

# NSQF QUALIFICATION FILE GUIDANCE

Version 6: Draft of 08 March 2016

**NSDA Reference**

*To be added by NSDA*

## CONTACT DETAILS OF THE BODY SUBMITTING THE QUALIFICATION FILE

### **Name and address of submitting body:**

Skill Council for Mining Sector (SCMS)  
FIMI House, B-311, Okhla Industrial, Phase-1  
New Delhi-110020

### **Name and contact details of individual dealing with the submission**

**Name:** A. K. Bhandari

**Position in the organisation:** Chief Executive Officer

### **Address if different from above**

Same as above

**Tel number(s):** +91-11-26814593

**E-mail address:** scms@skillcms.in

## **List of documents submitted in support of the Qualifications File**

1. Sector Profiling
2. Occupational Map & Progression matrix
3. Protocol for Affiliation of Assessment Bodies and Assessment Framework
4. List of Companies which participated in the NOS development process including validation
5. Validation of Occupational Standards by Industry

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### SUMMARY

<b>Qualification Title</b>	Technical Helper- Electrical
<b>Qualification Code</b>	MIN/Q0305
<b>Nature and purpose of the qualification</b>	<p>This is a Qualification Pack (QP), corresponding to Level – 2 and includes 3 NOSs.</p> <p>Targeted learners: This qualification will equip the trainees to become Technical Helper- Electrical. He/she would support the Mine Electrician in operating and servicing electrical distribution system and particular machinery or subsection in mines.</p> <p>Main purpose of the qualification – is to get unemployed people into work and also to upgrade the skills of workers / Helpers already in employment and to enable them to take up this job roles.</p>
<b>Body/bodies which will award the qualification</b>	Skill Council for Mining Sector
<b>Body which will accredit providers to offer courses leading to the qualification</b>	Skill Council for Mining Sector
<b>Body/bodies which will carry out assessment of learners</b>	<ol style="list-style-type: none"> <li>1. Anant Learning and Development, New Delhi.</li> <li>2. Aspiring minds, New Delhi</li> <li>3. Eduworld Consultants Pvt. Ltd, Punjab</li> <li>4. India Skills Pvt. Ltd, New Delhi</li> <li>5. Navriti Technologies Private limited, Karnataka</li> <li>6. Prima Competencies Pvt. Ltd., New Delhi</li> <li>7. Skill Mantra Edutech Consulting India Pvt. Ltd, MP</li> <li>8. Trendsetters Skill Assessors Pvt. Ltd, Haryana</li> <li>9. METTL, New Delhi</li> <li>10. MFEELD, New Delhi</li> <li>11. SP Institute of Workforce Development, Uttar Pradesh</li> </ol>
<b>Occupation(s) to which the qualification gives access</b>	<p>Technical Helper- Electrical</p> <p><b>Brief Job Description:</b> Technical Helper – Electrical, assists Mine-Electrician in operation and maintenance of electrical substation and electrical equipment and electrical supply. He has also to attend to repair and maintenance of electrical parts of vehicle and mine machinery.</p>
<b>Licensing requirements</b>	No Licensing required. But must undergo Technical and gallery training as per first schedule, Mining Vocational Training Rules (MVTR) 1966.
<b>Level of the qualification</b>	2

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<b>in the NSQF</b>			
<b>Anticipated volume of training/learning required to complete the qualification</b>	250 Hours		
<b>Entry requirements and/or recommendations</b>	Class-VIII.		
<b>Progression from the qualification</b>	<p>The job role allows both horizontal and vertical mobility.</p> <p>a) Horizontal mobility as Other Skilled Helper roles in Engineering services or mining operations.</p> <p>b) Vertical mobility as Asst. Mine Electricians or Mine Electricians with requisite upskilling and qualifications.</p>		
<b>Planned arrangements for the Recognition of Prior learning (RPL)</b>	RPL arrangements for in-service workers at mine location as per policies laid out by MSDE.		
<b>International comparability where known</b>	NA		
<b>Date of planned review of the qualification.</b>	26/09/2019		
<b>Formal structure of the qualification</b>			
<b>Title of component and identification code.</b>	<b>Mandatory/ Optional</b>	<b>Estimated size (learning hours)</b>	<b>Level</b>
Includes 3 NOSs -			
1. MIN/N-0311- Assist in Installation and maintenance of Electric supply.	M	250 Hours	2
2. MIN/N-0312- Assist in electrical maintenance	M		
3. MIN/N-0901-Comply with worksite Health & Safety guidelines	M		

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## **SECTION 1** **ASSESSMENT**

