


Terex Crawler Crane Cc2400 1 400 Ton Instruction Manual



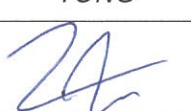
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| Reference Code PWI EQ 008 | | Traslado, Armado y Desarme Grúa Terex 400 ton CC 2400-1 | | received date : 27/10/2014 send date : 27/10/2014 | | Reviewer Victor G. | |
|------------------------------|--|--|---------|--|--|-----------------------|--|
| Referance Article | POSCO E&C Comments | SEIL Reply | Remarks | | | | |
| 8. Instrucciones de Trabajo | 8.1 1) El traslado se realiza al interior del proyecto Cochrane 2) Especificar el uso de placas de acero para el traslado hasta su posición final 3) Recordar que el traslado se realizara con luffing jib de 48+72 metro de pluma principal. | 8.1. 1) Corrected 2) Included in point 8.5.8. 3) Included in point 8.5.8. | | | | | |
| | 8.2.9 Como sabran "si es necesario" el chequeo de las condiciones del terreno (compactacion y nivelacion) . Especificar | Included in point 8.5.4. | | | | | |
| | 8.2.12. Figura 1 Agregar el uso de placas metalicas durante el traslado de grúa dentro del proyecto. | Included in point 8.5.8. | | | | | |
| | * Adjuntar Plan de como realizaran el trabajo de colocacion de las placas durante el movimiento de la grúa (cuantas placas?, como?, donde?, etc) | Included in point 8.5.8. | | | | | |
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TRANSPORT, ASSEMBLY AND DISASSEMBLY OF TEREX
DEMAG 400 Ton CRANE CC 2400-1

SUMMARY REVISION

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CONTENTS TABLE

| Section | Description |
|---------|---|
| 1 | Purpose |
| 2 | Scope |
| 3 | Responsibilities |
| 4 | Risk classification |
| 5 | Personal protective equipment required |
| 6 | Equipment, materials and tools to be used |
| 7 | References |
| 8 | Work instructions |
| 9 | Safety and prevention |
| 10 | Annex |

1. PURPOSE

The purpose of this instruction is to define the transport, assembly, disassembly, reparations and change of configuration of the Terex Demag CC2400-1 Crane inside the facilities of the project for the execution of Cochrane Thermolectric Plant construction activities for a consistent and safe performance of the works.

2. SCOPE

This instruction can be applied to the execution of the transport and assembly works of Terex Demag CC2400-1 Crane for the execution of Cochrane Thermolectric Plant construction activities for a consistent and safe performance of the works.

3. RESPONSIBILITIES

3.1. Site Manager

The Site Manager is completely responsible for the execution of all the works executed at work. He is also responsible for verifying that all the works develop according to this construction plan, as well as developing such construction works. He is responsible of assigning all the necessary supplies to develop the activities in a safe way.

3.2. Project Construction Manager

The Cochrane Project Construction Manager is responsible for observing and supervising the works according to the construction plan (CP).

3.3. Project Quality Manager

The Project Quality Manager is responsible for checking and supervising according to the agreement in this construction plan.

3.4. Construction Department

- It is responsible for obtaining the approval of this procedure, communicate, make it known and applied by every worker involved in the related task.
- Provide the necessary supplies to fulfill this procedure in an accurate way.

- Provide support to all the crew members in order to know individually and collectively their development, complying with the expected behavioral standards and goals related to zero damage.

3.5. 3.5 HSE Department

- Advise the operations of the managers and the line of supervision regarding the safety described on this procedure so it can be implemented and executed properly.
- Advise and inform that the standards indicated on this document are properly implemented.
- Assist in the training of the personnel that will be using tools that comply with the standards of this procedure.
- Inform the workers about the results regarding accidents and incidents.
- Inform POSCO in advance by phone about all the incidents in the work area and provide basic information on the investigation of these incidents within the first two hours.

3.6. Mobile Equipment Supervisor

- Responsible for the fulfillment of this procedure and the instructions that might be produced. Render it to the personnel directly involved, controlling its compliance.
- Maintain a copy of this work instruction in site.
- Keep an auditable register of the awareness of this procedure.
- Look after the health and physical integrity of the personnel present in the tasks, preserving and promoting the mandatory use of the safety elements.
- Instruct the personnel under his command in a clear and precise way about the subjects considered on this procedure.
- Control the compliance of the personal protective elements and the correct execution of the works of his personnel.
- Keep and ensure the basic health conditions in the work areas (water, restrooms) at all times.
- Check and perform JSA along with the workers involved in the activity.
- Consult with the HSE personnel in case of any doubt about the field conditions.

3.7. Workers

- Take notice and comply with the established on this procedure.
- Keep an auditable register of the awareness on this procedure.
- Inform immediately to your direct supervisor about any situation that could prevent your performance in the entrusted tasks.
- All workers must receive a basic training on protective equipment against falls.
- Check that all the tools are in good condition and with the corresponding monthly codification.
- Use the personal protective implements properly.
- Use the right tools and equipment to perform your works.
- Comply at all times with the personal safety measures and those regarding the surroundings, executing the works properly, according to instructions of their direct supervisor, especially for the effective implementation of this procedure.
- Every time a task related to this procedure is executed, the Supervisor along with his workers will prepare a Risks Control Sheet (RCS and/or JSA) which must be signed.
- It is very important that the workers take care of themselves as well as their coworkers.

