LANDSAR DEVELOPERS LIMITED

HEALTH & SAFETY MANAGEMENT SYSTEM

OCCUPATIONAL HEALTH AND SAFETY POLICY

Construction Management

01-Mar-14

This manual sets out the procedures for the safe operation of LANDSAR DEVELOPERS LIMITED and its business partners. Its purpose is to provide a safe method of work for all general operations and specific tasks that are covered by instructions issued under the authority of the Managing Director and the Construction Management team

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SYNOPSIS

INTRODUCTION

LANDSAR DEVELOPERS LIMITED (LDL) has defined the procedures by which it controls the work carried out within its construction sites. The principles for personal behaviour are outlined in the LDL's In-House Safety Rules and Regulations for all personnel to abide by and formed part of the Health and Safety Management System manual (HSMS). This HSMS manual also contains the objectives in formulating job-related procedures, which must be followed by all employees and business partners involved in their respective types of work within its scope.

Purpose

This manual sets out the procedures for the safe operation of **LANDSAR DEVELOPERS LIMITED** and its business partners. Its purpose is to provide a safe method of work for all general operations and specific tasks that are covered by instructions issued under the authority of the Managing Director and the Construction Management team. The procedures are designed to protect:

- the health and safety of personnel;
- the assets which are necessary for the Company's operations; and
- the Company's ability to continue in operation giving good service to our client.

LANDSAR DEVELOPERS LIMITED (LDL) will implement this management system in accordance with *Section 2(3) of the Health and Safety at Work Act 1974* and all common law duties of care and Good Practices.

Scope

The procedures apply to all activities within the construction site premises, whether carried out by **Landsar Developers Limited** employees, sub-contractors, short-term workers or advisors.

SAFETY POLICY

PURPOSE

Fundamental to the success of any business is the health and safety of its employees and everyone else affected by the business activities. With this belief, LANDSAR DEVELOPERS LTD (LDL) attaches great importance to the Health and Safety of its employees, clients, visitors and subcontractors, and will take all reasonable steps to prevent injury, illness and protect everyone from hazards to provide a healthy environment on both its headquarters and construction sites. At LDL, we believe there is no conflict between our requirement to keep our workforce as well as members of the public safe and our long term financial success. We are of the belief that nothing that we do is so important that it cannot be done safely.

LDL's policy is, at all times, to conduct its operations safely, protecting the health of employees and all other persons who may be affected by them. We will achieve this policy by:

1. Providing exemplary and encouraging leadership;
2. Meeting and, whenever possible, exceed the minimum standards set by the Health and Safety laws and supporting regulations;
3. Identifying the hazards associated with our activities and removing or reducing the risk where possible;
4. Communicating and engaging with our employees (who are our key asset), our business partners and our supply chain on issues affecting their health and safety;
5. Establishing robust arrangements for the management of risks that remain;
6. Ensuring everyone understands how to keep themselves and others safe and healthy;
7. Providing Health and Safety training for our employees to ensure that they are competent to meet the LDL's Health and Safety obligations;
8. Making Health and Safety requirements our priority, where risk assessment has demonstrated that risk levels are unacceptably high, over all other business requirements;
9. Seeking continuous improvement in our Health and Safety performance and promote a safe and healthy working environment;

10. Ensuring the appointment of competent persons to assist us in meeting our statutory duties;
11. Ensuring the provision of adequate financial and physical resources to meet our safety needs;
12. And recognise the Managing Director will act as Health and Safety champion and through General Management and Supervisors who has day to day responsibility, provide executive support to the Board to enable them to fulfil their responsibilities

We will review this policy on an annual basis (See Appendix A). Guided by these objectives, we will continuously strive to eliminate the realistic likelihood of serious injury as a result of our operations.

Our Health and safety management system is developed to ensure compliance with the Health and Safety at Work Act 1974 and the client's requirement to all our construction operations and services. Our HSMS outlines amongst other policies the provisions for first aid, fire precautions and risk assessments. It is mandatory for all employees and business partners to familiarise and adhere to Landsar Developers' HSMS. However, LDL will carry out all reasonable measures to protect the Health and Safety of all its stakeholders.

DUTIES AND RESPONSIBILITIES

Establishing the duties and responsibilities amongst the various personnel helps us meet our first objective of "*providing exemplary and encouraging leadership"*. Figure 1 shows LDL's Organisational Structure.

Managing Director/General Manager

i. In-charge of the overall safety management in the company;
ii. Direct the implementation of the company's safety programme and procedures;
iii. Review and update the company's safety policy and other related duties as required by the relevant authorities;
iv. Holds executive responsibilities and authorises expenditures for safety; and
v. Approves safety policies, programs and the Health and Safety Management System.

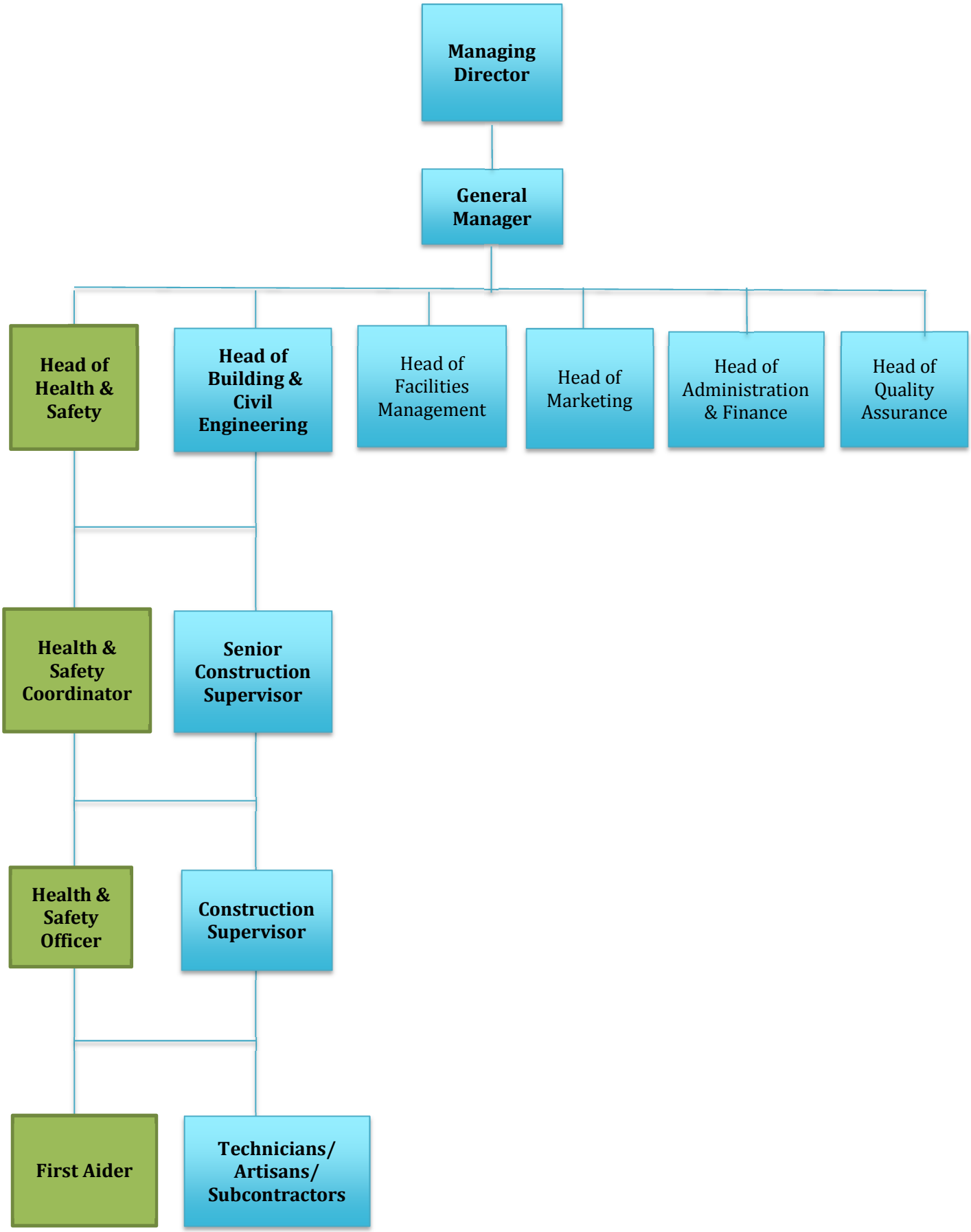

Figure 1: Organisational Structure of LDL

Head of Health and Safety

i. Implement the company's safety management program and procedures;
ii. Act as the secretary of safety committee;
iii. Lead and execute the overall safety programme;
iv. Conduct regular inspections and audits on safety provisions; and
v. Be the Chairman of safety committee and take follow-up action on safety matters discussed;
vi. Monitor the conduct of toolbox meeting;
vii. Responsible for the Health and Safety at all construction sites and compliance of Health and Safety Regulations and other relevant legislation.
viii. Ensures safety takes precedence over work operations;
ix. Ensures compliance of all parties and subcontractors by adhering to the company's safety control system and safe work practices;
x. Organise safety patrol and inspection programs and enforce the company's safety rules and regulations;
xi. Lead investigation of all incidents on all construction sites;
xii. Implement corrective action to prevent recurrence of accidents and incidents; and
xiii. Review Health and Safety Management System periodically.

Health and Safety (H&S) Coordinators

i. Act as assistant secretary of safety committee;
ii. Conduct periodic inspection and act on unsafe acts and conditions;
iii. Train and monitor workers work practices;
iv. Maintain and monitor safety records and checklist;
v. Take instruction from Head of Health and Safety on issues related to safety matters;
vi. Check each sub-contractor's work plan or work procedure from the safety point of view and advise the person in charge during progress of work;
vii. Promotes safe conduct of work within the construction site; and
viii. Attend the safety meeting to contribute the work site safe working condition;

Health and Safety (H&S) Officer

i. Conduct daily toolbox meeting;
ii. Conduct daily inspection and act on unsafe acts and conditions;
iii. Rectify any unsafe condition and correct any unsafe practice immediately;
iv. Monitor workers' work practices;
v. Maintain and monitor safety records and checklist;
vi. Take instruction from Health and Safety Coordinator on issues related to safety matters;
vii. Check each sub-contractor's work plan or work procedure from the safety point of view and advise the person in charge during progress of work;
viii. Promotes safe conduct of work within the construction site;
ix. Attend the safety meeting to contribute the work site safe working condition;
x. Construction site supervisors shall patrol the site daily and check ensure the compliance of elements of Health and Safety Management System, Health and Safety Regulations and other related legislation; and
xi. Results of safety patrol shall be recorded in safety inspection checklists. Any safety discrepancies spotted shall be recorded in appropriate forms and pursue on corrective actions required.

Sub-Contractors Supervisor

i. Ensure compliance of safety provisions at their work areas;
ii. Conduct daily inspection and act on unsafe acts and conditions;
iii. Conduct daily toolbox meeting;
iv. Monitor workers for safe work practices;
v. Ensure safe work practices during operations under his control;
vi. Ensure compliance of the Health and Safety Management System, Health and Safety Regulations and other related legislation;
vii. Take instructions from site safety personnel pertaining to safety matters;
viii. Ensure safety provisions are adequately provided and maintained;
ix. Ensure workers under his control are trained in safety;
x. Observe all safety procedure and report any unsafe conditions and practices; and
xi. Attends safety committee meetings and participates in safety promotional activities.

First Aiders

i. to provide first aid to employees, as trained;
ii. to ensure that the first aid kits and accident book are maintained; and,
iii. to report serious accidents to Management and assist with their reporting under the Reporting of Injuries, Diseases and Dangerous Occurrences Regulations (RIDDOR) 1995. Where required, assist in any accident investigation.

All Employees

i. It is their primary duty to wear and make use of all Personal Protective Equipment (PPEs) issued by the company while carrying out their duties;
ii. All equipment and hand tools must be kept in good condition;
iii. They must observe all safety precautions and report any unsafe conditions immediately;
iv. All injuries, accident or dangerous occurrence must be reported immediately; and
v. All workers must undergo the compulsory Health and Safety Orientation Course.

SAFE WORK PRACTICES

PURPOSE

The objective of establishing safe work practices is to eliminate or reduce to a minimum level the risk of death, injury, or damage to people and/or assets during the performance of their operations and services at all our construction sites. It also served as a prescribed instruction for the different trades of personnel working to follow and abide when they carry out their work.

LDL has established safe work practices for different trades to follow. However, all employees, suppliers and subcontractors are required to follow a general safe work practices submitted by the Head of Health and Safety which are incorporated and forms part of this HSMS. This will prevent unnecessary inconveniences for any personnel or contractor in carrying out the work method for their related jobs.

