Unit 345 Preparing and operating tower cranes to lift and transfer loads in the workplace

80 credits

Level: 2
UAN: H/506/4602

Unit aim:
The aim of this unit is to provide the learner with an awareness of:

- interpreting information
- adopting safe and healthy working practices
- selecting and/or using materials, components and equipment with the plant or machinery operations
- setting up, operating and shutting down of plant or machinery for lifting and transferring loads.

*PER – Portfolio evidence reference SO – Site observation OQ – Oral question WQ – Written question WT – Witness testimony
PS – Product supplementary PD – Professional discussion

Assessment criteria that are practical activities are highlighted in bold.

1. Interpret the given information relating to the preparation and use of tower cranes to lift, transfer and place loads.							
You must be able to:	*PER	SO	OQ	WQ	WT	PS	PD
1.1 **interpret and extract relevant information from:**							
a. **drawings**							
b. **specifications**							
c. **schedules**							
d. **method statements**							
e. **lift plans**							
f. **risk assessment**							
g. **manufacturers' information**							
1.2 **comply with information and/or instructions derived from risk assessments and method statements**							
1.3 describe the organisational procedures developed to report and rectify inappropriate information and unsuitable resources and how they are implemented							
1.4 describe different types of information, their source and how they are interpreted in relation to:							
a. drawings							
b. specifications							
c. schedules							
d. method statements							
e. risk assessments							
f. manufacturers' information							
g. current regulations governing the operation of tower cranes to lift and transfer loads.							

2. Organise with others the sequence and operation in which lifting operations using tower cranes are to be carried out.							
You must be able to:	*PER	SO	OQ	WQ	WT	PS	PD
2.1 **organise the work according to given information or instructions**							
2.2 describe how to communicate ideas between team members							
2.3 **organise and communicate with team members and other associated occupations**							
2.4 describe how to organise resources prior to and during lifting operations with tower cranes.							

3. Know how to comply with relevant legislation and official guidance when carrying out lifting operations.							
You must be able to:	*PER	SO	OQ	WQ	WT	PS	PD
3.1 describe their responsibilities regarding potential accidents, health hazards and the environment whilst working:							
a. in the workplace							
b. below ground level							
c. in confined spaces							
d. at height							
e. with tools and equipment							
f. with materials and substances							
g. with movement/storage of materials							
h. by manual handling and mechanical lifting							

3.2 describe the organisational security procedures for:							
a. tools							
b. equipmets							
c. personal belongings							
In relation to:							
a. site							
b. workplace							
c. company							
d. operative							
3.3 explain what the accident reporting procedures are and who is responsible for making reports.							

4. Maintain safe and healthy working practices when preparing for and carrying out lifting operations using tower cranes.							
You must be able to:	*PER	SO	OQ	WQ	WT	PS	PD
4.1 **use health and safety control equipment safely and comply with the methods of work to carry out the activity in accordance with legislation and organisational requirements during lifting operations**							
4.2 **demonstrate compliance with given information and relevant legislation when carrying out lifting operations using tower cranes in relation to two or more of the following:**							
a. **safe use and storage of plant or machinery**							
b. **safe use and storage of tools and equipment**							
c. **safe use and storage of lifting accessories**							
d. **specific risks to health**							

4.3 explain why and when health and safety control equipment, identified by the principles of protection, should be used, relating to tower crane use, and the types, purpose and limitations of each type, the work situation and general work environment, in relation to:							
a. collective protective measures							
b. Personal Protective Equipment (PPE)							
c. Respiratory Protective Equipment (RPE)							
d. Local Exhaust Ventilation (LEV)							
4.4 describe how the relevant health and safety control equipment should be used in accordance with the given working instructions							
4.5 describe how emergencies should be responded to in accordance with organisational authorisation and personal skills when involved with:							
a. fires							
b. spillages							
c. injuries							
d. other task-related hazards.							

