

QUALIFICATION FILE – CONTACT DETAILS OF SUBMITTING BODY

Name and address of submitting body:

Construction Skill Development Council of India

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List of documents submitted in support of the Qualifications File

1. Career Map of Rigging Occupation - Annexure 1
2. QP CON/Q0708 - Annexure 2

QUALIFICATION FILE SUMMARY

Qualification Title	Foreman Erection - QP CON/Q0708		
Body/bodies which will assess candidates	<ul style="list-style-type: none"> • MCG • Star Projects 		
Body/bodies which will award the certificate for the qualification.	CSDCI		
Body which will accredit providers to offer the qualification.	CSDCI		
Occupation(s) to which the qualification gives access	Rigging		
Proposed level of the qualification in the NSQF.	5		
Anticipated volume of training/learning required to complete the qualification.	800 hrs		
Entry requirements / recommendations.	Preferably 10 th standard		
Progression from the qualification.	Supervisor Erection Level-6		
Planned arrangements for RPL.	Work is under progress		
International Comparability	Comparable with UK Standard		
Formal structure of the qualification			
Title of unit or other component (include any identification code used)	Mandatory/ Optional	Estimated size (learning hours)	Level
CON/N0725: Inspect and ensure feasibility of lifting operations	Mandatory	216	5
CON/N0726: Supervise heavy lifting of structural steel and RCC Pre cast sections at construction sites	Mandatory	256	5
CON/N0727: Execute erection works as per drawing/ specification	Mandatory	216	5
CON/N8001: Work effectively in a team to deliver results at a construction site	Mandatory	24	5
CON/N8002: Plan and organize work to meet expected outcomes	Mandatory	48	5
CON/N9002: Manage workplace for safe and healthy work environment	Mandatory	40	5

Please attach any document giving further detail about the structure of the qualification – eg a Curriculum or Qualification Pack.

Give details of the document here:

QP CON/Q0708- Annexure 2

SECTION 1

ASSESSMENT

Name of assessment body:

If there will be more than one assessment body for this qualification, give details.

- MCG
- Star Projects

Will the assessment body be responsible for RPL assessment?

Give details of how RPL assessment for the qualification will be carried out and quality assured.

The RPL assessment will be carried out through screening, identifying the skills gaps, provide bridge training to cover the competency gap and then conduct final assessment of the candidates.

Describe the overall assessment strategy and specific arrangements which have been put in place to ensure that assessment is always valid, consistent and fair and show that these are in line with the requirements of the NSQF:

trained & certified by CSDCI through Training of Trainers program. The assessment involves two processes. The first process is gathering the evidence of the competency of individuals. The second part of the assessment process is the judgement as to whether a person is competent or not. The assessment plan contains the following information:

- What will be assessed, i.e. the competency based on each NOS
- How assessment will occur i.e. methods of assessment
- When the assessment will occur
- Where the assessment will take place i.e. context of the assessment (workplace/simulation)
- The criteria for decision making i.e. those aspects that will guide judgements and
- Where appropriate, any supplementary criteria used to make a judgement on the level of performance.

The assessment is conducted through theory, viva voce and practical.

Please attach any documents giving further information about assessment and/or RPL.

Give details of the document(s) here:

Not Applicable

ASSESSMENT EVIDENCE

Complete the following grid for each grouping of NOS, assessment unit or other component as per the assessment criteria. Insert the required number of rows.

CRITERIA FOR ASSESSMENT OF TRAINEES

Foreman Erection

CON/Q 0708

Construction Skill Development Council Of India

Guidelines for Assessment

1. Criteria for assessment for each Qualification Pack will be created by the Sector Skill Council. Each Performance Criteria (PC) will be assigned marks proportional to its importance in NOS. SSC will also lay down proportion of marks for Theory and Skills Practical for each PC.
2. The assessment for the knowledge part will be based on knowledge bank of questions created by Assessment Bodies subject to approval by SSC
3. Individual assessment agencies will create unique question papers for knowledge/theory part for assessment of candidates as per assessment criteria given below
4. Individual assessment agencies will create unique evaluations for skill practical for every student at each examination/training center based on assessment criteria.
5. The passing percentage for each QP will be 70%. To pass the Qualification Pack, every trainee should score a minimum of 70% individually in each NOS.
6. The Assessor shall check the final outcome of the practices while evaluating the steps performed to achieve the final outcome.
7. The trainee shall be provided with a chance to repeat the test to correct his procedures in case of improper performance, with a deduction of marks for each iteration.
8. After the certain number of iteration as decided by SSC the trainee is marked as fail, scoring zero marks for the procedure for the practical activity.
9. In case of successfully passing only certain number of NOS's, the trainee is eligible to take subsequent assessment on the balance NOS's to pass the Qualification Pack within the specified timeframe set by SSC.
10. Minimum duration of Assessment of each QP shall be of 4hrs/trainee.

