

QUALIFICATION FILE – CONTACT DETAILS OF SUBMITTING BODY

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

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Same as above

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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
6. Putting up the Occupational Standards in public view and declaration of Standard as NOS
7. Recommendation from QRC

1. QUALIFICATION FILE SUMMARY

Qualification Type			
Qualification Title	Compressor Operator		
Classification code	MIN/Q 0415		
Body/bodies which will assess candidates	SCMS affiliated Assessment Agency		
Body/bodies which will award the certificate for the qualification.	SCMS		
Body which will accredit providers to offer the qualification.	SCMS		
Occupation(s) to which the qualification gives access	Has been developed following all guidelines laid down by NSDC for NOS and Qualification Pack development. Has been validated by 30 Employers.		
Occupation(s) to which the qualification gives access	Open Cast and Underground		
Proposed level of the qualification in the NSQF.	Level 4		
Anticipated volume of training/learning required to complete the qualification.	120 hours		
Entry requirements / recommendations.	Class XII, 6 months of Experience		
Progression from the qualification.	Level 6		
Planned arrangements for RPL.	RPL arrangements and policies are under process		
International recognitions.	In progress		
Formal structure of the qualification			
Title of unit or other component (include any identification code used)	Mandatory/ Optional	Estimated size (learning hours)	Level
MIN/ N 0443 (Understand processes and equipment requirement to complete the task)	Mandatory	120 hours	4
MIN/ N 0444 (Prepare the machine and auxiliaries)			
MIN/ N 0445 (Conduct the operation of compressor)			
MIN / N 0901 (Health and Safety)			

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: [Compressor Operator](#)

SECTION 1

ASSESSMENT

Name of assessment body:

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

1. **Anant Learning and Development, New Delhi**
2. **Navriti Technologies Private limited, Bangalore**
3. **Aspiring minds, New Delhi**
4. **Trendsetters Skill Assessors Pvt. Ltd.**

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.

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:

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

Give details of the document(s) here: [Protocol Document](#) and [RPL Assessment Document](#)

ASSESSMENT POLICY

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:

The emphasis is on practical demonstration of skills and knowledge based on the performance criteria. The assessment papers are developed by Subject Matter Experts (SME) available with the Assessment Agency as per the performance and assessment criteria mentioned in the Qualification Pack. The assessments papers are also checked for the various outcome based parameters such as quality, time taken, precision, tools & equipment requirement etc.

The assessment results are backed by evidences collected by assessors.

1. The assessor needs to collect a copy of the attendance for the training done under the scheme. The attendance sheets are signed and stamped by the In-charge / Head of the Training Centre.
2. The assessor needs to verify the authenticity of the candidate by checking the photo ID card issued by the institute as well as any one Photo ID card issued by the Central/Government. The same needs to be mentioned in the attendance sheet. In case of suspicion, the assessor should authenticate and cross verify trainee's credentials in the enrolment form.
3. The assessor needs to punch the trainee's roll number on all the test pieces.
4. The assessor can take a photograph of all the students along with the assessor standing in the middle and with the centre name/banner at the back as evidence.
5. The assessor also needs to carry a photo ID card.

The assessment agencies are instructed to hire assessors with integrity, reliability and fairness. Each assessor shall sign a document with its assessment agency by which they commit themselves to comply with the rules of confidentiality and conflict of interest, independence from commercial and other interests that would compromise impartiality of the assessments.

Detail any particular arrangements relating to candidates with disabilities or other special needs:

Based on the requirement, the candidates with disabilities or other special needs can be exempted from written/viva test and the same will be facilitated by assessor through best possible alternative means.

ASSESSMENT EVIDENCE

Complete the following grid for each grouping of NOS, assessment unit or other component as listed in the entry on the structure of the qualification on page 1.

Title of NOS/Unit/Component:

CRITERIA FOR ASSESSMENT OF TRAINEES

Compressor Operator

MIN/ Q0415

Skill Council for Mining Sector

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 theory part will be based on knowledge bank of questions created by the SSC
3. Individual assessment agencies will create unique question papers for theory part for each candidate at each examination/training centre (as per assessment criteria below)
4. Individual assessment agencies will create unique evaluations for skill practical for every student at each examination/training centre based on this criteria
5. To pass the Qualification Pack, every trainee should score a minimum of 70% 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

