

NSDA Reference
To be added by NSDA

Application Documentation: Version 2 /16 May, 2015

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

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
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	Jumbo operator		
Classification code	MIN/Q 0432		
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 3 Employers.		
Occupation(s) to which the qualification gives access	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/ ITI- Mechanical		
Minimum Job Entry Age	+ 18 Years		
Progression from the qualification.	Mining Mate / Sirdar - Overman / Foreman, Level 6		
Planned arrangements for RPL.	RPL arrangements and policies are in 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 0488 (Prepare Machine)	Mandatory	120 hours	4
MIN/N 0489 (Perform Operations)			
MIN/N 0490 (Perform routine maintenance and troubleshooting on the Machine)			
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: [Jumbo 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

Jumbo operator

MIN/ Q0432

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	Marks Allocation			
		Total Mark (100)	Out Of	Theory	Skills Practical
1. MIN/N 0488 (Prepare Machine)	PC1. Adhere to time limits given by supervisor.	25	2	1.5	0.5
	PC2. Check various controls, gauges, warning lamp and other safety devices.		2	1	1

	PC3. Ensure that crown blocks are mounted securely.		2	1	1
	PC4. Check all those connections are in order, if using a compress air drill.		2	1	1
	PC5. Check that drilling equipment is in safe operating condition.		2	1.5	0.5
	PC6. Perform visual checks to detect cracks, wear and tear or any damage that could result in structural weakness.		2	1.5	0.5
	PC7. Visually inspect to detect cracks or fractures in welded joints.		2	1	1
	PC8. Apply grease to all greasing pins and pivot points.		2	1.5	0.5
	PC9. Check under carriage and super structure in the drill.		2	1.5	0.5
	PC10. Clear the drilling site of other mine workers to avoid any accidents.		1	0.5	0.5
	PC11. Follow the manufacturer's instructions which apply to the care and safe operation of the Drill.		1	0.5	0.5
	PC12. Keep foot plates and steps clean and free from mud, dirt and oil.		1	0.5	0.5
	PC13. Conduct prestart check including oil level, coolant level, air pressure, air leakages level etc.		1	0.5	0.5
	PC14. Check earthing of drilling machine and fire safety aspects.		1	0.5	0.5
	PC15. Maintain a checking/maintenance log book to record all activities performed before starting the Drill.		1	0.5	0.5
	PC16. Inform supervisor of problems that are beyond scope of his role.		1	0.5	0.5
		Total	25	15	10
2.MIN/N0489(Per form Operations)	PC1. Mark up the faces in accordance with geological, statutory and survey specifications.	25	3	2	1

	PC2. Install the ground support except cable bolts.		3	1.5	1.5
	PC3. Install the mine services when required.		3	1.5	1.5
	PC4. Ensure all necessary precautions are adhered to before towing the drill to a distant site.		3	2	1
	PC5. Ensure that the OEM prescribed limit for angles of inclination are followed during setting up of drill.		3	2	1
	PC6. Ensure that the highest level of quality is consistently maintained.		3	2	1
	PC7. Work with technical and supervisory staff in quality and safety initiatives.		3	2	1
	PC8. Reduce down time and wastage.		2	1	1
	PC9. Demonstrate caution against hazards of machine in operation.		2	1	1
		Total	25	15	10
3.MIN/N0490 (Perform routine maintenance and troubleshooting on the Machine)	PC1. Track machine operating hours (drilling hours and engine hours) to assess the right service schedule.	25	2	1	1
	PC2. Clean air filter dust bowls.		2	1	1
	PC3. Clean foot plates, pedals and steps free from mud, dirt, ice and snow.		2	1	1
	PC4. Drain water and sediment/fuel separators.		2	1	1
	PC5. Replenish coolants, lubricants and fluids.		2	1	1
	PC6. Grease all greasing pins and pivot points.		2	1.5	0.5
	PC7. Check battery levels and condition of the terminals and carrying out minor adjustments if required.		2	1.5	0.5
	PC8. Check and maintain the tyre rims, air pressure, wheel nuts and treads.		1	0.5	0.5

	PC9. Check structural safety of the machine.		1	0.5	0.5
	PC10. Complete timely and legibly daily/weekly maintenance sheets.		1	0.5	0.5
	PC11. Ensure the machine is on firm and level ground before attempting to carry out any maintenance activity.		2	1.5	0.5
	PC12. Ensure that no maintenance task on the engine is performed when running or still hot.		2	1.5	0.5
	PC13. Ensure proper Lock out and Tag out scenario to avoid any un toward incident triggered due to unknowingly operation of machine/system under maintenance.		2	1.5	0.5
	PC14. Assess when the problem is beyond his competence and report the problem to suitably qualified and competent personnel.		1	0.5	0.5
	PC15. Complete timely and legibly defect sheets as provided by the company.		1	0.5	0.5
		Total	25	15	10
4. MIN/ N0901 (Health and Safety)	PC1. Comply with occupational health and safety regulations adopted by the employer.	25	2	1	1
	PC2. Follow mining operations procedures with respect to materials handling and accidents.		3	2	1
	PC3. Follow the correct safety steps in case of fire, accident, and major failure.		2	1	1
	PC4. Work responsibly and carefully so as not to put the health and safety of self or others at risk.		2	1	1
	PC5. Perform storage and transport of hazardous materials compliant with safety guidelines prescribed by DGMS.		3	2	1
	PC6. Comply with safety regulations and procedures in case of fire hazard.		2	1	1
	PC7. Operate various grades of fire extinguishers.		3	2	1

	PC8. 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	1.5	1
	PC9. Demonstrate careful practices in handling explosives and heavy machinery.		3	2	1
	PC10. . Identify characteristics of post-blast fumes and take necessary precautions.		3	1.5	1
		Total	25	15	10

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 3 validations for the QP from employers in the sector.</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

Jumbo Operators - MIN/Q 0432					
Process required	Professional Knowledge	Professional Skills	Core Skills	Responsibility	Level
The job process requires the individual to concentrate on the job at hand and complete it efficiently and effectively without any accidents so diligence and hard-working are desired attributes for individuals performing this role. He must also demonstrate strong work ethics, an ability to communicate courteously with co-workers, and must be good with following instructions of Supervisor.	<p>Specifications and details of single/double boom jumbo drilling rig and their specific use.</p> <p>Various levers and switches in order to operate the Drill properly.</p> <p>Different types of drill bits and their uses.</p> <p>Different components of drilling machines and their functioning such as assemblies, transmission, instrument panels, control systems, etc.</p>	<p>Check various controls, gauges, warning lamp and other safety devices, hose connections, carriage and superstructure in the drill, etc.</p> <p>Ensure that the drilling site is clear of other mine workers to avoid any accidents.</p> <p>Mark up the faces in accordance with geological, statutory and survey specifications</p>	<p>Check that drilling equipment is in safe operating condition. Perform visual checks to detect cracks, wear and tear or any damage that could result in structural weakness. Confident about single/ double boom jumbo drilling rig, Diesel Engines, Electric Motors and compressors.</p> <p>Operation of different assemblies and sub-assemblies such as under-carriage, compressors, hydraulic/pneumatic systems.</p>	This role is responsible for the operation of a single and/ or double boom jumbo drilling rig for underground development mining with installation of ground support. The Jumbo Operator independently perform the drill operation for mineral excavation.	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