

<b>Location:</b>	Terga	<b>Date of Assessment:</b>	17-09-2009	<b>Assessment No:</b>	
<b>Assessor(s):</b>	Biman Modak	<b>System/Activity:</b>	Sand Blasting and Painting.		

Probability & Frequency	Definite	5	5	10	15	20
	High	4	4	8	12	16
	Moderate	3	3	6	9	12
	Low	2	2	4	6	8
	Negligible	1	1	2	3	4
			Minor	Serious	Major	Catastrophic
Severity						

Key to Priorities  
 Medium Priority (5 days) 
 High Priority (2-3 days) 
 Immediate

## INTRODUCTION

The table below provides a simplified representation of the methodology used and the processes involved in this Hazard Identification & Risk Analysis Procedure (Risk Management) to be undertaken by OCIA and all Subcontractors in order to initiate, act on, review and effectively manage project-related risks throughout the Construction Phase.

IDENTIFICATION - Pre planning , Method statement , Job safety analysis.	ASSESSMENT – Impact, Risk factor, Mitigation measure, Residual risk	IMPLEMENTATION & COMMUNICATION	REVIEW & UP DATE
Identify activities , Identify hazards	Assess Impacts, Analyze Risk , Establish Mitigation Measures.	Communication & Training	Audit, Inspection & Up dating of Log.

Hazards Identified (include the exposed groups)	Probability 1 - 5	Severity 1 - 4	Risk 1 - 20	Control Measures to be Implemented	Probability 1 - 5	Severity 1 - 4	Risk 1 - 20	Residual Risk	Date Action Completed
Crane / Boom failure	3	3	9	Certified controlled and well maintained crane. Licensed competent crane operator. Complete the crane checklist inspection Re inspect the crane after each shift	2	3	6		
Collapse or rollover of crane	3	3	9	All the service drawings to be inspected prior to the commencement of any works Steel plates fitted where appropriate to provide additional support All movements to be controlled by a competent banks man. A competent trained supervisor to be present and in control of the works at all times.	2	3	6		
Unstable ground of the crane outriggers	3	3	9	Crane operator to assess work and lifting area before any lifting operations are carried out. Outrigger to be fully extended and load bearing pads to be use during lifting operation.	2	3	6		
Unstable load	3	2	6	Sufficient tag lines to be used at all times. Trained and competent banks man to be in control of the lift at all times. A competent trained supervisor to be present and in control of the works at all times	2	2	4		
Incorrect / Unsafe slinging	4	3	12	Load to be rigged by a trained competent rigger at all times A competent trained supervisor to be present and in control of the works at all times All movements to be controlled by a competent banks man. All slings shall be protected from sharp objects and edges of the load at all times.	2	3	6		

Crush injuries to body parts	3	3	9	<p>No worker under a suspended load.</p> <p>Experienced steel erectors who will be inducted in the company policies, safety procedures, site safety rules, emergency procedures and environment to only work aloft.</p> <p>All crane swing radius to be protected and highlighted.</p> <p>All personnel to be vigilant / alert at all times.</p> <p>A competent trained supervisor to be present and in control of the works at all times.</p> <p>All movements to be controlled by a competent banks man.</p>	2	3	6		
Throwing of materials such as : Bolts, nuts and hand tools	3	3	9	<p>No throwing up or down of equipments, tools or bolts etc, and all materials to be put in a suitable container before lowering or hoisting.</p> <p>Personnel to be issued with pouches or belts for ease of carrying hand tools or extra bolts.</p>	2	3	6		
Safe access / egress	3	3	9	<p>All access routes to remain clear and free from obstructions.</p> <p>Area to be kept tidy at all times.</p> <p>Adequate access ladders with fall arrest system installed.</p> <p>A pre tested and certified man basket and scaffolding to be used to access difficult areas.</p> <p>Man basket to be checked daily by a competent person prior to use.</p> <p>The man basket must be checked each time it is attached to the crane.</p> <p>Shackles are secured and pinned.</p> <p>Shackles and rings are not deformed and pad eyes are not damaged.</p> <p>Slings and rings in good condition.</p> <p>Handrails are in good condition.</p> <p>Floor plating and kick plates are in good condition.</p>	2	3	6		
Grating fixing	3	3	9	<p>All gratings will be secured to the structure, and also will be secured to each other with proper fixing materials.</p>	2	3	6		

