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SAFETY MANUAL

2013

RB International Gen. Trad. & Cont. Co., W.L.L

Kuwait

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SAFETY MANUAL

Introduction:

Safety of personnel and property are the prime importance to the management of **RB International Gen. Trad. & Cont. Co., W.L.L (RBI).**

In order to achieve this objective, rules and procedures have been established to prevent accidents that may result in injury to persons or damage to property. A summary of important accident prevention rules and working procedures, which apply to **RBI** are provided in this document. The rules and procedures summarized below will help **RBI** in protecting their own employees and properties, as well as employer property.

RB International Gen. Trad. & Cont. Co., W.L.L (RBI) will comply with **all Kuwait Laws on safety** as well as the **Corps of Engineers Safety Manual EM 385-1-1 October 1992.**

Before beginning any work on site, appointed safety officer in charge, shall ascertain by inquiry or by direct observation, that all safety measures have been strictly respected.

Safety issues (deficiencies) brought to the attention of the Safety Officer by the Engineers representative, will be immediately corrected.

Prior to commencement of the work, **RBI** personnel will have an orientation meeting to discuss matters related to safety aspects of the job.

RB International Gen. Trad. & Cont. Co., W.L.L (RBI) will be responsible for the sub-contractor's employees concerning familiarization with, and strict adherence to these regulations.

Violation of these regulations by **RBI's** employees or by the sub-contractor will result in withdrawal of the individual from site.

These safety regulations are treated as an integral part of the terms of the sub-contracts and any violation of these regulations by the sub-contractors may lead to cancellation of the contract, if corrective measures are not taken immediately after have been informed of the same by the **RBI.**

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Hazardous Area:

Wandering in hazardous area is strictly forbidden.

Sleeping:

Sleeping at work location is strictly prohibited.

Daily Clean Up

Debris will be stored in trash bins to prevent trash from blowing off site. Accumulated trash will be hauled off site in a covered truck.

Authorized Entrance/Exit Route to Job:

Contractor's and sub contractor's employees shall use designated entry and exit and will proceed directly to their designated work area by established roadways, they shall not wander from their job site.

Vehicle Entry into Site:

RB International Gen. Trad. & Cont. Co., W.L.L (RBI) & sub contractors vehicles are the only vehicles allowed to enter the site area.

Driving Authorization:

Persons having valid Kuwaiti driving license are authorized to drive within the job site. The type of vehicle being driven shall be in accordance with driving license in possession.

Traffic Rules:

Carrying of persons at the back of pick-ups is prohibited, unless the pick up is provided with a canopy and seating arrangement and unless a permit for carrying passengers has been obtained from the Traffic Department.

Vehicles shall be parked only at the places expressly assigned for.

Vehicle Inspection:

All work vehicles shall be in good condition and suitable to pass inspection. Contractors are responsible for maintaining the vehicle in "ASS certified" condition during the validity of the certificate.

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Tools and Mobile Equipments

Inspection and Certification:

Mobile equipment will be inspected in accordance with EM 385-1-1 prior to commencement of work by the Safety Officer or by a qualified mechanic.

All vehicles and mobile equipment will have a fire extinguisher on board the vehicle or equipment.

Operation:

Electrically operated tools shall be suitable for use as per the area classification. Tools, mobile equipment, crane, etc. shall only be operated by trained and authorized personnel.

Refueling:

- Refueling shall not be done while the engine of the equipment is running.
- Refueling will be equipped with an automatic shut-off handle.
- Fuel for refueling shall not be stored inside the site area.
- All flammable liquids, paints, solvents and gases will be stored separately in a safe location, away from other working areas, outside in the open air, but protected from direct sunlight. All storage areas will be sign posted “DANGER HIGHLY FLAMMABLE” and there will be a suitable fire fighting appliance or extinguisher close by.

Drinking Water:

Cool fresh drinking water will be provided daily as well as disposable cups to all Labor and Staff while working in extreme conditions.

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Accident Prevention, Reporting & Investigation

Apprising Employees of Hazards of Job:

It is the responsibility of **RBI** to inform their employees prior to commencement of the job about the hazards associated with the job and the safety measures needed to be followed for its execution.

- Employees will be told to stay away from snakes and scorpions.
- Employees will be informed about heat stroke and heat exhaustion: the symptoms and causes.
- The safety officer will install a first-aid kit at the job site and have a knowledge of first-aid and CPR.

