**6.1.2 HAZARD IDENTIFICATION AND RISK ASSESSMENT**

# PURPOSE

Titan Drilling is committed to providing a safe work place for all employees, client representatives and others with whom we interact during the course of our work. The company and all employees shall so far as is practicable, apply the following steps to identify, eliminate or reduce hazards to an acceptable level, thereby ensuring the workplace as safe as possible.

This standard defines the process used by Titan Drilling for identifying Health and Safety risks related to its activities and operations, which may result in an impact to an individual’s health and safety where they operate. It also describes the process of how to determine and assign significance to health and safety risks, in order to assign priority to management efforts related to implementation and operation of the management system for Titan Drilling.

# SCOPE

This procedure applies to all employees, contractors and visitors at Titan Drilling’s premises and sites.

*3. DEFINITIONS*

3.1 Hazard: A source, act or situation which has the potential to cause harm to individuals, environment and the equipment.

3.2 Impact: Any change to the health and safety of people, the environment, the community or property, whether adverse or beneficial, wholly or partially resulting from the company’s activities or services

3.3 Risk: The risk of an activity or service is the product of likelihood of an impact on the health and safety of people, the environment, the community or property, and the severity of that impact.

3.4 Management of Change: Any deviation, permanent, temporary, or incremental from a current established baseline. In relation to infrastructure, equipment, material or process that means to introduce, alter the design of, create a negative impact on the operator or the environment where such alteration may affect health, safety, environment or community but does not include routine maintenance, repairs or replacement of the same product.

3.5 Consequences: The outcome or impact of an event.

3.6 Probability: Likelihood or chance that the chosen, complete incident sequence will follow, once exposure to the hazard has occurred

3.7 Hierarchy of Controls: Steps taken in the mitigation of risks; Elimination, Substitution, Engineering, Administrative and Personal Protective Equipment

3.8 Job Hazard Analysis (JHA): Job Hazard Analysis is a process of looking at a job and identifying the hazards and controls for each step of the process.

3.9 Critical Risk: An activity or task that has scored between 23 and 25 based on the Risk Calculation Matrix. Risks cannot be justified and work must stop immediately with an action plan to be put into place to reduce the risk to a tolerable level.

3.10 Significant Risk: An activity or task that has scored between 16 and 22 based on the Risk Calculation Matrix. Additional controls measures shall be put into place to lower the tolerability level.

3.11 Moderate Risk: An activity or task that has scored between 7 and 15 based on the Risk Calculation Matrix. Additional controls measures should be put into place to lower the tolerability level.

3.12 Low Risk: An activity or task that has scored between 1and 6 based on the Risk Calculation Matrix. No further control measures are required but continual monitoring of the risk will be necessary.

3.13 OHSMS – Occupational Health and Safety Management System

4. Roles and Responsibilities

4.1 Chief Executive Officer

The CEO has overall responsibility for Risk Management at Titan Drilling. He has delegated responsibility to the managers in the organization for their particular areas.

* 1. Project Manager(s) and Heads of Department(s)

Managers working throughout the organization are responsible for ensuring that Risk Assessments are carried out through the operations. This is done by Approving the JHA and/or the Take 5 for the job to commence.

4.3 Supervisors

Supervisors are responsible for ensuring risk assessments are undertaken and written in their areas of responsibility. They are to ensure that their employees are able to identify hazards and contribute to the analysis of risks. JHA’s are written by supervisors.

4.4 Safety Officers

Safety officers will guide all staff in the development and documenting of risk assessments. Should supervisors identify that further training is required for a particular employee, the safety officers will offer training to the respective employee.

They will transfer the hand written JHA onto a formal typed Risk Assessment including translation of risk rating from High to Low to the numbered 1 to 25.

4.5 All Staff

All employees will be required and shall participate in conducting risk assessments in their areas. They will be competent and knowledgeable in identification of hazards, contributing and implementation of the controls as well as the High to Low risk rating.

# RISK ASSESSMENT

# Risk Assessments shall be conducted for the following:

* Performing both routine and non-routine tasks
* All activities of persons having access to the workplace
* Activities that originate outside the workplace that may have an adverse effect on the health and safety of persons in the workplace
* Activities that may create hazards in the vicinity of the workplace
* Infrastructure, equipment and materials at the workplace, whether provided by the organization or others
* Changes or proposed changes in the company, its activities, OHSMS or materials
* Emergency preparedness
* Any applicable legal requirements related to the activities being assessed

5.2 A Risk Assessment team shall be assembled which shall include member(s) working in the area or equipment to be assessed as well as a supervisor or Manager representative to:

* Identify the hazards
* Identify the risks
* Agree on the raw risk rating using the RA Scorecard below (Likelihood vs Consequences)
* Determine what controls can be put in place
* Agree on the residual risk
* Depending on the residual risk, draw up a Safe Working Procedure

5.3 Types of Risk Assessment:

There are various types of Risk Management tools used at Titan Drilling:

1. **The Baseline Risk Assessment** process that evaluates all processes and activities conducted at Titan Drilling. This process shall be used to determine the significance level of the risk / impact being assessed using the Risk Calculation Matrix. The baseline risk assessment is updated when identified through observations, incidents, inspections or audits. Once updated, these changes are to be communicated to the employees and interested parties.
2. The **Job Hazard Analysis (JHA),** this process looks at each step of a task, assesses the hazard and identifies the controls required. This is used when employees are undertaking a high-risk job. High risk jobs are determined from routine / non-routine task, if the job has an SWP or not. As well, if we’re using a 3rd party to assist in undertaking a job. The risk rating is High, Medium and Low. The Workshop will use the Take (5) Mini-Risk Assessment which is on the job card as their alternative.
3. **Formal Risk Assessment** – The risk assessment is documented for each step in the task with a risk rating taken from the JHA and translated into a score of 23 - 25 being Extreme (Red), 16 – 22 being Significant (Orange), 7 - 15 being Medium (Yellow) and 1 - 6 being Low (Green)
4. **Near Miss / Hazard Identification Slip** – All employees write hazards slips when they identify; submitted to supervisor who puts corrective action or passes it on for further action if he cannot close it; if further investigation required yes – put onto corrective action plan; if not – corrective action plan with action and closed out
5. **Mini Risk Assessment – Take 5**. This is a basic risk assessment, used **only** by the Workshop staff, conducted when no SWP is available for a task. It is used to give an employee time to Stop, Think through the task, Re-assess the hazards associated and Reduce the risk of exposure.

*Any activity that has a risk rating of critical shall be stopped until appropriate controls have been implemented to reduce the risk and a final assessment has been completed to verify the effectiveness of the controls.*

# Risk Assessment Scorecard

Severity / Probability Table

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Rating | Injury Severity | **Probability (P)** | **Rating** | **Estimate of Incident Frequency** |
| **1** | Repeat first aid treatments | Almost Certain | **A** | Incident likely to occur frequently (i.e. daily, weekly, monthly) |
| **2** | Requires Medical Treatment | Likely | **B** | Incident likely to occur occasionally |
| **3** | Severe Injury – factures, Short term lost time injury | Possible | **C** | Incident could occur |
| **4** | Major Injury – Serious lost time injury more than 7 days | Unlikely | **D** | Incident unlikely to occur |
| **5** | Fatality, Loss of limb, Blindness, Electrocution, Permanent Health Effects | Rare | **E** | Very unlikely to occur |

Calculator

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **CALCULATE RISK by estimating L for a chosen C** | | | | | | |
| **Risk = L \* C** | | | | | | |
| **Choose C of "most interest"  C = Consequences  1 to 5** |  | **L = Likelihood (A to E)** | | | | |
| **Almost Certain** | **Likely** | **Possible** | **Unlikely** | **Rare** |
| **Consequences** | **A** | **B** | **C** | **D** | **E** |
| **Catastrophic** | **5** | **25** | **24** | **22** | **19** | **15** |
| **Major** | **4** | **23** | **21** | **18** | **14** | **10** |
| **Moderate** | **3** | **20** | **17** | **13** | **9** | **6** |
| **Minor** | **2** | **16** | **12** | **8** | **5** | **3** |
| **Insignificant** | **1** | **11** | **7** | **4** | **2** | **1** |

|  |  |  |  |
| --- | --- | --- | --- |
| **Extreme risk** | **Significant Risk** | **Moderate Risk** | **Low Risk** |

### RISK EVALUATION

|  |  |  |
| --- | --- | --- |
| **1 – 6** | **Low Risk** | **Monitor and control in 2-3 months or when opportunity arises. Interim controls to be used.** |
| **7 – 15** | **Medium Risk** | **Fix in 1–2 weeks, monitor closely, and stop work as needed. Interim controls to be used.** |
| **16 – 22** | **Significant Risk** | **Stop work and control hazard to acceptable level (ALARP) before use.** |
| **23 – 25** | **Extreme Risk** | **Work must not commence, control hazard to acceptable level (ALARP) before use.** |

***ALARP = As Low As Reasonably Practicable***

**6.1** The management of risks identified through the risk assessment process will be determined by the risk rating, (appendix 1) see below:

The amount of effort/resources that are to be committed to an identified risk is determined by the risk score. The Trust has a scheme of escalation (shown at Figure 3).

 **Risks scored 1-5**: are considered **low risk** and therefore are tolerated by the Trust

 **Risks scoring 6-8:** are considered **moderate risks** and should be managed /treated so that they are made as ‘low as reasonably practicable’. These risks will usually be managed locally unless they are Trust wide when the appropriate corporate department will lead on management.

 **Risks scoring 9-12** are considered **high risks**. These risks must be treated, i.e. an action plan should be developed and implemented that seek to reduce the potential impact of the risk (i.e. reduces the risk score). These risks will be added to the risk register and will be reviewed by the Management Committee and overseen by the Clinical Quality, Safety, and Governance Committee High risks scoring 12 will also be reviewed by the Board.

 **Risks scoring 15-25** are considered as **extreme/catastrophic risks**. These risks must be treated, i.e. an action plan should be developed and implemented that seek to reduce the potential impact of the risk (i.e. reduces the risk score). These risks will be added to the risk register and will be reviewed by the

 Management Committee and the Clinical Quality, Safety, and Governance Committee High risks scoring 12 will also be reviewed by the Board.

# IMPLEMENTATION

This procedure takes effect immediately from date of issue.