This plan is not meant to be all encompassing and therefore during the course of the construction services and operations, additional safe work practices may be issued by **LDL**. All deviations from the plan must be approved in writing by **LDL** Safety Department, prior to the work being performed.

PROCEDURE FOR GENERAL WORK PRACTICES

i. A survey of the site vicinity will be made and measures will be taken to ensure public safety;
ii. Hoarding/fencing/barricading will be provided around the construction site boundary with warning signs posted to protect members of the public from the construction works;
iii. A plan will developed illustrate how vehicles can be kept clear of pedestrians at vehicle loading/unloading areas, parking and manoeuvring places and areas where drivers' vision may be obstructed;
iv. A Site Safety Committee will be formed and comprises representatives from the site management team and all trades of subcontractors;
v. Personal Protective Equipment (PPE) such as safety helmets, High-visibility vests, belts, gloves, earplugs etc. will be issued to all workers exposed to hazards;
vi. A First Aider will be deployed with adequate First Aid kits. The number of qualified First Aiders to be deployed will depend on the risk of injury and ill health on site. As a guide:

Numbers employed at any location	Number of first aid personnel
Fewer than five	At least one appointed person (usually the Construction Supervisor)
5 to 50	At least one first aider (usually the Construction Supervisor)
More than 50	One additional first aider for every 50 employed

Figure 2: First Aider's Deployment Guide

vii. All materials and equipment will be stored in designated areas away from access. They will be stacked in such a manner not to cause obstruction and hazards to personnel;

viii. Daily housekeeping program will be maintained;

ix. All working tools will be maintained and workers will be briefed on their correct use.

x. All moving parts of plants and equipment will be fitted with protective guards.

xi. A qualified and authorised electrician(s) will carry out all electrical installation;

xii. Electrical equipment will be well assembled and of sound working condition, free from defects and maintained according to the manufacturer's instructions;

xiii. Sufficient sanitary and washing facilities shall be provided and maintained and kept clean at all times;

xiv. Fire extinguishers shall be provided for all construction sites, and will be located at identified fire points around the site. Nominated people will be trained in how to use extinguishers. The extinguishers provided will be appropriate to the nature of the potential fire:

- Wood, paper and cloth → water extinguisher;
- Flammable liquids → dry powder or foam extinguisher;
- Electrical → carbon dioxide (CO_2) extinguisher.

xv. Site rules will be arranged for all sites according to the company's In-House Rules and Regulation especially where their business continues at the premises while construction work is in progress. And assurance will be made that everybody knows and follows the rules relevant to them;

xvi. Suitable precautions will be taken to prevent falls. Where it is not possible to avoid work at height or work from an existing structure, general access scaffolds, and stepladders are among the most commonly used pieces of access equipment on construction sites when working at height while preventing falls, and will be provided whenever practicable;

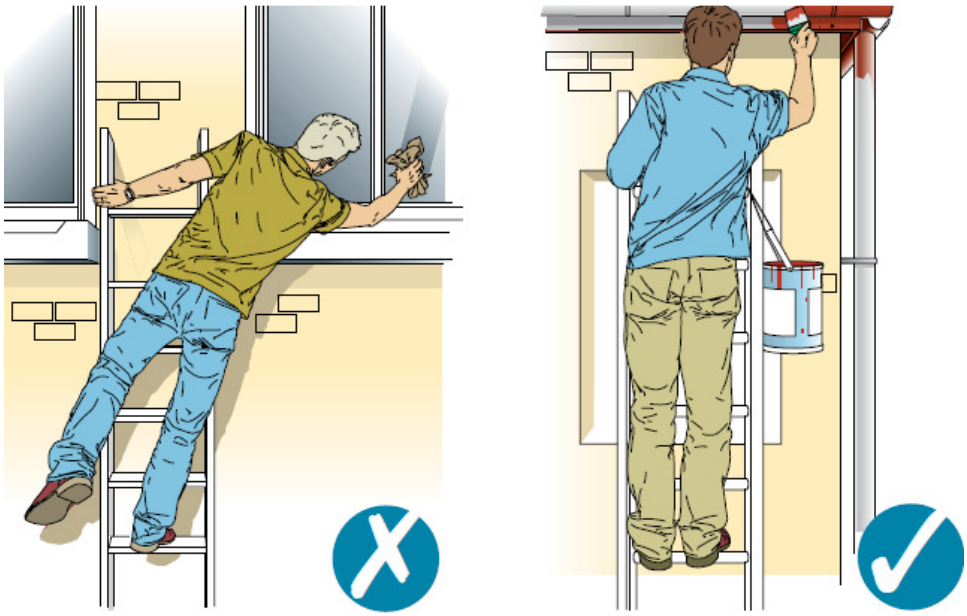

Figure 3: General Work Practices

xvii. Emergency plan procedures will be devised before work begins on all construction sites which will require the evacuation of the site or part of the site, and the rescue of an injured person; and

xviii. All employees will be trained in emergency evacuation plans, signals, safe assembly point, reporting procedures, and emergency shutdown of equipment or operations. Employee will be trained in emergency procedures initially and at least annually thereafter.

Plant/ Machinery/ Equipment

i. All reasonable steps will be taken to secure the health and safety of employees who use, operate or maintain plant, machinery and equipment.

ii. **LDL** acknowledges that work can be hazardous and it is therefore the company's intention to reduce the risks as far as practicable.

iii. All plant, machinery and equipment provided for use in the workplace will be subject to a system of inspection, service and maintenance, as recommended by the manufacturer or competent engineer.

iv. Records of the inspections, service and maintenance, including statutory inspections will be maintained.

Noise

i. Where practicable, noise levels will be maintained below the first action level of 80 decibels.

ii. All employees, contractors and visitors will obey any instructions and warning notices with regard to wearing of hearing protection in designated areas.

iii. Ensure plant and equipment is selected and maintained to minimise noise levels and employees have been instructed in their use.

iv. Ensure suitable ear protection is supplied for the conditions of exposure.

v. Ensure adequate means of communication in noisy environments, especially if relevant alarm sounds may need to be heard.

vi. Workplace management and supervisors will ensure compliance with any noise levels and periods of permitted noise activities laid down by local authorities, in order to prevent noise pollution.

Manual Handling

i. **LDL** will, so far as reasonably practicable, ensure arrangements are made to reduce the risk to employees' health.

ii. Manual handling tasks by employees will, where practicable, be eliminated or reduced to a minimum.

iii. Where manual handling tasks are necessary, a risk assessment must be completed and identified control measures implemented. These may include:

- Provision of mechanical aids, (trolleys, etc.);
- Provision of sufficient persons to undertake lift;
- Provision of proper handles handholds;
- Provision of a carrying device;
- Secure items, to prevent load shifting;
- Reduce the size of load to be lifted, e.g. split into smaller bags; and
- Provision of Personal Protective Equipment (PPE), e.g. gloves.

Lone Working

i. There is no general prohibition on a person working alone, although there are specific instances where legislation requires more than one person to be involved in the operation or activity;

ii. In certain cases, lone working is not permissible and the worker will be physically supervised, i.e., young person, person undergoing training; and

iii. Risk assessments must be carried out for lone working and control measures put in place prior to work commencing. Lone workers should not be exposed to more risks than a group of employees working together.

Young Persons

In accordance with the Management of Health and Safety at Work Regulations 1999, **LDL** shall **NOT** employ child labour on their projects.

Alcohol and Drug Abuse

i. Alcohol or drug abuse by employees and contractors (including supervisory and management staff) can adversely affect the health and safety of themselves or others in the workplace. Therefore, it is the policy of Landsar that alcohol or drugs are prohibited in the workplace at any time.

ii. Any persons known to be, or strongly suspected of being affected by alcohol or drugs must be referred to the appropriate manager who will arrange for the person to be removed from the workplace.

Stress

i. At work, an employee who is severely stressed could become a danger to themselves, as well as to others in the workplace;

ii. **LDL** has a responsibility to control the health, safety and welfare of their employees and this includes looking at the impact of stress at work;

iii. Where the physical and behavioural conditions of a working environment are stressful (e.g., lack of communication, hazards inappropriately controlled) each employee is responsible to inform management or supervisory staff;

iv. Any persons known to be, or strongly suspected of being, affected by stress should be referred to the appropriate manager who will arrange for the person to be monitored with appropriate action being taken; and

v. It shall be **LDL**'s policy to regularly review each employee's work performance and workload. Employees should be given every chance to air their views and grievances at these reviews.

GROUP MEETING

PURPOSE

The objective of group meetings is to assemble persons with particular responsibilities for safety so that they can formally address issues and take appropriate actions towards the achievement of the site Health and Safety Management objectives.

The following are the main meetings by which health and safety issues are raised for discussion and communication to the personnel affected by them.

1. Safety & Security Steering Committee Meeting;
2. Project Safety Committee Meeting;
3. Subcontractor Safety Committee Meeting;
4. Total Safety Task Instruction (TSTI);
5. Daily Tool-box Meeting;
6. Technical Committee Meeting.

LANDSAR DEVELOPERS LTD. (LDL) SAFETY COMMITTEE

The **LDL** Safety Committee will be formulated to meet quarterly to discuss major issues in relation to Safety & Health with the Company's various construction sites. This committee shall function whenever the total workforce in the construction site is 20 or more workers (or as and when required). This committee will function with both the employees and management present for the purpose of keeping under review circumstances on the various construction sites that may affect the safety or health of persons employed at the construction site.

This committee shall be effected to:-

- Promote co-operation in achieving and maintaining a safe and healthy working conditions in the work site between management and persons appointed to work in the various construction sites; and
- Carry out from time to time inspection at the construction sites in the interest of the H&S of persons so employed and to inspect the scene of any accident or dangerous occurrence.

LDL shall provide facilities and assistance as the committee may reasonably require for the purpose of carrying out its functions.

The safety committee may, on completion of the inspection, make and sign a record of the inspection stating:-

- the date of the inspection;
- the parts of the work site inspected; and
- anything disclosed by the inspection which in its opinion was at the date of the inspection prejudicial to the safety or health of persons employed on the work site.

A register shall be provided in which such record shall be entered. See Appendix C for Health & Safety Inspection Checklist template.

Composition of the LDL Safety Committee

Safety committee shall comprise of the following persons:-

- Managing Director/General Manager - Chairman of the committee
- Head of Health & Safety - secretary of the committee
- H&S Coordinator - assistant to the secretary
- H&S Officer - member of the committee
- First Aider - member of the committee
- Subcontractor's Rep. - members of the committee
- Workers' Representatives - members of the committee

Project Safety Committee Meeting

The Safety Committee meetings shall be held once quarterly. Prior to the safety committee meeting, all safety committee members will go for the joint site inspection. The company will organize a Safety Committee with the following aims:

- Confirm whether the Safety and Health management is being properly carried out by all parties concerned.
- Ensure that all construction operations and services are being performed safely and efficiently, complying with safety rules and regulations.
- Conduct safety inspections of the entire construction site prior to the meeting.
- Coordinate and control congested or hazardous working conditions of the Subcontractors.

- Discussing all Safety and Health matters raised by members, employees or other persons with the view of recommending appropriate action.
- Increase subcontractors' safety knowledge and safety awareness.
- Enforce the Safety Training Program.
- Participate in and assist in the organization of Safety Promotional Activities.
- Promote and maintain housekeeping and waste disposal to the highest standards.
- Inspect scene of accidents/incidents and taking follow up on action.

By encouraging a strong group of **LDL** Safety Committee, issues concerning safety may be resolved prior to their becoming disruptive to construction operations and services. This will not only promote safer operations and services, but it raises the level of safety consciousness and encourages personnel on site to be constructive rather than critical.

The following procedures apply to the meeting of the Project Safety Committee:

- At least one week before the meeting, the Head of Health & Safety or his nominee asks the members for items and issues to be included in the agenda. The agenda includes each item discussed at the previous meeting unless the meeting has taken the decision that the action on that item is complete and the minute record the decision. The agenda contains particularly:-
  - Confirmation of minutes;
  - Progress on actions from the previous meeting
  - High risk work on activity;
  - Incident/Accident review and corrective action;
  - Hazards identified;
  - Future activities
  - Any other business
  - Date of next meeting.
- The meeting considers each item on the agenda and, on the basis of the facts presented, decides to recommend action, hold the item for a future meeting to allow time for information gathering, or decides to drop the item. It is important that the meeting has facts, rather than conjecture, on which to base its discussion and recommendations. In the absence of firm

information, it should allocate the responsibility for the collection and submission of the information to an individual or team and ensure that the item is reviewed at the next meeting.

- The Secretary is responsible for the preparation of the minutes, which are circulated to the members with a copy being retained in the official file. Copies are available to any person within the site, with the reasonable cause for access to them.
- Members will assist the Chairman in the implementation of the Safety Management Program and provide constant surveillance in the field on all matters pertaining to safety, fire and health concerns on the construction work site.

