5.1 PROCEDURES AND WORK INSTRUCTIONS

5.1.1 SITE SAFETY INDUCTION

SITE SAFETY INDUCTION

1.0 PURPOSE AND SCOPE

The purpose of this procedure is to ensure that all employees and sub-contactors personnel are generally aware of the safety and health regulations and requirement being enforced at the workplace. The safety induction shall also cover action required during incident or emergency and emergency evacuation procedure. This procedure shall apply to all worksites where the company operates.

2.0 REFERENCE

Occupational Safety and Health Act 1994 and applicable Regulations;
Factories and Machinery Amendment Act 2006 and applicable Regulations
Construction Industry Development Act
Site Safety and Health Regulations
Emergency Response Plan and Evacuation Procedure

3.0 RESPONSIBILITY

a) Senior Project Manager
b) Safety and Health Officer

4.0 PROCEDURE

Every employees and sub-contractors personnel assigned to any projects carried out by the company shall be required to sit for site safety induction training before mobilization or on the first day they are mobilized to the site. No person shall be allowed to enter and start any work on site without site safety induction. The Safety and Health Officer shall carry out the site safety induction training using the provided text. The employees and sub-contractors personnel shall register and sign their names in the prescribe Safety and Health Induction Attendance Record. The Safety and Health Officer shall be responsible to maintain and update a Safety and Health Induction register for each site for quick reference and inspection. Within one week after the site safety induction, the employees and sub-contractors personnel shall be issued with Entry Pass to facilitate entry to the worksite. No Entry Pass shall be issued to those without site safety induction.

5.0 DOCUMENTATION

Safety and Health Induction Attendance Record
Safety Induction Record

5.1.2 TOOL BOX MEETING

TOOLBOX MEETING

1.0 PURPOSE AND SCOPE

The purpose of this procedure is to ensure that employees and sub-contractors personnel are continually being updated of the site safety and health regulations, the hazards and risk of a specific nature of works being carried out and to motivate them to perform their duties safely. This procedure covers all site work activities where the company operates.

2.0 REFERENCE

Site safety and health regulations and safe work procedures.

3.0 RESPONSIBILITY

Construction Manager
Engineers
Site Coordinators
HSSE Officer
Sub-contractors

4.0 PROCEDURE

Toolbox Meetings to discuss HSSE issues will be conducted by Sub-Contractor's site Coordinators for their individual work groups. Toolbox meetings will be held at least every week and will be attended by all members of the work group. Locations of the toolbox meetings are to suit sub-contractors logistic at the time. The WCT HSSE Officer to be notified of location and timing of meetings.

WCT shall develop a procedure to assist their supervisory staff in organizing and running their toolbox meetings. The procedure will be directed toward the activities and task associated statutory requirement in regard to general health, safety and environmental issues on construction sites.

A record of attendees and of matters discussed will be kept for all toolbox meetings. The sub-contractors of each toolbox meeting is responsible for ensuring such records are kept.

Sub-Contractors will forward a copy of all such records of their toolbox meetings to WCT HSSE Officer within 2 days of the meeting being held.

5.0 DOCUMENTATION

Safety and Health Toolbox Talk Attendance Record
Toolbox Talk Record

5.1.3 PERSONAL PROTECTIVE EQUIPMENTS

PERSONAL PROTECTIVE EQUIPMENTS

1.0 PURPOSE AND SCOPE

The purpose of this procedure is to determine the required Personal Protective Equipments requirement to be issued and worn by employees and sub-contractors personnel while carrying out works for the company. All employees and sub-contractors are required to strictly abide by the directives in this procedure. This procedure applies to all worksite where the company operates.

2.0 REFERENCE

Factories and Machinery Amendment Act 2006
Building Operation and Work of engineering Construction Regulations 1986

3.0 RESPONSIBILITY

Senior Project Manager
Construction Manager
HSSE Officer
Sub-Contractors

4.0 PROCEDURE

All employees and sub-contractors personnel shall at all times, comply fully with the Personal Protective Equipment requirements of the project site. As a minimum, every person while being at the worksite shall be equipped with the following:-

Safety shoes with steel toe-cap
Approved type safety helmet; and
Suitable Clothing (Long pants and sleeved shirts)

Where appropriate, all employees shall be equipped with necessary personal protective equipments as required by the type of works being carried out, including but not limited to the following:-

Suitable type of eye and face protection while carrying out cutting, grinding, hacking and welding and other similar nature of works where there are risk of injury to the face and eyes

Suitable ear protection equipment in areas with high noise level

Suitable fall protection equipment such as full body harness while carrying out work at height

Suitable hand gloves according to the type of work being carried out.

Employees and sub-contractor's personnel issued with Personal Protective Equipments are responsible to ensure that such equipments being fully utilized accordingly while carrying out their duties and are also responsible to maintain such equipments.

The record of issuance of Personal Protective Equipment shall be maintained at the worksite. Sub-contractors are responsible to maintain such record for the employees under their charge. The record shall be made available for inspection by the Company's HSSE Officer and by the authority upon request.

5.0 DOCUMENTATION

Personal Protective Equipments Record

5.1.4 SAFETY AND HEALTH COMMITTEE

SAFETY AND HEALTH COMMITTEE

1.0 PURPOSE AND SCOPE

The purpose of this procedure is to ensure the establishment of a Safety and Health Committee that operates in accordance to Occupational Safety and Health (Safety and Health Committee) Regulation 1996 as a forum for management and employees to discuss and resolve safety and health issues arising out of the activities carried out at the workplace. This procedure applies to the company's operation at the headquarters as well as all project/ worksites where the number of employees exceeds forty person.

