**PROJECT LIFTING PLAN**

**Dated:**

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| --- |
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# INTRODUCTION

This <COMPANY NAME HERE>Lifting Operations Plan details the project specific organisation and arrangements for the management of lifting operations on the project.

Such lifting operations include those carried out by tower cranes, mobile and crawler cranes, lorry-loaders and other equipment such as excavators, forklifts and telescopic handlers when being used to carry out lifting operations.

Lifting operations involving cranes will always require the following resources: -

* Appointed Person
* Crane Supervisor
* Crane Operator
* Slinger
* Banksmen (Slinger and Banksmen may be a combined role).
* Crane Co-ordinator (where two or more lifting appliances are in use and there is a potential for them to clash)

For details of the roles of the above refer to BS 7121 Parts 1 and 5 and Section 2.0 of this document.

All documentation associated with the lifting operations that is generated during the project must be retained in an orderly manner within a referenced filing system.

The responsibility for compiling and updating this document rests with the <COMPANY NAME HERE>Appointed Person who is named in section 3.0 of this Lifting Plan.

# SCOPE

This plan shall apply to:

<COMPANY NAME HERE> employees and contractor’s involved in cranage lifting and slinging operations it applies to <COMPANY NAME HERE>owned, hired or contracted cranes including mobile, crawler, tower, derrick, portal and Pedestal-type, vehicle mounted cranes, electric overhead travelling cranes, monorail cranes, and associated lifting equipment including slings, chains, Spreader and lifting beams, Wire ropes, shackles pad-eyes containers, baskets, Winches, work-belts harnesses and personnel transfer baskets.

This procedure also applies to lifting operations conducted with earth moving equipment

Statutory requirements and Code of practices incorporated in this plan which Should be read together with any manufacturer instruction

# ROLES AND RESPONSIBILITIES

## Project Manager

Where the Project Manager has been delegated with responsibility for lifting operations they will ensure that no such lifting operation takes place before suitable and sufficient Risk Assessments have been prepared and approved; and that all lifting has been suitably planned.

Furthermore, no lifting operation will commence until an acceptable Method Statement has been produced which has taken full account of the earlier identified Risk Assessments and the necessary controls.

The Project Manager will draw on the services of the <COMPANY NAME HERE>Safety Team to assist the fullest execution of their duties and to receive professional input as to specific training needs.

However, in order to assist the discharge of responsibilities the Project Manager may further delegate certain duties to the Construction Manager. In any event, these parties will ensure that an ‘Appointed Person’ is available to advise them at all times. The ‘Appointed Person’ must be an ‘employee’ of <COMPANY NAME HERE>and their appointment should be in writing.

## Construction Manager

The Construction Manager must confirm to the Project Manager that all lifting has been subjected to suitable and sufficient Risk Assessments. As part of the overall planning on site, the Construction Manager will also confirm that all lifting is being executed and supervised in line with approved Method Statements, by authorised and competent personnel.

The Construction Manager will confirm that all lifting equipment and accessories, held or being used on site at any time, are identifiable within a readily accessible register. This register will also identify the dates of the latest and next due ‘thorough examinations’ required under DM regulations, plus any other information relevant to general checks and inspections. As well as ensuring that a suitable storage area is available, the Construction Manager must also ensure that a system is in place whereby faulty, damaged or unserviceable equipment is immediately withdrawn from use and removed from site.

## Appointed Person

 The ‘Appointed Person’ (AP) will ensure that no unauthorised person is allowed to become involved with any lifting operation. The ‘Appointed Person’ will ensure that engineers/ mechanics, riggers or any other persons attending site to maintain, repair, erect, strike, alter or interfere in any way with any lifting equipment are:

* Authorised to attend site;
* Suitably inducted;
* In possession of all trade certification as regards competence;
* In possession of suitable and sufficient Risk Assessments and Method Statements
* In possession of tools and equipment that are suitable for use;
* Supervised by those delegated as responsible for them whilst on site;
* Are in a position of responsibility that will allow them to verify that their work has been completed and that the relevant item is suitable for service.

The ‘Appointed Person’ will ensure that any lifting operation is covered by a specific Risk Assessment and Method Statement. The ‘Appointed Person’ need not comply with this requirement provided that the lifting operation in question has been subjected to a generic Risk Assessment which has been deemed by <COMPANY NAME HERE> to be capable of execution by those parties identified below; and that a clear and uninterrupted reporting line remains between the <COMPANY NAME HERE> ‘Appointed Person’ and every relevant party. The ‘Appointed Person’ is responsible for the planning of all lifting in this category.

This provision does not negate any of the duties identified above or below. It is designed to facilitate the site’s requirement to undertake numerous general lifts that would be impracticable to identify ahead of the event.

Impracticable in this context relates to situations where nothing arising from a Risk Assessment or Method Statement would substantially or significantly alter or detract from the normal or accepted procedures necessary to execute the lift in question. In every case however, the ‘Appointed Person’ is required to approve the method for each and every lift. The ‘Appointed Person’ will identify all lifting operations that require specific and /or individual assessments and methods and be able to confirm that all relevant parties have been made aware.

To facilitate the satisfactory delivery of these duties the ‘Appointed Person’ must remain directly responsible for a number of critical personnel and procedures, including decisions relating to weather.

In the first instance the ‘Appointed Person’ must ensure that no lift is attempted unless at least one Crane Driver, one Slinger and one Signaller are in attendance for each lifting activity. The ‘Appointed Person’ will ensure:-

* That each has confirmed, by third party verification if requested, that the role in question is their normal trade or vocation. Where this is not the case suitable persons may be selected, vetted and trained on site. (Discretion here being solely with the ‘Appointed Person’).
* That each has been inducted, informed and trained by their employing organisation.
* That each has been inducted to the <COMPANY NAME HERE>site, site rules, systems and procedures.
* That each is aware of all accepted methods required to safely and effectively perform their own and the other’s respective duties.
* That each agrees to undertake only those lifts that have been subjected to a Risk Assessment and Method Statement that has been approved by the <COMPANY NAME HERE> ‘Appointed Person’
* That no lifting operation will be attempted until all three categories, as a minimum and as a group, have discussed, fully understood and agreed the lift in question.
* No lift will be undertaken until suitable third party controls are in place.
* No equipment will be used unless it can be confirmed as being fit for purpose. This requires consideration of Safe Working Loads (SWL) at all times.
* That a system of communication is in place and understood by each. (The management of a radio communication system is the responsibility of the ‘Appointed Person’; this must ensure that only authorised persons are able to gain access to radios and that a maintenance regime is in place).

## Crane Supervisor

The Crane Supervisor is responsible for directing and supervising a lifting operation in accordance with relevant Risk Assessments, Method Statements or Lifting Plan.

* The Crane Supervisor must be suitably competent with relevant experience of the type of lift being carried out.
* The Crane Supervisor must be authorised to undertake the role.
* The Crane Supervisor must have a full understanding of duties of all those involved in the lifting operation.
* The crane supervisor must also have the authority to suspend a lifting operation should they deem it unsafe to continue.

The Crane Supervisor may and often will be responsible for other duties and this role may be undertaken by the Appointed Person, a Crane Driver, Slinger/ Signaller or a Construction Supervisor. Note that a Crane Driver should not undertake this role whilst operating any crane involved in the lifting operation.

## Crane Co-ordinator

The Crane Co-ordinator is responsible for ensuring no two lifting appliances (or their loads) collide with each other during the undertaking of their work.

Lifting appliances in this context includes; tower cranes, mobile cranes, concrete placing booms, telehandlers, piling rigs etc.

The Crane Co-ordinator will be an ‘employee’ of <COMPANY NAME HERE> and their appointment should be in writing.

The Crane Co-ordinator is to ensure that appropriate documented arrangements are in place to manage the risk of clashing. These arrangements should include diagrammatical representation of priority zones which the Crane Co-ordinator will monitor on a day to day basis.

Any operator of a lifting appliance must not work beyond the limitations of the above arrangements unless authorised to so by the Crane Co-ordinator.