Subcontractor Safety Committee Meeting

All direct Subcontractors of **LDL** having more than 50 employees (approximate) involved on our construction sites will be required to establish its Safety Committee. This committee is to be represented by the subcontractor's management and supervisory personnel and representatives from their lower tier subcontractors. A representative from **LDL** shall be invited to attend the meeting.

The meeting shall be held once a month preferably after the monthly Project Safety Committee Meeting. The meeting shall be presided over by the subcontractor senior site management.

The primary function of this committee is to ensure that any policy, decision and planned activities agreed in the monthly Project Safety Committee meeting are effectively disseminated to all Subcontractor's employees and implemented. Also, it is an opportunity for subcontractors' management to review its own activities, which effect or may affect the safety or health of their employees, its lower tier subcontractors and, **LDL** and their other subcontractors.

Client's Safety & Security Steering Committee Meeting

LDL will participate in the Client's Safety & Security Steering Committee Meeting. **LDL** shall comply with Client's description and component of the safety meeting, which will include the number of participants required to attend from each party and the frequency of the meetings.

TOOL-BOX MEETING

Toolbox meetings are necessary to maintain a high level of safety awareness on construction sites. The meetings are also very useful to encourage the workforce to actively take part in work site accident prevention.

The construction site Supervisor is to promote a high level of safety awareness by their example, behaviour and encouragement. At toolbox meetings, they are to inform the workforce in their charge on the nature of the hazard and the risks identified by the assessments, the preventative and protective measures, emergency procedures and the relevant competent personnel.

The Construction Site Supervisor shall ensure that at the construction site:-

- Tool Box meetings are scheduled daily at the same time each day and at a suitable workplace venue (See Appendix D);
- Held during normal working hours with provision of 15-20 minutes downtime at the discretion of the Supervisor;
- All the operative level work force will attend their respective Subcontractor Supervisor's toolbox talk;
- Work site supervisor should always give talks on the safety toolbox.
- The number of workers should not be too large. It is recommended that workers should be separated in groups of 10 to 20 workers per safety toolbox talk;
- The toolbox talks should focus on accident prevention and not as a forum to air personal grievances; and
- The toolbox talks are presented in the language and understanding of the operators and workers.

The Toolbox Talks are to encourage participation and discussion of safety matters and should not be restricted to the reading out a list of 'Do's and 'Don'ts'. Subjects for discussion should be chosen on a priority basis. Tool Box topics may be determined at weekly Site Safety Meetings. As required, **LDL** Safety Department to support the presenter will provide subject material. The subject material should vary at each presentation and not be unnecessarily repetitive. Each Toolbox Talk is to be recorded by the nominated Health and Safety champion on a Toolbox Record Sheet. The Tool Box Talks are to be closely monitored by the Construction Manager and Safety Supervisors.

SAFETY TRAINING & EDUCATION

PURPOSE

The objective of safety training is to equip all personnel with the necessary knowledge, skills and attitudes, which will enable them to perform their duties in a manner that do not represent safety hazards.

SAFETY ORIENTATION COURSE FOR CONSTRUCTION OPERATIONS AND SERVICES

All **LDL** and subcontractors' supervisors and employees must attend a site safety orientation, before beginning work at various construction sites. The information provided during the orientation will include but is not limited to such topics as:-

- Company Health and Safety Policy
- In-house Rules and Regulation
- Hazards reporting
- Reporting of all injuries
- Emergency procedures
- Hazard communication
- Safety Incentive Activities and Program including disciplinary measure and incentives.

The orientation shall be given in the main languages used on the project. It will be the responsibility of each subcontractor to provide additional instructors/translators to assist **LDL** personnel during the orientation and subsequent test.

Construction Site Supervisory Staff's Role in Operative's Orientation

The attitude of operatives towards accident prevention depends, a great deal upon the attitude of the Construction Site Supervisory Staff. The Construction Site Supervisor shall take an active interest in the new workers, ensuring that the necessary safety information has been provided and that the new workers are adjusting well to the job.

The following action steps are a part of the Construction Site Supervisory Staff's orientation of the new worker:

- Ask about last job
- Describe the new job

- Show worker around work area and point out hazards
- Introduce worker to others
- Describe basic rules
- Give worker a test run on tools and equipment
- Keep an eye on the new workers, during the first few days
- Check back to see how the worker is coming along.

SAFETY TRAINING FOR H&S COORDINATORS & SUPERVISORS

Management or administrative training is intended to provide the knowledge, motivation, and skill necessary to manage the safety control program. **LDL** Health and Safety coordinators and supervisors are expected to be trained and possess a basic knowledge of;

- Safety Management Systems;
- Safety Inspections; and
- Accident Investigation.

H&S Coordinator's Orientation

All managers assigned to Construction operations and services must be indoctrinated to their responsibilities. Information covered includes:-

- Construction Administrator's safety responsibilities and service requirements;
- Enforcement of safety rules;
- Safety motivation;
- Safe practices for specific crafts;
- Accident reporting/investigation;
- Conducting effective safety meetings;
- **LDL**, and governmental requirements;
- Effects of unsafe acts, conditions and accidents on productivity; and
- Welfare of workers.

All H&S coordinators and supervisors must learn and enforce all **LDL** rules and regulation applicable to their work. They set an example for their subordinates and co-workers by their compliance with work rules and their aggressive leadership in safety.

SAFETY INSPECTION

PURPOSE

The objective of safety inspections is to verify that safety provisions and practices conform to the HSMS and relevant statutory requirements.

LDL shall establish and maintain documented procedures for all safety inspections (i.e. inspection which are statutory requirements under the Health and Safety at Work Act 1974 to ensure that unsafe conditions and practices at the worksite are identified and corrective measures are implemented promptly and effectively.

COMPETENCY OF PERSONNEL CONDUCTING SAFETY INSPECTIONS

LDL will ensure that the safety inspections are carried out by competent persons such as the H&S Coordinators in conjunction with H&S supervisors who are fully conversant with safe work practices, the In-House Rules and Regulations, and Statutory requirements.

The results of such inspections will be recorded and brought to the attention of the Head of Health Safety Coordinator who has responsibilities in the area of work concerned. Any corrective action, which is required to be done, shall be immediately implemented.

TYPES OF INSPECTION

Safety inspections shall include the following:

Daily Routine Inspection of Work Areas

i. The H&S Coordinator shall work out a schedule of daily routine inspections of the site for the H&S Supervisor and Safety Personnel from the sub-contractors under his charge to carry out.
ii. The safety supervisor shall each carry a Site Dairy for use during their safety inspections at all areas of the construction site. The safety supervisor shall record, in his Site Diary, events, which took place during his inspections of the site and in the building.
iii. During the inspections, the safety supervisor shall order for an immediate cease of operation or work if he find that the work is being carried out in an unsafe manner which could endanger the safety of the particular worker or even other workers working in the vicinity of the work area.

iv. The safety supervisor shall then order for an immediate rectification of the unsafe condition or practices before he allows the work to be continued. He shall also record such events in his daily Safety Inspection Checklist report.

Daily Inspection of Intended Work Areas at Construction Sites

i. This inspection shall be carried out by the trade's supervisors of the respective teams or contractors before carrying out works;
ii. During each inspection, these trades supervisors shall ensure that the intended work place is safe for the intended work to be carried out;
iii. Provided with the necessary safety precautions so that the intended works could be carried out safely; and
iv. After having been satisfied with the results of his/her inspection, the trade's supervisors shall notify the H&S Supervisor/Safety Supervisor for approval.

Weekly Inspection by H&S Supervisors Co-ordination Committee Inspection Team

The Safety Committee shall conduct an inspection of the worksite before each meeting. The finding of such inspections shall be recorded and discussed during the meeting. The minutes of the weekly safety committee meeting shall be kept available by the safety supervisor for the visiting Safety Officer upon his/her request.

Safety Committee Inspection

i. The inspection team which represents the safety committee shall spend some time to conduct an inspection of the worksite before each meeting. The finding of such inspections shall be recorded and discussed during the meeting.
ii. The minutes of the monthly safety committee meeting shall be kept available by the safety supervisor for the visiting Construction Works Inspector from Ministry of Works and Housing and other statutory bodies upon their request.

INSPECTION METHODOLOGY

The inspection methodology shall include the following:

i. Safety inspections carried out at a specified frequency and thoroughness commensurate with dynamic and rapid changes of the worksite conditions;

ii. Suitable safety checklists shall be developed and maintained to facilitate the inspection;
iii. The results of the inspection shall be recorded in the checklists and reported to the person responsible to rectify the unsafe conditions and unsafe practices.

FOLLOW-UP SYSTEM

The Company shall establish procedures for the implementation of corrective and preventive actions. The procedures for the corrective and preventive actions shall include:

i. Investigation of the causes of unsafe practices and conditions;
ii. Determination of actions needed to eliminate the cause of non-conformities;
iii. Application of controls to ensure that corrective and preventive actions are taken and that they are effective; and
iv. Monitoring and implementation of the corrective actions.

ACCIDENT INVESTIGATION AND ANALYSIS

GENERAL

Accident/dangerous occurrence investigation is a post-contact activity in terms of accident/dangerous occurrence prevention. Proper investigation will provide the necessary data to identify weakness in the pre-contact elements of the accident chains of events. Quality of investigation and reporting facts are quite frequently insufficient, it is important to improve the quality of the investigation and reporting among all levels of supervision.

DEFINITIONS OF ACCIDENTS

Where an *Accident* in a worksite:

a) causes loss of life to a person employed at the Construction site;
b) disable any such person for more than 3 days from earning full wages at the work at which he was employed; or
c) causes any injury to any person who requires such person to be detained in a hospital for at least 24 hours for observation or treatment.

Classes of Dangerous Occurrences

a) Unplanned drop of tools, equipment, and/or materials from heights exceeding two meters;
b) Collapse or failure or a crane, scaffolds, ladders, hoist, or other appliance used in raising or lowering persons or goods, or any part thereof (except breakage of chain or rope slings), or the overturning of a crane.
c) Explosion or fire causing damage to the structure of any room or place in which persons are employed, or to any machine or plant contained therein, and resulting in the complete suspension of ordinary work in the room or place or stoppage of machinery or plant for not less than 5 hours, where the explosion or fire is due to the ignition of dust, gas or vapour, or the ignition of celluloid or substance composed wholly or in part of celluloid.
d) Electrical short circuit or failure of electrical machinery, plant or apparatus, attended by explosion or fire or causing structural damage thereto, and involving its stoppage or disuse for not less than 5 hours.

PROCEDURES FOR REPORTING AN ACCIDENT

It is the duty of every contractor and everyone else involved in our Construction operations and services to report all accident or dangerous occurrence. If in the case of fatal accident or dangerous occurrences, the Contruction's safety supervisor should immediately:

a) Call for Police and/or Ambulance
b) Call the developer and Safety Officer In-charge.
c) Call the relevant authority

If other than an accident resulting in fatal cases or dangerous occurrences, the Construction's safety supervisor shall

a) submit an accident report to the developer Safety Unit;
b) submit an accident report to the authority;
c) inform the employer if the contractor is not the actual employer, to give notice
   i. to the commissioner in the prescribed form; and
   ii. to his insurer in writing of the occurrence of any accident thereof where the accident results in the death or immediate incapacity of any workman employed by him.

ACCIDENT/DANGEROUS OCCURRENCE INVESTIGATIONS

An Investigation Team will be set up to identify the root causes leading to the accident and making recommendations for additions or modifications to the company safe work practices and safety measures.

The Investigation Team shall comprise the following:

i. Team Leader - Head of Health & Safety;
ii. Asst. Team Leader - H&S Coordinator;
iii. Member - Safety Advisor;
iv. Safety Supervisor;
v. Lifting Supervisor;
vi. Sub-contractor Representative; and
vii. Other personnel which the team may find their attendance necessary.

All findings and investigation will be recorded and filed for future analysis in the Accident Investigation Form (see Appendix E).