2.0 REFERENCE

Occupational Safety and Health Act 1994
Occupational Safety and Health (Safety and Health Committee) Regulation 1996
OHSAS 18001:2007 Occupational Health and Safety Management System

3.0 RESPONSIBILITY

Project Director
Senior Project Manager
HSSE Officer

4.0 PROCEDURE

Every workplace where the number of person employed exceed forty person shall set up a safety and health committee in accordance to Occupational Safety and Health (Safety and Health Committee) Regulation 1996. The Senior Project Manager shall be the chairman of the safety and health committee. Where there is a HSSE Officer employed, he shall be the secretary of the Safety and Health Committee. The Safety and Health Committee shall consist of equal representation of employer and employees. Where there are one hundred person or less employed, there shall be not less than two representatives each from the employer and employees; and where there are more than one hundred person employed there shall not be less than four representatives each from the employer and employees.

The safety and health committee shall:-
Assist in the development of safety and health rules and safe system of work;
Review the effectiveness of safety and health programs
Assist in the carrying out accident/ incident investigations
Regularly inspect the place of work to ensure the safety and health of persons at the place of work

A safety and health committee shall meet as often as may be necessary commensurate with the risks attendant on the nature of work at the project site. Every member of the committee shall be given reasonable notice of any meeting together with the agenda for the meeting.

Only matters relating to safety and health at the project site shall be discussed at any meeting of the safety and health committee.

The secretary shall be responsible in taking minutes of the safety and health committee meetings and distribute it accordingly. A copy of minutes of meeting for every meeting convened shall be kept for a minimum period of seven years for purposes of inspection by the authority.

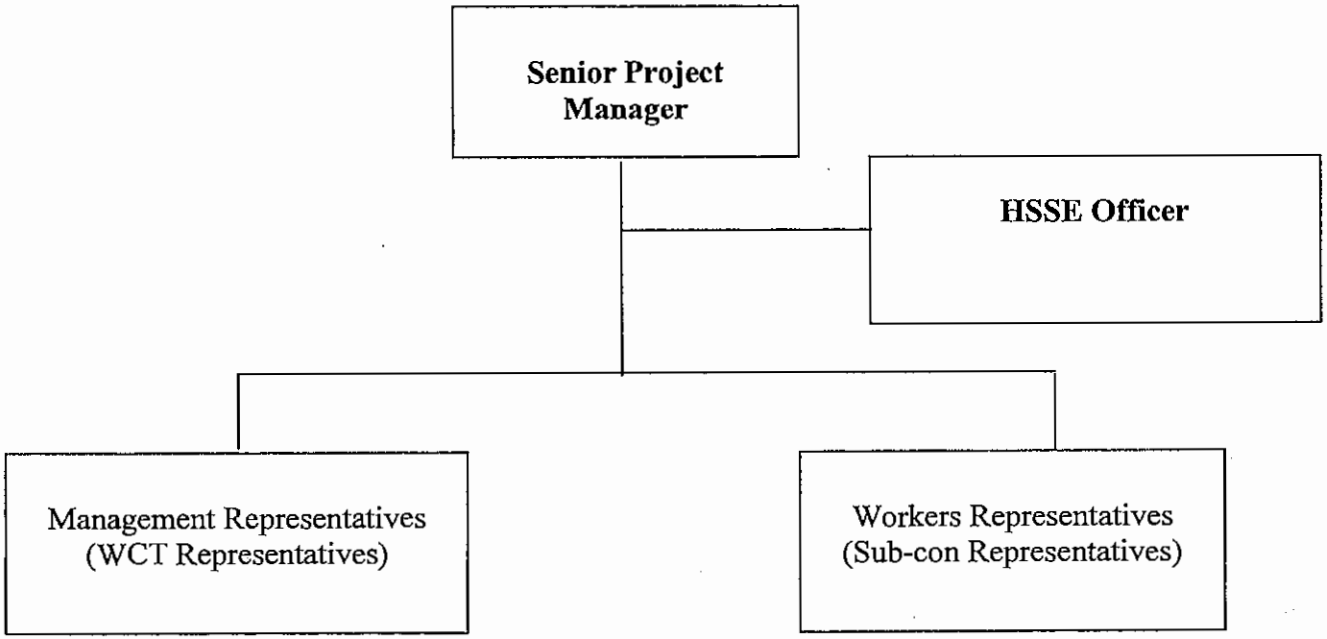
5.0 DOCUMENTATION

Safety and Health Committee Organization Chart
Safety and Health Committee Minutes of Meeting
Safety and Health Committee Attendance Record

5.1.4.1 SAFETY AND HEALTH COMMITTEE ORGANISATION CHART

WCT Berhad

Safety & Health Committee Organisation Chart



5.1.5 SITE CLEARANCE

SITE CLEARANCE

1.0 PURPOSE AND SCOPE

This work instruction serves as guidance to all employees and sub-contractors involved in the carrying out of site clearance activities to protect them from the hazards arising out of the activities. This work instruction applies to all project sites where the company has its operations.

2.0 REFERENCE

Factories and Machinery Amendment Act 2006
Building Operation and Work of Engineering Construction Regulation 1986

3.0 RESPONSIBILITY

Senior Project Manager
Construction Manager
Site Engineer
Site Coordinator
HSSE Officer

4.0 PROCEDURE

The site to be cleared shall be inspected by the Senior Project Manager or his authorized Supervisor and HSSE Officer to determine the extend of area needed to be cleared. Using the prescribed form Hazard Identification, Risk Assessment and Determining Controls the authorized employee and the Safety & Health Officer shall carry out critical hazard analysis of all work activities and map out all hazards and risks that may result from the site clearance works. From the hazard identification process, the authorized employee and the HSSE Officer shall come up with a Safe Work Method Statement on an approved format, indicating all the necessary control measures to ensure that the said works may be carried out safely.

5.0 DOCUMENTATION

Hazard Identification and Risk Assessment Form
Emergency Response Plan

5.1.6 EXCAVATION AND TRENCHING

EXCAVATION AND TRENCHING

1.0 PURPOSE AND SCOPE

This Work Instruction serves as a guidance to the project personnel in carrying out excavation activities safely, taking into consideration every factors affecting the safety of personnel, machinery as well as properties where the excavation is being carried out. This Work Instruction covers all project sites where the company has its operations.