Should there be a requirement for one lifting appliance to enter the priority zone of another; this must be under the direct control of the Crane Co-ordinator.

## Slinger/Signaller Roles and Responsibilities

The role of a Slinger/ Signaller can and very often is carried out by the same person. They are, however, two distinct roles and therefore have been dealt with as such in the following.

## Slingers

Slingers must be authorised to carry out this role and this is normally by the Appointed Person

Slingers will only use lifting accessories (slings etc.) that have been selected from an appropriate storage facility, selecting them in conjunction with the guidance and advice displayed there as well as with the appropriate Risk Assessment and Method Statement/lifting plan.

No lifting accessory will be used that cannot be identified by an individual part or plant number; this is required in order to locate the item within the applicable register and confirm that it has a current certificate of thorough examination.

Slingers are required to conduct thorough pre-use checks on lifting accessories, ensuring that any damaged item is immediately withdrawn from use. Such an item will be clearly marked and removed from both site and the register.

Every slinging operation must have been assessed for risk, resulting in a preferred method. Slingers will ensure that all slinging conforms to this. Where doubt exists, the ‘Appointed Person’ is to be consulted before any element of the lift progresses.

Part of the approved method for any lifting operation is to conduct a trial lift. Trial lifts are required in order that any error in slinging might be identified and corrected. It is a mandatory requirement and must be requested of the signaller by the Slinger. The Slinger is also the only person authorised to detach a load.

As a degree of autonomy is necessary Slingers must have an understanding of the range of lifts to which this might apply and, perhaps more importantly, that they understand the conditions or type of lift that will prevent the operation until a specific Risk Assessment and Method Statement have been produced.

Where a dedicated Slinger is utilised a hand over of responsibility from him to the Signaller must be undertaken once the load is assessed as being safe to lift i.e. after the trial lift, assuming that it is satisfactory.

## Signaller

Signallers must be authorised to carry out this role and this is normally by the Appointed Person.

Signallers must ensure that all those involved in a lift are familiar with the method of signalling being employed.

Signallers who utilise hand signals will comply with the requirements of BS 7121 (Part 1) and those shown in the Health and Safety (Safety Signs and Signals) Regulations 1996, or a similar and suitable alternative. The method to be used must be documented. Where radios are to be used for communication, the ‘Appointed Person’ will approve the protocol and procedure. A suitable means of communication must be in place to ensure that the Signaller and Slinger are in constant contact with the Crane Driver.

Signallers must ensure that loads have been correctly slung through liaison with the Slinger.

Every lift will have been assessed for risk, with the control measures identified and implemented. Signallers must be familiar with these and the relevant Method Statement. An instruction to a Crane Driver carries much responsibility.

The initial part of a lifting operation is termed the trial lift. It needs to be undertaken in order to establish that slings have been correctly attached, that the load is stable and that it can be landed.

The lay-down position and the path that the load will travel must be established before the lift commences, taking account of proximity hazards and the controls needed to protect third parties.

In the event of inclement weather the Signaller and Slinger must consider, in conjunction with the Crane Driver, whether the lift should take place; bearing in mind that the ‘Appointed Person’ has overall discretion here and must be approached where any doubt exists.

All personnel involved in a lifting operation must be clearly visible and wear the appropriate high visibility clothing.

## Crane Operators

A Crane Driver will not take direction from any person other than the Signaller(s) that are known to him to be responsible for the lift.

Crane Drivers must confirm that the method of slinging a load has been covered by a Risk Assessment and Method Statement, and that this is being complied with.

Crane Drivers will not attempt to lift any load, unless, as a minimum, they know the approximate weight. Loads can be further assessed during the trial lift when the Singer can confirm to the signaller that the load is correctly slung.

Crane Drivers will not attempt to lift any load unless the lay down area is known to them and that the route is clear as regards obstructions and third parties.

Crane Drivers must make and record daily and/or weekly user inspections in line with any scheme of examination.

Crane Drivers will immediately halt a lifting operation in the absence of a continuous signal from the Signaller. There is noexception to this mandatory requirement.

Crane Drivers must ensure that they are aware of any specified lifting zones. A plan of the site identifying any such zones should be kept in the cab.

**Note:** There should always be a trained certified secondary operator on site for any emergency backup purposes for securing tower/ mobile cranes into a safe stationary position

# COMPLETED CRANES SUPERVISORS COURSE

* <Write Name here>

# AUTHORISED APPOINTED PERSONS

|  |  |  |
| --- | --- | --- |
| **Position** | **Contractor** | **Nominated Person** |
| Appointed Person | <COMPANY NAME HERE> |  |
|  |
| Contractor  |  |
| Crane Co-ordinator | <COMPANY NAME HERE> |  |
|  |

# INDEX OF METHOD STATEMENTS FOR COMPLEX LIFTS

**Definition**: A Complex Lift is defined as one of the following:

* A lifting operation that requires more than one lifting appliance, e.g. a tandem lift
* A lifting operation that requires the use of engineered lifting equipment
* A lifting operation that involves lifting of persons (Man Cage)
* A lifting operation at a location with exceptional hazards
* Were requested by the Appointed person as a complex lift

A specific Method Statement must cover all complex lifts. An index of these Method Statements is to be retained in Project Method Statement and Risk Assessment Programme and appended to this plan.

For very large or complicated lifts the Method Statement could run to several volumes of very detailed planning and engineering studies.

**Simple lifts**

Any lift that does not meet complex lift criteria is considered to be a simple lift.

**Lifts Involving Transfers of Load, Lateral Movement of Load**

Crane Operators and Riggers conducting a lift involving the transfer of loads from one hook to another (including turning loads using two ropes on a single crane) or lateral movement of loads, shall demonstrate a working knowledge of Crane selection and set

up and shall be able to demonstrate with understanding knowledge of the risks of the lift.

The preferred method for rotating loads is to use 2 cranes where possible. During the rotation of a load, the auxiliary hook must be capable of 100% of the load Being lifted; providing the manufacturer of a crane has approved transfer of load. Lift study and methodology should be formed and AP/ Lift Coordinator should be present to conduct this activity.

**Pre and Post Operational Inspections**

Pre and post operational inspections of the crane and lifting equipment will be carried out by the crane operator or lifting crew (Banksmen). This is to ensure that all equipment is in correct working order and safe for use before the task begins and is safe to use for the oncoming shift.

# REGISTER OF LIFTING EQUIPMENT

All lifting accessories are to be held within a designated suitable, secure storage area. A register of lifting accessories is to be maintained in the store and only authorised personnel are to be issued with lifting accessories. The register will record the issue and return of lifting accessories which must be visually inspected when issued.

**Routine Inspection**

* Lifting equipment used must comply with inspection and colour-coded tag Markings as part of equipment compliance
* Banksman (Slinger/ signaller) can perform a periodic inspection to install a tag. There is no requirement to use a third party for periodic inspections
* All equipment to be visually inspected prior to use as stated in the pre post operational inspections
* Any equipment identified as being damaged or out of certification shall be immediately either
* Repaired / re-certified; disposed of; or tagged out of use and sent for repair.

|  |
| --- |
| Inspection Period Colour |
| Q1 January - March | Red |
| Q2 April- June | Green |
| Q3 July- September | Blue |
| Q4 October- December | Yellow |

# COMMUNICATIONS

 The following communication arrangements will be implemented for the project by the Project Manager. The Appointed Person will assist the Project Manager in complying with these arrangements.

## Crane Team Meetings

 Crane Team Meetings will be held at regular intervals as deemed appropriate by the Appointed Person. These meetings are to be attended by a suitable representative from each contractor who is involved in or may be affected by lifting operations e.g. the Appointed Person. An agenda is attached below.