ACCIDENT REPORTING FLOW CHART

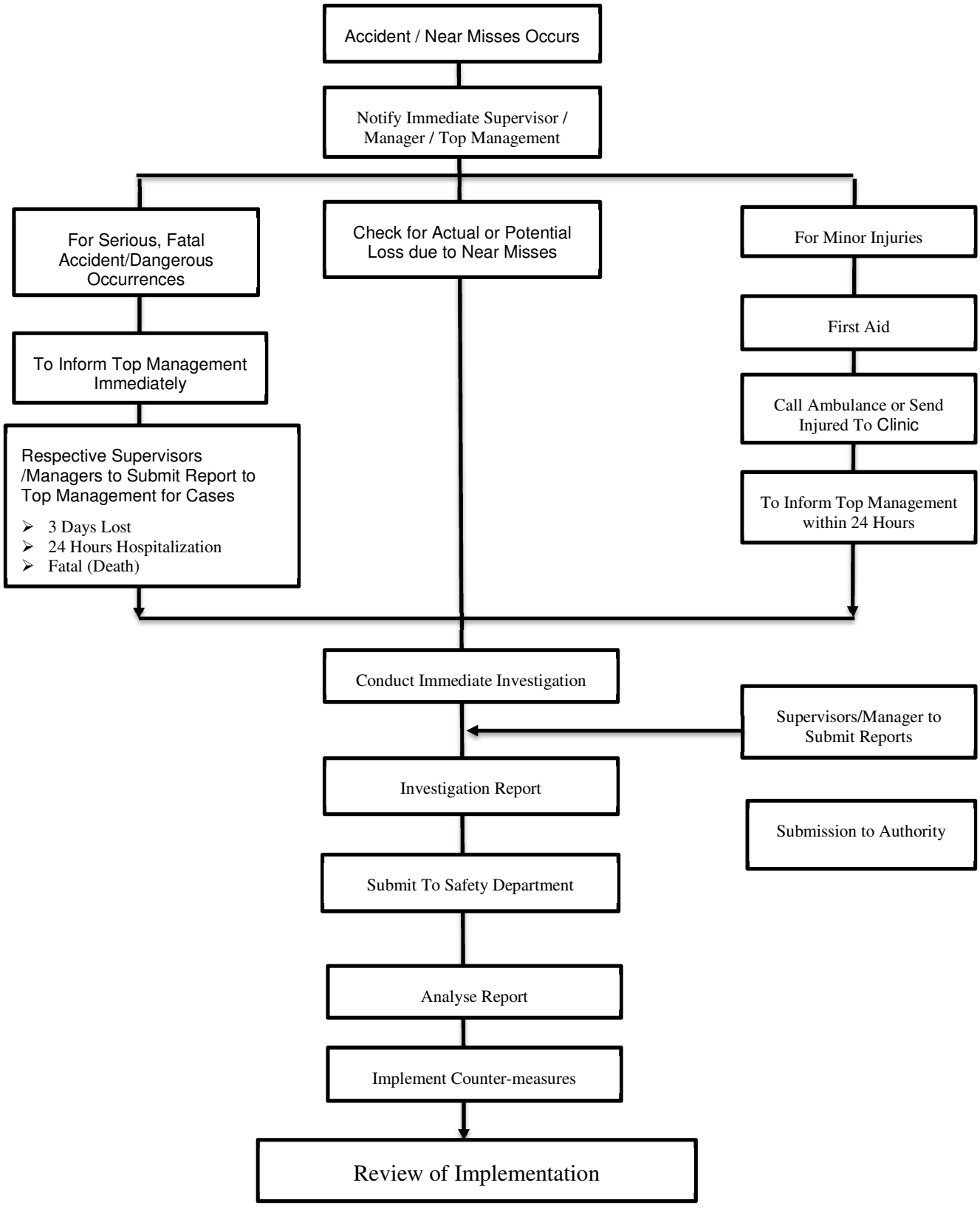

Figure 4: LDL's Accident Reporting Flow Chart

ACCIDENT ANALYSIS

Statistic of accident occurrences is to be kept at the site and company level. Classifications of incidents by types, numbers, agencies, frequency, severity, dates, and time are kept for analytical purposes. This is to monitor the trend of incident occurrence and help to set the database for future action to minimize the more frequent type of incidents.

MAINTENANCE REGIME

PURPOSE

The objective of maintenance regime is to ensure that all hand tools, plant, machinery and equipment used construction sites of **LDL** are regularly maintained so that they do not represent any hazard due to lack of repair and maintenance, which might affect the Health and Safety of employees working at the construction sites.

GENERAL

The Company shall establish maintenance program to ensure safe and efficient operation of hand tools, plant, machinery and equipment used at its construction sites. This program shall apply to hand tools, plant, machinery and equipment owned by all sub-contractors and suppliers.

MAINTENANCE PROGRAM

LDL shall implement an effective maintenance program which shall include:

1. listing of hand tools, plant, machinery and equipment;
2. schedule of inspection and maintenance;
3. procedure for breakdown and repair; and
4. keep record of inspection and maintenance.

The Company shall also identify, compile and maintain a list of all hand tools, plant, machinery and equipment used at construction sites.

SCHEDULE OF INSPECTION AND MAINTENANCE

LDL shall establish a system to ensure that all hand tools, plant, machinery and equipment be inspected and maintained in accordance to statutory requirements, manufacturer's recommendations and company's In-House Rules and Regulations. A schedule of inspection and maintenance shall be documented and maintained.

Defects and malfunctions identified during the inspection shall be documented and brought to the attention of the authorized personnel for corrective action such as repairs. All repaired hand tools, plant, machinery and equipment shall be certified by authorized competent person prior to re-use.

Maintenance/Inspection Routine of Machinery and Equipment

a) The company has planned a routine maintenance/inspection schedule for all machineries and equipment that are brought into the site by the company or the Sub-Contractors' for the purpose of any work, to ensure that they are of good assembly, sound material and adequate strength, free from patent defects, and appropriate for the works for which it is to be used.

b) The company shall retain a copy of the maintenance/inspection records that has been carried out either by the maintenance service provider designated by the company or by the Sub-Contractors' maintenance service provider for all Sub-Contractors' machineries and equipment that are brought into the worksite by the Sub-Contractor.

c) The company shall ensure that all machinery/equipment has a valid inspection certificate and the maintenance period is not expired for the equipment/machinery brought into the site.

PROCEDURE FOR BREAKDOWN AND REPAIR

LDL shall establish procedures for breakdown and repair of all hand tools, plant, machinery and equipment which shall include the following:

1. Identify and record all defects and malfunctions;
2. Ensure that all repairs are carried out by authorized competent persons and conform to statutory requirements, manufacturer's recommendations and worksite's In-House Rules and Regulations;
3. Display warning signs and notices on the defective hand tools, plant, machinery and equipment;
4. Ensure that all hand tools, plant, machinery and equipment undergoing repairs be prohibited from use; and
5. Ensure that all repaired handheld-tools, plant, machinery and equipment are certified by authorized competent person prior to re-use.

The records of all inspections, maintenance, breakdowns and repairs carried out including maintenance and repairs by external agents shall be documented by the company's Construction Safety Supervisory staff.

Competency of Maintenance Personnel

All repairs and maintenance are only to be carried out by personnel who are trained and competent. All repairs and maintenance carried out by external agents shall conform to the manufacturer's recommendations and specifications and worksite's in-house rules and regulations.

SAFETY PROMOTION

PURPOSE

The objective of safety promotion is to develop and inculcate safety awareness among all personnel. The Company shall establish and maintain safety programs to promote safety at the Construction site. The promotion programmes are to demonstrate management's commitment towards establishing and maintaining a safe working environment.

LDL recognises that the promotion of safety is a valuable way of advancing the culture of safety in the workplace and of reinforcing the concept that safety and production are inseparable.

As a very basic approach towards safety promotion, **LDL** shall put up safety signs, posters, and other safety related news-letters or articles at appropriate locations (such as notice board, canteen and workshops etc.) to educate and remind workers in the worksite, always to be safety conscious. Video displays on safety awareness or training will be shown to workers to enhance their safety awareness and knowledge from time to time.

PROMOTIONAL PROGRAMS/ACTIVITIES

LDL will develop promotional programs aimed at clearly demonstrating the company's commitment to establishing an effective safety management that will provide and maintain a safe working environment.

The promotional activities shall include the following:

- display of the company's safety policy, in prominent locations where all personnel could view;
- display of incident statistics and pictures on notice boards placed at prominent locations where all personnel could view;
- conducting in-house safety exhibition and safety talks and toolbox meeting;
- displayed safety signs and posters or safety related materials;
- distribution of safety handbooks and brochures;
- participation in external safety activities;

- demonstration of safe work procedures;
- screening of safety videos or slides;
- setting up of safety improvement teams;
- demonstration of first-aid drills; and
- Conducting emergency drills and exercises.

BASIC APPROACH

Some examples of the promotional activities will be as follows:

Safety Notice boards

The safety notice boards will display information such as Company's safety policy, Company in-house rules and regulation, safety memorandum/newsletter, monthly incident summary report, monthly contractors' performance measurement result, safety posters. These boards shall be displayed at location where high volumes of employees' movements take place. This may be at **LDL**'s and subcontractor's site offices, workers quarters, canteens, and any other location where it is deemed recognized by Safety Department.

Warning Signs

Warning signs shall be adopted as visual aids for accident and fire prevention. Signs shall be written in English and the main language(s) of the workers and be conspicuously displayed.

Posters and Safety Banners

Posters and Safety Banners shall be displayed to promote and to maintain safety awareness at site. These posters and banners shall be displayed at the safety notice boards, and conspicuously placed at site. These shall be updated frequently to maintain interest.

Safety Handbook

To increase safety awareness and as part of personnel safety training, safety handbooks will be issued to all personnel at site during **LDL**'s site safety orientation program.

RECOGNITION OF SAFETY PERFORMANCE

LDL will develop a procedure, as part of its safety promotional program, to recognize and acknowledge good safety performance either by individual, teams, sections, departments or as an organization. The company will ensure that their effort and contribution in making the construction site a Safe and Healthy place of work to be well rewarded.

Examples of Awards

Instant Recognition Award

Every month, a certain number of employees will be selected from among the company as well as subcontractors who perform their work safely. The selection will be done by any of **LDL's** management and safety team based on their daily observation where an employee is seen working in strict accordance with all the safety requirements, or where an employee identifies and seeks to correct unsafe conditions at the workplace. Some examples are:

- Housekeeping;
- Safe operation of all mobile plant and equipment;
- Working safely at height; or
- Preventing items from falling from height.

This will be cumulative to the End of Yeah award/bonuses and the type/amount of award will be at the discretion of the Company and may take the form of either cash or souvenirs.

Best Safety Subcontractor of the Year

Every year, one employee or subcontractor will be awarded for this category. **LDL** Management and Safety Department will review each employee and/or subcontractor's safety performance. The decision made will be final. (See Appendix F)

IN-HOUSE RULES AND REGULATIONS

PURPOSE

LDL shall set a general Site Safety Rules and Regulations for workers (both direct and subcontractor workers) to follow. This is to establish a common understanding of their obligations and responsibilities to the achievement of the Health and Safety Management System.

Safety rules and regulations, formulated by the Company are to be posted at prominent locations at the work site. All new employees will be briefed on the rules and expected to abide by them. **LDL** has conducted and will continue to conduct and monitor their assessments to ensure the compliance with the Regulations, for the H&S of their own workforce as well as the interests of their clients.

RESPONSIBILITY

Safety is the responsibility of everyone. Managers, superintendents, supervisors, employees and our self, have a responsibility in making our place of employment a safe place to work. Follow the proper safety rules and common sense safety practices at all times. They include area like the Construction sites, site offices and head office.

SAFETY VIOLATION POLICY

LDL shall take every step and effort to ensure that site personnel are trained to carry out safe work practices on their job. **LDL** would not tolerate anybody who deliberately does not comply with safety instructions that have been instructed to them. Any violation to the implemented safety standards by project personnel is subject to the disciplinary actions. All disciplinary action shall be reviewed and approved by Construction site Safety Coordinator.

RESPONSIBILITY

It is a condition of employment that every employee complies with the Company (**LDL**) In-House Rules and Regulations and all relevant statutory requirements.

Each Construction Safety Supervisory staff will be responsible for ensuring that the Company's general safety policy is implemented. He/she will create and maintain a safe working environment.

On the first day of your placement, supervisors may explain some additional rules and regulations that will apply to the tasks you will partake in. As such, it is expected that you will **ADHERE** to them for your own health and safety and that of others

RULES AND REGULATIONS:

For Health and Safety reasons, and for all employees and business partners of LDL to have the opportunity to benefit and enjoy their engagements, the Rules and Regulations which in operation are illustrated in APPENDIX B. Prior to the commencement of placement, LDL's Construction Site Supervisors will explain the Rules and Regulations including some additional ones that may apply to the tasks employees and subcontractors will partake in. As such, it is expected that all will adhere to them for their own Health and Safety and that of others.

RISK MANAGEMENT

PURPOSE

The objective of **LDL**'s risk management is to provide means whereby hazards or potential hazards are identified and managed in a way that eliminates or reduces to an acceptable level, the risk of a safety incident occurring. Risk management enables the LDL team to minimise uncertainty in delivering the benefits.

Three basic steps should be taken to ensure a safe and healthy workplace. They are based on the concept that the workplace should be modified to suit people, not vice versa.