2.0 REFERENCE

Factories and Machinery Amendment Act 2006
Building Operation and Work Of Engineering Construction Regulations 1986

3.0 RESPONSIBILITY

Senior Project Manager
Construction Manager
Site Engineer
Site Coordinator
HSSE Officer

4.0 PROCEDURE

General

The excavation procedure is designed to control excavation activities that have the potential to damage essential services and cause injury to workers, e.g

- Underground power cables
- Sewer and drains
- Process piping facilities
- Natural gas lines
- Foundations and footings
- Earthing Network

Definitions

All reasonable practical measures to minimize the risk to those carrying out the work shall be utilized. These shall include:

- Identifying and determining the depth of buried pipelines and services
- Marking their location
- Isolating or protecting them
- Identifying chemical, radioactive, asbestos and other contamination

The excavation permission shall only be issued after this has been done.

The authority shall be completed giving particular attention to the specification of the control measures to prevent damage, to buried services and pipeline and the action to

be taken in the event of damage. It shall also state the contamination hazards likely to be encountered.

The permit shall define the area and the conditions in which the excavation/ Break-in shall be carried out. The full circumstances of each excavation break-in shall be understood by the person issuing the permit, the person receiving the permit and those undertaking the work.

A copy of the excavation Permit shall be kept at the job site by the foreman or leading hand undertaking the work.

Prior to starting excavation proceed as follows:

a) Secure excavation permit for deep trench excavation >3m depth.
b) Determine the presence and location of any underground service facility with the appropriate detector.
c) Location of the underground service shall be identified for personnel doing the work.
d) Ensure that the instructions and limitations on the work permit form are understood.

Prior to starting excavation proceed as follows:

Precautions during excavation

a) Extreme care shall be exercised when excavating in areas where marked underground facilities are present. Test excavations shall be dug by hand (shovel) in such areas prior to using machine.
b) Excavations shall not be left without steps being taken to prevent someone from falling or driving in.
c) Excavation shall be properly identified by means of barricades, ropes and/ or signs.
d) Excavated material (spoil) shall be placed at least 0.6 meter from edge of excavation.
e) All trench excavations greater than 3.0 meter in depth shall be shored and/ or sloped.
f) Ladder or other suitable means of access to excavations more than 1.2 meter in depth shall be provided at a maximum spacing of 30 meters.
g) If gas, toxic of flammable materials are encountered, appropriate test shall be made to establish the need for respiratory equipment, ventilation or other measures required to continue the excavation safely.
h) Adequate means of dewatering excavation shall be provided as required.
i) When appropriate, a signalman shall be provided to direct powered equipment working in excavation in combination with men.

Requirements

In all trenching operations where employees are at work or where they must pass to and from their work, the Contractor shall provide sufficient light.
Keep pick and shovel employees working in trenches at a sufficient distances apart to prevent injury to one another.

When employees are required to be in trenches 1.2 meter deep or greater, provide an adequate means of exits such as a ladder, steps, or ramps located so as to require no more than 15 m of lateral travel.

Excavated material

Excavated material shall not be placed on the ground surface within 2 meters of the edge of the excavation, unless shoring extending above the trench or excavation will support the load and keep materials from falling into the trench or excavation. After testing, the excavated soils are found to be unacceptably contaminated they shall be drummed immediately by the Contractor for safe storage and disposal by the Principal.

5.0 DOCUMENTATION

Monthly Inspection Record For Earth Moving
Monthly Inspection Record For Construction Vehicle
Deep Trench Excavation Permit (>3m Depth)

5.1.7 HEAVY LIFTING

HEAVY LIFTING

1.0 PURPOSE AND SCOPE

The purpose of this Work Instruction is to provide the project site with a guideline while carrying out lifting operation to ensure safety of employees and properties at the workplace. This Work Instruction applies to all project sites where the company operates.

2.0 REFERENCE

Factory and Machinery Amendment Act 2006
Building Operations and Works of Engineering Construction Regulations 1986
Occupational Safety and Health Act 1994

3.0 RESPONSIBILITY

Senior Project Manager
Construction Manager
Site Engineer
Site Coordinator
HSSE Officer

4.0 PROCEDURE

All cranes shall be inspected by WCT HSSE Officer upon mobilization before being allowed to operate at the project site. The crane supplier shall provide the site with all the necessary documentation regarding the crane and the operator assigned to operate the crane. All cranes are required to possess a valid certificate of fitness issued by the Department of Occupational Safety and Health (DOSH). The PMA number of the crane shall be prominently displayed on the boom of the crane.

The supplier of the crane shall be responsible to ensure that all mechanical parts and instrumentation of the crane are in good working order and free of any defects. The supplier shall also provide the valid certificate of competency of the operator for verification by the HSSE Officer. Only competent operator registered with DOSH are allowed to operate the crane. Should there be any rectification requested by the inspecting HSSE Officer, these should be rectified before any permit to operate being issued. The HSSE Officer shall have every right to reject any crane which does not comply to the requirement.

All lifting gears to be used such as wire rope slings, shackles, hooks and similar appliances shall be inspected by the HSSE Officer. Where applicable, the milling certificate of these appliances shall be produced to ascertain the recommended Safe Working Load (SWL). Lifting gear includes (e.g. Slings, shackles, sockets, hooks, etc.) shall be visibly marked in accordance with the relevant Standards.

The size and weight of the load to be lifted shall be ascertained to commensurate with the type of crane being used. The operator of the crane shall ensure that the crane is being safely set up taking into consideration the ground condition, the presence of other activities, the working radius and other factors that may affect the safety of others around the area. A signalman shall be assigned to assist the crane operator to safely direct the movement of the load to its intended location.