		Marks Allocation			
Assessable Outcome	Assessment criteria	Total Marks	Out Of	Theory	Practical Skills
CON/N0725: Inspect and ensure feasibility of lifting operation	PC1. carry out inspection to the equipments visually or by conducting trial runs	100	17.5	7	10.5
	PC2. check all certificates relevant to safe working of the lifting equipments		10	4	6
	PC3. check counterweight attached to the equipment is as per specification and work requirement		10	4	6
	PC4. check fuel requirement of equipments prior to lifting and report to concerned authority in case of insufficiency		5	2	3
	PC5. carry out functional test of the emergency stop device		10	4	6

	PC6. report for maintenance to the equipments to superior on break down or malfunction		7.5	3	4.5
	PC7. fill up necessary checklists (if any) relevant to equipment fitness prior to lifting		7.5	3	4.5
	PC8. ensure adequate compaction and base of base of lifting equipments		5	2	3
	PC9. ensure area of operation (lifting, unloading and erection) is safely marked, barricaded, accessed and free from other hazardous effects		5	2	3
	PC10. check the foundations or supports are adequately stable and completed in essential aspects to bear the load of erection to commence		7.5	3	4.5
	PC11. instruct workers to use appropriate PPEs during activities		5	2	3
	PC12. instruct subordinates to carry out checks to the lifting tools and tackles to ensure safe working		5	2	3
	PC13. coordinate with equipment operators to assess feasibility of operation which includes safe wind speed, clear visibility, required clear area for swing of boom, clear access to the unloading location		5	2	3
		Total	100	40	60
CON/N0726: Supervise heavy lifting of structural steel and RCC Pre cast sections at construction sites	PC1. brief subordinates about heavy lifting plan and safety control measures prior to start lifting	100	6.25	2.5	3.75
	PC2. allocate activities to specified subordinates as per their level of expertise		6.25	2.5	3.75
	PC3. analyze hazards related with lifting operations and report to concerned authority for any required action		12.5	5	7.5
	PC4. ensure safe and desired functioning of lifting equipments by conducting checks to the equipments and trial run by competent personnel		10	4	6
	PC5. carry out physical checks on components, assemblies and its locations where sling is to be attached for lifting		10	4	6
	PC6. check slinging tools, lifting tools for their usability and specification according to load		5	2	3
	PC7. ensure tightening of shackles, hooks, anchoring slings or belts during lifting of load		5	2	3
	PC8. ensure exact locking of sling at hook of crane		5	2	3
	PC9. ensure use of tag line of adequate length to control motion of the suspended load		5	2	3
	PC10. ensure motion of crane boom and load movement path is free from any static or mobile obstruction, adequately illuminated		5	2	3
	PC11. check and ensure erection of barrication surrounding heavy lifting location		5	2	3
	PC12. maintain clear line of vision with the operator and suspended load while providing signal		5	2	3

CON/N0727: Execute erection works as per drawing/ specification	PC13. operate communication devices efficiently		2.5	1	1.5
	PC14. provide verbal directions appropriately to equipment operator using communication devices		5	2	3
	PC15. adhere to standard hand signal methods while providing signals		5	2	3
	PC16. provide signals to guide suspended loads to appropriate location under critical conditions such as in case of obstacles, imperceptible erection spots, dimly lighted conditions		7.5	3	4.5
		Total	100	40	60
	PC1. read and interpret structural drawings to determine structural locations, orientations, critical erection points and resource required for executing the works		7.5	3	4.5
	PC2. adhere to time line specified for completion of activities		5	2	3
	PC3. sequence key activities related to lifting and erection of components or assemblies		7.5	3	4.5
	PC4. manage required resources in coordination with superiors and other respective authorities		7.5	3	4.5
	PC5. plan and establish safe access to the point of erection		5	2	3
	PC6. obtain key survey markings at appropriate locations		5	2	3
	PC7. develop hand sketches and provide to subordinates as and when required		7.5	3	4.5
	PC8. supervise lowering, placing and positioning of components or assemblies by providing instructions to the subordinates to achieve desired outcome		5	2	3
	PC9. oversee erection activity and ensure the orientation of structural components and assemblies is within tolerance limit as per relevant drawings or instructions	100	7.5	3	4.5
	PC10. carry out measurements as required to check alignment, elevation and orientation of the erected components or assemblies		6.25	2.5	3.75
	PC11. check terminals, edges, holes and joints as per quality control checklists or guidelines		5	2	3
	PC12. check and confirm that all bolts used in the existing or precast components are of proper length, diameter and grade for the connections are as per erection drawing		5	2	3
	PC13. check the depth of threaded inserts in the existing structures or RCC precast units to ensure minimum acceptable engagement for the bolt threads		5	2	3
	PC14. ensure placing of grout pad, cleaning of gaps for grouting and caulking as per requirement		5	2	3
	PC15. check lateral stability of part erected component and instruct to provide bracings, supports at required locations		5	2	3
PC16. offer for quality control checking by superior and other concerned authorities		2.5	1	1.5	