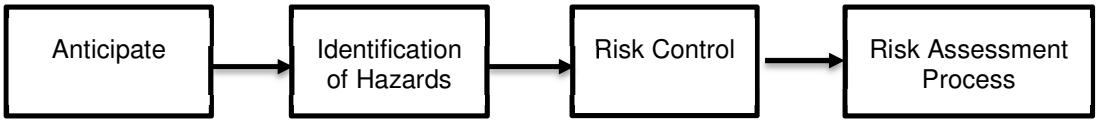

Figure 5: LDL's Steps in Identifying Risks

PREVENTION AND CONTROL STRATEGIES

Anticipation

The first step is to anticipate potentially hazardous situations before they actually occur so that they can be prevented. Designing safe systems of work safety procedures and plans are all part of this process. It assumes that things can go wrong and tries to predict what hazards can be created as a result.

Identification of Hazards

It should involve a critical appraisal of all activities to take account of hazards to employees, others affected by activities (e.g. members of the public and contractors) and to those using products and services. Adequate hazard identification requires a complete understanding of the working situation.

Simplest Cases

Hazards can be identified by observation, comparing the circumstances with the relevant information.

Complex Cases

Here, the measurement of hazards such as air sampling or examining the methods of machine operation may be necessary to identify the presence of hazards presented by chemicals or machinery.

Most Complex or High Risk Cases

Here also, special techniques and systems may be required. Specialist advice may be necessary in choosing and applying the most appropriate techniques.

Effective methods of identifying workplace hazards include:

- Previewing legislation and supporting codes of practice and guidance;
- Reviewing relevant Ghanaian and international standards;
- Reviewing industry or trade association guidance;
- Reviewing other published information;
- Developing a hazard checklist;
- Conducting walk through surveys (audits) and inspections;
- Reviewing information from designers or manufacturers;
- Assessing the adequacy of training or knowledge required to work safely;
- Analysing unsafe incident, accident and injury data;
- Analysing work processes;
- Job safety analysis;
- Consulting with employees;
- Observation;
- Examining and considering material safety data sheets and product labels; and
- Seeking advice from specialists.

RISK ASSESSMENT PROCESS

LDL's management and safety team will gather information about each hazard identified. Consider about how many people are exposed to each hazard and for how long. Use the information to assess the likelihood and consequence of each hazard and produce a qualitative risk table.

CONSEQUENCES	POSSIBILITY			
	Very Likely	**Likely**	**Unlikely**	**Very Unlikely**
Fatality	High	High	High	Medium
Major Injuries	High	High	Medium	Medium
Minor Injuries	High	Medium	Medium	Low
Negligible Injuries	Medium	Medium	Low	Low

Table 1: Qualitative Risk Table

Events or situations assessed as VERY LIKELY with fatal consequences are the most serious (HIGH risk); those assessed as UNLIKELY with negligible injuries are the least serious (LOW risk).

Note the risk rating for each hazard on a worksheet. When you are developing risk control strategies, you should tackle anything with a HIGH rating first.

HIERARCHY OF CONTROLS

This is a list of control measures, in priority order, that can be used to eliminate or minimize exposure to a hazardous situations or substances. The following order of control measures is recommended:

Elimination - Removing the hazard or hazardous work practice from the workplace. This is the most effective control measures.

Substitution - Substituting or replacing a hazard or hazardous work practice with a less hazardous one.

Isolation - Isolating or separating the hazard or hazardous work practice from people not involved in the work or the general work areas. This can be done by marking off hazardous areas, installing screens or barriers.

Engineering control - This involves modifications to tools or equipment, providing guarding to machinery or equipment.

Administrative control - Includes introducing work practices that reduce the risk. This could include limiting the amount of time a person is exposed to a particular hazard.

Personal Protective Equipment - It should be considered only when other control measures are not practicable or to increase protection and it is last resort measure.

PERSONAL PROTECTIVE EQUIPMENT

In some, jobs workers have to wear special clothing and equipment to protect them from workplace hazards. This is known as Personal Protective Equipment (PPE). PPE is the last item in the hierarchy of control measures and should only be used as a last resort. **LDL** has a duty to take steps to eliminate and control risks by other means. If, and only if, this is not possible PPEs will be provided free of charge for workers' safety. The type of PPE a person uses will depend on the task they are performing and the possible risks associated with it.

Types of PPE

The following are examples of PPE:

- High-visibility Clothing – to enable site workers and visitors to be seen during poor lighting or weather conditions or in high moving machinery environs.
- goggles and face screens – to protect eyes and face
- helmets – to protect the head from possible falling objects
- hearing defenders – to protect against damage to hearing
- kneepads and leggings – to protect legs
- safety shoes and boots – to protect feet and help prevent slipping
- gloves, gauntlets, wrist cuffs and armlets – to protect hands and arms
- Respirators and breathing apparatus – to stop the wearer breathing in harmful substances. Heavy

USE OF PERSONAL PROTECTIVE EQUIPMENT

PPE can provide protection if risks to health cannot be controlled by other measures. But it will only provide protection if it is used and used properly. Employees and Subcontractors should co-operate in using PPE because **LDL**

has a legal obligation to assess the need for PPE, to provide it and ensure it is worn. However, difficulty in getting people to use PPE is a common problem. Sometimes an employee just will not co-operate. **LDL** will use disciplinary procedures and will dismiss workers for not using PPE when they have been instructed to do so. **LDL** will ensure that employees are informed of the benefits of using PPE and trained in its use.

Employees have a legal duty to wear PPE if it:

- is suitable protection against the risk for which it is supplied;
- is provided free of charge to the employee;
- is cleaned and maintained regularly;
- is replaced when worn or broken;
- is stored correctly; and
- fits properly

CARE AND STORAGE OF PPE

PPE needs to be looked after. It must be kept clean and in good repair. PPE will need to be replaced as per manufacturer's recommendation. Replacements will be readily available on our construction sites. Where necessary, PPE will be available for visitors who have to enter hazardous areas.

LDL will make arrangements and provide appropriate facilities for cleaning PPE. If PPE is contaminated with a hazardous substance it should be hosed down or washed before the wearer takes it off. This will ensure that the substance is not transferred from the item of PPE to the wearer.

Employees also have the responsibility to store PPE in a clean, dry and well-ventilated place.

PPE CAN PROVIDE PROTECTION IF RISKS TO HEALTH AND SAFETY CANNOT BE CONTROLLED BY OTHER MEASURES

EMERGENCY PREPAREDNESS

PURPOSE

The objective of emergency preparedness is to ensure emergency situations can be managed effectively to minimise loss. Emergency preparedness is intended to provide all personnel with clear instructions on the action to be taken to minimise the effects of the emergency and protect:

- personnel from injury;
- the assets of the Company and the client;
- the environment; and
- the goodwill of the company and its ability to continue to meet its production commitments.

This document is intended also to fulfil the company's obligations under its Health and Safety Management System and to maintain a procedure for an effective response to an emergency.

EMERGENCY PLANS

LDL has established emergency plans to respond to emergency situations. The plans shall be reviewed and tested regularly to ensure its effectiveness and suitability.

> Note: It is not practical to prescribe an exact procedure for every possible emergency. The procedures therefore are general; any incident must be handled in the light of the actual situation.

An emergency is likely to consist of several different incidents at the same time. For example, an explosion may cause a fire that affects the environment, cause destruction and possibly result in serious injuries and fatalities. This procedure therefore puts essential information about what should be done in the hands of trained and responsible personnel.

The company's priorities are to:

- Prevent incidents from happening. An example would be to sample the atmosphere in a confined space before entry;
- Mitigate the effects of an incident if it should occur. An example would be the provision of fire extinguishers to quench an incipient fire; and

- Restore operations as quickly as possible so as to minimize the stoppage of work.

Types of Emergency Situations

The emergency situations shall include:

- explosion;
- fire;
- failure and collapse of structure;
- failure and collapse of heavy machinery and equipment;
- leakage of hazardous materials;
- adverse weather and flooding; and
- any other incident resulting in injuries and destruction of property.

DEFINITIONS

The following terms are used in this manual with the meanings shown:

Incident This is an event which may result in:- ▪ injury to personnel; ▪ damage to equipment; ▪ loss of substances, production time or assets; and ▪ damage to the environment; or which may have had the potential for any of these. ▪ Person falling ▪ Small fire from welding slag ▪ Lapse of security ▪ Spill of cleaning fluid ▪ Failure of lifting equipment
Emergency This is an incident which escalates because:- ▪ control is lost to some extent; ▪ immediate action is required; ▪ other people, not immediately connected with the incident, are involved; ▪ the incident is complex, probably ▪ Fire requiring evacuation of an area, scaffolding collapse, gas escape, lifting failure. ▪ Simultaneous events could include:- - fire - man falling from height - danger of explosion of gas

involving more than one incident at once.	bottles
Crisis The emergency will escalate into a crisis if the following become involved in the response:- ▪ The news media; ▪ Government departments; ▪ Customer; ▪ Relatives of potentially involved personnel on site. The presumption is that the Company's ability to manage is in question.	▪ Explosion causing multiple deaths ▪ Fire and explosion in the building ▪ Toxic gas cloud of smoke drifting over housing area ▪ Food poisonous affecting large proportion of work force

Table 2: LDL's Emergency Terms & Definitions

PRINCIPLES

This section lists the principles on which the emergency response is based. Again, it is not practical to prescribe an exact procedure for every possible emergency. The procedures therefore are general; any specific incident must be handled in the light of the actual situation.

Emergency response is a combination of:

- Physical action, such as fire - fighting, rescue, recovery of plant;
- Local direction and support, including the provision of resources management support to deal with major decisions and with the outside world.

Emergency is likely to consist of several different incidents at the same time. For example, an explosion may cause a fire, serious injuries, perhaps fatalities, people in the water and failure of part of a structure of the building or a crane. The emergency procedures therefore put information about the emergency in the hands of trained and responsible personnel who have the authority to make decisions, and let them work out what to do.

Emergency Priorities

The Company's priorities are to:-

- prevent incidents, by defining and implementing a safety management system; defining and eliminating, mitigating or protecting against hazards; training people; and motivating them to behave safely;
- detect a condition which could develop into an incident, for example by sampling the atmosphere in a confined space before entry;
- mitigate the effects of an incident if it should occur, for example by providing fire -fighting equipment and personnel trained in its use at the site of hot work;
- restore operation as quickly as possible to minimize the disruption to the Client, the Company and the workers.

Emergency Provisions

The Company's emergency provisions include:-

- Overall emergency procedures, supported by separate departmental procedures, e.g. for figure finance, legal, engineering, personnel, public relations and other functions, to define how these should carry out their functions in an emergency.
- A clear dedication of authority so that decisions can be made quickly and effectively; and
- Physical resources and people to operate them, such as fire-fighting equipment and medical facilities, in additional to regular plant diverted to help in the response, such as cranes and company vehicles, and also to the external resources provided by the national authorities.

LDL has assessed the risks associated with its type of work involving minimal exposure to fire and hazardous materials, it relics therefore on the resources available from the statutory bodies for fire fighting, medical services and the police.

CATEGORIZATION OF EMERGENCIES

Minor Emergency

- An emergency which can be dealt with effectively and quickly by personnel on the spot, using the equipment readily available to them.
- Stopping of work and evacuation of personnel may be necessary.
- Such an emergency may, however, be over before an alarm has been raised.
- Examples; minor injury, limited fire/immediately extinguished, minor equipment failure.

Major Emergency

- An emergency causing a major hazard to life and equipment, which necessitates the use of outside emergency services.
- This will have a high level of government concern and involvement that will attract media. Examples; major fire, major toxic release from neighbouring plant, death and/or serious injury.

ORGANIZATION AND RESPONSIBILITIES

The organization, which would be mobilized in the event of an emergency, would be as follows:-

On scene action	H&S Officer and/or Construction Site Supervisory staff.	Teams would be group from personnel available and suitably equipped to deal with the emergency, such as rescue of injured personnel, fire fighting, and first aids.
Support Team	The H&S Coordinator or his/her nominee	This team would take charge of the support activities, such as supplying vehicles, personnel, outside emergency services or other resources.
Management Team	The Head of H&S or his/her nominee	Group management may be called out to deal with external issues, such as:- • Dealing with the media; • Press, radio and television; and • Relatives of personnel possibly involved in the emergency, client, other local companies, financial, legal and insurance issues.

Table 3: LDL's Organisational Emergency Response Team

NOTE: *The organization of an emergency response team shall be reviewed from time to time, whereby decisions shall be agreed upon by all members of the team.*

ASSEMBLY AREA

A muster point has been designated at the various construction sites and prominent signboard will be put up for easy identification by all site personnel. All personnel must be familiar with the muster point location.