**Crane team meeting Agenda**

* Review of completed lifting operations
* Issues Arising
* Forthcoming Lifts/Booking Schedule
* Forthcoming Cranes
* Zoning/Anti Clash
* Method Statements/Lift Plans submittal
* Date of Next Meeting (Based on fortnightly rotation)

## Briefing Sessions

 Briefing sessions are to be held between Crane Supervisors, Crane Operators and Slinger/ Signallers to discuss aspects of their work and, in particular, compliance with agreed lifting methods as set out within the Lift Plans, Method Statements or Lifting Operations Assessment Forms. Such briefing sessions may take the form of toolbox talks with an attendance recorded on Toolbox Talk form. These should be conducted prior to a lifting operation being undertaken or when changes are made to existing lifting procedures.

## Signalling and radio systems

 The <COMPANY NAME HERE>Appointed Person is to ensure that appropriate arrangements are in place to enable clear direction between those parties involved in lifting operations. Only those authorised to be involved in a lifting operation are to be issued with radios for the purposes of communication during such operations. The issuing of radios is to be controlled by the <COMPANY NAME HERE>Appointed Person. Radios are to be recorded in to a register

## Prevention of Collisions

 Where the potential of two or more lifting appliances clashing cannot be avoided, arrangements need to be introduced to control the resultant risk. Consideration should be given to the following when undertaking the initial planning of lifting operations for the project.

* Priority zone layout drawings for each lifting appliance retained within the crane cab and where deemed necessary by the Appointed Person, markers placed on the project to assist Crane Drivers in working only within their own zone.
* Anti-clash radios to be permanently on in each crane and to be used exclusively for averting a clash between lifting appliances.
* Periodic Co-ordination Meetings (where necessary these may need to be daily)
* Each crane and Slinger/ Signaller to be issued with operational radios with a single dedicated and unique channel.
* Radio failure – In the event of radio failure, battery or other instance during a lift the lift may be continued based upon agreed hand signals between the driver and the banks man. Banks men and drivers must agree and confirm hand signals to be used (this can be Medical Emergency in the cab – Stop works, if possible return the crane to a safe state and notify Lift Coordinator/ AP)

## Identification of Slinger/ Signallers

All Slingers and Signallers are to be identifiable as such by the wearing of an orange / Green high visibility vest and Green hardhat. No other personnel on the project are to where Green.

## Training

All personal to be trained/ 3rd party tested to perform crane and rigging high risk activities.Trainee’s involved in lifting operations are assumed to have no knowledge and Therefore Trainees must be supervised at all times by either supervision/ certified trained personal (Banksmen/ signaller) until they have obtained the minimum competencies

## 3rd party(VOC) of Crane Operators, Banksman Competency

Assessors of Crane Operators and Banksman competency shall be a person with relevant field experience in lifting operations and the Crane type being assessed and hold a relevant Statement of attainment in all elements. Assessors shall follow the third party assessor’s guidelines whilst carrying out assessments.

In preparation for the VOC and third party testing, an Accredited Crane Operator can mentor the crane operator. At all times the Accredited Crane Operator must be in a position to advise the new operator. At no time can the Accredited Crane Operator leave the crane while the crane is in Operation. Crane operators shall be verified as competent on each crane they operate on <Compnay Name Here> site in accordance with forms for Verification of Competency (VOC). This is due to the variation in the operating Systems that can occur between cranes.

The assessor immediately following VOC assessment shall issue crane operators with an Interim Verification of Competency form. Banksman and Signaller shall be verified as competent in accordance with <COMPANY NAME HERE>VOC requirement

* + 1. **Skills Knowledge and Responsibility Matrix**

The following table sets out the minimum competencies and activities each role required at <Company name here>

|  |
| --- |
| Skills and KnowledgeM= Mandatory, A= Awareness , AR= As Required |
| Roles | Qualifications or Competency | Activities |
| Lifting Operation awareness general | Lifting Operation Crane Supervisor | Banksman 3rd party certificate | Tower Crane 3rd party certificate | Mobile Crane 3rd party certificate | Crawler Crane 3rd party certificate | Appointed Person Training | Hoist Operator Training | Inspector of Lifting Equipment | Crane inspection on site | Permit and Checklist Inspection | Develop lift studies | Multiple Crane lift | Maintenance of Crane registered to site | Inspection of Lifting Equipment before use |
| Signaller | M |  |  |  |  |  |  |  | A | AR | AR |  |  |  | A |
| Banksman | M |  | M |  |  |  |  |  | M | M | M |  |  |  | M |
| Crane Operator | M |  |  | M | M | M |  | M | M | M | M |  |  |  | M |
| Site Supervisor/ Manager | M |  |  |  |  |  |  |  |  | AR | AR |  |  |  | A |
| Engineer | M |  |  |  |  |  |  |  |  | AR | AR |  | M |  | A |
| Third Party Inspector |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Lifting Supervisor | M | M |  |  |  |  |  |  | M | AR | AR |  | M | M | AR |
| Appointed Person | M | M |  |  |  |  | M |  | M | AR | AR | M | M | M | AR |
| Site Safety | M |  |  |  |  |  |  |  |  | AR | M |  |  |  | A |
| Lifting Coordinator | M |  |  |  |  |  |  |  |  | AR | AR |  |  |  | A |

# EXCAVATORS USED AS CRANES

Excavators used as cranes are to be restricted in the types of lifts permitted. Those allowed are listed below.

Excavators used as cranes must be used in compliance with the manufactures instructions e.g. only designed/engineered lift points to be used, buckets to be removed during lifting operations.

Slinging must be by an operative with appropriate training for the types of lifts being undertaken. If deviation from the methods above is required these must be approved by the Appointed Person.

Excavators used as cranes must be thoroughly examined in compliance with DM regulations (at least 12 monthly) and weekly inspections carried out and recorded.

# HOIST

Hoist to be vertically aligned, proof load tested (2 ton each cabin) and third party certified before operation commenced. All operators must be trained, third party tested for hoist operations

There must be a safe accessible access egress entry for personal and materials to be loaded. All materials to be secured before operation and loads must not exceed the loading capacity of each cabin.

# FORKLIFTS/TELEHANDLERS

All forklifts and telehandlers will be required to have the following documentation in place prior to commencing work: -

* Weekly inspection
* 6 month inspection of chains/ cables (forklifts only)
* Proof of operator training for type of plant (3rd party)
* 6 month inspection of any lifting gear used.

NB If lifting gear is used to sling loads; this may only be done by a designed engineered lifting device/ attachment that fit over the forks. Chains /slings must not be wrapped over or around forks. This type of lifting attachment will require a thorough examination before use.

Once approved for work on this site, the operation of the forklift/ telehandler will be as stated in the any relevant specific method statement. However, the following basic restrictions will apply: -

All traffic restrictions must be followed, including any specific routes and site speed limit.

* All loads to be kept low to the ground while vehicle is travelling.
* Machines are not to be used as working platforms or for man riding.
* Machines are for single occupants only. NO passengers

If lifting point attachment is being used to sling loads below the forks, work must be controlled by a CPCS qualified Slinger/ Signaller.

Prior to starting work, a clear method of communication must be agreed between the driver and Slinger to ensure that both understand the signalling method that is being employed.

The requirement for Banks men will depend on the size, stability etc. of the load and should be addressed in the task specific Method Statement/ Risk Assessment.

All machines must carry safe loading charts and the manufacturers operating handbook.

In all cases, the driver is responsible for the lifting operation. This applies to load and vehicle stability, safety of the workforce and safety of other persons who are in or may enter the work area. If at any point the driver is unhappy with the lift or has any concerns, do not proceed, and seek advice from foreman or Site Manager.

# LORRY LOADERS (HIABS)

It is not intended to use HIABS for general lifting operations. They will be restricted to the loading and unloading of materials to a stockpile and for delivering and removing site offices and containers.

The operator will be required to produce a current certificate of thorough examination for the HIAB and any lifting gear to be used. The operator will also be required to provide a certificate of competency for the operation of the HIAB.

Any use of lorry loaders for relocating materials around site will constitute as crane and will therefore require the approval of the Appointed Person.

