	**Inappropriate competency standards for work/tasks in place:** roles and responsibilities including minimum competencies are not contained in job descriptions or are not PDO compliant
27.3	**Inappropriate compliance with contract minimum competency requirements for safety critical positions:** employees are allowed to work who do not meet the minimum competency requirements
27.4	**Inappropriate use of contract resource conducting work for which they are not competent:** lack of safeguards to ensure employees are not assigned work for which they are not formally deemed competent
27.5	**Inadequate processes to ensure competency of HSE staff to conduct appropriate HEMP/HRA assessment:** failure in the system to ensure HSE Advisers are competent, are PDO compliant and have been authorised formally by the PDO Contract Holder
27.6	**Inappropriate resource levels for supervision and management: s**upervision is not competent, not sufficient in number, is not experienced, is not available back to back, is not supervising, is conducting the work themselves
27.7	**Other:** if none of the above categories apply, this category can be used.

28	Asset integrity management
28.1	**Inappropriate quality control systems for maintenance and inspection:** maintenance/inspections are not recorded, do not take place, are not conducted by competent people, are not scheduled, do not comply with the schedule, do not look at all equipment, do not look at all parts of equipment, do not result in repairs, do not result in isolation for repair
28.2	**Inappropriate asset and integrity strategies:** plans do not include all equipment, do not involve interaction of interfaces between plant, do not comply with PDO specifications, are not based on international standards
28.3	**Inappropriate methodologies for testing of integrity of equipment/materials:** incorrect equipment used for testing or frequency of inspection/testing is not appropriate. Follow up of defects does not take place
28.4	**Inappropriate criteria for material specification:** PDO specifications are not adhered to, PDO specifications do not comply with international standards,
28.5	**Inappropriate methodology for initial designs and specifications:** new technology is not appropriately researched and best practice implemented, the PDO process for design, HAZOP etc are not complied with, MSE4 team are not involved in the sign off of the design/specification
28.6	**Inappropriate execution protocols for HAZOP etc to ensure appropriate design and operating envelopes:** the PDO process for review and sign off for new designs or plant is not complied with to ensure it is safe to mobilise
28.7	**Inappropriate protocols relating to authority levels for over-riding controls/alarms:** controls are ignored or over-ridden without proper authorisation at the appropriate management level
28.8	**Inappropriate hazard analysis protocols for operating outside of normal operational envelope:** no suitable and sufficient risk assessment is conducted at an appropriate level or authority obtained to operate outside of the design operating parameters
28.9	**Other:** if none of the above categories apply, this category can be used.

29	Procedures
29.1	**Inadequate focus on maintaining procedures up to date:** no process to regularly review procedures to ensure relevance, practicality, employee feedback, shortfalls identified, audit results
29.2	**Inadequate process implementation for STOP:** the STOP system is not functional, it is not resourced, focuses on quantity and not quality, is not fed back to the originator, is not acted upon, is not analysed statistically, is not positive as well as negative
29.3	**Inadequate process implementation for IVMS:** the data is not collected, not analysed, not reviewed, not quality checked, does not rank drivers, does not result in feedback to drivers, does not follow the PDO procedure, is not used to improve driver behaviour, does not result in consequence management, does not involve a reward and recognition aspect
29.4	**Inadequate process implementation for SJM:** inadequate competent resource, does not involve vehicle and load checks, does not cover all journies over 20km, does not cover out of office SJM, no evidence of action for open journies, no authorised person audit of the SJM, does not result in appropriate equipment or resource for SP2000 compliance
29.5	**Inadequate process implementation for sub-contractor management:** no evidence that sub and sub contractors are regularly audited, reviewed, involved in the HSE plan and management system, no contractual requirement for them to meet PDO standards, no evidence of non compliance action taken
29.6	**Inadequate process implementation of controls for management of access/egress:** no evidence that controls are in place and utilised for authorisation for access or egress from controlled areas
29.7	**Inadequate process implementation for commissioning:** risk assessment, plans doe not follow the PDO requirements, people are not competent, inadequate time is provided for commissioning, insufficient competent resources, insufficient safeguards
29.8	**Inadequate process implementation for permit to work systems:** systems are not compliant to PDO requirements, the necessary site visits, inspections and sign offs are not required in the management system, inadequately trained staff, permits extended past their close out times, risk assessments not conducted, verified, redone, area authority permission not requested
29.9	**Inadequate process implementation for entry to confined spaces:** non competent or unauthorised staff used, relevant PDO procedures not complied with, relevant signatories not required, audits and inspections not conducted
29.10	**Inadequate process implementation for working at height:** procedures for working at height do not exist, do not cover all activities, are not practical, are not PDO compliant, are not enforced. The necessary equipment is not provided, compliance audits do not take place, people are not trained
29.11	**Inadequate process implementation for working in H2S areas:** people are not trained, equipment is not made available, audits are not conducted, remedial action for non compliance does not take place
29.12	**Inappropriate process implementation for concurrent work in the permit to work systems:** the system does not include the requirement to identify concurrent work activities which could impact on safety
29.13	**Inappropriate process implementation for work with lifting equipment:** PDO procedures are not complied with, people are not trained, insuffient staffing, inadequate equipment, equipment is not tested, equipment is not used for its intended purpose, audits do not take place
29.14	**Inappropriate process implementation for vehicle movement or loading/offloading:** no motor vehicle procedures, controls, standards or they are inadequate, a HEMP has not been conducted, people are not trained, SP2000 is not complied with, SP2001 is not complied with
29.15	**Inappropriate process implementation for working plant shutdown/start up:** PDO specifications for start up and shutdowns are not incorporated into the management system, or not complied with. Specifications are not practical, relevant or all encompassing
29.16	**Inappropriate process implementation for working with pressure systems:** PDO specifications for working with pressurised systems are not incorporated into the management system, or not complied with. Specifications are not practical, relevant or all encompassing
29.17	**Inappropriate process implementation for working with electricity and power systems:** PDO specifications for working on electrial equipment are not incorporated into the management system, or not complied with. Specifications are not practical, relevant or all encompassing
29.18	**Inappropriate process implementation for other procedures or processes:** PDO specifications for other processes are not incorporated into the management system, or not complied with. Specifications are not practical, relevant or all encompassing
29.19	**Other:** if none of the above categories apply, this category can be used.