5.0 DOCUMENTATION

Crane Inspection Checklist
Inspection Checklist For Mobile Crane (Crawler Crane)
Inspection Checklist For Mobile Crane (Truck Mounted)
Crane Operation Checklist
Sling Wire Monthly Inspection Record
Crane Operator's Competency Certificate
Certificate of Fitness (PMA) of crane

5.1.8 CHEMICAL HANDLING

CHEMICAL HANDLING

1.0 PURPOSE AND SCOPE

This work instruction serves as guidance to site employees for the safe handling of chemical use in the daily activities at the project site. This work instruction applies to all project sites where the company operates.

2.0 REFERENCE

Factories and Machinery Amendment Act 2006
Occupational Safety and Health Act 1994
Occupational Safety and Health (Use and Standards of Exposure of Chemicals Hazardous to Health) Regulations 2000 (USECHH 2000)
Environmental Quality Act 1974 and Regulations

3.0 RESPONSIBILITY

Senior Project Manager
Construction Manager
Site Engineer
Site Coordinator
HSSE Officer

4.0 PROCEDURE

The site shall maintain a register of all chemical used at the project using the form prescribed by the Department of Occupational Safety and Health. The storage and location of each chemical shall be determined in the register.

The material safety data sheet (MSDS) of each chemical shall be obtained from the supplier of the chemical. The MSDS shall be made available to every employees and sub-contractors for quick reference of its characteristics and precautionary measures required to be taken.

The workforce shall be explained of the action required in case of spillage or in case of contact with skin or part of body. Every chemical shall be clearly labelled on its container in accordance to USECHH 2000 regulations. No chemical shall be allowed to be stored inside food container or water bottles.

Appropriate Personal Protective Equipment according to manufactures' recommendation shall be made available and utilize while handling chemicals.

Any spillage on site shall be handled according to manufactures recommendation. Contaminated material and/ or soil shall be disposed according to Department of Environment (DOE) requirements and by approved DOE contractor.

5.0 DOCUMENTATION

Register of Chemical Hazardous to Health
Material Safety Data Sheets

5.1.8.1 REGISTER OF CHEMICAL HAZARDOUS TO HEALTH

REGISTER OF CHEMICALS HAZARDOUS TO HEALTH

SECTION A : COMPANY INFORMATION

Name : WCT Berhad

Address : 12 JALAN MAJISTRET U1/26
SEKSYEN U1 HICOM-
GLENMARIE INDUSTRIAL
PARK

City : SHAH ALAM

Postcode : 40150

State : SELANGOR

Telephone No : 03-78052266

e-mail : enquiries@wct.com.my

DOSH Registration No. :

(Refer to Appendix 4 for Code of Sector and Appendix 5 for Class of Industry)

Code of Sector :

Class Of Industry :

Company Activity (Please enter (/) in the appropriate box :

Manufacturer :	
Distributor :	
Formulator :	
Importer :	
End-User :	/

SECTION B : LIST OF CHEMICALS HAZARDOUS CHEMICAL TO HEALTH

Location :	No. of Hazardous Chemical :	No. of Workers :
Process Operation :		Male :
		Female :

Product Name	Name of Chemical	Physical Form of Chemical	No. of Workers Exposed	Type of Control Measures		Usage of Chemical		CAS No.	Name of Active Ingredient	Comply with Classification, Packaging and Labelling Regulation, 1977			Name, Address of Supplier and Contact Number (Tel. No/e-mail)
				Engineering Control	PPE	Type	Quantity			CSDS (Y/N)	Class	Label (Y/N)	

SECTION C : NAME OF PERSON WHO PREPARED OF REVIEWED

PREPARED BY :	REVIEWED BY :
Name :	Name :
Title :	Title :
Date :	Date :
(signature)	(signature)

5.1.9 ELECTRICAL SAFETY

ELECTRICAL SAFETY

1.0 PURPOSE AND SCOPE

The purpose of this work instruction is to ensure that all electrical tools and equipment used at the project site are being inspected upon mobilization and then periodically to ascertain that all electrical tools and equipment are in safe operating condition and free from any defect that may affect the safety of its users as well as those working around the tools and equipment. This work instruction applies to all project sites where the company operates.

2.0 REFERENCE

Occupational Safety and Health Act 1994
Factories and Machinery Amendment Act 2006
Building Operation and Works of Engineering Construction Regulations 1986

3.0 RESPONSIBILITY

Senior Project Manager
Construction Manager
Site Engineer
Site Coordinator
HSSE Officer

4.0 PROCEDURE

Electrical Equipment-Inspection, Testing And Tagging Procedure

All electrical leads shall undergo inspection, testing and tagging by WCT HSSE Officer prior to connection and use on site.

Portable electrical equipment, portable tools, extension leads, generators, welders, etc used on construction work shall be tested and inspected monthly and appropriately tagged.

All electrical testing shall be carried out by a licensed electrical contractor approved by the company. The tests shall generally include:

- Earth continuity where applicable
- Insulation megger test of active and neutral leads
- Testing of Residual Current Devices (Earth Leaking units)
- Check visually for obvious external damage or component defect in accessories, connectors, plugs or socket

Check that inner cores of flexible supply cords are not exposed and that external sheets are not cut, abraded or damaged in any way. Also, check that unprotected conductors are not in evidence.

Sub-contractors are responsible to maintain all electrical tools and appliances in good working order at all times.

The site shall establish and maintain an electrical tools and equipment register at the project site and this shall be made available for inspection whenever requested.

5.0 DOCUMENTATION

Electrical Tools Inspection Checklist
Electrical Tools Register

5.1.10 WELDING AND CUTTING

WELDING & CUTTING

1.0 PURPOSE AND SCOPE

This work instruction serves as guideline for employees and sub-contractors carrying out welding and hot cutting works at the project site. This work instruction applies to all project sites where the company operates.