Assessable Outcome	Assessment criteria	Total Mark (100)	Out Of	Marks Allocation	
				Theory	Skills Practical
1. MIN/ N 0443(Understand processes and equipment requirement to complete the task)	PC1. Understand the right compression methodology and should be conversant with use, operation and maintenance process to be adopted as per defined Standard Operating Procedures specified by the equipment manufacturer	15	3	2	1

	and statutory requirements.				
	PC2. Understand the various compression parameters like temperature, pressure, process cycle time etc before starting the process, as mentioned in the Work Instructions/ SOP manual.		3	2	1
	PC3. Be fully conversant with the use, operation and maintenance of the compressor/ machine provided for operation and required output.		3	2	1
	PC4. Understand the different components and safety features fitted in the machine.		2	1	1
	PC5. Be conversant with safety hazards in the compression process and should also be conversant with precautionary measures against the safety hazards.		2	1	1
	PC6. Understand the material required and the equipment availability for executing the activity.		2	1	1
		Total	15	9	6
2. MIN/ N 0444(Prepare the machine and auxiliaries)	PC1. Ensure correct oil level, status of the receiver with safety valve, air gauge and condition of the drain cock/water trap, distribution system etc.	30	2	1	1
	PC2. Check for cracks, defects and anomalies in the compression apparatus		3	1.5	1.5

	PC3. Perform condition monitoring of the equipment as specified by the equipment manufacturer.		2	1	1
	PC4. Check for condition of piping on both suction and discharge sides.		2	1.5	0.5
	PC5. Check the condition of couplings in the equipment.		2	1.5	0.5
	PC6. Check electrical connections, and electrical system for proper functioning of the system.		3	2	1
	PC7. If the compressor is diesel operated, then check condition of engine and ensure that the pump drive is operating smoothly and as per required parameters. Also check, oil level, fuel level, radiator coolant and engine condition.		2	1	1
	PC8. Check for risk of any fire, bursting and collapse or production of any noxious gases.		2	1.5	0.5
	PC9. Understand the material required and the equipment availability for executing the activity.		2	1.5	0.5
	PC10. Guide for the required material and tools before the start of the operations.		2	1.5	0.5
	PC11. Ensure the cleaning of the machine and its auxiliaries(compressor engines, accessories and auxiliary equipment) before initiation of the process, as mentioned in the Work		3	1.5	1.5

	Instructions/ Standard Operating Procedures(SOP).				
	PC12. Conduct necessary housekeeping around the work area to minimize risk of any mishap –e.g. fire, slippage etc.		2	1	1
	PC13. Setup the apparatus as per the selected process and the internal SOPs/ Work Instructions and the setting standard for the machine.		3	1.5	1.5
		Total	30	18	12
3. MIN/ N 0445(Conduct the operation of compressor)	PC1. Check for operation of core equipment like compressor engines, accessories and auxiliary and safety equipment as per setup documentation and conduct preliminary operation when fully satisfied with the physical check.	30	2	1.5	0.5
	PC2. Feed gas/air in the compressor as per the defined schedule or as per requirements raised by users of compressed gas/air.		3	1.5	1.5
	PC3. Monitor meters and pressure gauges to determine consumption rate variations, temperatures, and pressures.		2	1.5	0.5
	PC4. Adjust valves and equipment to obtain specified performance.		3	1.5	1.5
	PC5. Read gas meters, and maintain records of the amounts of gas received and dispensed from holders.		2	1	1

	PC6. Record instrument readings and operational changes in operating logs/records/report books.		2	1.5	0.5
	PC7. Move controls and turn valves to start compressor engines, accessories, and auxiliary equipment.		3	1.5	1.5
	PC8. Turn knobs or switches to regulate pressures.		2	1	1
	PC9. Clean, lubricate, and adjust equipment, and replace filters and gaskets, using hand tools.		3	1.5	1.5
	PC10. Keep the supervisor informed of any inconsistency in the process, quality issues etc. so that the same can be dealt immediately.		2	1.5	0.5
	PC11. Ensure that proper ventilation around the equipment is maintained and no overheating occurs.		2	1	1
	PC12. Monitor condition of equipment by noticing variations in sound, vibration and other parameters.		2	1.5	0.5
	PC13. Inform machine setter/ engineer/ supervisor to make modifications in the parameters in case any deformation/malfunctioning is observed outcomes and the prescribed standard.		2	1.5	0.5
		Total	30	18	12
4. MIN/ N0901 (Health and Safety)	PC1. Comply with occupational health and safety regulations adopted	25	2	1	1

	by the employer.				
	PC2. Follow mining operations procedures with respect to materials handling and accidents.		3	2	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	1	1
	PC5. Operate various grades of fire extinguishers.		3	2	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.		3	2	1
	PC8. Deal with misfires as per statutory requirement.		2	1.5	0.5
	PC9. Identify characteristics of post-blast fumes and take necessary precautions.		2	1.5	0.5
	PC10. Wears safety gear such as hard hat, respiratory protection, eye protection, ear protection.		2	1	1
	PC11. Follow the manufacturer's instructions for care and safe operation of the equipment.		2	1	1