Personal Protectives:

RB International Gen. Trad. & Cont. Co., W.L.L (RBI) will provide their employees with the mandatory Personal Protective Equipments (PPE) helmets, safety boots, etc. and the Personal Protective Equipments PPE's / Safety equipment specified in the work permit. Additional PPE's, if asked by the safety inspector for safe execution of the job shall also be provided by **RBI**.

Personal Protective Equipments PPE's and safety equipment shall conform to international standard and shall be approved by the safety inspector.

Safety officer shall ensure that Personal Protective Equipments PPE's and Safety Equipments are effectively and correctly used and maintained in good condition.

General Safety Precautions

Safety Helmets*:*

When entering the construction area, all personnel will wear an approved safety helmet at all times.

Safety Footwear:

All personnel entering the construction site will wear safety shoes/boots.

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Gloves:

Suitable protective gloves will be supplied at all times if there is a foreseeable risk of injury to the hands while carrying out any work operation.

Eye Protection:

Goggles, face screens, visors or safety spectacles will be provided at all times during work duties where an injury to the eyes is possible.

Ear Protection:

Ear Muffs or plugs will be used in any area where noise is high enough that you need raise your voice when talking to a person next to you.

Lung Protection:

Dust masks or respirators will be used wherever large concentrations of dust are created.

Flammable Materials:

All flammable liquids, paints, solvents and gases will be stored separately in a safe location, away from other working areas, outside in the open air, but protected from direct sunlight. All storage areas will be sign posted – "DANGER, HIGHLY FLAMMABLE" and there will be a suitable fire fighting appliance or extinguisher close by.

Blasting is prohibited

Injuries to Personnel:

In case of injury to any of the **RBI** employees during the working period and within the working area, those injured will be provided first aid treatment at the nearest clinic. Any further treatment will be the responsibility of **RB International Gen. Trad. & Cont. Co., W.L.L (RBI)**.

RB International Gen. Trad. & Cont. Co., W.L.L (RBI) will notify the contracting officer will be notified of any lost time, accidents or fatalities.

The injured party will be transported by car to the nearest clinic for treatment.

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Accident Reporting:

Any accident or injury to any of the **RBI** employees during the working period and within the working area, will be reported to the Site Safety Officer, who will in turn report such accident to the representative of the Employer.

Near Miss:

All incidents having the potential of personal injury / property damage or having resulted in damage to plant and equipment is terms as near miss or dangerous occurrence.

Emergencies

Fire & Other Emergency Situation:

In case of fire or any other emergency in the work area, **RBI** will suspend all work and ensure that the employees move out of the area and that none of the equipment is left blocking access to the area.

Evacuation:

Evacuation from the area due to an emergency situation will be announced. **RBI** will ensure that their personnel are familiar with evacuation procedures.

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Elevated Works

Use of Scaffolds:

Scaffolds shall be provided for all work which cannot be done safely from the ground, floor or other substantial footing.

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Footing and Anchorage:

The footing or anchorage for scaffolds shall be sound, rigid, and capable of supporting the maximum intended load without settlement or displacement boxes, barrels, loose bricks or concrete blocks shall not be used to support a scaffold.

All scaffolds of any nature shall be securely fastened to the building or structure or, if independent of the building, they shall be braced or guyed to prevent sway.

All vertical supports shall be plumb and braced to prevent swaying and displacement.

Bearers of crossbeams, upon which the scaffold platform rests shall be securely clamped and, as necessary, blocked to prevent them from slipping down the scaffold pole.

Overhead protection shall be provided for men on a scaffold exposed to overhead hazards. Minimum protection shall be at least 41 mm (nominal 2-in) lumber, laid closely to avoid open cracks.

Safe access shall be provided to each of the scaffold platforms in use. Safe access may be by a properly leaning, secured, and braced ladder, or by a vertical ladder attached to the end or side of scaffold section.

The top of the ladder shall be extended at least 1 m above the landing.

Scaffold shall not be overloaded.

Damaged or weakened scaffolds shall be immediately repaired and shall not be used until repairs have been completed.

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Metal Scaffolds:

The following requirements are specifically applicable to metal scaffolds.