2.0 REFERENCE

Factories and Machinery Amendment Act 2006
Building Operations and Works of Engineering Construction Regulations 1986

3.0 RESPONSIBILITY

Senior Project Manager
Construction Manager
Site Engineer
Site Coordinator
HSSE Officer

4.0 PROCEDURE

All employees and sub-contractors shall take necessary safety precautionary measures while carrying out welding and hot cutting works. The employees or sub-contractor shall obtain the Hot Work Permit from the HSSE Officer an approval granted by the Senior Project Manager or his authorized personnel. All the conditions stated in the issuance of the permit shall be fully complied to. The area where such work will be carried shall be carefully inspected before and during the activities being carried out. Any flammable materials within the vicinity shall be removed or protected to prevent fire outbreak. Where appropriate, the area shall be isolated from other activities by means of shielding or similar segregation to prevent the bright ultra violet rays from the welding works being exposed to others working around the area.

Welding and cutting works shall not be carried out near any air extracting fan or mechanical ventilation equipment to prevent any toxic fumes from being extracted into other work space or confined space. The work piece should be well earthed and all equipment should be earthed and insulated.

Wherever gas cylinders are involved, the cylinders shall be placed securely on a trolley or securely fastened to a strong point to prevent the cylinders from toppling over. Gas cylinders shall be located in a well ventilated area and away from the source of heat. The gas cylinders in used must be equipped with flash back arrester apparatus and pressure regulator gauges must be in good working condition. Fuel gas hose and oxygen hose shall be of an approved type, be easily distinguishable and shall not be interchangeable. Hoses shall be inspected at the beginning of each work day and shall be repaired or replaced if defective. Under no circumstances shall any person use oxygen to dust down clothing or one's skin.

Appropriate Personal Protective Equipments including but not limited to suitable hand gloves, face protection, eye protection and respiratory protection requirement shall be strictly observed by the operator and those assisting in carrying out the works.

5.0 DOCUMENTATION

Welding Generator Inspection Checklist
Gas Cylinder Inspection Checklist
Hot Work Permit

5.1.11 WORKING AT HEIGHT

WORKING AT HEIGHT

1.0 PURPOSE AND SCOPE

This Work Instruction serves as a guidance to the project personnel in carrying out work at height activities safely, taking into consideration every factors affecting the safety of personnel, work is being carried out. This Work Instruction covers all project sites where the company has its operations.

2.0 REFERENCE

Factories and Machinery Amendment Act 2006
Building Operation and Works of Engineering Construction Regulation 1986

3.0 RESPONSIBILITY

Senior Project Manager
Construction Manager
Site Engineer
Site Coordinator
HSSE Officer

4.0 PROCEDURE

Fall Protection Procedure

This work instruction defines the activities to be followed by those people required to work on roofs of structures and tanks or where he works in a place, which is over 3m above the ground where there is a danger of his falling from a height.

General

All Contractor and Sub-Contractor employees who are required to supervise and/ or work on the erection of the following activities, that requires access to unprotected areas above three metres from floor or ground level must attend a job orientation, which covers safety requirements for working at height.

- Steel columns, girders, purlins etc.
- Roof and wall cladding
- Crane rails
- Towers
- Electrical ducting and cable trays
- Painting, cleaning etc.

Fall protection

Employees must be provided safe access to and from each work area. Fall protection must be provided when employees are moving from point to point in elevated or unprotected work areas.

The following may prevent limiting exposure to falls:

- Establishing walls, floor and guard rail systems.
- Using approved elevated work platform and aerial lifts.
- Operational change/ pre-planning the work sequence.
- Restricting travel of workers.

When the prevention of a fall hazard is not applicable with respect to the work method, then a Fall Protection System must be installed. The following are examples of acceptable fall protection or systems :

Nets

a) Safety nets may be provided when work places are more than 6 meters above the ground, water surface where the use of ladders, scaffolds, catch platforms or safety harness is impracticable.
b) When a safety net is installed, it should extend at least 2 meters beyond the edge of the work surface, and not more than 6 meters below the work surface.
c) Nets should be hung so that an employee, landing in it, would not strike or contact object or surfaces below the net.
d) Mesh size must be exceed 150mm x 150mm. The net shall withstand a load of 20kN and edge ropes shall have minimum breaking strength of 3000kg.
e) When safety net protection is in place, operations shall not be undertaken until the net has been tested.

Lifelines, harnesses and lanyards

a) Lifelines, harnesses and lanyards shall be used only for employee fall protection.
b) Lifelines, harnesses and lanyards subject to in-service loading shall be removed from services.
c) Lifelines are to be secured, above the point of operation when possible and to an anchorage or structural member, which is capable of supporting a minimum of 3000kg.
d) Lifelines, which may be to abrasion, must be a minimum of 20mm diameter wire core rope. All other lifeline should be a minimum of 16mm diameter wire core rope with a breaking strength of 22kN.
e) Harnesses are to be used, in conjunction with lanyards and lifelines, in such a way as to permit an accidental fall of no more than 1.8m.
f) Harness should not be stored in toolboxes, or on the floor, where they can be easily damaged.
g) A safety harness lanyard must be a minimum of 12 mm nylon or the equivalent, and shall have a minimum tensile strength of 222.2kN minimum.
h) Static's lines
i) Rope climbing devices

Supervisor Planning

Initially employees need to be trained on the following:
a) Fall protection principle
b) Proper usage of the fall protection and/ or prevention system in use for each specific task.
c) Limitations of the protection provided
d) Equipment performance
e) Equipment inspection
Periodic training is necessary as site conditions charge.

Inspection and Maintenance

Fall inspection systems need to be inspected and maintained regularly. Visual inspection before each use shall be performed.

a) Check for
1. Crack, dents, distortions, cuts, frays, burns, etc.
2. Excessive wear
3. Proper operation when applicable

NOTE : If detective or questionable conditions are found, the item should be immediately removed from service, destroyed and replaced.