**Body/Bodies which will carry out assessment:**

**Name of assessment bodies:**

1. Anant Learning and Development, New Delhi.
2. Aspiring minds, New Delhi
3. Eduworld Consultants Pvt. Ltd, Punjab
4. India Skills Pvt. Ltd, New Delhi
5. Navriti Technologies Private limited, Karnataka
6. Prima Competencies Pvt. Ltd., New Delhi
7. Skill Mantra Edutech Consulting India Pvt. Ltd, MP
8. Trendsetters Skill Assessors Pvt. Ltd, Haryana
9. METTL, New Delhi
10. MFEELD, New Delhi
11. SP Institute of Workforce Development, Uttar Pradesh

**Will the assessment body be responsible for RPL assessment?**

Yes. RPL assessment process as laid out by MSDE.

**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:**

In line with defined assessment criteria. Assessment strategy, methodology and process are as per directive of MSDE.

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### ASSESSMENT EVIDENCE

Complete a grid for each component as listed in “Formal structure of the qualification” in the Summary.

### CRITERIA FOR ASSESSMENT OF TRAINEES

**Job Role:** Technical Helper – Electrical

**Qualification Pack:** MIN/Q0305

**Sector Skill Council:** Mining

Sr. No.	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 of the theory/knowledge will be based on written test/viva-voce or both while skill test shall be hands on practical. Behavior and attitude will be assessed while performing the task.
3	Individual assessment agencies will create unique question papers for theory part for each candidate at each examination/training Centre (as per assessment criteria given)
4	Individual assessment agencies will create unique evaluations for skill practical for every student at each examination/training Centre based on these criteria.
5	To pass the Qualification Pack, every trainee should score a minimum of 50% in every NOS
6	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.

Assessment outcomes	Assessment Criteria for outcomes	Marks Allocation			
		Total Mark (100)	Out Of	Theory	Skills Practical
		100	100	30	70
1. MIN/N0311: To assist in Installation, Operation and maintenance of electrical supply system.	PC1. Follow all the work instruction from Mine Electrician related to installation, operation and maintenance of electrical supply and electrical equipment.	40	3	2	1
	PC2. Assist the electrician in installation of transformers, generators, circuit breakers, isolators, bus bar, equipment for measuring voltage, current, power, energy, frequency, RPM, wiring, fuses, earthing, switchboard, control panels, relays etc.		3	1	2
	PC3. carry necessary tools like screw driver, pliers, hammer, spanners, multimeter, tongue tester etc.		2	0	2

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PC4 Carry portable ladder if job is to be performed at height. Take adequate precautions while working at height.	<b>2</b>	<b>0</b>	<b>2</b>
PC5. Ensure zero energy state before the start of job. Follow the principle of lock out tag out while working on energy lines.	<b>3</b>	<b>1</b>	<b>2</b>
PC6. Test electrical system or continuity of circuits in electrical wiring, equipment or fixtures, using testing devices such as ohm meter, volt meter, ammeter etc.	<b>3</b>	<b>1</b>	<b>2</b>
PC7. carry correct type and size of cable as per the requirement of job	<b>2</b>		<b>2</b>
PC8. ensure proper laying of the cable so as to protect from any damage	<b>3</b>		<b>3</b>
PC9. ensure proper housekeeping of the area after completion of the job and disposal of the scrap material as per the guideline of the organisation	<b>3</b>		<b>3</b>
PC10. assist Mine Electrician in scheduled maintenance of transformers, generators, circuit breakers, isolators, bus bars, control panel, switch board, wiring, protective relays etc.	<b>3</b>	<b>1</b>	<b>2</b>
PC11. Ensure cleaning of electronic components as per instruction from Electrician or manufacturer's manual.	<b>3</b>	<b>1</b>	<b>2</b>
PC12. Assist in replacing the scheduled spare parts as per Electrician's instructions.	<b>2</b>	<b>1</b>	<b>2</b>
PC13. Replenish / change the consumables as per service manual and as per Electrician's instruction.	<b>3</b>	<b>1</b>	<b>2</b>
PC14. Read display messages and outputs and share the same with Electrician.	<b>3</b>	<b>1</b>	<b>2</b>
PC15. Perform visual inspection to verify proper functioning of electronic/electrical components as per manufacturer's manual.	<b>2</b>	<b>1</b>	<b>1</b>