1. All metal scaffolds shall be of the type or equal to those listed by the Underwriter's Laboratory inc (UL).

2. All such equipment shall be erected in accordance with manufacturer's specifications.

3. Climbing of braces is prohibited.

4. Where a built-in ladder is part of the scaffold system, it shall conform to the requirements for fixed ladders.

5. All metal scaffolds shall be plumb and level.

6. The sections of metal scaffolds shall be securely connected together.

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First Aid:

Adequate first aid coverage will be provided on the job site. This will include the provision of a suitably trained first aider who is readily available at all times. A well stocked first air box will be provided in a suitable place and signs must be displayed in a prominent place to indicate where to go to receive first aid treatment.

All first aid treatments will be recorded on a register and reported to R/E.

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Safety Tool Box Meetings:

Comprehensively planned, regularly scheduled and competently managed safety meetings comprise one of the most effective means by which the contractor and user can instruct employees regarding safe work practices.

The time, place, subject, and manner of delivering a message are critically essential to effectiveness at these meetings. Mid-week and mid-morning or mid-afternoon are the least disruptive times for such meetings. The place must be reasonably comfortable and relatively quiet (shaded, enclosed). Principal topics must be appropriate for current work and hazards. Concise, half-page typed statements of principal topics will be issued to foremen. The agenda will be prepared, typed and issued to participants in "Foreman and Staff Safety Meetings".

Safety meetings shall conform to the following guidelines:-

1. The minimum frequency of the meeting is weekly.

2. The subject will be pertinent to the work currently being performed.

3. The subject material will be typed, reproduced, and distributed to each foreman at least one work day before its scheduled use.

4. The meeting will be conducted by each foreman/supervisor with his crew at the designated time, using the subject material furnished.

5. The meetings shall provide employees with the opportunity to ask questions or to make suggestions.

6. The actual meeting time must be of at least 10 minute duration.

Foremen's Monthly Safety Meetings:

The foremen's monthly safety meetings shall conform to the following guidelines:

1. The subject material shall be pertinent to the work currently being performed.

2. The following basic items shall be included with the subject of each meeting.

   One. Review of doctor cases since the last meeting, identifying the principal accident causes and craft involved, including accident prevention actions what were and shall be initialed by responsible individuals.

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Two. Review of the most frequently noted serious, non serious and repeated safety violations, including corrective action required by responsible individuals.

3. The subject material shall be typed, reproduced and distributed to the foreman, one week prior to the meeting.

4. Group discussions on methods of correction prevention and improvement shall be encouraged.

5. Attendance at these meetings shall be mandatory.

6. The actual meeting time shall not exceed 30 minutes, except in unusual circumstances with the prior approval of the manager or superintendent.

Sanitary Conveniences:

A sufficient number of toilets are to be provided on the site. They are to be ventilated under cover.

The number of toilets and urinals shall be in accordance with the following:

- For 20 or less workers, one (1) toilet seat is required.
- For 20 or more workers, one (1) toilet seat and one (1) urinal per 40 workers is required.

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Cranes and Derricks – General:

Every crane shall have the following documents with them at all times they are to be operated.

One. A copy of the operating manual developed by the manufacturer for the specific make and model of crane; a copy of the operating manual for any crane operator aids with which the crane is equipped.

Two. The load rating chart for the crane, which shall include:

(i) The crane make and model, serial number, and year of manufacturer;

(b) Load ratings for all crane operating configurations, including optional equipment;

(c) Wire rope type, size, and reeving; line pull, line speed, and drum capacity, and

(d) Operating limits in windy or cold weather conditions. The crane's log book which shall be used to record operating hours and all crane inspections, tests, maintenance and repair. The log shall be updated daily as the crane is used and shall be signed by the operator and supervisor: Service mechanics shall sign the log after conducting maintenance or repairs on the crane.

Responsibilities in Crane Operations:

One. The operator shall not engage in any activity which will divert his attention while operating the crane.

Two. The operator shall respond to signals from the person who is directing the lift or an appointed signal person: When a signal person is not used as part of the crane operation, the operator is responsible for the lifts.

Three. Each operator is responsible for those operations under his direct control, including those items under (d) below: whenever there is any doubt as to safety, the operator shall consult with his supervisor before commencing the operation.