**Maintenance**

A preventative maintenance system in accordance with the manufactures guide lines shall be conducted and in place to ensure that all cranes, engineered lifting devices and lifting equipment are maintained and in a serviceable condition to the tolerance and specifications as detailed in the maintenance manual.

**Lifting in Adverse Weather Conditions**

Anemometers are fitted to all tower cranes on site; wind speed readings are to be monitored by both operator and supervision.

To control the use of cranes during adverse weather, heavy rain, high winds, fog, haze, lack of back ground lighting, thunderstorms and lightening the following is to be adopted.

When wind speed reaches 36kph based upon anemometer readings the crane driver is to notify <COMPANY NAME HERE>Lift coordinator/ AP. Upon notification the appointed person/Crane coordinator is to attend site to review the lifting arrangements to confirm if current works are ok to continue or are selected works suspended.

(Note this is **not a stop** or hold point only a request for lifting advice)

**Constant winds** - In the instance of constant winds at 36kph – it is the crane driver discretion to suspending works and seek advice if there is any concern in the lifting operations (In brief 36kph – Driver to notify lifting Coordinator/ AP).

**Adverse weather** - winds of 45kph – All lifting to stop – Appointed person is the only person authorised after review of any lifts after this hold point, special consideration is any incomplete works that is left may be a safety hazard, these issues must be strictly controlled by the appointed person or crane coordinator.

**Thunderstorms** - and local lightening – All lifting operations shall cease as soon as possible, that is, when the situation around the lift has been made safe, to be assessed by the AP/ HSE, A person should be appointed to monitor lightning activity and lifting operations should be notified when electrical activity is detected and is within 30 minutes or less of the lifting operation.

**Fog** – Unable for the banks man to see the hook and to guide the driver to picking points. In many instances some lifts are blind so the driver cannot see where he is picking from, so the stopping of lifting is a decision based upon information from the driver and from the banks man – All lifting Stop, notify lifting Coordinator/ AP

**Insufficient light** – If areas have insufficient back ground lighting that the driver and or banks man cannot safely navigate the site conditions works are to be suspended to that area. The banks man has to be able to see what he is doing to enable to guide the driver.

**Items to be considered during adverse weather**

* Remove chains from the hook (Mobile cranes)
* Banks men to refrain from touching suspended loads or chains during thunderstorms or local lightening
* Set the crane to weather vane (Set Jib in to correct position/ free slew)
* Trolley in hammer head cranes
* Driver to isolate power at the base
* Remove all plant materials or debris for lifting area
* Set up exclusion zones if required or remove labour to covered areas
* Upon passing of adverse weather systems to be checked prior to returning to normal use (operational pre-checks list)

**Appendices**

# APPENDIX 1- MOBILE CRANES SITE ACCESS

|  |  |  |
| --- | --- | --- |
| **Access No:** | **Responsible Person:** | **Date:**  |
| **Site Access Inspection:**[ ]  **Weekly Re-Inspection:**[ ]  |
| **Crane Reg. No:** |  | **Serial No.** |  |  | **Crane Model:** |  |  |
| **Crane Owner:** |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |
| **No** | **Visual Inspection**  | **Pass** | **Fail/ N/A** | **Comments** |
| **Section A – Crane Requirements (Road Worthy)** |
|  | Brakes, clutch and Lever operational  |  |  |  |
|  | Tyres / tracks In good condition |  |  |  |
|  | Oil leaks. |  |  |  |
|  | Head light, Reverse horn, beeper and beacon (warning) lights are in working condition  |  |  |  |
|  | Engine Oil, Radiator Coolant and Battery water levels. |  |  |  |
|  | Battery Condition  |  |  |  |
|  | Foot Brake/ Park Break operational  |  |  |  |
|  | Windscreen wipers Operational  |  |  |  |
|  | Rear View and side mirrors fitted and in good condition  |  |  |  |
| **Section B – Crane Requirements (Documentation)** |
|  | Crane Certification Of Examination (3rd party)  |  |  |  |
|  | Evidence Of Plant Registration  |  |  |  |
|  | Rope/ Hook, Cert Supplied  |  |  |  |
|  | Load Charts supplied for crane configuration setup  |  |  |  |
|  | Lifting Equipment supplied (certification of inspection 3rd party)  |  |  |  |
|  | Log Book **(Pre-start inspection)** |  |  |  |
| **Section – Crane Requirements** |
|  | Visual inspection of slew ring  |  |  |  |
|  | Electrics / hydraulics hose fittings  |  |  |  |
|  | Luffing moment indicators operational  |  |  |  |
|  | Crane Hook/s Have Positive Locking Safety Latch  |  |  |  |
|  | Load Moment indicator operational  |  |  |  |
|  | Any Modification or alterations to the crane have been approved by the manufacturer (certificates supplied on request)  |  |  |  |
|  | Operator’s cabin (glass visibility, instrument counters). |  |  |  |
|  | Timber Pads for outriggers if applicable/ Tracks to be tighten to spec |  |  |  |
|  | Safe access to the crane counterweight/ Deck |  |  |  |
|  | Crane inclinometer fitted  |  |  |  |
|  | External rated capacity lighting fitted  |  |  |  |
|  | Sheaves and bearing (visual) |  |  |  |
|  | Check for rope damage (visual) |  |  |  |
|  | Fire extinguisher is fitted |  |  |  |
| **Comments / Suggestions:** | **Site Access Permit Issued: Yes**[ ]  **/ No** [ ]  **Corrective Action Needed: Yes**[ ]  **/ No** [ ]  |  |
|  |  |
| **Operator:** |  | **Signature:** |  |  |
| **Site Approved Inspector :** |  | **Signature:** |  |  |
|  |  |

Note: All checks are visual and detailed checks will be carried out by the Technician.

**COMMENTARY TO CRANE SITE ACCESS**

* **Crane documentation** supplied with the crane and crane has been inspected and passed by an approved assessor.
* **Certification** is current for the crane and a copy resides in the crane.
* **Crane log (pre-start inspection) book is in crane** and is up to date for the crane and has been used daily.
* **Load charts and crane manual are in the crane** and are correct for the crane. The operating manual to be readily available which identifies how the crane is to be operated
* **Rope certificate is supplied** for the crane ropes/s.
* **Hook Certificate** for the crane hook is carried with the crane.
* **Lifting equipment inspections and tagging is current**, correctly colour coded and recorded.
* **Fire extinguisher is fitted**, is charged and has been inspected and within the inspection date
* **All seating has an approved seat belt**
* **Permanently fixed rotating orange beacon** is fitted and operable.
* **Timber for packing/ matts under outriggers** are on board and suitable for crane, E.g. larger than the outrigger pads.
* **Safe Access & Working System to the crane deck** is in place for counterweight tasks and maintenance work.
* **Crane manufacture and model meets the requirements.** Only cranes that are manufactured by a recognised crane manufacturing company and mass produced and sold shall be allowed on site.
* **Crane inclinometer** fitted and if colour coding is present it aligns to the cranes specifications
* **Load moment indicator and load cell are fitted** and are fully operable.
* **External rated capacity lighting (Christmas tree) is fitted** and is fully operable.
* **The SWL or WLL is clearly identified** on the crane boom.
* **Site fall protection systems in place for operations, maintenance & inspection** of the crane.
* **Crane hook/s have positive locking safety catch** and they are operating correctly.
* **Any modifications to the crane have been approved by the manufacturer** and are recorded in the log book.
* **Crane is ergonomically acceptable**, the cabin, controls, etc. offer comfort and good visibility.
* **Tyres and wheels** – Tyres and wheels shall be in good condition and have sufficient tread to be roadworthy.
* **Battery Condition** – Battery is in good condition without oxidisation or damage and is securely fitted in the vehicle.
* **Park Brake operable** – Park Brake system fitted to the equipment shall fully operable.
* **Foot Brake operable** – Foot Brake system fitted to the equipment shall fully operable.
* **Horn / Warning device is operational** and effective.
* **All lights and indicators operational (head, brake, indicator, park & reverse lights)** – All lights and reflectors shall be fully operable and without defects.
* **Reversing alarm fitted, operational** and effective (optional).
* **Windscreen washers and wipers operational** and effective.
* **Rear view and side mirrors fitted** and in good condition.