RAISING OF ALARMS (EMERGENCY SIRENS)

The CONSTRUCTION site alarm consists of:-

- Evacuation - 2 tone continuous signal for 5 minutes
- All Clear - single tone continuous signal for 1 minute
- Testing of alarm periodically.

Means of communication:-

- Emergency Radio Call – call sign (Emergency, Emergency, Emergency).
- Telephone – Emergency response line.
- Runner to the nearest guard room or medical centre or first-aid station.

Any person identifying and/or spotting an emergency shall notify the Supervisor or any member of the work team. The person shall speak slowly and calmly, providing the following information:-

- Nature of emergency;
- Location of emergency; and
- The Company of the individual raising the alarm.

The site emergency siren can be initiated at the local guard post on instruction from the Incident Controller.

CONSTRUCTION SITE EVACUATION PROCEDURES

In the event of an emergency, the following procedure should be followed to ensure that information is passed to the members of management and supervision who are required to organize the response.

i. An observer who becomes aware of the incident should raise the alarm by informing his Supervisor or anyone else in authority.

ii. Inform the Incident Controller or his nominee, either by:-

- Radio
- mobile telephone
- a runner

iii. Upon hearing the alarm, all work activities shall be stop and shut off the engines' of the machinery.

iv. Walk briskly and calmly to the designated assembly point. DO NOT RUN. Act to prevent panic.

v. The Incident Controller should alert the Management; the urgency with which the Management group is mobilized depends on the nature and seriousness of the emergency.

vi. The Incident Controller shall establish a Command Centre, at which the support team can direct resources, including mobilization of the external emergency services.

vii. The Incident Controller or his nominee should assess the nature and seriousness of the incident and ensure that on-scene action groups are assembled according to the nature of the emergency. In the event of having to evacuate personnel to an area outside of the fence line, the Incident Controller will advise to the action groups.

viii. The Incident Controller will initiate a head count, if required.

RESOURCES

It is LDL's view that the estimated risk of an incident escalating into a full-blown emergency is low. The resources available on site are limited to:-

- fire main & hoses and portable fire extinguishers; and
- personnel trained in fire-fighting and first aid.

LDL relies on the resources of the emergency services, which would be expected to take charge of the on scene action.

AMBULANCE SERVICE AND HOSPITALIZATION OF SICK OR INJURED PERSON

Anybody who are aware or witness the occurrence of incident/injury will notify site office and provide information regarding nature of the injury and location of the person needing attention. If necessary, Emergency Response personnel will be dispatched to provide aid and transport the injured person to the nearest hospital.

Site Emergency Organisation Chart

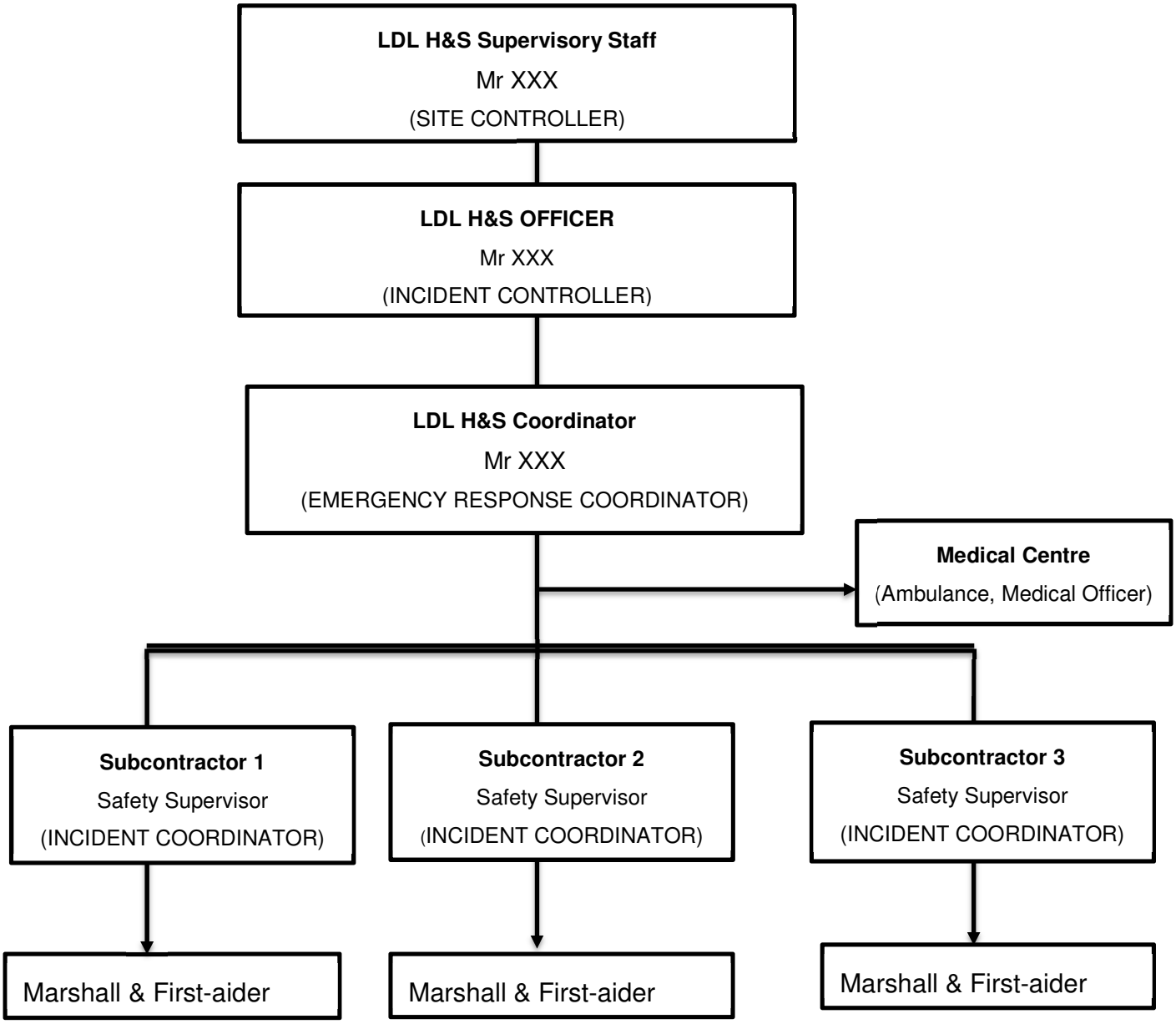

Figure 6: LDL's Site Emergency Organisation Chart

Emergency Evacuation Plan

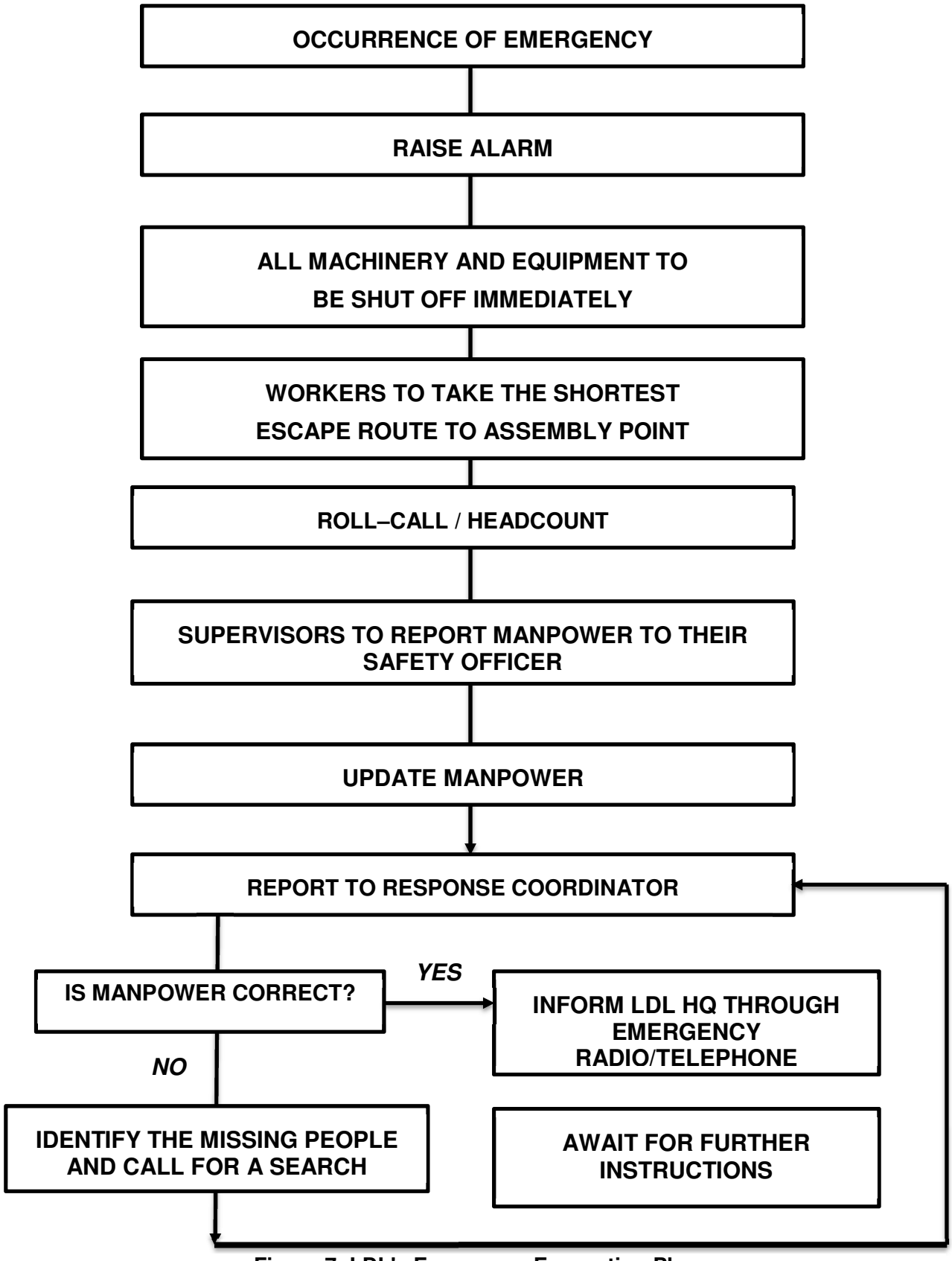

Figure 7: LDL's Emergency Evacuation Plan

CONTROL, MOVEMENT AND USE OF HAZARDOUS CHEMICAL

PURPOSE

The objective is to ensure that the storage, movement, use and disposal of hazardous substances and chemicals are managed to minimize the occurrence of incidents**. LDL** has established procedures for proper management of all hazardous substances and chemicals which include flammable, toxic or corrosive substances. The procedures include the control of receipt, storage, distribution, use and disposal of such substances.

MANAGEMENT OF HAZARDOUS SUBSTANCES AND CHEMICALS

A control program has been established to include:-

i. Maintenance of a register of hazardous materials compiled from Material Safety Data Sheets (MSDS). The MSDS contains accurate and adequate information on:
   - composition, physical and chemical properties of the material; and
   - instructions for safe handling, storage, use and disposal.

ii. Appointment of a competent person to receive such materials and ensure its safe storage and use;

iii. Establishment of procedures for labelling, issue and distribution;

iv. Communication of the hazards associated with the hazardous materials by the competent person to the users. This includes provisions for :
   - safety training and instructions to the users;
   - personal protective equipment; and
   - suitable identification tag to be worn by the users handling the materials.

v. Designation of storage areas which is suitable for the materials and secured against unauthorized access. Hazardous materials must be returned to designated storage areas when not in use; and

vi. Establishment and implementation of procedures for disposal of hazardous materials, which shall be carried out in accordance with statutory requirements or manufacturer's recommendations.

Common Types of Hazardous Chemicals

Examples of hazardous chemicals used in the workplace include gasoline, thinners, adhesive products, paints, acids, solvents, industrial gases and radiography equipment.

TOXIC / CORROSION NATURE

Hazardous materials can cause immediate or long-term health problems if not handled properly. Acute effects may be severe and usually happen fast, such as acid burns. Chronic effects come from prolonged exposure, often through inhalation.

Fire and Explosion

Some chemicals (e.g. thinner) used at the workplace are flammable and ignite easily, thus carrying the risks of fire and explosion.

CONTROL OF ENTRY OF HAZARDOUS SUBSTANCES AND CHEMICALS

Control of hazardous substances and chemicals brought into the workplace is an important part of the safety system.

- Hazardous substances and chemicals which are brought into the workplace must be declared at the security post and attached together with the MSDS before they are allowed entry.
- Subcontractors must appoint a competent person to be responsible for monitoring the use and movement of hazardous substances and for coordination with **LDL**.
- All hazardous substances and chemicals used at the workplace must be identified and registered. Manufacturer's information on the hazardous substances and chemicals must be specified in the MSDS.