Weekly maintenance and inspections

a) Weekly inspection will involve a closer and more thorough examination of Fall Protection Systems.
1. Permanent anchor points shall be inspected
2. Appropriate cleaning and maintenance shall be performed

NOTE : Follow manufacturer's maintenance instructions where applicable.

b) Document details of weekly inspections and any maintenance performed.

Scaffolding

All scaffolds shall only be erected, modified or dismantled by a competent scaffolder registered with the Department of Occupational Safety and Health (DOSH) in conjunction with the Scaffolding Erection Permit. After erection, scaffold should be inspected at least once a week and record of each inspection kept.

Scaffolds shall not be erected in such a situation that it will impede the access of emergency vehicles.
Scaffolds shall not be erected on roadways and access ways without the consideration and application of collision protection from vehicles and mobile equipment.
Scaffolds shall not be erected without consideration and application of the relevant Barricade Procedure, and Overhead Work Procedure.
Scaffolds, where exposed to extremes of weather, adverse location conditions, shall not be left in positions for a period in excess of three (3) months without a thorough inspection of components.

Whenever a scaffold is damaged or dislodged by accident, it shall be dismantled to a point where any damage components can be removed and replaced.
Any scaffold component which is damaged as a result of an accident shall be (after investigation) destroyed.

Ladders – Fixed And Portable

Ladders shall only be located in areas for such time as is reasonable to effect the work.
Each overhead work situation where in a ladder is used shall be assessed for Overhead Work Precautions.
"Safety harness and ropes" shall apply whenever any portable ladder is used.
All portable ladders shall be inspected for damage and integrity prior to use on any specific job.
Ladders shall not be used by the unless first inspected and passed by the Sub-Contractor's Supervisor.
Single portable ladders when in use shall be secured by rope to prevent slipping or overbalancing.

Wooden blocks, off cuts, brick, etc. shall not be used to level the feet of any ladder.
Portable ladders shall be placed on a substantial base at a 4:1 pitch, have a clear access top and bottom and extend a minimum of one (1) meter above the egress landing.
All ladders shall be equipped with approved safety feet.

5.0 DOCUMENTATION

Checklist for Scaffolding
Inspection Checklist for Scaffold Erection (Internal)
Inspection Checklist for Scaffolding Dismantling (Internal & External)
Scaffolder Competency Certificate

5.1.12 CONFINED SPACE ENTRY

CONFINED SPACE ENTRY

1.0 PURPOSE AND SCOPE

The confined space entry procedure is designed to establish the essential precautionary measures, necessary for persons to enter and perform any work in confined spaces. This procedure applies to all workplaces of WCT Berhad.

2.0 REFERENCE

Factories and Machinery Amendment Act 2006
Building Operation and Works of Engineering Construction Regulation 1986
Code of Practice for Safe Working in a Confined Space

3.0 RESPONSIBILITIES

The Senior Project Manager shall be responsible to ensure that all works to be carried out in a confined space adhere to this procedure.

The HSSE Officer shall assist the Senior Project Manager to ensure that all necessary tests are being carried out and recorded accordingly.

4.0 PROCEDURES

Definition

Confined space – any vessel or closed space; other than the normal workplace, which is or may be dangerous through one or more of the following:

- The presence of gases, liquids or solids which are flammable, toxic, asphyxiating, radioactive, hot or refrigerated, or;
- Being liable to have the amount of available oxygen reduced to a dangerous level, or;
- Having restricted means of entry or exit.

Where any work has to be done inside any chamber, tank, vat, pit, pressure vessel or other confined space in which dangerous fumes are liable to be present to such an extent as to involve risk to any person being overcome thereby, such confined space shall, unless there is other adequate means of egress, be provided with a manhole; such manhole may be rectangular, oval or circular in shape, and shall not be less than sixteen inches wide or not less than eighteen inches in diameter if circular

Confined Space Entry

The Senior Project Manager shall authorize Confined Space Entry.

The supervisor of the work or the subcontractor's supervisor shall obtain the approved Confined Space Entry Permit using the prescribed form of his procedure.

All confined space areas shall be treated as if they are contaminated or oxygen deficient until proven otherwise through testing.

If oxygen level is below 20% respiratory equipment shall be worn.

The Supervisor responsible for the work shall ensure the safety of all entrants into a confined space, through ensuring the "Hole Watch" is part of the work party, identification and control of all entry hazards, such as tools, equipment etc. and by enforcing all permit requirements. The Supervisor shall only authorize entry into a confined space by signing the permit and ensure removal of all authorized entrants should the conditions deteriorate. The Supervisor shall cancel the permit upon completion of the work. Personnel entering into a confined space follow the instructions of the Supervisor responsible and comply with all permit requirements. Personnel entering a confined space shall be trained in the use respiratory apparatus and shall be equipped with a lifeline to the Standby personnel (Hole Watch) outside

Supervisor shall assign a trained Hole Watch, who shall be identified with a coloured vest, be a member of the workgroup named in the permit and whose principal duties shall be as follows:

- To ensure personnel entering the confined space "log in" and "log out" and monitor the activities in the confined space and the surrounding areas

- Upon obtaining the approved Confined Space Entry Permit the Hole Watch shall monitor for oxygen content, using atmosphere monitoring detector, at 30 minutes intervals once work has commenced and after breaks taken by the work group

- The lamps used inside the confined space shall be fitted with a protective shield and be explosion proof where appropriate. Flood lighting shall be avoided in areas where high surface temperature could be hazardous.

- The Supervisor shall return the Permit to the Issuing Authority at the end of the work

5.0 RECORDS

All permits issued out shall be returned to the Issuing Authority and cancelled accordingly upon completion of the work.

The Issuing Authority shall ensure that the area are properly secured before cancellation and closing of the Permit.

All records shall be maintained by the Issuing Authority for future reference.

