1. Purpose

The purpose of this procedure is to demonstrate how to identify hazards, perform risk assessment and determine risk control for Peak NDT Solutions

2. Scope of Application

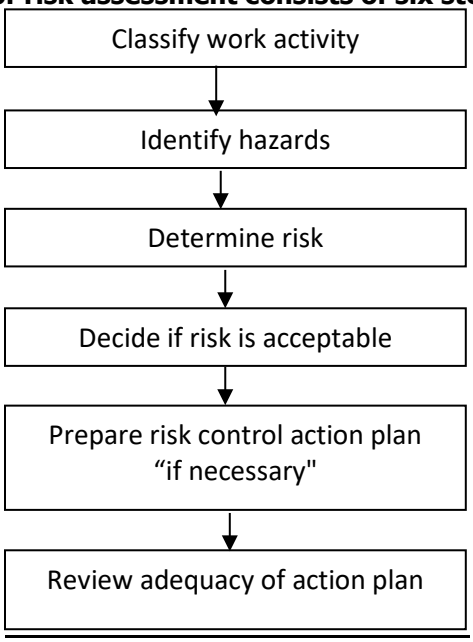
All routine and non-routine activities of Peak NDT Solutions employees.
All routine and non-routine activities of Peak NDT Solutions subcontractors and visitors.

3. Responsibility

3.1 The process owners are responsible for identifying the activities hazards related to the processes, introducing the risk assessment and issuing the required controls in both routine and non-routine work.
3.2 Health and safety committee is responsible for reviewing each process risk assessment and the sufficient of controls.
3.3 The risk assessment process and risk control is executed under the supervision of QHSE Department.
3.4 The QHSE department and department managers will involve employees and subcontractors as part of the hazard identification process, risk assessment, and risk controls.

4. Procedure

The process of risk assessment consists of six steps as follow:



4.1 **Classify work activities**: The process owners and department managers shall classify all work activities in the process. The classification shall cover premises, people, and gather information about the activities.

4.1.1 Possible ways of classifying work activities include:

- Geographical areas within/outside the organization's premises.
- Stages of the service.
- Planned reactive work.
- Defined tasks.

4.2 **Identify hazards:** The process owner and the selected departmental team under supervision of the department manager and QHSE department head identifies all significant hazards related to each work activity (routine and non-routine). Employees and Subcontractor feedback and participation in the process shall also be taken into account. Taking into consideration the following:

- Sources of Hazards.
- Employee and Subcontractor processes, participation, and feedback.
- Who might be harmed and how
    a. Hazards may arise from:
        - The workplace environment. e.g. insufficient lighting;
        - Equipment/Plant e.g. a noisy engine which has not been insulated;
        - Substances e.g. explosive fumes building up in a storage area; and
        - Work systems e.g. storage of coils at high level causing retrieval hazards;
    b. Forms of hazards: Workplace hazards can be divided into groups
        - Physical hazards; e.g. noise, electricity, heat and cold;
        - Chemical hazards; e.g. toxic gases, noxious fumes and corrosive liquids;
        - Radiation hazards; e.g. from x-ray machine, infrared beams or badly fitting microwave doors;
        - Psychological hazards; e.g. stress from using equipment without proper training or instruction, or being coerced into using faulty equipment which carries a risk of injury;
        - Plant hazards; e.g. any machinery, equipment, appliance, implement or tool "computers, electrical equipment, heaters, workshop and lab equipment … etc.";
        - Fire and explosion.
    c. The department managers with the process owners discuss all hazards identified.

4.3 **Risk identification and assessment team:** The process owner under supervision of the department manager and QHSE Department will make a subjective estimation of risk associated with each hazard, assuming that planned or existing controls are in place. They also consider the effectiveness of the controls and the consequences of their failure.

4.3.1 Specific requirements for risk assessment are:

- Visual inspection of the item and its associated environment
- Relations between activities
- Auditing
- Technical or scientific evaluation
- Analysis of injury or near miss data
- Discussions with designers, manufacturers, suppliers, and employers,
- Discussions and walkthroughs with employees, subcontractors and other relevant parties
- Quantitative risk analysis

- Legal requirements
- Safety codes or standards

4.3.2 The risk assessment team will give estimates and scores for the following:

a. **Likelihood** is categorized into four categories as follows

Very likely: Will probably occur immediately or within a short period of time.
Likely: Probably will occur in time.
Unlikely: Could eventually happen.
Highly unlikely: Has the potential to occur, but probably never will

The figures of estimating likelihood are:

Highly unlikely (L = 1)	: if no accidents / year
Unlikely (L = 2)	: if one accident / year
Likely (L = 3)	: if two accidents / year
Very likely (L = 4)	: if three accidents or more / year, death or total loss

Fatality: may cause death or loss of a facility.
Major: severe injury or illness.
Minor: minor injury or illness resulting in days off work,
Negligible: minor injury, possible first aid.

The figures of estimating severity category are-:

Negligible (S = 1)	: if total lost days < 10 days
Minor (S = 2)	: if 10 ≤ total lost days < 21 days
Major (S = 3)	: if total lost days ≥ 21 days or 35 % disability percent
Fatality (S = 4)	: in case of death

4.3.3 Multiplying the likelihood factor by severity factor with consideration to cost effectiveness:

Risk Level		**Probability (Likelihood)**			
		Very likely (4)	**Likely (3)**	**Unlikely (2)**	**Highly unlikely (1)**
Consequences (Severity)	**Fatality (4)**	(16) High	(12) High	(8) High	(4) Low
	Major (3)	(12) High	(9) High	(6) Medium	(3) Low
	Minor (2)	(8) High	(6) Medium	(4) Medium	(2) Low
	Negligible (1)	(4) Medium	(3) Low	(2) Low	(1) Low

4.4 **Decide if the risk is acceptable:** The risk assessment committee should judge, whether planned or existing QHSE precautions (if any) are sufficient to keep the hazard under control and meet legal requirements.

4.4.1 **Controlling the Risk:**

a. Level C (**High**) With a score from 8 to 16: Eliminate the risk.
b. Level B (**Medium**) With a score from 4 to 6 [*Except 4 severity and 1 likelihood*]: Minimize the risk
    - Substitute for something safer;
    - Modify equipment, chemical or other item;
    - Isolate equipment, chemical or other item;
    - Introduce engineering controls.
c. Level A (**Low**) With a score of 1 to 3 and 4 [*in case of 4 severity and 1 liklihood use back-up controls*]
    - Signage/warning and/or administrative controls and safe working practices.
    - Require personal protective equipment (PPE) to be used.

4.5 **Prepare risk control plan:** (if necessary) The risk assessment committee prepares a plan to deal with any issues found by the assessment that requires attention. They should ensure that new and existing controls remain in place and are effective.

4.6 **Review adequacy of action plans:** The process owner under supervision of the department manager and QHSE Department should re-assess risks after corrective action or changes in the process activities on the basis of the revised controls and check the risks whether acceptable or not, in general risk assessment will re-assessed on the following cases:

- Yearly
- Heavy Accident (case of fatality)
- Incidents with a severity higher than anticipated.

5.1 **Employee and Subcontractor Training:** The QHSE department and department managers will inform and train employees of potential risks, hazards, and control plans and procedures put in place to mitigate the risks and hazards. Employee training shall include, at minimum:

- The proper procedures for operating equipment safely
- The risk/hazard identification process
- The selection and use of proper PPE for each job

REVISION INFORMATION

This is applicable to changes made to the current version of the preceding document.

Revision Number	Description