Working at heights with man basket	4	4	16	<p>Sandblasting is a special physical process that uses a stream of sand propelled by water or compressed air and applied on a surface. Texas sandblasting creates a powerful abrasive force that can act on any surface worked on using this air-propelled material. There are alternative sandblast materials that can be used depending on the requirement of the work. These include iron globules, emery and powdered quartz.</p> <p>It is the preparatory process done on different kinds of surfaces before enameling, painting and during the process of galvanizing. It is also a popular cleaning solution for surfaces with hard to remove grime and other debris that accumulate in the concrete surfaces of buildings.</p>	2	3	6		
Working at heights ( fall )	4	4	16	<p>It should be noted that sandblast jobs can be hazardous as workers are exposed to toxic elements during the process. There are a wide range of harmful particles which may include zinc or lead which are common components in most commercial Texas coatings. When you are doing sandblast operations, steps should be undertaken to protect yourself from the harmful effects of the abrasive materials being used. Protective gears like goggles and appropriate clothing are extremely important if you are going to do sandblasting work. The potential harm and injury that can be brought on the person doing the sandblasting operations makes it extremely important that safety regulations are observed before and during any sandblasting operation.</p>	2	3	6		

Rigging , miscommunication between riggers and crane operators	4	3	12	<p>In any typical sandblasting operation, the standard air breathing equipment must be used. This is necessary as the operators need to have a steady supply of clean air in a workplace where there is a heavy volume of toxic and harmful contaminants. Before any sandblast operation, it is imperative that you inspect the air breathing apparatus to make sure that it delivers a steady flow of clean air. The operators are strongly advised to remove the air breathing equipment after operation only when they at a safe distance from the work area as harmful particulates remain suspended in the air even after the sandblast operations.</p> <p>The crew must also wear standard issue gloves and coveralls while within the sandblasting workplace. It is also equally important to use the prescribed footwear when doing sandblast operations.</p>	2	3	6		
Equipment slinging, Part of a body sheared by the slings and the equipment due to incorrect slinging	2	3	6		2	2	4		
Fall from the access ladders	4	4	16		2	3	6		
Unauthorised personnel in the lifting area	3	3	9		2	3	6		
Manual handling , temporary support , fixture are used during assembly, erection activities.	3	2	6		2	2	4		
Equipment and tools transportation to and from storage area .	3	3	9		2	3	6		

Fire or explosion ( combustible materials, gas cylinders, etc.)	3	3	9	Area to be checked from flammables before the commencement of any works and also area to be checked one hour after work has ceased. Gas cylinders must be kept in the vertical position. Site emergency plan to be followed in event fire or explosion. All personnel to be inducted and aware of emergency procedures. Fire blankets and extinguishers to be present at the work places.	2	3	6		
Disc cutting and grinding, Cut/severing by using the tools incorrectly.	3	3	9	Hand tools are to be inspected and colour coded by the designated competent person. Tools to be used by the qualified employees only. Proper PPE wearing, toolbox talk prior to starting the activity.	2	3	6		
Use of mechanical lifting equipments	3	3	9	All operators will be competent in use of mechanical lifting equipment. Equipment will be suitable, sufficient, maintained and inspected (colour coded) prior to use.	2	3	6		
Irritation to eyes	3	3	9	All personnel to wear appropriate PPE at all times.	2	3	6		
Cut and abrasions	3	3	9	All personnel to wear appropriate PPE at all times	2	3	6		
High noise during bolts tightening	3	3	9	All personnel will be using hearing protection at / around the origin of high noise.	2	3	6		
Irritation to the respiratory track	3	3	9	All personnel to wear appropriate PPE at all times	2	3	6		
Burns, scalds and scars	3	3	9	All personnel to wear appropriate PPE at all times	2	3	6		
Inadequate lighting	3	2	6	Temporary lights to be in place wherever required	2	2	4		
Use of hand tools and equipment	3	3	9	All personnel involved to be competent All tools to be maintained in good order and used correctly by trained operators only. Hand tools will be secured by robe when used at height and secured to fixed point.	2	3	6		

Erection of scaffolding	3	3	9	Scaffolding only to be erected by competent and trained scaffolders, and will be tagged green or red. Avoid working under scaffolds and under overhead ongoing activities, toolbox talk prior to starting the activity. Working at height standards implemented, safety guard rails mounted and safety harness worn and secured, toolbox talk prior to starting the activity.	2	3	6		
Torque bolting, Non-ergonomic posture to carry out certain tasks	3	2	6	Implement good manual handling techniques	2	2	4		
Welding at height	3	3	9	All welding operations at height are to be fully sheeted in with a fire blanket. The area below the work place to be checked for flammable materials before commencing any work cordoned off. A fire watcher and fire extinguishers to be in place below the work area. All equipments to be inspected and left in safe conditions at break times and at the end of each shift.	2	3	6		
Inclement weather	3	3	9	Wind speed and weather conditions to be monitored on a daily basis.	2	3	6		
Slips and trips and falls	3	2	6	Work area to be kept tidy at all times. Area to be cleaned of any waste material at end of each shift.	2	2	4		
Temporary storage at height	3	2	6	All temporary storage of material at height shall be held on a dedicated suitable and sufficient platform.	2	2	4		

<b>Assessor</b>	<b>Print :</b>	<b>BIMAN MODAK</b>	<b>Sign:</b>		<b>Date:</b>	<b>25-07-2009</b>
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