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Four. Prior to a lift, the rigger (except during a critical lift, when these shall be done by the lift supervisor) shall ensure that:

(a) The crane is level and, where necessary, blocked,
(b) The load is well secured and balanced in the sling or lifting device before it is lifted more than a few inches.
(c) The lift and swing path is clear of obstructions and adequate clearance is maintained from electrical sources, and
(d) All persons are clear of the swing radius of the counterweight.

Five. When two or more cranes are used to lift one load, one designated person shall be responsible for the operation.

(a) The designated person shall analyze the operation and instruct all personnel involved in the proper positioning, rigging of the load, and the movements to be made.

(b) The designated person shall make such determinations as the necessity to reduce crane ratings, load position, boom location, ground support, and speed of movement, which are required to safely make the lift.

(c) The designated person shall ensure that all prescribed communication (including signaling) personnel and/or equipment are on hand and properly functioning, and that all personnel involved with the crane operation understand the communication systems and their responsibilities associated with communications.

Operator Designation:

One. Cranes and derricks may only be operated by qualified operators.

b. Only those operators qualified to operate a particular type of crane or derrick may operate that type of machinery.

Operator Qualifications and Training:

One. **Proficiency Qualifications**

(a) Each operator shall be instructed in and qualified for each type of crane or derrick he is to operate.

(b) Qualification shall be by written and practical operating examination unless the operator is licensed by a state or city licensing agency for the particular type of crane or derrick.

Cranes and derricks shall be operated, inspected, tested and maintained in accordance with the manufacturer's operating manual for the crane.

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Crane Design and Construction Standards

* Mobile and locomotive cranes - ASME/ANSI B30.5
* Portal, tower, and pillar cranes - ASME/ANSI B30.4
* Hammerhead Tower Cranes - ASME/ANSI B30.3
* Floating Cranes and Floating Derricks - ASME/ANSI B30.8
* Draglines-Power Crane and Shovel Association Std.#4
* Articulating Boom Cranes - ASME/ANSI B30.22
* Overhead and gantry cranes(top running Bridge,single or multiple girder,top running hoist) ASME/ANSI B20.2
* Overhead and gantry cranes(top running bridge, Single girder, underhung hoist) - ASME/ANSI B30.17
* Monorails and underhung Cranes - ASME/ANSI B30.11
* Derricks - ASME/ANSI B30.6
* Helicopter Cranes - ASME/ANSI B30.12

A hazard analysis shall be developed for crane set-up and set-down procedures (mobilization, assembly or erection, dismantling and demobilization).

Clearances:

One. Adequate clearance shall be maintained from electrical sources.

Two. Adequate clearance shall be maintained between moving and rotating structures of the crane and fixed objects to allow the passage of employees without harm: the minimum adequate clearance is 16 inches.

Three. Accessible areas within the swing radius of the rear of the rotating super-structure of a crane, either permanently or temporarily mounted, shall be barricaded to prevent an employee from being struck or crushed by the crane.

Hoisting ropes shall be installed in accordance with the equipment manufacturer's recommendations.

One. There shall be at least three full wraps (not layers) of cable on the drums of hoisting equipment at all times.

Two. The drum end of the rope shall be anchored to the drum by an arrangement specified by the crane or rope manufacturer.

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Communications:

One. A standard signal system shall be used on all cranes.

Two. In situations where the operator cannot see the load, audio(radio) communications shall be used. In all other operations, audio communications should be used.

Inspection of cranes shall be in accordance with the manufacturer's recommendations.

One. Prior to initial use all new and altered cranes shall be inspected by a qualified person to ensure compliance with the applicable standards.

Two. Prior to initial use on a project, and periodically thereafter (one to twelve months or as recommended by the manufacturer) a periodic inspection shall be conducted by a qualified person.

(a) A copy of the checklist used for the inspection shall be maintained at the project site.

(b) Engineer's representative shall be notified at least 24 hours prior to the inspection and may wish to accompany the contractor's inspector during the inspection of the crane of derrick.

Three. Pre-operational inspections (start-up procedures)shall be conducted by the operator prior to every operation (shift) of the crane. If checklists are used for pre-operational inspections, a copy of the checklist shall be maintained at the project site, if checklists are not used, the operator shall indicate the successful completion of the inspection – in accordance with the manufacturer's recommendations – in the operator's log.