# APPENDIX 2- SITE LIFT STUDY

|  |  |
| --- | --- |
| **Section A**  | **Study Details (Valid for entire period of lift)** |
| DETAILS OF THE LOAD |
| Item to be lifted: | Date: |
| Lift location: |  |
| Refer to applicable Lift Calculation sheet for details |
| **DETAILS OF THE CRANE** |
| Make:  | Model: |
| Make: | Model: |
| **Lift Study Developed By** |
| Name: Position: | Name: Position: |
| Name: Position: | Name: Position: |
| Mandatory Lift Study Documents Required (If NO is ticked reasons for not complying must be clearly stated in the comments below). | 🖵 Yes 🖵 No |
| Test certificates or documentation for lifting lugs, rigging or other attachments supporting the load | 🖵 Yes 🖵 No |
| Underground services site plan  | 🖵 Yes 🖵 No |
| Any other relevant permits | 🖵 Yes 🖵 No |
| The load charts for the lifting crane/s | 🖵 Yes 🖵 No |
| Lifting calculation sheets | 🖵 Yes 🖵 No |
| **Lift Study Approval and Authorisation** |
| Approved By: (Engineer if required) | Name:  | Signature: |
| AP or By: ( Lifting Coordinator) | Name:  | Signature: |
| **Section B** | **Lift Study pre-lift sign off** |
| Structural or Lift Hazard |  | Work instruction in place |  |
| Ground Conditions are adequate |  | Pre lift meeting has been held |  |
| Electrical Hazards identified  |  | Rigging arrangement checked and corrected  |  |
| Lift Study checked and corrected |  | Lifting areas are safely barricaded  |  |
| Has a test run confirming maximum radius and SWL as per lift study been conducted?  |  | Weather Conditions are appropriate to proceed with lift  |  |
| Calculations sheets checked by crane operator  |  | Lifting gear has been inspected  |  |
|  | **Name:** | **Signature:** | **Date:** |
| Supervisor (Mandatory) |  |  |  |
| Crane Operator (Mandatory)  |  |  |  |
| Banksman (Mandatory) |  |  |  |

|  |  |  |
| --- | --- | --- |
| **LOAD DETAILS** | **WEIGHT** | **CAPACITY** |
| **Crane Components – All Crane Components attached to or below the Boom Head** | kg | **Check capacities below or equal or exceed the Assessed Weight of the load plus weight of relevant Accessories & Crane Components** |
| * Main Hook Block
 | kg |
| * Auxiliary Hook Block
 | kg |
| * Allowance for Fly or Jib if Applicable
 | kg |
| * Ropes including extra falls if applicable; **Number of Fall:**
 | kg |  |
| * Other Crane Components
 | kg |
| **Sub-Total – Weight Crane Components** | kg |
| **Lifting Accessories (Gear) – All accessories for lifting the load below the Crane Hook** |  |
|  | **Number** | **Type Slings, Shackles etc.** |  |
| * Slings
 |  |  | kg |
| * Shackles
 |  |  | kg |
| * Lifting Beams
 |  |  | kg |
| * Other Accessories
 |  |  | kg |
| **Sub-Total – Weight Crane Components** | kg |
| **The Load -** The Assessed Weight of the load to be lifted: | kg |
| **TOTAL COMBINED WEIGHT (Crane Components, Lifting Accessories and Load) (A)** | kg |
| **CRANE DETAILS** |
| Make: | **Model:** |  |
| Lifting Position: | 🖵 **Side** | 🖵 **Rear** | 🖵 **360o** |
| Rated Lifting Capacity: (B) | kg | Check that Max radius of lifts is equal to or less than the Radius for the Rated Lifting Capacity from the Load Chart |
| Boom Length: | meters |
| Radius: | meters |
| Max Measured Radius of Lift: | meters |
| Counterweight Used | Ton |
| % of Rated Capacity | **Total Adjusted Comb Weight (A) ÷ Rated Lifting Capacity (B)****……...…… ÷ ….…………= ………%**  | Check Less than 100% |
| **Check that:**Rated Lifting Capacity is greater than the Total Combined Weight | 🖵 **Yes** | 🖵 **No** | Redo with different configuration/ use a different crane if Rated Lifting Capacity is not greater than the Total Combined Weight |
| Description of item being lifted: | **Comments:** |
| Crane operators name: |
| Signature: |
| Department: |
| Area: | Date: |

# APPENDIX 3- PERMIT TO WORK - MAN BASKET USE WITH CRANES

|  |  |  |
| --- | --- | --- |
| **Logo Here** | **PERMIT FOR USE OF** **MAN BASKET WITH CRANES**  | **File Name** |
| **Project** |  | **Permit No** | \_\_\_\_\_\_\_\_\_\_\_\_\_ | **Date :** | \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |
| **Company:** |  |  | **Location / Crane:** | \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |  |
| **Type of Activity: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_** |   |
|  |  |  |  |  |
| **No. of Personals: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ No’s List on reverse** |
| **SECTION I - SAFETY REQUIREMENTS.** |
|  |  | **YES** | **NO** | **N/A** |
| * Man basket / cage is certified, SWL and tested date mentioned in the basket.
 |  |  |  |
| * All lifting points of man basket are free from any damage.
 |  |  |  |
| * All lifting gears are certified and free from damage.
 |  |  |  |
| * Shackles are secured with steel wire.
 |  |  |  |
| * Tag lines provided to the basket.
 |  |  |  |
| * Wind speed is not more than 32kmph and weather is clear.
 |  |  |  |
| * All persons should wear Safety Harness and attached to the main hook of the crane.
 |  |  |  |
| * All tools using on the basket are attached with tool strings.
 |  |  |  |
| * Underneath / affected area barricaded and watcher appointed
 |  |  |  |
| * There are no electrical power lines near the basket.
 |  |  |  |
| * Foreman / supervisor available full time for monitoring the activity.
 |  |  |  |
| **SECTION II : USERS ACCEPTANCE** |
| **I, the undersigned inspected and checked the requirements in section – I, and will fully comply with it prior to start of activity.** |
| **Site Supervisor / Engineer** |  **Work in-charge**  | **H&S Representative** |
| Name: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |  |  Name: \_\_\_\_\_\_\_\_\_\_ | Name:  | \_\_\_\_\_\_\_\_\_\_\_\_ |
| Signature: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |  |  Signature: \_\_\_\_\_\_\_\_\_\_\_ | Signature: | \_\_\_\_\_\_\_\_\_\_\_ |
| **SECTION III - <COMPANY NAME HERE> APPROVAL** |
| **Site Manager / Site Engineer : H&S Representative:** |
| Name:  | Name:  |
| Signature: | Signature: |
| This permit is valid from Hrs to Hrs on  |
| **Section IV – CLOSE OUT** |
| **This permit should be returned to the approving authority after completion of works signed by Site Engineer / Work In-charge.** **Name: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Date : \_\_\_\_\_\_\_\_\_\_\_\_\_\_****sad** |
|  |  |  |  |  |