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			40	11	29
2. MIN/N0312: To assist in maintenance and repair of electrical and electronic components of vehicle and mine machinery.	PC1. Follow the work instruction from Mine Electrician for respective jobs.	40	3	1	2
	PC2. Follow the maintenance schedule as per given checklist and schedule. Assist in replacing the scheduled spare parts as per Electrician's Instruction.		4	1	3
	PC3. Tag the connection properly while removing the harness and to connect the wires according to the tag while laying new harness.		3	1	2
	PC4. Assistant Electrician to conduct metered readings of various circuit outputs to verify proper functioning of electronic/electrical components after maintenance.		3	1	2
	PC5. Ensure cleaning of electronic components as per manufacturer's manual.		3	1	2
	PC6. Tighten all nut bolts, panel doors, safety grads etc. Properly after maintenance.		3	0	3
	PC7. Record any change in equipment noise, vibration, sound, and odour and report the same to Electrician and Technician.		3	1	2
	PC8. Assist in Inspecting and testing electrical systems and equipment as per electrician's instruction. Assist in preparing parts list for issue from stores or procurement.		3	1	2
	PC9. Carry required tools, spare parts, equipment and supplies for carrying out the repair works.		3	1	2
	PC10. Assist in locating circuit defects such as blown fuses or malfunctioning transistors as per manufacturer's manual		3	1	2
	PC11. Ensure proper earthing for welding machines and hand tools as required.		3	1	2
	PC12. Assist to repair or replace defective wiring and relays in ignition, Installing new fuses or power sources, lighting, air-conditioning, and safety control systems, using		3	1	2

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	electrician's tools as per Electricians instructions.				
	PC13. Do the housekeeping of the area after maintenance.		<b>3</b>	<b>1</b>	<b>2</b>
			<b>40</b>	<b>12</b>	<b>28</b>
3. MIN/N0901: Health & Safety	PC1. Comply with occupational health and safety regulations adopted by the employer.	<b>20</b>	2	1	1
	PC2. Follow mining operations procedures with respect to materials handling and accidents.		2	1	1
	PC3. Follow the correct safety steps in case of accident or major failure.		2	1	1
	PC4. Comply with safety regulations and procedures in case of fire hazard.		2	0	2
	PC5. Operate various grades of fire extinguishers.		2	1	1
	PC6. Work responsibly and as safe and careful as possible so as not to put the health and safety of self or others at risk, including members of the public		2	1	1
	PC7. Perform storage and transport of hazardous materials compliant with safety guidelines prescribed by DGMS.		2	0	2
	PC8. Deal with misfires as per statutory requirement		1	1	0
	PC9. Identify characteristics of post-blast fumes and take necessary precautions.		2	1	1
	PC10. Wears safety gear such as hard hat, respiratory protection, eye protection, ear protection.		1	0	2
	PC11. Follow the manufacturer's instructions for care and safe operation of the equipment.		1	0	1
		<b>Total</b>	<b>20</b>	<b>7</b>	<b>13</b>
	<b>QP Total</b>		<b>100</b>	<b>30</b>	<b>70</b>



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	<b>Percentage Weightage:</b>			<b>30%</b>	<b>70%</b>
	<b>Minimum Pass (%) to qualify (aggregate):</b>			<b>50%</b>	

### Means of assessment 1

As per defined assessment criteria given in qualification packs on practical mode, written and viva.

### Pass/Fail

To pass the Qualification Pack, every trainee should score a minimum of 50% in every NOS.

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### SECTION 2

#### EVIDENCE OF LEVEL

Summary of Direct Evidence:

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

#### OPTION A

Title/Name of qualification/component: <b>Technical Helper-Electrical. QP Number - MIN/Q 0305</b>		Level: 2	
NSQF Domain	Outcomes of the Qualification/Component	How the job role relates to the NSQF level descriptors	NSQF Level
Process	<b>This process requires the individual to concentrate on the job at hand and complete it without any accidents. Diligence and hardworking is a desired attribute for individuals in this role. The individual should also be skilled to assist Mine Electricians / Technician in electrical jobs and carry out the necessary instruction given by seniors.</b>	Tighten all nut bolts, panel doors, safety grads etc. Properly after maintenance, prepares equipments to carry out process that are repetitive on regular basis, more of practice	2
Professional knowledge	<ol style="list-style-type: none"> <li>1. <b>Basic knowledge of Mine machinery and electrical systems, electrical circuits.</b></li> <li>2. <b>Understanding of voltage, current, relays, connectors, cable laying, cable termination and jointing,</b></li> <li>3. <b>usage of hand tools for electrical parameters measurements,</b></li> <li>4. <b>Lock out tag out.</b></li> <li>5. <b>Electrical component servicing.</b></li> <li>6. <b>Lock out tag out.</b></li> <li>7. <b>Electrical component servicing.</b></li> <li>8. <b>Checklist for machine and component condition checking.</b></li> </ol>	Material tools and application in a limited context of visual inspections, understands context of inspection and maintenance work and right quality	2
Professional skill	<ol style="list-style-type: none"> <li>1. <b>Installation, operation of electrical supply system.</b></li> <li>2. <b>Assisting in installation of transformer generator,</b></li> </ol>	limited service skill, used in limited context, select and apply	2