Four. Cranes not in use on a regular basis shall be inspected in accordance with the following:

(a) A crane which has been idle for a period of 1 month or longer, but less than six months, shall be given an inspection, conforming to the requirements for frequent crane inspections and frequent wire rope inspections, by a qualified person before being placed in service.

(b) A crane which has been idle for a period of over six months shall be given a complete inspection, conforming to the requirements for frequent and periodic crane inspections and frequent and periodic wire rope inspections, by a qualified person before being placed in service.

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(c) Standby cranes shall be inspected by a qualified person at least semiannually and before being placed in service. Inspection requirements depend on the length of time since the previous inspection, in accordance with paragraphs(I) and (ii) above; standby cranes which are exposed to adverse environmental conditions shall be inspected more frequently, as determined by the designated authority.

Performance Load Tests

One. Under the following circumstances cranes shall be load tested by a qualified person.

(a) Prior to initial use of cranes in which load sustaining parts have been altered, replaced or repaired (excluding replacement of the rope).

(b) Every time it is reconfigured or reassembled after disassembly, and

(c) Every four years.

Two. Performance load tests shall be conducted in accordance with the manufacturer's recommendations. Test loads shall not exceed 100% of the manufacturer's load rating capacity chart at the configuration of the test.

Three. Written reports of the rated load test, showing test procedures and confirming the adequacy of repairs or alterations, shall be maintained with the crane or derrick or at the on-site project office.

The manufacturer's specifications and limitations applicable to the operation of any crane or derrick shall be followed; at no time shall a crane or derrick be loaded in excess of the manufacturer's rating.

One. Where manufacturer's specifications are not available, the limitations assigned to the equipment shall be based on the determinations of a qualified engineer competent in this field and such determinations will be documented and recorded.

Two. Attachments used with cranes shall not exceed the capacity, rating, or scope recommended by the manufacturer.

Riding on loads, hooks, hammers, buckets, material hoists, or other hoisting equipment not meant for personnel handling is prohibited.

When practical and when their use does not create a hazard, tag lines shall be used to control loads.

Whenever a slack line condition occurs, prior to further operations the proper seating of the rope in the sheaves and on the drum shall be checked.

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Critical Lift Plans:

Prior to making a critical lift, a critical lift plan shall be prepared by the crane operator, lift supervisor, and rigger. The plan shall be documented and a copy provided to the designated authority: the plan shall be reviewed and signed by all personnel involved with the lift.

One. The plan shall specify the exact size and weight of the load to be lifted as well as all crane and rigging components which add to the weight.

Two. The plan shall specify the lift geometry and procedures, including the crane position, height of the lift, the load radius and the boom length and angle, for the entire range of the lift.

Three. The plan shall designate the crane operator, lift supervisor, and rigger and state their qualifications.

Four. The plan will include a rigging plan which shows the lift points and describes rigging procedures and hardware requirements.

Five. The plan will describe the ground conditions, outrigger or crawler track requirements, and, if necessary the design of mats, necessary to achieve a level, stable foundation of sufficient bearing capacity for the lift. For floating cranes or derricks, the plan shall describe the operating base (platform) condition.

Six. The plan will list environmental conditions under which lift operations are to be stopped.

Seven. The plan will specify coordination and communication requirements for the lift operation.

Eight. For tandem or tailing crane lifts, the plan will specify the make and model of the cranes, the line, boom, and swing speeds, and requirements for an equalizer beam.

Environmental Considerations:

One. Cranes shall not be operated when wind speeds at the top of the crane approach the maximum wind velocity recommendations of the manufacturer.

Two. Operations undertaken during weather conditions that produce icing of the crane structure or reduced visibility should be performed at reduced functional speeds and with signaling means appropriate to the situation.

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Three. When conditions are such that lighting could occur, all crane operations shall cease.

Four. For night operations, lighting shall be adequate to illuminate the working areas while not interfering with the operators vision.

Maintenance and Repairs:

One. Maintenance and repairs shall be conducted in accordance with the manufacturer's procedures and precautions.

Two. Replacement parts or repairs shall have at least the original design factor, replacement parts for load bearing and other critical parts shall be either obtained from or certified by the original equipment manufacturer.