5. Request and select the required quantity and quality of resources to prepare for and carry out lifting operations using tower cranes.							
You must be able to:	*PER	SO	OQ	WQ	WT	PS	PD
5.1 **request and select resources associated with tower cranes in relation to:**							
a. **consumable**							
b. **materials**							
c. **tools**							
d. **ancillary equipment and/or accessories**							

5.2 describe the characteristics, quality, uses, sustainability, limitations and defects associated with the resources, and how they should be used correctly, relating to:							
a. consumables							
b. lubricants and fuels							
c. attachments and lifting aids							
d. hand tools, ancillary equipment and/or accessories							
5.3 describe how the resources should be used correctly and how problems associated with the resources are reported							
5.4 explain why the organisational procedures have been developed and how they are used for the selection of required resources							
5.5 describe any potential hazards associated with the resources and method of work							
5.6 describe how to identify:							
a. weight							
b. quantity							
c. length							
d. area							
associated with the method/procedures to carry out lifting operations with tower cranes.							

6. Minimise the risk of damage to the work and surrounding area when preparing to and lifting and transferring loads.							
You must be able to:	*PER	SO	OQ	WQ	WT	PS	PD
6.1 **protect the work and its surrounding area from damage in accordance with safe working practices and organisational procedures**							
6.2 **prevent damage and maintain a clean work space**							
6.3 **dispose of waste in accordance with legislation**							

6.4 describe how to protect work from damage and the purpose of protection in relation to:							
a. general workplace activities							
b. other occupations							
c. adverse weather conditions							
6.5 explain why the disposal of waste should be carried out safely in accordance with:							
a. environmental responsibilities							
b. organisational procedures							
c. manufacturers' information							
d. statutory regulations							
e. official guidance.							

7. Complete the work within the allocated time when preparing to and lifting and transferring loads.							
You must be able to:	*PER	SO	OQ	WQ	WT	PS	PD
7.1 **demonstrate completion of the work within the allocated time**							
7.2 describe the purpose of the work programme and describe why deadlines should be kept in relation to:							
a. types of progress charts, timetables and estimated times							
b. organisational procedures for reporting circumstances which will affect the work programme.							

8. Comply with the given contract information to lift, transfer and place loads using tower cranes to the required specification.							
You must be able to:	*PER	SO	OQ	WQ	WT	PS	PD
8.1 **demonstrate the following work skills when preparing for , lifting, transferring and placing loads using tower cranes:**							
a. **checking**							
b. **adjusting**							
c. **communicating**							
d. **operating**							
e. **manoeuvring**							
f. **positioning**							
g. **lifting**							
h. **transferring**							
i. **setting down**							
8.2 **use and maintain hand tools, ancillary equipment and/or accessories**							
8.3 **prepare, set up and operate tower cranes to lift, transfer and place a variety of loads in the workplace, to given working instructions**							
8.4 **shut down and secure tower cranes**							

8.5 describe how to apply safe and healthy work practices, follow procedures, report problems and establish authority needed to rectify, to:							
a. identify the characteristics of the crane for the lifting and transferring operation							
b. identify valid certification for maintenance, inspection and thorough examination							
c. lift and transfer people							
d. carry out function checks for lifting and transferring loads							
e. prepare, set up and reconfigure for various loads and locations							
f. carry out pre-operational checks for obstructions, stability, safety and security of the work and surrounding area							
g. identify characteristics, type, weight and position of loads for lifting and transferring							
8.6 describe how to apply safe and healthy work practices, follow procedures, report problems and establish authority needed to rectify, to:							
a. recognise and determine when specific skills and knowledge are required and report accordingly							
b. secure and balance loads for lifting							
c. lift, remove and transfer loads							
d. position, place and set down loads							
e. confirm load stability, security and release							
f. attach and remove guide ropes and aids							
g. be on the public highway							
h. shut down and secure the crane							
i. use hand tools and ancillary equipment							
j. use, handle and store lifting accessories							
8.7 describe the needs of other occupations and how to effectively communicate within a team when preparing for and lifting and transferring loads							

8.8 describe how to maintain the:							
a. plant							
b. tools							
c. equipment							
used to lift and transfer loads.							

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Declaration

I confirm that the evidence supplied for the above unit is authentic and a true representation of my own work. The work logged is my own work carried out during my normal work duties.

Candidate name:	
Candidate signature:	
Date:	

I confirm that this candidate has achieved all the requirements of this unit with the evidence listed. Assessment was conducted under the specified conditions and context, and is valid, authentic, reliable, current and sufficient.

Assessor name:	
Assessor signature:	
Date:	

IQA name:	
IQA signature:	
Date:	