	PC17. inform respective concerned authorities for future fabrication activities such as bolting, welding, grinding		3.75	1.5	2.25
	PC18. observe housekeeping and safety practices as per standard/ organizational norms during all concerned activities		5	2	3
		Total	100	40	60
	PC6. ensure optimum utilization of manpower resources		8	3	5
	PC7. record the daily labour attendance		8	3	5
	PC8. record the daily productivity report		8	3	5
	PC9. estimate quantity of assigned work		8	3	5
	PC10. estimate requirement for material, components and fixtures		8	3	5
	PC11. estimate equipment, tools and accessories required		8	3	5
	PC12. submit material, equipment and tool requirement to superiors		8	3	5
	PC13. allocate material , equipment and tools to workmen and extract the work as per plan		8	3	5
	PC14. provide clear instructions for optimized use of resources		8	3	5
		Total	100	40	60
CON/N8001: Work effectively in a team to deliver desired results at the workplace	PC1. pass on work related information/ requirement clearly to the team members		10	4	6
	PC2. inform co-workers and superiors about any kind of deviations from work		10	4	6
	PC3. address the problems effectively and report if required to immediate supervisor appropriately		20	8	12
	PC4. receive instructions clearly from superiors and respond effectively on same		10	4	6
	PC5. communicate to team members/subordinates for appropriate work technique and method	100	10	4	6
	PC6. seek clarification and advice as per requirement and applicability		10	4	6
	PC7. hand over the required material, tools tackles, equipment and work fronts timely to interfacing teams		15	6	9
	PC8. work together with co-workers in a synchronized manner		15	6	9
		Total	100	40	60
CON/N8002: Plan and organize work to meet expected	PC1. understand clearly the targets and timelines set by superiors		13	5	8
	PC2. plan activities as per schedule and sequence	100	10	4	6
	PC3. provide guidance to the subordinates to obtain desired outcome		13	5	8

outcomes	PC4. plan housekeeping activities prior to and post completion of work		8	3	5
	PC5. list and arrange required resources prior to commencement of work		10	4	6
	PC6. select and employ correct tools, tackles and equipment for completion of desired work		8	3	5
	PC7. complete the work with allocated resources		8	3	5
	PC8. engage allocated manpower in an appropriate manner		5	2	3
	PC9. use resources in an optimum manner to avoid any unnecessary wastage		5	2	3
	PC10. employ tools, tackles and equipment with care to avoid damage to the same		5	2	3
	PC11. organize work output, materials used, tools and tackles deployed,		10	4	6
	PC12. processes adopted to be in line with the specified standards and instructions		8	3	5
		Total	100	40	60
PC2. establish expected performance standards and expectations for the respective gang of workers to meet the desired outcomes		15	6	9	
PC3. inspect assigned work to the respected gang of workers through progressive checking		20	8	12	
PC4. observe and verify the work activities performed by the subordinates at the construction site		20	8	12	
PC5. monitor overall performance of subordinates on the designed measures to ensure quality requirements set by the concerned authority		15	6	9	
PC6. ensure adherence to the organizational policies and procedures for all relevant construction activities by the workmen subordinations		15	6	9	
	Total	100	40	60	
CON/N9002: Manage workplace for safe and healthy work environment	PC1. ensure proper housekeeping at workplace		5	2	3
	PC2. implement safe handling , stacking methods at workplace / store		5	2	3
	PC3. insure that health and safety plan is followed by all subordinates		5	2	3
	PC4. identify any hazard in workplace and notify them to appropriate authority		5	2	3
	PC5. ensure that all safety and protection installation are correctly placed & adequate		5	2	3
	PC6. ensure safe access is available at work place for movement of workers & materials		5	2	3
	PC7. ensure safe use of tools and tackles by the workmen as per applicability	100	5	2	3