6.0 DOCUMENTATION

Confined Space Entry Permit
Confined Space Log

5.1.13 RADIOGRAPHY

RADIOGRAPHY

1.0 PURPOSE AND SCOPE

The purpose of this procedure is to ensure the adequacy of provision for control of radiography activities at the workplace. Radiation safety procedures have been prepared for the safe use of radioactive substances or for the safe use of irradiating apparatus within the company. This procedure shall apply to all WCT Berhad worksites and WCT contractor responsible for the transport, handling or use of radioactive substances or irradiating apparatus.

2.0 REFERENCE

Occupational Safety and Health Act 1994 and applicable Regulations
Factories and Machinery Amendment Act 2006 and applicable Regulations
Atomic Energy Licensing Act 1984

3.0 RESPONSIBILITY

a) Senior Project Manager
b) HSSE Officer

4.0 PROCEDURE

To control work in radiation areas, the following general principles shall be used:

The Radiation Protection Officer (RPO) shall be responsible for procuring the Radiography Permit before commencement of any radiography activity.

Radioactive Equipment and material shall be handled by the authorized Radiation Protection Officer (RPO) as required by the Atomic Energy Licensing Board Act 1984, and observed the appropriate procedures and clearance requirements through Radiography Permit controlled by WCT HSSE Officer.

Radiography permits shall not be issued until the area of the work has been checked and all personnel, other than personnel performing the radiography work are directed out of the work area. All site personnel are to comply with the Radiography Permit requirements.

The RPO shall be responsible for establishing boundaries around the radiography work area with barricade and installing radiography signs and warning lights to warn personnel that radiography work is in progress.

Operators and employees shall acquaint themselves with and obey all notices displayed in places they occupy and all instructions issued to them to protect their safety and the safety of others.

No other work shall be done on or adjacent to radioactive instruments and activities without permission from WCT HSSE Officer.

Operators shall report all defects in equipment that come to their notice which they believe are likely to cause a radiation exposure or contribute to one arising.

Operators shall use in a manner required by the statutory authority devices or equipment furnished to them to assess their personal radiation exposure.

5.0 DOCUMENTATION

Radiation / Radiography

5.1.14 DISMANTLING FORMWORK

DISMANTLING FORMWORK

1.0 PURPOSE AND SCOPE

The purpose of this procedure is to ensure the adequacy of provision for control of formwork dismantling activities at site. Formwork dismantling safety procedures have been prepared to ensure no collapse of beam, column or slab after being concreted. This procedure shall apply to all WCT worksites and WCT contractors responsible for the building and structure works.

2.0 REFERENCE

Occupational Safety and Health Act 1994 and applicable Regulations;
Factories and Machinery Amendment Act 2006 and applicable Regulations

3.0 RESPONSIBILITY

a) Senior Project Manager
b) Construction Manager
c) HSSE Officer
d) Site Engineers
e) Site Coordinators

4.0 PROCEDURE

To control the activity of formwork dismantling, the following general principles shall be used:

The area where slab, beam or column has been concreted must be identified with signage, safety barricade and warning signage and also be treated as prohibited area.

No one shall be allowed to remove or dismantled any bracing, support or scaffolding.

Dismantling permit shall be obtained before stripping of formwork be allowed to proceed.

Stripping of formwork shall not commence until the concrete is fully set in accordance with the Professional Engineer's specification and approved by him prior to such stripping.

There should be adequate lighting in case the work area is dark.

A supervisor must attend to the dismantling works from the beginning until the end of the dismantling activity.

The work supervisor together with the HSSE Officer shall inspect the work area to identify the section of the formwork to be stripped.

The Construction Manager or the Senior Project Manager must endorse the Dismantling Formwork Permit, before any stripping works are permitted.

Stripped forms shall be removed or stockpiled promptly after stripping in all areas in which persons are required to work or pass.

Protruding nails, wire ties and other form of accessories not necessary to subsequent work shall be pulled, cut or otherwise made safe.

5.0 DOCUMENTATION

Dismantling Formwork Permit

5.1.15 GUARDRAIL AND BARRICADE

GUARDRAIL AND BARRICADE

1.0 PURPOSE AND SCOPE

This Work Instruction serves as a guidance to the project personnel in how to construct the guardrail, barricade the edge protection for the stairways and floor openings. This Work Instruction covers all project sites where the company has its operations.

2.0 REFERENCE

Factories and Machinery Act 1967 (Amendment 2006)
Building Operation and Works of Engineering Construction Regulation 1986
Factories and Machinery Act 1967 (Safety, Health and Welfare Regulation 1970)
OSHA Act 1994 Section (15/2) (a) (b)
Factories and Machinery Act 1967 (Fencing of Machinery and Safety Regulation)

3.0 RESPONSIBILITY

Senior Project Manager
Construction Manager
Site Engineer
Site Coordinator
HSSE Officer
Sub-Contractors

4.0 PROCEDURE

GENERAL

This procedure is designed to secure and preventing any person from falling through this area:-

- Stairway
- Stairway Opening
- Floor Opening
- Edge of the building
- Any places where a person is liable to fall.

Construction Requirement:

1) Opening

All stairway opening is to be closed and barricade using short frame scaffold with the jack base to be nail to the floor surface. The barricade should be surrounding the opening and to have a toe board and proper signages to be installed. The opening are to be closed using timber (size 2mm x 5mm) nail to the concrete slab and a plywood size 5mm to be nail on top of the timber.

2) Building Edge Protection

All building edge where a person is liable to fall has to be barricade and proper warning signages to be installed. Edge protection should be use G.I Pipe with jack base nail to the slab. The barricade should consist of 3 feet 5 inches height of guardrail and the midrail should be alteast 1 feet 9 inches height.

3) Stairway Handrail

The handrail of every stairway shall be continous provided throughout the stairway and shall have a smooth un-obstructed surface. To be constructed using G.I Pipe with jack base nail to the slab. The barricade should consist of 3 feet 5 inches height of guardrail and the midrail should be at least 1 feet 9 inches height.