Manual & Powered Hand Tools

Introduction:

Hand tools are those for which the hand provides the force, for example, picks, shovels, axes, crowbars, wrenches, saws, chisels, hammers, and screwdrivers. Accidents arising from the use of hand tools are frequently caused by human error when the wrong tool is used. It is, therefore, the contractor's duty to ensure that his workmen are properly instructed in the selection and use of the correct tool for the job and to further ensure that proper tools are available.

Powered hand tools are those that are mechanically powered and held by hand during operation. The operation of the tool depends upon being held by hand. Powered hand tools can perform many tasks faster and more accurately than hand tools. The correct use of power tools can only be achieved by proper training of workmen, proper maintenance and by adequate work supervision. Many accidents have occurred because unskilled and untrained workers have been allowed to operate portable power tools in an incorrect manner.

Scope:

This safe practice applies to the design, construction, use, maintenance and repair of the principal manual and powered hand tools used in industrial construction work. GFCI protection will be provided in the system.

Purpose:

The purpose of this Safe Practice is to provide the principal precautions that are required to be taken when using or operating manual and powered hand tools.

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Exclusions:
Safe Practices for tools that are manually placed into position for operation, but whose operations do not depend upon being held manually, are excluded from this Safe Practice. Such tools are generally covered in Safe Practice – Equipment.

GENERAL SAFE PRACTICES

Quality:

The contractor shall ensure that hand tools provided on the jobsite are of good serviceable quality, and are properly designed and constructed to withstand the rigors of industrial construction work. Inferior materials can cause problems such as

Mushroom heads on cold chisels and fragmentation of hammers or axes. Poor quality tools increase the risk of accidents and also reduce work efficiency.

Maintenance:

The contractor shall ensure that all manual tools are regularly cleaned, adjusted, sharpened, oiled, and otherwise maintained to restore and preserve their condition for efficient, effective use.

Repair and Storage:

All hand tools shall be regularly inspected before and after use. If wear or damage is observed, the tools should be withdrawn from use and repaired or discarded. If tools are repaired, the contractor shall ensure that competent repairmen are assigned to such tasks and shall further ensure that all hand tools are properly stored until issued in a manner that will prevent damage to the tool.

Selection:

Most hand tool accidents are caused by selecting the wrong tool for the job. It is, therefore, essential that the correct type, size, and weight of tool should be decided upon before any work is performed. Crew foremen shall instruct new employees in the proper selection of tools for the different tasks. The contractor shall ensure that an adequate supply of tools is available in the proper range of sizes and with an adequate selection of components, such as blades and attachments, for the tasks to be performed on the job site.

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Electrical Tools:

Manually held, electrically operated tools shall be closely inspected before each day's use, and frequently during use, to ensure that the tool is operating properly and has no unprotected bare wires or connections, that switches are in place and operable. Dust should be blown from inside the tool case using a moderate force of air.

Excessively sparkling electrical brushes usually indicate a need for replacement or adjustment of the brushes, or a problem with the armature.

Pneumatic Tools:

Pneumatically operated, manually held tools are often quite complex in design. Consequently, such tools shall be examined frequently for inoperative lubricators, bent or hammered parts, plugged filters, loose fastenings, and missing, broken, or malfunctioning tool retaining clips.

Hydraulic Tools:

Hydraulically operated tools can exert considerable force; consequently, manually held hydraulic tools are generally designed for bending purposes, such as pipe benders and pullers. The primary source of trouble with such tools is in the attachments used for bending shapes. These should be checked for cracks and malformations before each use to avoid a piece of the attachment breaking off under stress. Such pieces can become dangerous projectiles.

Explosive – Actuated Tools:

The primary hazard involved in the use of explosive actuated tools is their use by untrained or inadequately trained persons. The crew foreman shall positively determine that each individual assigned to use such a tool has been properly and thoroughly trained in its use, and is able to demonstrate his competency.

Manual Tools:

Cutting tools include saws (handsaws, hacksaws, miter saws, keyhole saws, coping saws, etc.), wood chisels, knives, shears, snips, axes and hatchets.

Cutting edges shall be kept sharp; handles shall be sound (no splits nor brooming); fastening and adjustments shall be firm and secure. Saw teeth shall be properly set.

Because the cutting edges are sharp, care shall be taken in handling and carrying such tools. When using axes or hatchets, the craftsman using them shall check his area of swing for clearance and to see that no other workers are in the way.

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Impact Tools

Impact tools includes but not limited to various Impact wrenches, hammers, sledges, mallets, picks and punches.