PC8. ensure appropriate use of following Personal Protective Equipment (PPE) as per applicability:			
• Head Protection (Helmets)			
• Ear Protection			
• Fall Protection	10	4	6
• Foot Protection			
• Face and Eye Protection,			
• Hand &Body Protection			
• Respiratory Protection			
PC9. maintain entrances & exit from confined spaces , excavated pits and other location in concurrence with safety parameters or instruction form safety personals.	5	2	3
PC10. ensure organizational policies and procedures are followed for health , safety and welfare, in relation to:			
• methods of receiving or sourcing information			
• dealing with accidents and emergencies associated with the work and environment	10	4	6
• reporting			
• stooping work			
• evacuation			
• fire risks and safe exit procedures			
PC11. follow procedures for accident recording and reporting as per organizational and statutory requirements	5	2	3
PC12. ensure effective adherence to response to emergency procedures / protocols	7.5	3	4.5
PC13. report any case of emergency / risks to the concern people at the construction site	7.5	3	4.5
PC14. report any perceived risk hazards to the superiors / concerned EHS	7.5	3	4.5
PC15. demonstrate the use of fire protection equipments for different type of fire hazard	7.5	3	4.5
PC16. implement control measures to reduce risk & meet legal requirement as per organizational policies	5	2	3
	Total	100	40
		60	

SECTION 2

EVIDENCE OF NEED

What evidence is there that the qualification is needed?

Please refer to the attached list of job roles and occupations identified in construction sector. These job roles have been derived through extensive industry interactions facilitated from 10 workshops and various site visits conducted and interaction with 500+ representatives from different construction sector organizations all over the country.

What is the estimated uptake of this qualification and what is the basis of this estimate?

As per survey the incremental Manpower Gap between 2008 and 2022 found out to be 459000 under Rigging Occupation

What steps were taken to ensure that the qualification(s) does/do not duplicate already existing or planned qualifications in the NSQF?

QPs for Job Roles of various related SSC's were studied to ensure that there is no duplicity.

What arrangements are in place to monitor and review the qualification(s)? What data will be used and at what point will the qualification(s) be revised or updated?

Standards department of CSDCI will do periodic review and monitor the industry feedbacks, Training Partners feedback on the qualification and will incorporate them appropriately at the designated revision time.

The revision of this qualification is scheduled after 2 years i.e. **27/07/2017**

Please attach any documents giving further information about any of the topics above.

Give details of the document(s) here:

1. List of job roles

SECTION 3

SUMMARY EVIDENCE OF LEVEL

Summary of Direct Evidence:

Justify the NSQF level allocated to the QP by building upon the five descriptors of NSQF. Explain the reasons for allocating the level to the QP.

Generic NOS is/are linked to the overall authority attached to the job role.

Foreman - Erection QP CON/Q0708

Process required	Professional Knowledge	Professional Skills	Core Skills	Responsibility	Level
<p>The job holder is expected to have well developed skills which are acquired by experience of heavy material handling using sophisticated equipments for a considerable period time. Individual at this level should be able to ensure safe and desired environment for heavy lifting and erection by carrying out specified tests/ checks and supervise heavy lifting and erection as per applicable specification. The job holder should be able to determine appropriate methodology/ procedure while undertaking any critical activity in a familiar context</p>	<p>The job holder should have clear concept about working principle of heavy lifting equipments and hydraulic systems installed in the same. Knowledge also includes statutory requirements of equipments deployed for lifting, standard procedure of lifting and placing heavy loads, interpretation of load chart, safe working loads specified for equipments, applicable safety and quality norms for own works. Nature of knowledge involves awareness of facts, principles, processes and general concepts of rigging operations.</p>	<p>The job holder accomplishes tasks by applying a set of cognitive and practical skills such as confirm suitability of lifting and erection works by using sophisticated lifting equipments, maintain coordination among lifting equipment operator and rigger crew by providing signals, supervise lifting and erection of heavy steel or RCC units at specified locations within permitted limit of tolerances. Individual at this level is also expected to check completed works, resolve defects, faults in erection as per applicable work methods and quality norms. The job holder adheres to applicable safety norms, statutory requirements solves problems effectively.</p>	<p>The job holder is expected to provide instructions to subordinates verbally and in written to meet the work requirement. Individual in this job role seeks inputs from superior and subordinates, plans activities in sequential manner and organise resources by coordinating with concerned authorities, as per agreed plan. The job holder carries out arithmetical and geometrical calculations relevant to conversion of electrical units, material requirement as and when necessary.</p>	<p>The job holder is responsible for own work (ref. professional skills column) by confirming the quality of outcome and timely execution of the task assigned within specified limit of tolerance.</p> <p>Individual in the job role heads a crew of domain specific workers being responsible for outcome of works by subordinates.</p>	5
5	5	5	5	5	5

OTHER EVIDENCE OF LEVEL [This need only be filled in where evidence other than primary outcomes was used to allocate a level] (Optional)

Summary of other evidence (if used): **Not applicable.**

SECTION 4

EVIDENCE OF RECOGNITION OR PROGRESSION

What steps have been taken in the design of this or other qualifications to ensure that there is a clear path to other qualifications in this sector?