		Total	25	15	10
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SECTION 2

EVIDENCE OF NEED

<p>What evidence is there that the qualification is needed? Feedback from industry was collected with respect to roles for which qualification packs development was to be prioritized.</p>
<p>What is the estimated uptake of this qualification and what is the basis of this estimate?</p> <ul style="list-style-type: none"> • Skills Gap analysis Reports for industry demand • Training duration and current and potential capacity envisaged for potential supply
<p>What steps were taken to ensure that the qualification(s) does/do not duplicate already existing or planned qualifications in the NSQF?</p> <ul style="list-style-type: none"> • NSDC list of Approved and Under-Development QPs was checked prior to commissioning the work • NSDC QRC team also confirmed the same
<p>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?</p> <ul style="list-style-type: none"> • In depth understand of minimum requisites to perform in a Job role • Companies included in the research represents pan India. • Language of the QP is gender neutral, and no religion or such terminology is referred to in the entire documentation and development process.
<p>Has the qualification been through a formal approval procedure(s)? (If so, explain the process and the outcome.)</p> <p>Yes, NSDC QRC process was adhered to. This included minimum 30 validations for the QP from employers in the sector. This was across small, medium and large companies.</p>
<p>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?</p> <ul style="list-style-type: none"> • Feedback from the Industry and Industry Association • Recommendation and suggestions from the Industry Player and Industry Association
<p>What arrangements are in place to inform people about the qualification(s) and the advantages it offers?</p> <ul style="list-style-type: none"> • Employer workshops for buy-in and recognition • Training centres are being enrolled and informed of the potential • Counselling sessions by training provider for potential recruits are being encouraged

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

Give details of the document(s) here:

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.

Compressor Operator - MIN/Q 0415					
Process required	Professional Knowledge	Professional Skills	Core Skills	Responsibility	Level
This role is responsible to operate and service power driven air compressor which generates and supplies compressed air to drive pneumatic tools, hoists and other mechanical equipment.	This job requires the technical knowledge of gas/ liquid compression, ability to plan and prioritize, quality consciousness, sensitivity to problem solving, quick decision making, safety orientation, Reading, writing and communication skills, high precision, ability to use internal ERP systems	Compressor operator operates and services power driven air compressor which generates and supplies compressed air to drive pneumatic tools, hoists and other mechanical equipment's. Understand the right compression methodology and should be conversant with use, operation and maintenance process to be adopted as per defined Standard Operating Procedures specified by the equipment manufacturer and statutory requirements	<ul style="list-style-type: none"> Understand the right compression methodology and process to be adopted for completing the work order. Understand the compression related process and output requirements as well as Equipment to be deployed. 	plan and organize the work order and jobs received from the Operator; use common sense and make judgments during day to day basis as well as use intuition to detect any potential problems which could arise during Operations. Compressor operator follow instructions & work on areas of improvement identified and complete the assigned tasks with minimum supervision.	4
4	4	4	4	4	4

Summary of Direct Evidence (from learning outcomes):

Skills required to fulfilling roles and responsibilities along with activities matched with NSQF Level 4

Summary of other evidence (if used):

Accepted by QRC, vetted by Industry

QUALIFICATION FILE SECTION 5

EVIDENCE OF RECOGNITION AND PROGRESSION

In the course of the research and/or development was there any direct evidence that the qualification(s) will be recognised by particular bodies – eg for entry to work or further study?

- Endorsed and accepted by the Industry players
- Formal recognition from the Industry players

List any agreements which have been reached with regulatory bodies on recognition.

Benchmarked and moderated skill recognition based on DGMS guidelines and international best practices.

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?

Horizontal and vertical mobility options are available.

Please attach any documents giving further information about any of the topics above.
Give details of the document(s) here:

QUALIFICATION FILE SECTION 6

EVIDENCE OF INTERNATIONAL COMPARABILITY

List any comparisons which have been established.

Under process