|  |
| --- |
| **Man Basket Calculation Sheet** |
| **LOAD DETAILS** | **WEIGHT** | **CAPACITY** |
| **Crane Components – All Crane Components attached to or below the Boom Head** | kg | Assessed Weight of the load plus weight of relevant Accessories & Crane Components |
| * Main Hook Block
 | kg |
| * Auxiliary Hook Block
 | kg |
| * Allowance for Fly or Jib if Applicable
 | kg |
| * Ropes including extra falls if applicable; **Number of Fall:**
 | kg |  |
| * Other Crane Components
 | kg |  |
| **Sub-Total – Weight Crane Components** | kg |  |
| **Lifting Accessories (Gear) – All accessories for lifting the load below the Crane Hook** |  |  |
|  | **Number** | **Type Slings, Shackles etc** |  |  |
| * Slings
 |  |  | kg |  |
| * Shackles
 |  |  | kg |  |
| * Lifting Beams
 |  |  | kg |  |
| * Other Accessories
 |  |  | kg |  |
| **Sub-Total – Weight Crane Components** | kg |  |
| **The Load -** The Assessed Weight of the load to be lifted: | kg |  |
| **TOTAL COMBINED WEIGHT (Crane Components, Lifting Accessories and Load) (A)** | kg |  |
| **CRANE DETAILS** |
| Make: | **Model:** |  |
| Lifting Position: | 🖵 **Side** | 🖵 **Rear** | 🖵 **360o** |
| Rated Lifting Capacity: (B) | kg | Check that Max radius of lift is equal to or less than the Radius for the Rated Lifting Capacity from the Load Chart |
| Boom Length: | meters |
| Radius: | meters |
| Max Measured Radius of Lift: | meters |
| Counterweight Used | Tones |
| % of Rated Capacity | **Total Adjusted Comb Weight (A) ÷ Rated Lifting Capacity (B)****……...…… ÷ ….…………= ………%**  | Check Less than 100% |
| **Check that:**Rated Lifting Capacity is greater than the Total Combined Weight | 🖵 **Yes** | 🖵 **No** | Re-do with different configuration/ use a different crane if Rated Lifting Capacity is not greater than the Total Combined Weight |
| Description of item being lifted: | **Comments:** |
| Crane operators name: |
| Signature: |
| Department: |
| Area: | Date: |

# APPENDIX 4- MOBILE CRANE PERMIT WITH CHECKLIST

|  |  |  |
| --- | --- | --- |
| **Logo** | **MOBILE CRANE PERMIT TO WORK****This permit applies for long term designated cranes only**  | **File Name** |
| **Project : \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Permit No :\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_****Company : \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**  |
|  |
| **SECTION I PERMIT REQUEST**  |
| Type of Crane: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Capacity: \_\_\_\_\_\_\_\_\_\_\_\_\_ TonStatus of Crane: 🞎 Own 🞎 Hire (Company ) \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ 🞎 \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_Description of work :\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_Location: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  |
| Duration of work – Start Date \_\_\_\_\_\_\_\_\_\_\_\_Shift Day/ Night \_\_\_\_\_\_\_ \_ End Date \_\_\_\_\_\_\_\_\_\_ Shift Day/ Night \_\_\_\_\_\_\_\_\_\_\_\_ |
| **Safety Requirement Checklist** |  |
|  | Yes | N/A |  | Yes | N/A |
| 1. **Safety Induction-** All crew members have completed safety induction.
 |  |  | 1. **Competency of Operatives-** The crane operator and Banksman are trained, competent and have valid 3rd party certificates.
 |  |  |
| 1. **PPEs-** All crew members are equipped with required PPEs..
 |  |  | 1. **Crane/Lifting Equipment and Tackles:** Crane/ lifting equipment and tackles are checked and in good condition and have valid 3rd party certificates.
 |  |  |
| 1. **Exclusion Zone-** Exclusion zone identified.
* Adequate barricade and caution signs provided.
* Sufficient watcher posted at vulnerable points.
 |  |  | 1. **Safety Precautions-** Safety precautions as required as per MSRA are in place.
 |  |  |
| 1. **Taglines-** Tag lines as required will be used, however minimum 2 Taglines will be used for all loads.
 |  |  | 1. **Communication-** Competent Banksman available. Radios available to use where required.

  |  |  |
| 1. **Inspection-** Daily inspection of crane carried out and the report attached.
 |  |  | 1. **Supervision-** Work will be supervised/monitored regularly..
 |  |  |
| 1. **Bad Weather-** Crane will not be used during Heavy Wind, rain, storm or poor visibility condition.
 |  |  | 1. **Plant Induction. Completed..**
 |  |  |
| 1. **Checklist-** Daily checklist is attached and will be followed throughout the week
 |  |  | 1. **Other (specify)**
 |  |  |
|  |  |  |  |  |  |
| **Important Instructions (Read and Tick ☑)** |
| * Permit is valid for a week
* Permit should be available and displayed at workplace till completion of work.
* Daily mobile crane checklist to be completed signed by supervisor and <COMPANY NAME HERE> safety officer and kept within the crane until the end of the permit.
* Same operator for each shift (if changed permit will need to be re-issued)
* If the crane is hired on a day by day hire, it will need to follow the daily/ shift permit
* <COMPANY NAME HERE>/ Subcontractor’s Site Manager, Engineer, Supervisor and Safety Officer must inspect the workplace to ensure the correct implementation of permit to work.
* Permit to work will be suspended by the inspecting official if any non-compliance noticed.
* Permit should be closed-out upon completion of work and handed over to <COMPANY NAME HERE>Safety office on the same day.
 |
| **Declaration of Work in Charge** |
| I hereby declare that: 🞎 the above requirement / precaution are in place and addressed to the team and we are fully aware of the same. 🞎 I will be responsible for the proper implementation of this permit 🞎 \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**Work-in-charge**  (Name): \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Signature: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Date: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |
|  |
| **SECTION II PERMIT ISSUE** |
|  This Permit is valid till (Date): |  | Time: |  | hours |  |
|  |  |
|  **<COMPANY NAME HERE> Site Manager / Engineer** | **<COMPANY NAME HERE> Safety Officer** |
|  Name:\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Signature: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Name: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_Signature:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |
| **SECTION III CREW DETAILS** |
| **Sr. No** | **Induction Number** | **Name of Operative** | **Signature** |
| 1 Day Shift |  |  |  |
| 2 Night Shift |  |  |  |

|  |
| --- |
| **SECTION III-A – CHECKS PRIOR / DURING CRANE SETUP (To be completed at workplace)** |
|  | **YES** | **N/A** |
| * Inspection of crane and Lifting gear has been carried out and they are in good condition.
 |  |  |
| * Ground is compacted and firm to set mobile crane.
 |  |  |
| * All outriggers are stable and set firmly on the ground.
 |  |  |
| * Checks made for underground service at point of out rigger and surrounding area.
 |  |  |
| * Mobile crane is away (2m) from excavation slope or pit.
 |  |  |
| * Mobile crane is not obstructing on 360o slew and overhead hazards.
 |  |  |
| * Mobile crane is not working under tower crane and suspended load.
 |  |  |
| * Mobile crane is setup with outrigger fully extended.
 |  |  |
| * All outriggers are placed stable / secured and set firmly on the ground on proper boards / mats.
 |  |  |
| * All tires are clear of ground and as per manufacturer instructions Lifting of load
 |  |  |
| * Load is within safe working load of crane and radius
 |  |  |
| * Offloading area is to be checked and cleared from obstructions.
 |  |  |
| * Surrounding areas are cleared and access restricted to all unauthorized trades while crane in operation
 |  |  |

|  |
| --- |
| **SECTION IV PERMIT CANCELLATION** |
| This permit is cancelled due to:- 🞎 Recommended precautions not in place  🞎 Other (specify) \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_Cancelled by Name: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Signature: \_\_\_\_\_\_\_\_\_\_\_\_\_\_ Date: \_\_\_\_\_\_\_\_\_\_\_\_\_ Time: \_\_\_\_\_\_\_\_ |
| **SECTION V PERMIT CLOSURE** |
| It is to confirm that the work completed on \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_at \_\_\_\_\_\_\_ hours 🞎 The area inspected and found safe 🞎 Permit closed at \_\_\_\_\_\_\_\_\_\_\_\_\_\_ hours..Work in charge (Name): \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Signature: \_\_\_\_\_\_\_\_\_\_\_\_\_ Date: \_\_\_\_\_\_\_\_\_\_\_\_\_ Time: \_\_\_\_\_\_\_\_\_\_\_\_\_ |
| **SECTION VI PERMIT INSPECTION**  |