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Title/Name of qualification/component: <b>Technical Helper-Electrical. QP Number - MIN/Q 0305</b>			Level: 2
NSQF Domain	Outcomes of the Qualification/Component	How the job role relates to the NSQF level descriptors	NSQF Level
	<p>circuit breaker etc.</p> <ol style="list-style-type: none"> <li>3. Maintenance of electrical supply system.</li> <li>4. Breakdown &amp; routine maintenance.</li> <li>5. Helping in fault diagrams.</li> <li>6. Cable jointing, parts replacement.</li> <li>7. Check &amp; commissioning.</li> <li>8. Issue and carry tools &amp; spares.</li> <li>9. Replace fuse, transistors, under electrician directions.</li> </ol>	tools, assist in operation and maintenance works with no variables,	
Core skill	<ol style="list-style-type: none"> <li>1. Reading &amp; writing.</li> <li>2. Communication.</li> <li>3. Following directions.</li> <li>4. Meter reading, Gauge reading. Note preparation.</li> <li>5. Lock out, tag out and notifications</li> </ol>	receive and transmit written and oral messages, basic arithmetic knowledge, understanding hygiene and environment and work place safety	2
Responsibility	<p><b>Technical Helper – Electrical assist Mine Electrician in operation and maintenance of electrical substation and electrical equipment and electrical supply. Also, he has to attend to repair and maintenance of electrical parts of vehicle and mine machinery.</b></p>	No direct responsibility. Works under instruction and close supervision of Operator and Technicians.	2

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## SECTION 3

### EVIDENCE OF NEED

<p><b>What evidence is there that the qualification is needed?</b></p> <p>SCMS carried out comprehensive survey and collected feedback from industry with respect to roles for which qualification packs development are required. The occupational map was finalised accordingly. The need of this particular qualification was revalidated during the comprehensive interaction with Industry in the process of seeking their input for QP/NOS development.</p>
<p><b>What is the estimated uptake of this qualification and what is the basis of this estimate?</b></p> <ul style="list-style-type: none"><li>• Skills Gap analysis Reports for industry demand.</li><li>• Skilling of new inductees and up-skilling of 500 workers has been estimated yearly.</li></ul>
<p><b>What steps were taken to ensure that the qualification(s) does/do not duplicate already existing or planned qualifications in the NSQF?</b></p> <ul style="list-style-type: none"><li>• NSDC list of Approved and Under-Development QPs were checked prior to commissioning the work.</li><li>• NSDC QRC team also confirmed the same.</li><li>• Checked at <a href="http://www.nqr.gov.in">www.nqr.gov.in</a></li></ul>
<p><b>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?</b></p> <ul style="list-style-type: none"><li>• SCMS Review committee will review all QP/NOS at regular periodicity or as per NSDC guidelines.</li><li>• Review will be based on –<ol style="list-style-type: none"><li>a) Revalidation of minimum requisites to perform in a Job role from pan India industry partners.</li><li>b) Any change in technology and process relevant to the particular QP and Job roles.</li></ol></li></ul>
<p><b>Has the qualification been through a formal approval procedure(s)?</b> <b>(If so, explain the process and the outcome.)</b></p> <p>Yes, NSDC QRC process has been adhered to. This includes minimum 30 validations for the QP from employers in the sector. This has been across small, medium and large companies.</p>
<p><b>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?</b></p> <p>SCMS Review committee will review all QP/NOS at regular periodicity or as per NSDC guidelines. The review will factor in -</p> <ul style="list-style-type: none"><li>• Feedback from the Industry and Industry Association</li><li>• Recommendation and suggestions from the Industry Player and Industry Association</li></ul>
<p><b>What arrangements are in place to inform people about the qualification(s) and the advantages it offers?</b></p> <ul style="list-style-type: none"><li>• Employer workshops for buy-in and recognition</li><li>• Training centres are being enrolled and informed of the potential</li><li>• Counselling sessions by training provider for potential recruits are being encouraged</li></ul>

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## SECTION 4

### EVIDENCE OF 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?**

**This qualification allows Horizontal and vertical mobility options.**

Potential mobility options are –

- a) Horizontal mobility as Other Skilled Helper roles in Engineering services or mining operations.
- b) Vertical mobility as Asst. Mine Electricians or Mine Electricians with requisite upskilling and qualifications.

Businesses or organisations are expected to use this qualification as a basis in recruiting workers

Annexure 1: Occupational Map