3.8. HSE Supervisor

- Advise about the proper execution of these works.
- Keep an auditable register of this procedure awareness.
- Assist the line of command on the identification of dangers, risks evaluation and establishment of control measures.
- Make known this procedure with regard to safety aspects and make sure that the personnel involved in the works are aware of it.
- Check that the conditions under these tasks are developed are the safest and most appropriate.
- Control and check daily the Job Safety Analysis (JSA).
- In case of identifying a risk factor, any worker, regardless his position, has the right and the duty to stop the works.
- Inform POSCO E&C immediately about all the incidents occurred at site and submit the background information related to the investigation within the 2 first hours.

3.9. Drivers and/or Operators (Trailer, Forklift, etc.)

- Become aware and comply with the established on this procedure.
- Inform immediately to their direct supervisor about any situation that could impede their performance in the entrusted tasks.
- Use the personal protective implements properly.
- Perform a check list of the equipment before operating them to execute their works.
- Always carry the driver license. If the driver has an inappropriate license, he will not be able to operate the vehicle.
- Comply with the maximum speed of 15 Km/h.
- Be aware of the transit conditions, complying the signposts established in the project at all times.

3.10. Riggers.

- The Rigger must have an updated certification.
- The rigger must enforce the compliance of all the information given in the lifting plan of the maneuver.
- The rigger must possess technical and practical knowledge related to the works with maneuvers, handle and load lifting using cranes. Support the crane operator with the directions in the maneuvers by using regulatory signals, whistle and radio communicator.
- The rigger must have formal training and qualification by an authorized organism.
- The rigger must count with all the basic protective elements and wear a reflective green and yellow jacket, geologist type, with the "Rigger" stamped on the back and the company logo in the front.
- The rigger must carry his whistle at all times to warn the personnel before and during the transit of a suspended load.
- The rigger has to make sure that the load has been hooked correctly, as well as all the capacities of the lifting elements used match (diameter, volume, etc.)
- Verify that the lifting accessories are in good condition and with the proper monthly color, following the instructions from the supervisor or foreman in charge.

- The slings must be certified.
- Perform the anchorage of the shackles to secure the slings that will be used to perform the load or unload of materials, structures or containers.
- The rigger must carry his certification credential at all times.
- For maneuvers, an exclusive radio channel must be used when using the radio.
- The rigger must forbid the intervention of external workers in the maneuvers, as well as their intervention in the coordination with the operator.
- The rigger has to make sure that suspended loads are controlled from a safe distance by using ropes. An approximately distance of 10m from the falling materials area.
- The steel wire cable must be made of Perlon or another suitable material.
- The rigger must not manipulate the ropes at any time.
- The rigger has to make sure that the elements and accessories used are the ones mentioned in the Work Procedure.
- The rigger has to make sure and be certain that the radio for the maneuvers is closed and signaled prior the lifting.
- The suspended load will never move over the personnel.
- The rigger has to warn the operator immediately if any unusual or dangerous situation that due to its characteristics might cause damage or injuries to the personnel.
- During his walks through the working points, the rigger must have special caution with openings, slopes, equipment or any other condition that might cause an accident.
- Direct the download, lifting, transport and positioning maneuvers of the load, as secure as possible for the personnel, equipment, materials and the installations involved.
- For all the lifting works over 10ton, a special work permit must be emitted (green permit), which must be written and submitted 48 hours ahead to POSCO company. The latter will check the work area.
- This special permit (green permit), will be written by SEIL E&C CO., LTD. Authorized and trained personnel (Rigger) will check and calculate all the load and the crane endurance points.

- In case of Korean Riggers, they must be informed of all these activities, include bilingual RCS.

4. RISK CLASIFICATION

General Considerations:


4.1. Types of associated risks: During the development of the tasks, there are the following potential incidents risks:

- Fall of the personnel at same level
- Fall of the personnel at different level
- Hit by
- UV Radiation
- Overstrain
- Cuts
- Crushing
- Electrocution
- Fall of particles
- Hit against
- Noise exposure
- Risk of fire, explosion
- Fall of materials
- Rollover
- Impalement
- Entrapment

5. PERSONAL PROTECTIVE EQUIPMENT REQUIRED

All personnel involved in the work must wear the following personal protective equipment which will be certified:

- Safety helmet
- Safety harness
- Security glasses with lateral UV protection
- Leather gloves
- Security shoes
- Reflective vest
- Ear protections

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- Specific PPE

6. EQUIPMENT, MATERIALS AND TOOLS TO BE USED

Materials, tools and machines:

- Steel wire rope
- Slings
- Chain Slings
- Shackles
- Crane
- Signage
- 90 Ton Crane

7. REFERENCES

- 7.1. SISP-010 General Lifting Procedure.
- 7.2. PWI-EQ-007 Tandem Works.
- 7.3. 5PG-0101-023 Assembly and Disassembly of 600/800 ton Crane.(For reference only)
- 7.4. 5PGP-0101-020 Trucks Loading and unloading.
- 7.5. CCR-SEC-POC-E-SE-0078 Cross Street. (Heavy vehicles)