|  |  |
| --- | --- |
| **Logo** | **MOBILE CRANE CHECKLIST** |
| **Crane Reg. No: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_****Mobile Crane. No: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Crane Model:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_** **Checklist Start Date \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ End Date \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_****Induction No Day Shift: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Night Shift\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_** **Operators Name Day Shift\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Night Shift\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_** Write YES/ NO/ N/A in front of each item listed below |
| **S#** | **CHECKS** | **Saturday** | **Sunday** | **Monday** | **Tuesday** | **Wednesday** | **Thursday** | **Friday** | **Checked by/Initial** |
|  | Operator’s cabin (glass visibility, instrument counters). | Day |  |  |  |  |  |  |  |  |
| Night |  |  |  |  |  |  |  |  |
|  | Brakes, clutch and Lever. | Day |  |  |  |  |  |  |  |  |
| Night |  |  |  |  |  |  |  |  |
|  | Load Indicator. | Day |  |  |  |  |  |  |  |  |
| Night |  |  |  |  |  |  |  |  |
|  | Load chart displayed. | Day |  |  |  |  |  |  |  |  |
| Night |  |  |  |  |  |  |  |  |
|  | Slew Ring (Teeth / roller / bolts on turn table). | Day |  |  |  |  |  |  |  |  |
| Day |  |  |  |  |  |  |  |  |
|  | Electrics / hydraulics hose fittings and tubing. | Night |  |  |  |  |  |  |  |  |
| Day |  |  |  |  |  |  |  |  |
|  | Counter weights. | Night |  |  |  |  |  |  |  |  |
| Day |  |  |  |  |  |  |  |  |
|  | Tyres / tracks. | Night |  |  |  |  |  |  |  |  |
| Day |  |  |  |  |  |  |  |  |
|  | Boom / jibs (angle indicator). | Night |  |  |  |  |  |  |  |  |
| Day |  |  |  |  |  |  |  |  |
|  | Luffing up and Down Limit. | Night |  |  |  |  |  |  |  |  |
| Day |  |  |  |  |  |  |  |  |
|  | Ground level | Night |  |  |  |  |  |  |  |  |
| Day |  |  |  |  |  |  |  |  |
|  | Drums/ winches (spooling of hoist lines, locking devices, rotation). | Night |  |  |  |  |  |  |  |  |
| Day |  |  |  |  |  |  |  |  |
|  | Sheave system (lubrication / free movement). | Night |  |  |  |  |  |  |  |  |
| Day |  |  |  |  |  |  |  |  |
|  | Derricking rope. | Night |  |  |  |  |  |  |  |  |
| Day |  |  |  |  |  |  |  |  |
|  | Aux. hook block. | Night |  |  |  |  |  |  |  |  |
| Day |  |  |  |  |  |  |  |  |
|  | Aux. hoist wire. | Night |  |  |  |  |  |  |  |  |
| Day |  |  |  |  |  |  |  |  |
|  | Main hoist wire. | Night |  |  |  |  |  |  |  |  |
| Day |  |  |  |  |  |  |  |  |
|  | Hoist up Limit. | Night |  |  |  |  |  |  |  |  |
| Day |  |  |  |  |  |  |  |  |
|  | Out rigger status, (lubrication, structural condition, pressure, Level indicating devices.). | Night |  |  |  |  |  |  |  |  |
| Day |  |  |  |  |  |  |  |  |
|  | Swing radius warning devices. | Night |  |  |  |  |  |  |  |  |
| Day |  |  |  |  |  |  |  |  |
|  | Head light, Reverse horn, beeper and beacon (warning) lights etc... are working properly. | Night |  |  |  |  |  |  |  |  |
| Day |  |  |  |  |  |  |  |  |
|  | Engine Oil, Radiator Coolant and Battery water levels. | Night |  |  |  |  |  |  |  |  |
| Day |  |  |  |  |  |  |  |  |
|  | Hydraulic Oil and Fuel Level. | Night |  |  |  |  |  |  |  |  |
| Day |  |  |  |  |  |  |  |  |
|  | Engine Air cleaner. (Air filter). | Night |  |  |  |  |  |  |  |  |
| Day |  |  |  |  |  |  |  |  |
|  | Oil leaks. | Night |  |  |  |  |  |  |  |  |
| Day |  |  |  |  |  |  |  |  |
|  | Fire Extinguisher. | Night |  |  |  |  |  |  |  |  |
| Day |  |  |  |  |  |  |  |  |
| Checklist must be signed by the following on daily basis.Crane Supervisor |  |  |  |  |  |  |  |  |

|  |
| --- |
| **For Inspection and Auditing Purpose only** |
| **Name** | **Designation** | **Company** | **PTW Compliance (Yes / No)** | **Date** | **Time** | **Signature** |
|  |  |  |  |  |  |  |
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***Note: This Checklist is to coincide with the tower crane permit.***

# APPENDIX 5- TOWER CRANE PERMIT WITH CHECKLIST

|  |  |  |
| --- | --- | --- |
| **Logo** | PERMIT TO WORK **TOWER CRANES (All Works)** | **File Name** |
| **Project :**  |  | **Permit No :** |  |  |
| **Company :**  |  |  **Date:** |  |  |
|  |
| **SECTION I PERMIT REQUEST**  |
| Tower Crane Details: 🞎 Hammer Head 🞎 Luffing Boom 🞎 Other (specify) \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_Description of work 🞎 Erection 🞎 Dismantling 🞎 Repair/Servicing 🞎 \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  |
| Crane No: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Location \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  |
|  |
| Duration of work – Start Date \_\_\_\_\_\_\_\_\_\_\_\_Shift Day/ Night \_\_\_\_\_\_\_ \_ End Date \_\_\_\_\_\_\_\_\_\_ Shift Day/ Night \_\_\_\_\_\_\_\_\_\_\_\_ |
| **Safety Requirement Checklist** |  |
|  | Yes | N/A |  | Yes | N/A |
| 1. **Safety Induction-** All crew members have completed safety induction.
 |  |  | 1. **Competency of Operatives-** The entire crew including supervisor are trained, competent and have valid 3rd party certificates.
 |  |  |
| 1. **PPEs-** All crew members are equipped with required PPEs..
 |  |  | 1. **Safety Precautions-** All precautions as per MSRA are in place/available.
 |  |  |
| 1. **Method Statement & Risk Assessment (MSRA)-** MSRA have been addressed to the entire crew and all are fully aware of the precautions and procedures. MSRA copies available with the supervisor.
 |  |  | 1. **Crane/Lifting Equipment and Tackles:**
* Crane/ lifting equipment and tackles are checked and in good condition and have valid 3rd party certificates.
* All lifting tackles (web sling, shackles etc.) will be inspected before and after every lift.
 |  |  |
| 1. **Exclusion Zone-** Exclusion zone identified.
* Adequate barricade and caution signs provided.
* Sufficient watcher posted at vulnerable points.
 |  |  | 1. **Adverse Weather-** In the event adverse weather (Heavy wind, rain, storm, poor visibility condition etc.) the work will be suspended and inform the site <COMPANY NAME HERE> HSE Manager.
 |  |  |
| 1. **Taglines-** Tag lines as required will be used, however minimum 2 Taglines will be used for all loads.
 |  |  | 1. **Check list-** All check list as per MSRA are completed/ will be completed and attached/will be attached with the PTW.
 |  |  |
| 1. **Supervision-** Supervisor and safety officers will be available full time at work place to supervise/ monitor the activity.
 |  |  | 1. **Other Permits-** Requirement of other permits (Hot Work, Shaft, Floor Edge Work etc.), identified and taken.
 |  |  |
| 1. **Communication-** Radios available for communicators and condition of radios are good.
 |  |  | 1. **Crane Manuals-** Copy of crane manual is available on site to refer.
 |  |  |
| 1. **Checklist-** Daily checklist is attached and will be followed throughout the week
 |  |  | 1. **Other (specify)**
 |  |  |
|  |  |  |  |  |  |
| **Important Instructions (Read and Tick ☑)** |
| * Permit is valid for a week
* Permit should be available and displayed at workplace till completion of work.
* Daily tower crane checklist to be completed signed by operator and kept within the crane until the end of the permit.
* <COMPANY NAME HERE>/ Subcontractor’s Site Manager, Engineer, Supervisor and Safety Officer must inspect the workplace to ensure the correct implementation of permit to work.
* Permit to work will be suspended by the inspecting official if any non-compliance noticed.
* Permit should be closed-out upon completion of work and handed over to <COMPANY NAME HERE> Safety office on the same day.
* Only one operator should be inside cabin at all times unless authorized by appointed person.
* Separate permit must be taken for any maintenance work to be performed.
 |
| **Declaration of Work in Charge** |
| I hereby declare that: 🞎 the above requirement / precaution are in place and addressed to the team and we are fully aware of the same. 🞎 I will be responsible for the proper implementation of this permit 🞎 \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**Work-in-charge**  (Name): \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Signature: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Date: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |
|  |