The Material Safety Data Sheet (MSDS) must specify the following:-

- characteristics of the hazardous material; and
- any precautions that may be required to be taken in the handling of such material

- The supplier must submit a copy of the MSDS to the user, e.g. subcontractors who must read, understand and comply with requirements pertaining to Storage, Handling / Transport, Use of PPE, etc.
- Subcontractor to ensure proper markings and affixing of warning labels to the chemical containers are clearly legible and post signboards, e.g. “NO SMOKING” at the appropriate locations at the storage area.
- A register on hazardous substances and chemicals must be kept in the workplace together with copies of the MSDS.

STORAGE OF HAZARDOUS SUBSTANCES AND CHEMICALS

- All hazardous substances and chemicals must be stored at designated storage areas in the workplace and be secured against unauthorized access. This storage space is to be protected against heat sources, which may be able to ignite vapours from the hazardous substances and chemicals in case of a spill or leak in a chemical storage container.
- Personnel involved in the storage, handling and use of the hazardous substances and chemicals are to be competent for the job and are fully aware of the dangers, safeguards and the measures referred to in its MSDS. They are to put on the necessary personal protective equipment and any other safety gears whenever they handle these hazardous substances and chemicals in the workplace.
- Hazardous substances and chemicals must be returned to the designated storage areas after use or when no longer in use.
- The used hazardous substances and chemical containers must be separated from the unused ones and both are to be labelled for easy identification.

COMMUNICATION/TRAINING/EDUCATION

- Any employee involved in the handling of hazardous substances or chemicals to which they might be exposed, must receive training and instruction from a designated person.
- Appropriate warning signs must also be displayed at the store or any other place where such hazardous substances and chemicals are kept.

PHYSICAL SAFETY CONTROL MEASURES

- Physical storage, handling/transport, PPE and its use must comply strictly with the procedures as spelt out under the MSDS guidelines.
- PPE must be provided to the workers involved in the handling and use of these products.
- Welding and hot cutting operations is not to be carried out on containers in which there are explosive or flammable substances/vapours.
- Where it is practical for signs to be erected in the workplace to identify hazards, then the signs should show the following:-
    - What the hazard is;
    - What precautionary measures should be taken; and
    - What to do in an emergency.

SAFETY PRECAUTIONS ON HAZARDOUS SUBSTANCES AND CHEMICALS

a. Always check the MSDS and any standing notes on the recommended method of work. Also, note the protective equipment to be used.

b. All hazardous substances and chemicals must be stored at designated storage areas in the workplace and be secured against unauthorized access. This storage space must be protected against the accumulation of concentrated toxic vapours and heat sources, which may be able to ignite vapours from the hazardous substances and chemicals in case of a spill or leak in the chemical storage containers.

c. All personnel involved in the storage, handling and use of the hazardous substances and chemicals are to be competent for the job and are fully aware of the dangers, safeguards and the measures referred to in its MSDS. They must put on the necessary PPE and any other safety gears whenever they handle these hazardous substances and chemicals in the workplace.

   Stored substances are to:-

    - Be kept to a minimum;

- Be securely locked or fenced off;
- Be held in appropriate secure containers with the substance clearly identified on the exterior of the container;
- Have appropriate warning notices affixed to the storage facility;
- Have “NO SMOKING” notices affixed to the storage facility where flammable substances are stored; and
- Have fire-fighting extinguishers (appropriate to the substance) and other emergency equipment, including spill control equipment located near to the contaminated area.

d. The following features are to be taken into consideration during storage:-
    - Segregation of the hazardous substances and chemicals according to their types/uses;
    - Provision of ventilation to reduce the concentration of hazardous vapours likely to occur;
    - Provision of containment to contain leaks and spills from the containers. The purpose of the containment is also to enable the product to be more easily collected and transferred elsewhere.
    - Provision of ground earthling to prevent the accumulation of static.

e. All containers holding hazardous substances and chemicals must have their lids replaced as soon as they are not in use. Only small quantities should be removed from the store at any one time.

f. The used chemical containers must be separated from the unused ones and signage is to be provided for easy identification.

g. Empty containers must be removed as soon as possible and arrangements made for their safe disposal through the Licenced Disposal Agent.

h. Hazardous substances and chemicals must not be discharged onto the ground or into water drains where they can be harmful to health, pollute the environment, cause a fire or an explosion.

i. Steps must be taken to ensure that users of hazardous substances and chemicals are properly informed, instructed and trained in the hazards and control measures needed.

j. Hazardous substances and chemicals are to be returned to the designated storage areas after use or when no longer in use. Proper disposal of the hazardous substances and chemicals must be strictly adhered to.

PROCEDURES BEFORE USING HAZARDOUS MATERIALS

a. Remove materials that could burn, explode or react dangerously with nearby materials.

b. Remove consumable items and wear recommended personal protective equipment.

c. Know where emergency showers and eye-washes are located.

d. Make sure that the correct type of safety equipment is readily available.

e. Check for adequate ventilation.

f. Know who to contact and what to do in an emergency.

g. Have someone nearby who knows where you are and what you are doing at all times.

CONTROL OF HAZARDOUS SUBSTANCES/CHEMICALS – HIERARCHY OF CONTROL

Hierarchy of control is a list of control measures, in order of priority, which can be used to eliminate or minimize exposure to hazardous substances or chemicals.

Attempts should be made to select control measures from the top end of the hierarchy. These controls may be most accommodated at the planning design stages of a project. However, it may be necessary to use a combination of control measures to achieve the desired level of risk control. The following order of control measures is recommended:-

HIERARCHY OF CONTROL

Elimination

This is a permanent solution to remove or eliminate hazards or hazardous substances and chemicals. It should be attempted in the first instance.

Substitution

This involves replacing the hazardous substance by one that presents a lower risk.

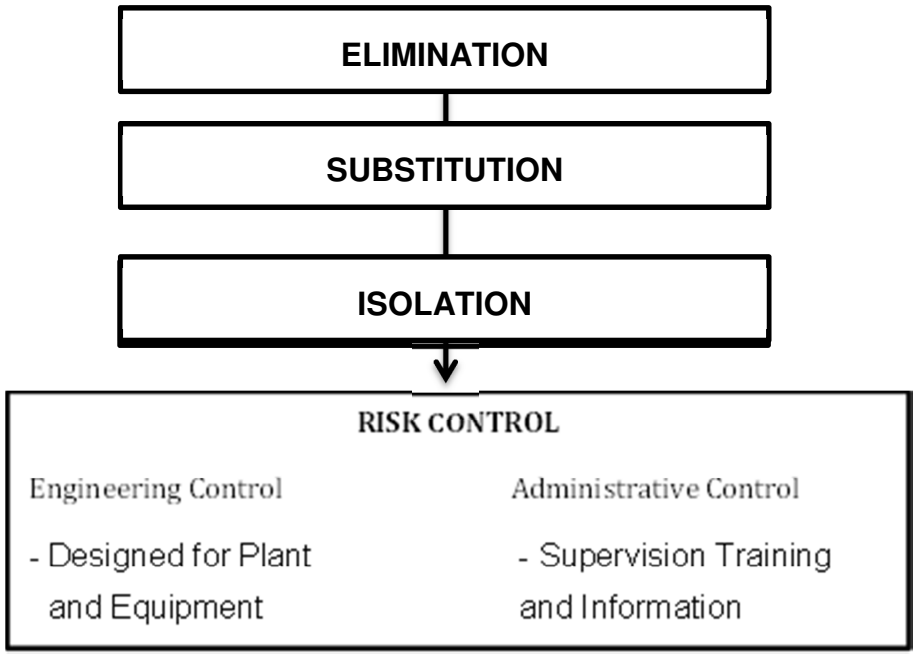

Figure 8: Hierarchy of Control

Engineering Control

Involve some structural changes to the work environment or work processes. A barrier is placed to interrupt the transmission path between the worker and the hazard. This may include machine guards, isolation or enclosure of the hazard, the use of extraction, ventilation and protective handling devices.

A common example of engineering control is a local exhaust system which removes toxic vapours from the breathing zone of the workers. Another is replacement of noisy machinery with a less noisy one.

Administrative Control

Reduce or eliminate exposure to a hazard by adherence to procedures or instructions. Documentation should emphasize all the steps to be taken and the controls to be used in carrying out a task safely. Administrative controls are dependent on proper training and supervision as well to enhance appropriate human

behaviour for success. Examples include safe working procedures and Permit-to-Work System.

Examples of administrative control are:-

- implementing proper housekeeping practices; and
- devising appropriate workers' training.

Personal Protective Equipment (PPE)

This is worn by people as a barrier between themselves and the hazard. It should be used only as a short-term measure. The use of PPE should always be the last resort and should never form the basis of a control program.

HANDLING AND STORAGE OF HAZARDOUS SUBSTANCES AND CHEMICALS

Information should be given about conditions recommended by the supplier for safe storage and handling. This would include the following:

- design and location of storage rooms;
- separation from workplaces and occupied buildings;
- incompatible materials;
- conditions of storage (e.g. temperature and humidity, avoidance of sunlight);
- avoidance of sources of ignition which includes static build-up;
- provision of local and general ventilation; and
- Recommended methods of work and those to be avoided.

IMPLEMENTATION OF HEALTH & SAFETY MANAGEMENT SYSTEM

PURPOSE

The objective of this chapter is to spell out the methods to carry out the LDL's HSMS in a systematic and efficient way. The methods involved are part of the elements in this management system. They include safety training, safety meeting and rules and regulations.

METHODS OF IMPLEMENTATION

Safety Training and Education

This element will equip all personnel with the necessary knowledge, skills and attitudes, which will enable them to perform their duties in a manner, that do not represent safety hazards. It is the obligation of all employees of the company and its contractors to be knowledgeable of the standards established by these agencies and to implement the rules and regulations contained therein, on projects under their direction/supervision.

Communication (Group Meetings)

This element allows communication between the top management of the company and the middle management of the contractors. Thus also provide a communication means for the middle management of the contractors and the workers in the worksite. New regulations and company policies shall be conveyed down systematically. Problems pertaining safety issues shall be high-lighted in the meeting.

Enforcement team (Safety Inspection).

It is necessary to verify that safety provisions and practices conform to the corporate safety management system and relevant statutory requirements. An enforcement team shall carryout the following action if non-compliance persists:

- Issue warning letters to violators and their company. Recommend action to be taken from re-occurrence.
- Request for higher management meeting to solve safety issue completely.
- Violation persists, remove violator form the worksite. Fines to penalize the violators' company from failing to take effective action.

- Stop violators' company from bidding any future jobs form **Landsar Developers Ltd**.

APPENDIX A: HEALTH AND SAFETY POLICY

Landsar Developers Ltd.
Turkey Building Contractors

HEALTH AND SAFETY POLICY

Information for Clients, Employees, Subcontractors, Suppliers and Visitors of LANDSAR DEVELOPERS LTD

Fundamental to the success of any business is the health and safety of its employees and everyone else affected by the business activities. With this belief, LANDSAR DEVELOPERS LTD attaches great importance to the Health and Safety of its employees, clients, visitors and subcontractors, and will take all reasonable steps to prevent injury, illness and protect everyone from hazards to provide a healthy environment on both its headquarters and construction sites. At Landsar Developers, we believe there is no conflict between our requirement to keep our workforce as well as members of the public safe and our long term financial success. We are of the belief that nothing that we do is so important that it cannot be done safely.

Landsar Developers' policy is, at all times, to conduct its operations safely, protecting the health of employees and all other persons who may be affected by them. We will achieve this policy by:

- Providing exemplary and encouraging leadership;
- Meeting and, whenever possible, exceed the minimum standards set by the Health and Safety laws and supporting regulations;
- Identifying the hazards associated with our activities and removing or reducing the risk where possible;
- Communicating and engaging with our employees (who are our key asset), our business partners and our supply chain on issues affecting their Health and Safety;
- Establishing robust arrangements for the management of risks that remain;
- Ensuring everyone understands how to keep themselves and others safe and healthy;
- Providing Health and Safety training for our employees to ensure that they are competent to meet the LANDSAR DEVELOPERS LTD's Health and Safety obligations;

- Seeking continuous improvement in our Health and Safety performance and promote a safe and healthy working environment;
- Ensuring the appointment of competent persons to assist us in meeting our statutory duties;
- Ensuring the provision of adequate financial and physical resources to meet our Safety needs;
- And recognise the Managing Director will act as Health and Safety champion and through General Management and Supervisors who has day to day responsibility, provide executive support to the Board to enable them to fulfil their responsibilities

We will review this policy on an annual basis. Guided by these objectives, we will continuously strive to eliminate the realistic likelihood of serious injury as a result of our operations.