5.0 DOCUMENTATION

Daily Work Place Safety Audit Checklist

5.1.16 OCCUPATIONAL DISEASES

OCCUPATIONAL DISEASES

1.0 PURPOSE AND SCOPE

This work instruction serves as guidelines for employees and sub-contractors which may expose to the Occupational Diseases. This work instruction applies to all project sites where the company operates.

2.0 REFERENCE

Occupational Safety and Health Act 1970

3.0 RESPONSIBILITY

Senior Project Manager
Construction Manager
Site Engineer
Site Coordinator
HSSE Officer
Sub-contractors

4.0 PROCEDURE

Type of normal Occupational Disease found are as bellow:

a) Occupational Skin Diseases
b) Disease caused by Biological agent
c) Occupational Lung Diseases
d) Disease caused by Chemical agents
e) Disease caused by Physical agents
f) Ergonomic
g) Occupational Cancer

To prevent the Occupational Diseases, this contain safety preventative measurement shall be taken are as bellow:

a) Using the hierarchy of control
b) Medical Surveillance
c) Safety precaution (which has been stated in the CSDS / MSDS)
d) Chemical Exposure Monitoring Report
e) Noise Monitoring Report
f) Proper design of work station
g) Using of proper hoisting mechanism
h) Training of Ergonomic and health effect due to occupational

5.0 DOCUMENTATION

CHRA
Chemical Exposure Monitoring Report
Medical Surveillance Report

5.1.17 PILING WORKS

PILING WORKS

1.0 PURPOSE AND SCOPE

This Work Instruction serves as a guidance to the project personnel in carrying out piling activities safely, taking into consideration every factors affecting the safety of personnel, machinery as well as properties where the piling work is being carried out. This Work Instruction covers all project sites where the company has its operations.

2.0 REFERENCE

Occupational Safety and Health Act 1970

3.0 RESPONSIBILITY

Senior Project Manager
Construction Manager
Site Engineer
Site Coordinator
HSSE Officer

4.0 PROCEDURE

Piling Requirements

Personnel other than piling crews shall stay away when activities start. While in operation, piling must be attended at all times.

When piling equipment is being moved from one area to another, equipment must be secured and in a safe position.

In the case, there is malfunction of equipment and untoward situations, piling activity shall be stop.

Piling equipment and accessories shall be enclosed with barricades at all times while at the site. Storage of piling materials such as pipes, hoses, etc. shall be properly arranged so as not to obstruct vehicular/ traffic pathways.

A clear access for ambulance or any medical van shall be provided to the job site.

Excess water if found safe shall be disposed in the surface drainage system to the existing separation.

Ensure that all safety precautions outlined above are in place prior to commence piling.

5.0 DOCUMENTATION

Plant Construction Safety Piling Frame Inspection

5.1.18 PRE – TASK PLANNING

PRE-TASK PLANNING

1.0 PURPOSE AND SCOPE

This work instruction serves as a guidance to the project personnel in carrying out the pre-task planning for activities which are high risk potential. This work instruction covers all project sites where the company has its operation.

2.0 REFERENCE

FMA 2006
OSHA 1994
All other related procedures in the Project Safety Plan.

3.0 RESPONSIBILITY

Senior Project Manager
Construction Manager
Relevant Head of Department
HSSE Officer
Employee
The Manager / Head of Department of Sub-contractor

4.0 PROCEDURE

The pre-task planning should be conducted for all activities which has potential of high risk. The goal of pre-task planning is to reduce risk, which will minimize disruption, increase efficiency and lower cost. It looks at potential risk in the operational plan, construction procedures or work processes and either eliminates them or provides controls that will minimize their adverse effect. Exposure resulting from procedures and work methods are anticipated and reviews of applicable safety program elements are made to make sure that the operations are in compliance with safety & health requirement. The planning looks at the when, how, who, where and what of the construction process.

The pre-task planning should be carried out but not limited to the following tasks :-

1. Working at height more than 3 metre.
2. Excavation work more than 1.5 metre depth.
3. Erection / Dismantling of scaffold more than 3 metre.
4. Erection / Dismantling of Tower Crane.
5. Installation of the loading platform.

6. Installation of the catch platform.
7. Confined space.
8. Welding and cutting activities.
9. Lifting of abnormal materials such as steel structure, pre-cast concrete and launching beam.
10. Any other activities which the project team which identified as high risk potential.

The pre-planning should be carried out before any work started in the field, at the beginning of each major phase of construction and before each individual task.

5.0 DOCUMENTATION

Pre task planning checklist.

5.1.19 LOCKOUT / TACKOUT

LOCKOUT/TAGOUT PROCEDURE

1.0 PURPOSE AND SCOPE

The purpose of this work instruction is to ensure that the requirement for lockout of energy sources that could cause injury to personnel shall be comply by all employees.. This work instruction applies to all project sites where the company operates.

2.0 REFERENCE

Occupational Safety and Health Act 1994
Factories and Machinery Amendment Act 2006

3.0 RESPONSIBILITY

Senior Project Manager
Construction Manager
Site Engineer
Site Coordinator
HSSE Officer

4.0 PROCEDURE

A)Preparation for Lockout.

Employees authorised to perform lockout shall be certain as which switch,valve or other energy isolating devices apply to the equipment being locked out. If there are more than one energy sources involved the authorized employee should get cleared advise from the supervisors.

B)Squence of Lockout

- Notify all affected employees that lockout is required and the reason.
- If the equipment is operating,shut it down by normal stopping procedure.
- Lockout energy isolating devices with an assigned individual lock.
- After ensuring that no personnel are exposed and as a check on having disconnected the energy sources,operate the push button or other normal operating controls to make certain that the equipment will not operate.
- The equipment is now lockout.

C)Restoring Equipment to Service.

When the job is complete and equipment is ready for testing or normal service,check the area to equipment area to see that no one is exposed and when the equipment is clear,remove all locks and start operating as normal.

5.0 DOCUMENTATION

Permit To work
Pre task Planing