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| --- |
| **SECTION II PERMIT ISSUE**  |
|  This Permit is valid till (Date): |  | Time: |  | hours |  |
|  |  |
|  **<COMPANY NAME HERE> Site Manager / Engineer** | **<COMPANY NAME HERE> Safety Officer** |
|  Name:\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Signature: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Name: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_Signature:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |
| **SECTION III CREW DETAILS** |
| **Sr. No** | **Induction Number** | **Name of Operative** | **Signature** |
| 1 Day Shift |  |  |  |
| 2 Night Shift |  |  |  |

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| --- |
| **SECTION IV PERMIT INSPECTION**  |
| **Name** | **Designation** | **Company** | **PTW Compliance (Yes / No)** | **Date** | **Time** | **Signature** |
|  |  |  |  |  |  |  |
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| **SECTION V PERMIT CANCELLATION** |
| This permit is cancelled due to:- 🞎 Recommended precautions not in place  🞎 Other (specify) \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_Cancelled by Name: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Signature: \_\_\_\_\_\_\_\_\_\_\_\_\_\_ Date: \_\_\_\_\_\_\_\_\_\_\_\_\_ Time: \_\_\_\_\_\_\_\_ |
| **SECTION VI PERMIT CLOSURE** |
| It is to confirm that the work completed on \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_at \_\_\_\_\_\_\_ hours 🞎 The area inspected and found safe 🞎 Permit closed at \_\_\_\_\_\_\_\_\_\_\_\_\_\_ hours..Work in charge (Name): \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Signature: \_\_\_\_\_\_\_\_\_\_\_\_\_ Date: \_\_\_\_\_\_\_\_\_\_\_\_\_ Time: \_\_\_\_\_\_\_\_\_\_\_\_\_ |

|  |  |
| --- | --- |
| **Logo** | **TOWER CRANE CHECKLIST** |
| **Tower Crane. No: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Crane Model:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_** **Checklist Start Date \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ End Date \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_****Induction No Day Shift: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Night Shift\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_** **Operators Name Day Shift\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Night Shift\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_** Write YES/ NO/ N/A in front of each item listed below |
| **S#** | **CHECKS** | **Saturday** | **Sunday** | **Monday** | **Tuesday** | **Wednesday** | **Thursday** | **Friday** | **Checked by/ initials**  |
|  | Walkways, handrails, guards, ladders and housekeeping. | Day |  |  |  |  |  |  |  |  |
| Night |  |  |  |  |  |  |  |  |
|  | Cabin condition & Operator controls are functioning adequately. | Day |  |  |  |  |  |  |  |  |
| Night |  |  |  |  |  |  |  |  |
|  | All audio/ visual indicators are functioning properly. | Day |  |  |  |  |  |  |  |  |
| Night |  |  |  |  |  |  |  |  |
|  | 🞎 Load indicator (SWL). 🞎 Load moment hoist limit. | Day |  |  |  |  |  |  |  |  |
| Night |  |  |  |  |  |  |  |  |
|  | 🞎 Hoist upper limit. 🞎 Hoist down limit or slack line. | Day |  |  |  |  |  |  |  |  |
| Day |  |  |  |  |  |  |  |  |
|  | 🞎 Hoist brake is functioning. 🞎 Slewing break is functioning. | Night |  |  |  |  |  |  |  |  |
| Day |  |  |  |  |  |  |  |  |
|  | Hook Block | Night |  |  |  |  |  |  |  |  |
| Day |  |  |  |  |  |  |  |  |
|  | 🞎 Overload safety limit switches. 🞎 Dead man safety device. | Night |  |  |  |  |  |  |  |  |
| Day |  |  |  |  |  |  |  |  |
|  | Slewing Ring bolts / safety washers. Jib connections to slewing. | Night |  |  |  |  |  |  |  |  |
| Day |  |  |  |  |  |  |  |  |
|  | Jib holding rope fastening / split pins. | Night |  |  |  |  |  |  |  |  |
| Day |  |  |  |  |  |  |  |  |
|  | Jib holding rope clamps / safety clamps. | Night |  |  |  |  |  |  |  |  |
| Day |  |  |  |  |  |  |  |  |
|  | Bolts / pins securing top tower to mast. | Night |  |  |  |  |  |  |  |  |
| Day |  |  |  |  |  |  |  |  |
|  | Hoist drum and rope. Hoist rope anchor in drum. | Night |  |  |  |  |  |  |  |  |
| Day |  |  |  |  |  |  |  |  |
|  | 🞎 Counter jib structure. 🞎 Counter weight. | Night |  |  |  |  |  |  |  |  |
| Day |  |  |  |  |  |  |  |  |
|  | 🞎 Unusual sound. 🞎 Unusual movement / vibration. | Night |  |  |  |  |  |  |  |  |
| Day |  |  |  |  |  |  |  |  |
|  | 🞎 Boom Lights. 🞎 Aviation Lights. | Night |  |  |  |  |  |  |  |  |
| Day |  |  |  |  |  |  |  |  |
|  | Guide rollers – carrier rollers (trolley). | Night |  |  |  |  |  |  |  |  |
| Day |  |  |  |  |  |  |  |  |
|  | Rope tension and safety arrestor (trolley). | Night |  |  |  |  |  |  |  |  |
| Day |  |  |  |  |  |  |  |  |
|  | Trolley rope. | Night |  |  |  |  |  |  |  |  |
| Day |  |  |  |  |  |  |  |  |
|  | Motor and trolley movement. | Night |  |  |  |  |  |  |  |  |
| Day |  |  |  |  |  |  |  |  |
|  | Trolley distance indicator. | Night |  |  |  |  |  |  |  |  |
| Day |  |  |  |  |  |  |  |  |
|  | Boom angle indicator. | Night |  |  |  |  |  |  |  |  |
| Day |  |  |  |  |  |  |  |  |
|  | Load moment luffing limit. | Night |  |  |  |  |  |  |  |  |
| Day |  |  |  |  |  |  |  |  |
|  | Computer operational and in good working order  | Night |  |  |  |  |  |  |  |  |
| Day |  |  |  |  |  |  |  |  |
|  | Mask sections inspected while climbing, lose pins/ bolts/ lose access ladder | Night |  |  |  |  |  |  |  |  |
| Day |  |  |  |  |  |  |  |  |
|  | Fire extinguisher  | Night |  |  |  |  |  |  |  |  |
| Day |  |  |  |  |  |  |  |  |
| **Checklist must be signed by the following on daily basis.**Crane Supervisor  |  |  |  |  |  |  |  |  |
| COMMENTS **Note: if urgent to contact supervisor**  |  |  |  |  |  |  |  |  |  |

***Note: This Checklist is to coincide with the tower crane permit.***

# APPENDIX 6- COMPLIANCE RECORD REGISTERS

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| Operation \* | Items to be Lifted | Max Weight | Crane Used | Lifted From | Lifted To | Equipment Used | Comments |
|  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |
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# APPENDIX 6- PLAN AND ELEVATION DRAWINGS FOR SITE CRANES

Get more QHSE plans, procedures, files, documents, and training presentations.

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