

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

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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	Assistant Mine Surveyor		
Classification code	MIN/Q 0426		
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		
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.	ITI in Draughtsman ship, ITI Civil 2 years for ITIs and 6 months for diploma holders		
Progression from the qualification.	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 0473 (Assist in measuring and setting out dimensional control for the mining requirements)	Mandatory	120 hours	4
MIN/ N 0474 (Set out secondary dimensional work control)			
MIN/ N 0475 (Move and handle resources to assist surveyor)			
MIN/ N0901 (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: [Assistant Mine Surveyor](#)

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](#) , [RPL Assessment Document](#), and

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

Assistant Mine Surveyor

MIN/Q 0426

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 0473 (Assist in measuring and setting out dimensional control for the mining requirements)	PC1. Information and instructions are interpreted accurately for dimensional position and measurement control of the work program	30	3	2	1
	PC2. Area to be measured and set out is identified accurately in accordance with the work's specification		2	1	1

	PC3. Measuring tools and equipment are selected to carry out the measuring and setting-out requirements		3	2	1
	PC4. Transference of dimensional control requirements are taken from given reference points in accordance with information and instructions		3	2	1
	PC5. Components for setting out dimensional control are obtained in accordance with regulatory and operational requirements		3	2	1
	PC6. Clarification and understanding of the information and instructions are confirmed with the appropriate person(s)		2	1	1
	PC7. Markings and dimensional control components are positioned and secured accurately in accordance with the specifications and work requirement		3	2	1
	PC8. Variations between the information and instructions and the actual dimensions of work are reported promptly to the authorized person		3	2	1
	PC9. Corrective actions for variations to the information and instructions are agreed, recorded and confirmed with the appropriate		2	1	1

	person(s)				
	PC10. Work is carried out to approved procedures and practices and in compliance with statutory requirements		2	1	1
	PC11. Prepare and maintain the plan and sections and related instruments		2	1	1
	PC12. Understand/ identify the errors in surveying under the guidance of surveyor		2	1	1
		Total	30	18	12
2. MIN/ N 0474 (Set out secondary dimensional work control)	PC1. Interpret drawings of the survey area and draw relevant conclusions with respect to contours, markings and drawing symbols	30	3	2	1
	PC2. Understand and identify action points from method statements		2	1	1
	PC3. Clearly understand specifications related to surveying equipment and specific usage intended for the purpose		2	1	1
	PC4. Understand the operating instructions specified with manufacturer's information		2	1	1
	PC5. Understand the process of establishing reference points with respect to the work to be carried out		2	1	1
	PC6. Select the required type and		3	2	1

	<p>quantity of resources: material, components and equipment relating to types, quantity, quality and sizes of standard and/or specialist:</p> <ul style="list-style-type: none"> • measuring tools and instruments • marking equipment • level and alignment tools." 				
	PC7. Use given equipment to transfer, transpose, level, measure, mark, position, fix and secure required reference points		3	2	1
	PC8. Measure and set out secondary dimensional control for the work		3	2	1
	PC9. Measure, align and level to dimensional control requirements		3	2	1
	PC10. Transfer and set out line, angles and levels to dimensional control requirements		3	2	1
	PC11. Use hand tools and measuring and marking equipment		2	1	1
	PC12. Work at height if required to set up equipment		2	1	1
		Total	30	18	12
3. MIN/ N 0475 (Move and handle resources to assist surveyor)	PC1. Comply with the given information to move and store resources to maintain safe work practice	15	4	3	1

	PC2. Select the resources to be stored/moved and ensure they conform to the given information		3	2	1
	PC3. Comply with the given information to prevent damage to the product and surrounding environment		4	2	2
	PC4. Comply with the given product information to carry out the work efficiently to the required guidance.		4	2	2
		Total	15	9	6
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 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		3	2	1

	and transport of hazardous materials compliant with safety guidelines prescribed by DGMS.				
	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

EVIDENCE OF NEED

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.

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

- Skills Gap analysis Reports for industry demand
- Training duration and current and potential capacity envisaged for potential supply

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

- NSDC list of Approved and Under-Development QPs was checked prior to commissioning the work
- NSDC QRC team also confirmed the same

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?

- 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.

Has the qualification been through a formal approval procedure(s)?

(If so, explain the process and the outcome.)

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.

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?

- Feedback from the Industry and Industry Association
- Recommendation and suggestions from the Industry Player and Industry Association

What arrangements are in place to inform people about the qualification(s) and the advantages it offers?

- 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.

Assistant Mine Surveyor - MIN/ Q 0426					
Process required	Professional Knowledge	Professional Skills	Core Skills	Responsibility	Level
Job holder is expected to be aware surveying & levelling , representing & preparing a plan, section, tracings, knowledge of Auto CAD, ability to plan and prioritize, quality consciousness, sensitivity to problem solving, quick decision making, , this outcome is pegged at Level 4.	<p>Job holder must have knowledge of</p> <ul style="list-style-type: none"> • Different types of chains/ tapes to measure distances • Methods of calculating height, depth, angle, length and area associated with the method/procedure to set out for secondary dimensional work control <p>Knowledge of using measuring instruments like vernier calipers, micrometres, scales, rulers, chains, tapes</p>	<ul style="list-style-type: none"> • Use reasoning skills and common sense to make judgements on day to day basis. • Note measurements and readings during the operations/ processes <p>Assist in measuring and setting out dimensional control for the mining requirements.</p>	Different types of techniques and technologies used in mine surveying like transfer of dimensional control, measuring, aligning and levelling to dimensional control requirements, transfer and set out line, angles and levels to dimensional control requirements etc.	<ul style="list-style-type: none"> • Document information from drawings and sketches • Support the manager in identifying and resolving problems. • Discuss work with team members and share updates <p>Conduct training sessions for team</p>	4

	etc.			members	
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