

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

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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

NSQF QUALIFICATION FILE GUIDANCE

Version 6: Draft of 08 March 2016

SUMMARY

Qualification Title	Assistant Operator – Ore processing/ Beneficiation
Qualification Code	MIN/Q0441
Nature and purpose of the qualification	<p>This is a Qualification Pack (QP), corresponding to Level – 2 and includes three (3) NOSs.</p> <p>Targeted learners: This qualification will equip the trainees to become Assistant Operator – Ore processing/ Beneficiation. He/she would assist Operator and technicians in operating and servicing particular machinery or subsection of Ore processing/ Mineral beneficiation line consisting of crusher, grinder, mineral extraction process equipments and materials handling equipments etc.</p> <p>Main purpose of the qualification – is to get unemployed people into work and also to upgrade the skills of Mazdoor / Helpers already in employment and to enable them to take up skilled helper roles.</p>
Body/bodies which will award the qualification	Skill Council for Mining Sector.
Body which will accredit providers to offer courses leading to the qualification	Skill Council for Mining Sector.
Body/bodies which will carry out assessment of learners	<ol style="list-style-type: none"> 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
Occupation(s) to which the qualification gives access	<p>Assistant Operator – Mineral beneficiation / Ore processing.</p> <p>Brief Job Description: Assist Operator – Ore processing / Beneficiation assists Operator and technicians in operating and servicing particular machinery or subsection of Mineral beneficiations / Ore processing line consisting of crusher, grinder, mineral extraction process equipments and materials handling equipments etc.</p>
Licensing requirements	No Licensing required. But must undergo Technical and gallery training as per first schedule, Mining Vocational Training Rules (MVTR) 1966.
Level of the qualification	2

NSQF QUALIFICATION FILE GUIDANCE

Version 6: Draft of 08 March 2016

in the NSQF			
Anticipated volume of training/learning required to complete the qualification	250 Hours		
Entry requirements and/or recommendations	Class X pass		
Progression from the qualification	This qualification provides entry to one or more of the following: <ul style="list-style-type: none"> - Horizontal access at the same NSQF Level: Other Assistant Operator roles. - Vertical access at next NSQF level: L3 - Assistant Specialized Technicians including Sampler (QA/QC), etc. And / or L4 - Ore Processing Operator 		
Planned arrangements for the Recognition of Prior learning (RPL)	RPL arrangements for in-service workers at mine location as per policies laid out by MSDE.		
International comparability where known	NA		
Date of planned review of the qualification.	26/09/2019		
Formal structure of the qualification			
Title of component and identification code.	Mandatory/ Optional	Estimated size (learning hours)	Level
Includes 3 NOSs - <ul style="list-style-type: none"> 1) MIN/N 0468: Assist in operation of a sub section 2) MIN/N 0469: Assist in routine pre check-up and maintenance support. 3) MIN/N 0901: Comply with worksite health and safety guideline. 	M M M	250 Hours	2

NSQF QUALIFICATION FILE GUIDANCE

Version 6: Draft of 08 March 2016

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, comprises written test, viva and practical assessment through certified assessors only. It has planned to use audio-video recording of assessment.

NSQF QUALIFICATION FILE GUIDANCE

Version 6: Draft of 08 March 2016

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: Assistant Operator – Mineral beneficiation / Ore processing

Qualification Pack: MIN / Q 0441

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	Out Of	Theory	Skills Practical
		100	100	30	70
1.MIN/N0468: Assist in operation of a sub section	PC1. Adhere to time limits given by operator.	45	4	2	2
	PC2. Carry out routine Check of machine before starting. Get the work area ready and clean, lubricate the conveyors, and ensure magnets are operative.		4	1	3
	PC3. Check water supply for water spray and mist operation.		2	0	2
	PC4. Get the reagents, organize top ups and timely addition of required quantity.		4	1	3

NSQF QUALIFICATION FILE GUIDANCE

Version 6: Draft of 08 March 2016

	PC5. Cleaning / washing of machine, removing crusher jamming & conveyor spillage, cleaning of hoppers and bins, check stockpile stability		4	1	3
	PC6. Assist in sequential starting and switching off conveyors and line equipments.		4	1	3
	PC7. Operate hand tools, hydraulic tools and lifting devices.		4	1	3
	PC8. Removing any running jam in crusher or screen, rectify any conveyor spillage, clean the hoppers and bins.		4	1	3
	PC9. Check for any unusual high vibration, noises, smells, blockages and obstruction, leaks.		4	2	2
	PC10. Inform operator & technician for any problem or deviation or alarm message.		4	2	2
	PC11. Provide input to Operator & Technician to maintain log book and any other recording system.		3	1	2
	PC12. Shutdown in proper manner in case of emergency		4	2	2
			45	14	31
2. MIN/N0469: Assist in routine pre check-up and breakdown maintenance support.	PC1. To clean the work area and assist the Technician in conducting daily inspection and check of the machine.	35	4	1	3
	PC2. Carry out preliminary & visual checks. Observe any unusual noise, vibration, leak, spillage, accumulation etc. and communicate the same to Technician / Operator.		4	1	3
	PC3. To check gauges, indicators, and sensor are fully functional. Observe any alarm message and report the same to Technician or Operator.		4	1	3
	PC4. To assist in getting the right tools, zings and fixtures and spare parts required for the repair work.		3	0	3
	PC5. Take direction from Technician and identify right machine spares, tools and tackles required for		3	1	2

NSQF QUALIFICATION FILE GUIDANCE

Version 6: Draft of 08 March 2016

	the repair and maintenance job on the machines.				
	PC6. To get necessary authorization, To get the items issued from store and carry right tools and tackles required to attend the breakdown.		3	1	2
	PC7.To clean the machine components and assist the technician/mechanics in fitment of the right components.		4	1	3
	PC8. To carry out required lubrication, greasing and oil change as required.		4	1	3
	PC9.To dispose of waste material and broken parts at appropriate place.		3	1	2
	PC10.Assist technician to check the machine before recommissioning and handing back for operation.		3	1	2
			35	9	26
3. MIN/N0901: Health and safety	PC1. Comply with occupational health and safety regulations adopted by the employer.	20	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

NSQF QUALIFICATION FILE GUIDANCE

Version 6: Draft of 08 March 2016

	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
		Total	20	7	13
	Total Marks		100	30	70
	Percentage (%) Weightage			30	70
	Passing Percentage (%)			50	

Means of assessment 1

Written test, viva and practical assessment, in line with defined assessment criteria and approved assessment policy.