Landsar Developers' Risk Management team has compiled a Health & Safety Management System (HSMS), which is available for any person to view if they wish. It outlines amongst other policies the provisions for first aid, fire precautions and risk assessments. It is mandatory for all employees and business partners to familiarise and adhere to Landsar Developers' HSMS. However, Landsar Developers will carry out all reasonable measures to protect the health and safety of all its stakeholders.

Signed

.....

Edward W. Wiafe

Managing Director,

March 2013

Review Date – March 2014

APPENDIX B: IN-HOUSE RULES AND REGULATIONS

For All Employees and Business Partners of LANDSAR DEVELOPERS LTD

Without reading and signing this form your work assignment will not be able to go ahead.

Expected Code of Practice:

Your Participation in LANDSAR DEVELOPERS' Works will be very different from any work you may have been involved before. LANDSAR DEVELOPERS LIMITED wants you to benefit from the experience of working in a safe and healthy construction environment.

In order that this occurs, you will be expected to show responsible behaviour and compliance whilst attending your duty by complying with our IN-HOUSE RULES AND REGULATIONS

Rules and Regulations**:**

For Health and Safety reasons, and for all employees and business partners of LANDSAR DEVELOPERS LIMITED to have the opportunity to benefit and enjoy their engagements, the following rules and regulations are in operation:

- Employees and business partners are expected to follow the emergency procedures, such as fire drill, as directed by your supervisors;
- Employees and business partners are expected to wear any Personal Protective Equipment (PPE) given to them by Landsar Developers Ltd. or their respective employers. Failure to do so **WILL** result in termination of the assignment;
- All equipment and hand tools **MUST** be kept in good condition;
- For any work at height, precautions **MUST** be taken to prevent or minimise the risk of injury from a fall;
- Employees and business partners **MUST ALWAYS** wear seat belts and **NEVER** use a handheld phone whilst driving;
- Attend the safety meetings and participate in safety promotional activities;
- **OBSERVE** all safety procedures and **REPORT** any unsafe conditions and practices;
- **ALL** injuries, accident or dangerous occurrence must be **REPORTED** immediately;
- **ALL** workers must undergo the compulsory Safety Orientation Course;
- Employees and business partners **MUST NOT** bring any alcohol or prohibited substances onto LANDSAR DEVELOPERS LTD premises or consume these off the premises during their assignment;
- Employees and business partners are **NOT** allowed to leave the premises without permission from appropriate staff. Any leave of absence from the site must be documented by staff - this is due to fire evacuations;
- Smoking is **ONLY** allowed in certain designated areas; and
- Violence and abusive language in the work place are **NOT** tolerated by LANDSAR DEVELOPERS LTD. All persons on site are asked to adhere to this. Employees and

business partners on work assignments who use this form of attack **WILL** be reported to the authorities and asked to **LEAVE** the premises. Their assignment **WILL** be terminated.

Serious Incidents of Non-Compliance or Misbehaviour:

In the event of serious incidents of non-compliance and misbehaviour, such as fighting, use of prohibited or illegal substances (as above), the employee(s) or business partner(s) concerned **WILL NOT** be allowed to continue on their assignment and arrangements will be made for the employee(s) or business partner(s) to leave the premises as soon as possible. Authorities will be involved in these cases.

First Day of Your Assignment:

On the first day of your placement, supervisors may explain some additional rules and regulations that will apply to the tasks you will partake in. As such, it is expected that you will **ADHERE** to them for your own health and safety and that of others.

DECLARATION TO BE SIGNED BY THE EMPLOYEES OR BUSINESS PARTNER:

I HAVE READ THE INFORMATION PRESENTED IN THIS CODE OF BEHAVIOUR AND AGREE TO ADHERE TO THE RULES AND REGULATIONS LISTED.

I ALSO AGREE TO ADHERE TO ANY ADDITIONAL RULES AND REGULATIONS EXPLAINED TO ME ON THE FIRST DAY OF THE ASSIGNMENT.

I UNDERSTAND THAT I WILL NOT BE ALLOWED TO CONTINUE ON THE ASSIGNMENT IN THE EVENT OF ANY SERIOUS NON-COMPLIANCE MISBEHAVIOUR ON MY PART.

SIGNATURE OF EMPLOYEE OR BUSINESS PARTNER: _____

FULL NAME: _____

CONTACT ADDRESS:

_____

_____

TELEPHONE NUMBER(S): _____ // _____

DATE: _____

APPENDIX C: SITE INSPECTION CHECKLIST

SITE INSPECTION CHECKLIST

DATE OF INSPECTION: ……

AREA OF INSPECTION: ……

INSPECTED BY: ……

Item	Description	YES	NO	REMARKS
	-			
	Personal Protective Equipment			
1	Are workers issued with the appropriate safety gear?			
2	Are workers using their safety gear while working? Safety shoe Safety harness Protective glass Protective glove Ear plug			
	General Working Conditions			
3	Are peripheral overhead protections or shelters provided?			
4	Are barricades provided to the building peripheral to ensure that personnel use the overhead protected shelters to enter/ exit the building?			
5	Are openings and edge of building in which a person may fall through, barricaded or covered effectively?			
6	Are all temporary electrical installation being carried out by a qualified electrician?			
7	Are working platform of at least 500mm in width provided for workers to work?			
8	Are toe-board provided to the working platform?			
9	Are proper supervision carried out during the installation and erection of precast components?			

	Working at Heights			
10	Are scaffolds inspected weekly by the Scaffold Supervisor?			
11	Is the erection of the scaffold carried out by qualified erectors under the supervision of a scaffold supervisor?			
12	Are the scaffolds erected to the highest construction level?			
13	Are toe board provided to the working platform?			
14	Are working platforms properly constructed for persons and materials for the purpose of work?			
15	Are the working platform provided with guardrail?			
16	Are scaffold netting provided on the scaffold?			
17	Are tie-back provided for the scaffold?			
18	Are ladders provided for person to gain safe access from and to the working platform/ scaffold?			
19	Are signage provided to indicate that the scaffold is safe for use?			
	Electrical Safety			
20	Are all temporary electrical installations provided in good condition?			
21	Are proper plugs and socket outlets used of the industrial types?			
22	Are temporary electrical wiring suspended from ground?			
	Lifting Operation			
23	Are the outriggers of the mobile crane fully extended and rested on strong foundation?			

24	Are signalman, rigger and lifting supervisor present during lifting operation?			
25	Are the lifting machines and lifting gears inspected by an approved person at least once in every 12 months?			
26	Are the areas in which the lifting operation is carried out barricaded?			
27	Is the weight of the load ascertained before the lifting operation?			
	Others			
28	Is permit-to-work being applied for the following work: Excavation, radiography, work in confined space, hot-work, cold-work, scaffold erection?			
29	Is housekeeping carried out at the end of the working day?			
30	Are all operators operating machinery and equipment competent?			
31	Is material receiving platform constructed in accordance to the design of a Professional Engineer?			
32	Is flashback arrestor provided at the outlet of gas cylinder and at the inlet of the cutting torch of all acetylene and oxygen cylinder?			
33	Is the gas hose and cylinder connection tested with soap solution to check for any leakage?			
34	Are the welding holders in safe and sound condition?			

APPENDIX D: TOOL BOX MEETING RECORDS

LANDSAR DEVELOPERS LTD

TOOL-BOX MEETING RECORDS

Company Details

Conducted By :		**Signature :**
Location of LDL Site Conducted :		**LDL No. :**
Date :	**Time :**	**No. of Workers :**

Topic Discussed :

1
2
3
4
5

S/No.	Workers Name	Company Name	Signature	Remarks

APPENDIX E: ACCIDENT INVESTIGATION RECORD

CAUSE CHECKLIST

Immediate Cause

Substandard or unsafe act	Substandard of unsafe condition
θ Improper use of protective equipment	θ Absence of guard rails
θ Failure to use personal protective equipment	θ Absence of safety guard
θ Using improper or defective tools, equipment, vehicles or materials	θ Inadequate guarding
θ Using tools, equipment, vehicles or materials unsafely	θ Ineffective safety guard
θ Making safety devices inoperative or unsafe	θ Safety guard not properly adjusted
θ Tampering with equipment	θ Faulty electrical installation
θ By-passing safety devices	θ Unsafe electrical appliance
θ Wrong method of working or faulty operation	θ Faulty machinery
θ Unsafe loading, placing or mixing	θ Unsafe design or construction
θ Improper or unsafe lifting or carrying	θ Poor housekeeping
θ Unsafe climbing	θ Hazardous arrangement
θ Unsafe driving	θ Absence of safety appliance
θ Riding on loads, forklifts or other lifting equipment	θ Defective safety appliance
θ Taking an unsafe position	θ Ineffective protective equipment
θ Tampering with machinery in motion	θ Improper clothing
θ Operating without authority	θ Defective tools
θ Operating at unsafe speed	θ Unsound structure
θ Working under suspended load	θ Improper illumination
θ Horseplay	θ Improper ventilation
θ Carelessness or recklessness	θ Unsafe place of work
θ Other unsafe act:	θ Other unsafe condition:

Other contributing factors

Personal factors	Job factors
θ Lack of knowledge or skill	θ Lack of co-ordination
θ Disregard of instructions	θ No proper supervision
θ Act of person other than injured	θ Inadequate engineering
θ Low morale	θ Tools and equipment not appropriate
θ Foul play	θ Equipment lack of maintenance
θ Fatigue / stress	θ Inadequate work instruction
θ Physical defects	θ Other contributing factors:

Nature of injury	Part of body injured		
	Head and Neck	**Upper Extremities**	**Lower Extremities**
θ Abrasions	❑ Scalp	❑ Shoulder	❑ Hips
θ Amputation	❑ Skull	❑ Upper arms	❑ Thighs
θ Asphyxia	❑ Eyes	❑ Elbow	❑ Legs
θ Burns (Heat)	❑ Ears	❑ Forearm	❑ Knee
θ Burns (Chemical)	❑ Nose	❑ Wrist	❑ Ankle
θ Bruises and contusions	❑ Mouth	❑ Hand	❑ Feet
θ Concussions and internal injuries	❑ Teeth	❑ Palm	❑ Toes
θ Cuts	❑ Face	❑ Fingers	❑ Others
θ Dislocation	❑ Neck	❑ Others	
θ Effects of electric current	❑ Others		❑ Multiple injuries
θ Effects of radiation			
θ Fracture	**Body**		
θ Freezing	❑ Back		
θ Laceration	❑ Chest		
θ Multiple injuries	❑ Abdomen		
θ Poisoning	❑ Pelvis		
θ Puncture wound	❑ Groin		
θ Sprains and strains	❑ Others		
θ Others			

Type of Accident	Agency of Accident
❑ Struck against objects ❑ Struck by sliding, falling, flying or other moving objects ❑ Caught in or between objects ❑ Fall or slip on same level ❑ Fall to different level ❑ Overexertion ❑ Contact with temperature extremes ❑ Exposure to or contact with electric current ❑ Exposure to or contact with harmful substances or radiations ❑ Inhalation, absorption, ingestion, poisoning ❑ Drowning ❑ Others	❑ Machines ❑ Lifting equipment ❑ Transport equipment or vehicles ❑ Hand tools ❑ Pressure vessels ❑ Furnaces, ovens, kilns ❑ Electrical equipment ❑ Floors or level surfaces ❑ Ladders ❑ Scaffolds and staging ❑ Stairs or steps ❑ Explosive or inflammable substances ❑ Poisonous substances ❑ Others

CAUSE ANALYSIS

What unsafe act or conditions cause the accident?

What other factors cause the accident?

ACTION PLAN

Recommended remedial / corrective / preventive action

S/No.	Description of action

REVIEW by Management

Comments below are based on the adequacy of the investigation analysis and remedial action taken to prevent recurrence of accident.

I HEREBY DELEGATE THE FOLLOWING PERSONS FOR THE REQUIRED ACTION.

Name:		Designation:		Signature:	

Page 3 of 4

FOLLOW UP ACTION			
Person responsible for remedial action		Person responsible to follow up	
Name:		Name:	
Company:		Company:	
Designation:		Designation:	
Completion date:		Report on:	

Note:

1. The person responsible for remedial action should report to the person responsible once action is completed.
2. The person responsible to follow up should check on the compliance by the completion date and report to the management.

FURTHER OR ADDITIONAL COMMENTS AND RECOMMENDATIONS BY PERSON FOLLOW UP	
Action completed on:	
Action completed by:	
Followed up by:	

APPENDIX F: SAFETY RATING OF SUBCONTRACTORS

Appendix F

SAFETY RATING OF CONTRACTORS

Name of Contractors	Safety Awareness				Safety Compliance				Remarks (if any)
	Excellent	Good	Satisfactory	Poor	Excellent	Good	Satisfactory	Poor	