Handles shall be sound and true; if handles are wood, they shall be firmly wedged in the socket of the tool. Punches shall not have mushroom heads.

The most essential rule for safe use is to check before swinging; make certain the swing area will be clear of persons or objects. In closely confined areas, care shall be taken to avoid striking on object on the backswing of a hammer, hatchet mallet, or pick; a glancing blow to the user can be serious.

Twisting and Turning Tools:

This category includes screwdrivers, gimlets, hand grills, braces and bits, pipe wrenches, and other types of wrenches.

Screwdrivers shall have properly sharpened tips. The handles on a wood brace shall turn freely, and the jaws in the chuck shall be properly lubricated, if equipped with a ratchet, the ratchet shall be easily adjusted. The teeth on pipe wrench jaws shall be sharp and clean, the screw adjustment shall operate easily, and the jaw spring shall be sound, permitting proper spread of opening for firm grip on a pipe. All wrench handles shall be true. Open-end wrench jaws shall not be sprung; the inside of the box wrenches shall not be scored or badly worn. All adjusting screws on crescent wrenches shall operate freely.

None of these hand tools shall be over stressed, since most will break under such circumstances. Extenders shall not be used on wrenches; if there is enough space for an extender, there is enough space for a tool of proper size.

Gripping and Prying Tools

Pliers, vise grips, and clamps (wrenches are covered in Section – Twisting & Turning Tools) are examples of gripping or prying tools.

The teeth on pliers shall be sharp and clean; handle shall not be distorted. Clamps shall be easily adjustable and adjusting screws shall be lightly lubricated. Overstressing is generally the primary unsafe practice; the tools shall be operated as intended by their design.

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Tools & Equipment for Hauling & Carrying

This equipment includes all barrows, bricks and block carriers, concrete buggies, hand trucks, and dollies.

All hauling and carrying tools and equipment that depend upon manual power shall roll easily and smoothly; all handles shall be sound and firmly attached.

The principal hazard involved in pushing or pulling loaded marterial carrying equipment is straining by the workman. Consequently, loads shall be within the capacity of the equipment and the worker; the path for movement of the equipment shall be wide enough for the equipment, and the ground or floor shall be free of impediments to the safe movement of the equipment. Ramps and runways shall be sued over steps and rough or soft ground. Ramp slopes shall be as gradual as possible.

Miscellaneous Tools

This category includes such tools as cement handling and finishing tools; survey tools such as measuring tapes, calipers, gauges, squares, and levels; shovels, hand augers, scrappers, hooks, containers, and ladles.

The principal source of injuries involved in the use of assorted hand tools is in the handling of the tools. Mishandling causes scrapes, pinches, cuts, strains, and burns. Workmen must be aware of their methods of handling assorted tools. Generally tools with handles are carried by holding the handle; pointed and bladed tools without heads are simply carried by hand, in a case if provided, or in a general tool box for the craft involved.

Power Manual Tools:

Following are the principal safe practices for each of the major types of powered manual tools.

Electrical Tools

Electrically operated hand held tools shall be equipped with a plug that complies with the NEMA configuration for the rated voltage and amperage for the tool. The service cord shall be a three-wire grounded cord with a grounding prong in the plug, or the tool shall be a double insulated type verified by an Underwriter's Laboratories UL or Factory Mutual Laboratories plate.

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All grinders and saws, shall be provided with an operable blade guard that maintains contact with the work piece during operation. Guards shall not be wedged or otherwise blocked. The removal of a guard shall occur only in those circumstances where the guard would actually prevent the performance of a specific task. Removal shall be for the particular task only. Further, the removal of a guard requires the foreman's approval in each instance. The guard shall be replaced immediately upon completion of the task which required its removal.

Grinder speeds shall not exceed the rated grinding wheel speeds. Each new grinding wheel shall bear a rated speed designation. Face goggles or face shields shall be worn while using a grinder.

Care shall be taken to avoid drilling too large a hold at one time. If this occurs, the drill may bind after it breaks through, and the torque of the tool could twist the handle against the user's wrist and cause serious injury.