Please refer to attached career path as per annexure 1 which clearly define the clear career path.

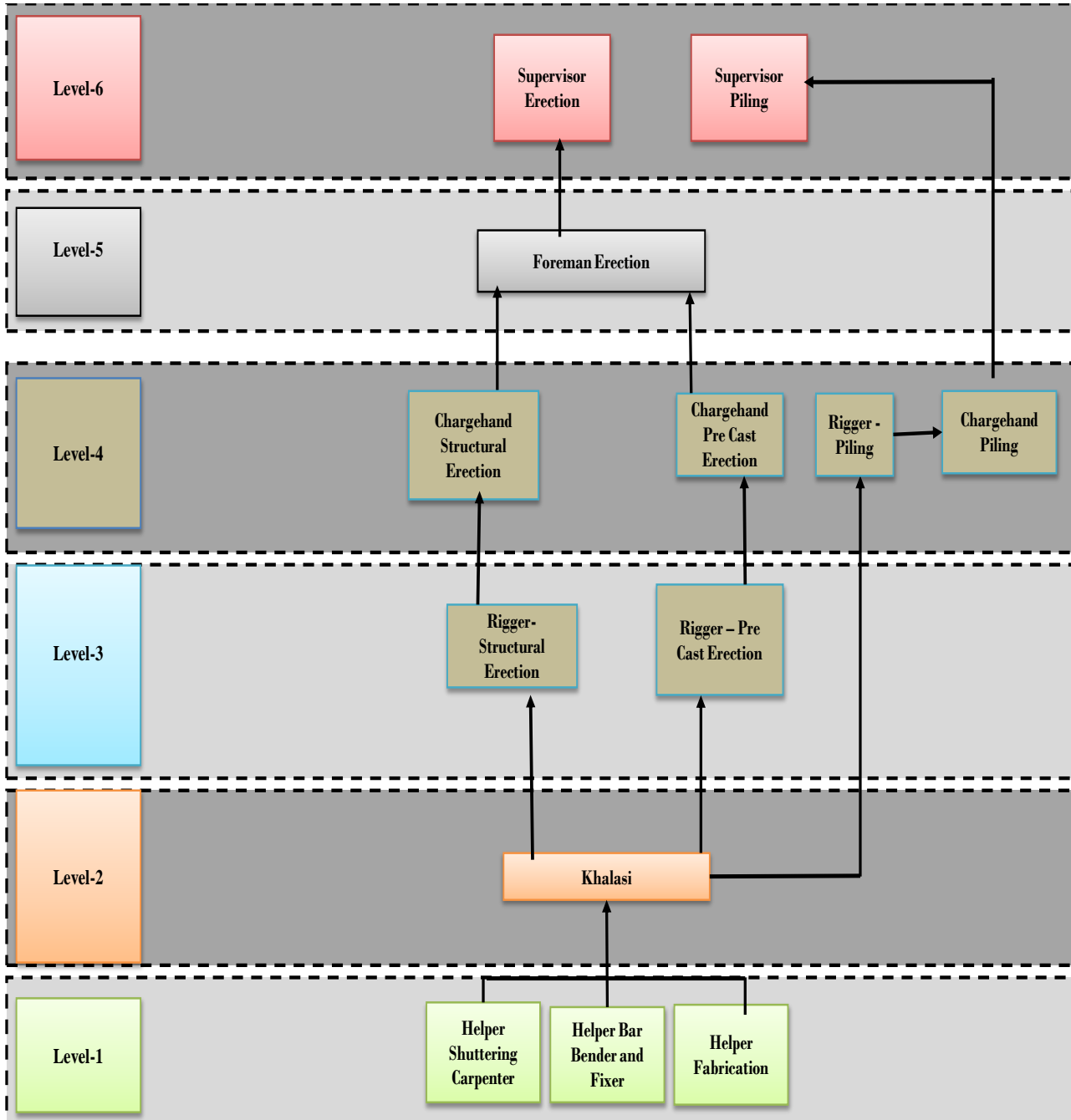
Please attach any documents giving further information about any of the topics above.

Give details of the document(s) here:

1. Annexure 1
 - Overall Career map
 - Career map of Rigging Occupation
2. QP CON/Q0708- Annexure 2

Annexure 1

Career Map



Annexure 2- QP CON/Q0708