Pass/Fail

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

NSQF QUALIFICATION FILE GUIDANCE

Version 6: Draft of 08 March 2016

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: Assistant Operator – Mineral beneficiation / Ore processing. QP Number - MIN/Q 0441 Level: 2			
NSQF Domain	Outcomes of the Qualification/Component	How the job role relates to the NSQF level descriptors	NSQF Level
Process	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 operator, technician and seniors to operate and service Ore processing / Mineral beneficiation machinery and line and carry out the necessary instruction given by seniors.	Inform operator & technician for any problem or deviation or alarm message, prepares machine / equipments ready, to carry out process that are repetitive on regular basis, more of practice	2
Professional knowledge	Basic knowledge of different equipment in beneficiation line and an idea of flow of material. He should understand and possess knowledge of operation and input and output from all critical machinery in each stage of beneficiation process, including – <ul style="list-style-type: none"> • Primary crushers. • Secondary crushers • Grinder and screens • Conveying system • Storage hoppers, bins and bunkers, Apron feeders • Cyclone for fine separation • Flotation cell/jig/bath etc. 	Material tools and application in a limited context of visual inspections, understands context of inspection and maintenance work and right quality	2

NSQF QUALIFICATION FILE GUIDANCE

Version 6: Draft of 08 March 2016

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NSQF Domain	Outcomes of the Qualification/Component	How the job role relates to the NSQF level descriptors	NSQF Level
	<p>Basic knowledge of machine operational parameters like ammeter readings, tank level, reagent usage, air parameters, alarms, pumps, screens, monitors, Threshold Limit Values (TLVs) etc.</p> <p>Know right lubricants for conveyors, drives, gearboxes, chain and sprocket drives and greasing point of different machines.</p> <p>Know the right set of tools and tackles required for Maintenance.</p> <p>Basic knowledge of operating manual, log book and other recording system.</p>		
Professional skill	<ul style="list-style-type: none"> • Planning of work according to the schedule. • Prioritize and execute tasks within given timeline. Detect problems in day to day tasks. • Follow instructions and work on areas of improvement identified. • Use common sense and make judgments during day to day basis. • Planning for cleaning of the equipments. • Detect problems in day to day tasks. • Report problem that he can't resolve to appropriate authority • Identify sources of support that can be availed for problem solving. 	limited service skill, used in limited context, select and apply tools, assist in operation and maintenance works with no variables,	2
Core skill	<ul style="list-style-type: none"> • Fill the respective maintenance checklist. • Read work instructions and standard operating procedures (SOP). • Read everyday production target and batch sequencing etc. 	receive and transmit written and oral messages, basic arithmetic knowledge, understanding hygiene and environment and work place safety	2

NSQF QUALIFICATION FILE GUIDANCE

Version 6: Draft of 08 March 2016

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NSQF Domain	Outcomes of the Qualification/Component	How the job role relates to the NSQF level descriptors	NSQF Level
	<ul style="list-style-type: none"> • Create small notes or work documents for Operator or Technician for the area of operation. • Read internal memos and circulars, safety instructions. • Read equipment manual and process documents, check lists given by the Equipment manufacturers. • Effectively understand about operational requirements. • Answer queries or explain problems related to machine operation to Technicians, Supervisor, Operators and others. • Effectively communicate to Operators, Technicians and others about job completion and any observations. • Attentively listen and comprehend the information given by speaker. 		
Responsibility	Assist Operator –Ore processing / Beneficiation assists Operator and technicians in operating and servicing particular machinery or subsection of Mineral beneficiations / Ore processing line consisting of crusher, grinder, mineral extraction process equipments and materials handling equipments etc.	No direct responsibility. Works under instruction and close supervision of Operator and Technicians.	2

NSQF QUALIFICATION FILE GUIDANCE

Version 6: Draft of 08 March 2016

SECTION 3

EVIDENCE OF NEED

<p>What evidence is there that the qualification is needed?</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>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.• RPL certification of approx. 500 in-service workers yearly.
<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 were checked prior to commissioning the work.• NSDC QRC team also confirmed the same.• Checked at www.nqr.gov.in
<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">• SCMS Review committee will review all QP/NOS at regular periodicity or as per NSDC guidelines.• Review will be based on –<ol style="list-style-type: none">a) Revalidation of minimum requisites to perform in a Job role from pan India industry partners.b) Any change in technology and process relevant to the particular QP and Job roles.
<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 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>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> <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">• 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

NSQF QUALIFICATION FILE GUIDANCE

Version 6: Draft of 08 March 2016

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.

- a) Horizontal mobility as Assistant Support or Skilled Helper roles in Beneficiation or across Mining Operation or Engineering services.
- b) Vertical mobility as Assistant Technicians including Sampler (QA/QC), etc., ore Processing Operator, Mechatronics In charge, Instrumentation Technician with requisite upskilling and qualifications.

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

Annexure 1: Occupational Map