Inoperative blade guards on saws are a major hazard. Guards shall not be wedged or otherwise blocked; to do so is to risk serious injury. When blades are properly sharpened and set, little force is required to move the saw through the material. When it must be forced, the blade shall be replaced. If the material is internally warped, wedging may be used to keep the cut open. Care shall be taken to prevent cutting through the cord. Proper adjustment of the roller on belt sanders is one key element in the safe operation; a poorly adjusted belt mat ride off the tool or into the guard.

Causing damage to the tool. additionally, the tool shall be completely stopped when the operator lays it down. Care shall also be taken to keep the cord clear of the belt when sanding. Eye protection and dust masks shall be worn when sanding.

Pneumatic Tools

Air compressors shall always be located in areas with adequate ventilation. Engine-driven compressors shall not be permitted to operate in confined spaces without the provision of adequate exhaust ventilation.

All compressed air hoses shall be of the correct size to fit the tool being used. All joints in the hoses shall be made with a proper coupler. The hose length shall be kept as short as possible, and shall be placed where it will not be subject to damage or cause a tripping hazard.

Pneumatic tools require clean air to operate efficiently. In every line feeding a power tool, there shall be an adequate filter and lubricator. The lubricator and filter shall be inspected as often as necessary to ensure their effective operation.

During operation and while being stopped, all air tools should be held firmly to prevent from spinning and jumping.

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With jackhammers and concrete breakers, the tool bit retaining spring shall always be securely in position to prevent the bit from dropping out. The bit must be kept sharp.

Ear and eye protection are normally required when working with pneumatic tools.

Hydraulic Tools

The hydraulic fluid used in the tools shall be fire-resistant and shall retain proper operating characteristic to 74 C (165 F). The manufacturer's safe operating pressures for hoses, valves, pipes, filters and other fittings shall not be exceeded.

Explosive Actuated Tools

Only workmen who have been trained and certified in the operation of the particular tool shall be allowed to operate an explosive actuated tool. The tool shall be tested daily before loading to ensure that all safety devices are in proper working condition. Test shall comply with the manufacturer's recommendations for the particular type of tool.

Malfunctioning and otherwise defective explosive actuated tools shall be immediately removed from services and shall not be used until repaired. In order to ensure that the tool will not be used before being repaired, a red tag shall be tied onto the latch of the tool case and onto the trigger of the tool. The message on the tag shall read " Danger ! Malfunctioning Tool. Do not attempt to operate this tool until it is repaired".

Operators shall be provided with and shall wear impact-resistant goggles.

Powder actuated tools shall not be loaded until just prior to intended use. Loaded tools shall not be left unattended. Powder actuated tools shall not be pointed at any person. Hands shall be kept clear of the open barrel end.

Fasteners shall only be driven into materials that have a hardness that does not exceed that recommend by the manufacturer for the tool. High velocity tools shall not be used on hollow tiles and blocks; low velocity tools shall be used instead.

When driving stud fasteners into soft or easily penetrated material, the material shall be backed by a substance which will prevent the stud fastener from passing completely through and creating a hazard on the other side. No stud fastener shall be driven into an area previously spaced by another stud fastener.
Explosive actuated tools shall not be operated in an explosive or flammable atmosphere, and shall not be used without the correct shield in place.
Explosive actuated tools shall meet all other applicable requirements of the American National Standard Requirements for explosive activated tools, A10.3-1072.

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APPENDIX - 1

RB International Gen. Trad. & Cont. Co., W.L.L (RBI)

SAFETY ORIENTATION RPOGRAM

Employer Name :

Date of Orientation :

Item #	List of Items Discussed	Remarks

Signature of Safety Officer **Signature of Employee**

…… ……

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APPENDIX - 2

RB International Gen. Trad. & Cont. Co., W.L.L (RBI)

FIRE & SAFETY REGULATIONS

SAFETY CHECKLIST FOR VEHICLE AND EQUIPMENT

NO	ITEM	Y	N	NA	REQUIREMENT
1	Tyres				
2	Battery				
3	Battery Clamp				
4	Wiring				
5	All Lights				
6	Fuel System				
7	Engine				
8	Exhaust System				
9	Wind Shield				
10	Engine Air Filter				
11	Foot Brake				
12	Parking Brake				
13	Rear View Mirror				
14	Trailer				
15	Towing Coupling				
16	Fire Extinguisher				
17	Vehicle Jack				
18	Wheel Spanner				
19	Horn				

RBI SAFETY COMMITTEE

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