30	Contractor and supplier management
30.1	**Inappropriate contracting and procurement processes:** the PDO contracting process was not complied with
30.2	**Inadequate contract management HSE reviews:** management reviews do not take place, do not focus on HSE, are not taking place regularly, do not result in effective monitoring of HSE in the contract, do not result in remedial action
30.3	**Inadequate vetting model for new contactor in tendering:** the vetting process was not adhered to, the vetting model was inadequate, the vetting was inaccurate and was not identified in a quality check
30.4	**Inappropriate C9 validation process in the contract tendering:** a non standard C9 in the contract was not authorised by the MSE department
30.5	**Inappropriate quality assurance of resources in the contract tendering:** the quality review of CVs was ineffective, did not take place or was not conducted thoroughly
30.6	**Inadequate and inappropriate levels of engagement in contract management:** inadequate or inappropriate CSR supervision, lack of contact time and visits by the Contract Holder, lack of focus on HSE matters by the Contract Holder
30.7	**Inadequate resource for management of contracts:** contract holder does not have sufficient time, resources or competency to effectively manage the contract
30.8	**Other:** if none of the above categories apply, this category can be used.

31	Operating responsibility
31.1	**Inadequate management of Permit to work systems:** permit to work systems are not managed effectively by the area authority, audits are not taking place or are ineffective
31.2	**Inappropriate controls for lone working:** lone workers are not protected via communication processes to ensure they are helped if they encounter difficulty
31.3	**Inadequate processes for management of change:** the process is not understood, not used, is ineffective, is not comprehensive, does not address the key issues of the change.
31.4	**Other:** if none of the above categories apply, this category can be used.

32	Crisis and emergency response
32.1	**Inappropriate systems for crisis management:** crisis management systems do not address all scenarios, do not provide effective guidance in managing crisis events
32.2	**Inappropriate drills for crisis management:** inadequate drills are conducted to practice, drills do not encompass all crisis management staff, drills are not realistic, drill learning points are not followed up and learnt from
32.3	**Inadequate processes to assure competency in resource for crisis management:** inadequate number of trained crisis management staff in the system
32.4	**Inadequate planning for crisis management:** plans do not provide effective guidance to enable the team to deal with a crisis effectively
32.5	**Other:** if none of the above categories apply, this category can be used.

33	Performance and assurance
33.1	**Inadequate surveillance protocol of HSE standards:** audits, reviews, inspections, testing, visits, engagements are not adequate to ensure HSE standards are met
33.2	**Inadequate PDO quality assurance of surveillance protocols:** High level audits and reviews of the HSE management systems are not conducted regularly or effectively, insufficient time is provided, it is not conduted by senior management, assurance is not met
33.3	**Inadequate processes to assure design specifications:** Technical authority levels for sign off are ignored, no audits take place to verify compliance
33.4	**Inadequate processes to assure quality of systems:** inadequate quality management for the design, build, commissioning and operation, insufficient involvement of quality management or safety staff, exclusion from the process
33.5	**Inadequate processes to ensure competency of designer:** checks on the competency of the designer not completed and verified by certification and references
33.6	**Inadequate management systems to ensure guarantees from suppliers:** the system allows equipment to be supplied without guarantee or warranty for a sufficient time period
33.7	**Inadequate audit and assurance processes:** failure to design, implement or utilise an audit and assurance process
33.8	**Inadequate assurance of close out of actions from incidents or audits:** no evidence that audit findings have been acted upon and shortfall resolved and evidenced
33.9	**Inadequate assurance of systems for learning from incidents:** no assurance process to ensure that the lateral learnings are being reviewed, assessed for relevance and the HSE MS is reviewed against the learnings with action taken where necessary
33.10	**Inadequate planning or resource or system for assuring competency standards have been met:** no competent management resource to track the competency standards required and employment of compliant resource
33.11	**Inadequate assurance processes for implementation of management of change:** no audits, reviews of the successful implementation and use of the management of change process
33.12	**Other:** if none of the above categories apply, this category can be used.