

QUALIFICATIONS PACK - OCCUPATIONAL STANDARDS FOR MINING INDUSTRY

What are Occupational Standards(OS)?

- OS describe what individuals need to do, know and understand in order to carry out a particular job role or function
- OS are performance standards that individuals must achieve when carrying out functions in the workplace, together with specifications of the underpinning knowledge and understanding

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Introduction

Qualifications Pack – Wire saw Operator

SECTOR: MINING

SUB-SECTOR: Industrial Minerals

OCCUPATION: Mining/Quarrying operations

REFERENCE ID: MIN/Q 0410

ALIGNED TO: NCO-2004/8111.90

Brief Job Description: A Wire saw operator operates a Wire saw machine which is used to cut large blocks of stone out from the marble quarry. Wire saws are large machines that use diamond-impregnated beads on a cable to cut through marble, granite and other similar rocks. Wire saw is also used for squaring of the cut slab into square shaped blocks before transporting to the production plant. Operating a Wire saw is a specialized task that can be safely performed only with adequate training and experience. Wire saw operators are also responsible to ensure basic upkeep of the machine and safety in operations.

Personal Attributes: This job requires the individual to concentrate on the job at hand and complete it effectively and efficiently without any accidents so diligence, attentiveness, quick reflexes and hard-working are some of the desired attributes for individuals performing this role. He must also demonstrate strong work ethics and an ability to communicate courteously with co-workers and the supervisor.

Job Details

| | | | |
|---|--|-------------------------|-------------------|
| Qualifications Pack Code | MIN/Q 0410 | | |
| Job Role | Wire saw Operator This job role is applicable in both national and international scenarios | | |
| Credits(NVEQF/NVQF/NSQF) [OPTIONAL] | Level 4 | Version number | 1.0 |
| Sector | Mining | Drafted on | 01/02/2014 |
| Sub-sector | Industrial Minerals | | |
| Occupation | Mining/Quarrying operations | Last reviewed on | 24/03/2014 |
| | | Next review date | 24/03/2015 |

| Job Role | Wire saw Operator |
|---|---|
| Role Description | Drives and operates a Wire saw machine which is a large machine used to cut large blocks of stone out from the marble |
| NVEQF/NVQF level | Level 4 |
| Minimum Educational Qualifications* | Class XII |
| Training (mandatory) | <ol style="list-style-type: none"> 1. Technical and gallery training as per First schedule, Mining vocational training rules (MVTR 1966) 2. Refresher training if absent from mines for a period of one year or more before re-employment 3. Operator training for Wire saw |
| Experience | No experience necessary |
| Applicable National Occupational Standards (NOS) | Compulsory: <ol style="list-style-type: none"> 1. MIN/N 0432(Prepare Wire saw) 2. MIN/N 0433 (Perform Wire saw Operations) 3. MIN/N 0434 (Carry Out Reporting and Logging) 4. MIN/N 0901 (Health and Safety) |
| Performance Criteria | As described in the relevant OS units |

Definitions

| Keywords /Terms | Description |
|-------------------------------|---|
| Sector | Sector is a conglomeration of different business operations having similar businesses and interests. It may also be defined as a distinct subset of the economy whose components share similar characteristics and interests. |
| Sub-sector | Sub-sector is derived from a further breakdown based on the characteristics and interests of its components. |
| Occupation | Occupation is a set of job roles, which perform similar/related set of functions in an industry. |
| Function | Function is an activity necessary for achieving the key purpose of the sector, occupation, or area of work, which can be carried out by a person or a group of persons. Functions are identified through functional analysis and form the basis of OS. |
| Job Role | Job role defines a unique set of functions that together form a unique employment opportunity in an organization. |
| OS | OS specify the standards of performance an individual must achieve when carrying out a function in the workplace, together with the knowledge and understanding they need to meet that standard consistently. Occupational Standards are applicable both in the Indian and global contexts. |
| Performance Criteria | Performance Criteria are statements that together specify the standard of performance required when carrying out a task. |
| NOS | NOS are Occupational Standards which apply uniquely in the Indian context. |
| Qualifications Pack Code | Qualifications Pack Code is a unique reference code that identifies a qualifications pack. |
| Qualifications Pack | Qualifications Pack comprises the set of OS, together with the educational, training and other criteria required to perform a job role. A Qualifications Pack is assigned a unique qualification pack code. |
| Unit Code | Unit Code is a unique identifier for an Occupational Standard , which is denoted by an 'N'. |
| Unit Title | Unit Title gives a clear overall statement about what the incumbent should be able to do. |
| Description | Description gives a short summary of the unit content. This would be helpful to anyone searching on a database to verify that this is the appropriate OS they are looking for. |
| Knowledge and Understanding | Knowledge and Understanding are statements which together specify the technical, generic, professional and organizational specific knowledge that an individual needs in order to perform to the required standard. |
| Organizational Context | Organizational Context includes the way the organization is structured and how it operates, including the extent of operative knowledge managers have of their relevant areas of responsibility. |
| Technical Knowledge | Technical Knowledge is the specific knowledge needed to accomplish specific designated responsibilities. |
| Core Skills or Generic Skills | Core Skills or Generic Skills are a group of skills that are key to learning and working in today's world. These skills are typically needed in any work environment. In the context of the OS , these include communication related skills that are applicable to most job roles. |

National Occupational Standard



Overview

This unit is about preparing the Wire saw for activities that need to be carried out during a shift

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|---|--|
| Unit Code | MIN/N 0432 |
| Unit Title(Task) | Prepare Wire saw |
| Description | This unit is about preparing the Wire saw for activities that need to be carried out during a shift |
| Scope | This OS unit/task covers the following: <ol style="list-style-type: none"> 1. Conducting pre-operation checks to ensure the Wire saw is safe to use. 2. Recording details of daily checks |
| Performance Criteria (PC) w.r.t. the Scope | |
| Element | Performance Criteria |
| Pre-operation Checks | <p>To be competent, the user/individual on the job must be able to:</p> <p>PC1. Adhere to time limits given by supervisor</p> <p>PC2. Check the various controls, gauges, warning lamp and other safety devices</p> <p>PC3. Ensure that crown blocks are mounted securely</p> <p>PC4. Check all hose connections are in order, if using a compress air Wire saw</p> <p>PC5. Check that Wire sawing equipment is in safe operating condition.</p> <p>PC6. Apply grease to all greasing pins and pivot points</p> <p>PC7. The Wire sawing site is clear of other mine workers to avoid any accidents.</p> <p>PC8. Follow the manufacturer’s instructions which apply to the care and safe operation of the Wire saw.</p> |
| Recording and Reporting | <p>PC9. Maintain a checking/maintenance logbook to record all activities performed before starting the Wire saw</p> <p>PC10. Inform supervisor of problems that are beyond scope of his role</p> |

| Knowledge and Understanding (K) | |
|--|--|
| A. Regulatory context (knowledge of safety guidelines specified by Director General of Mine Safety (DGMS)) | The user/individual on the job needs to know and understand: <ul style="list-style-type: none"> KA1. Different types of mines and detail of the mine he is working in KA2. Mine Organisation, time keeping, need for discipline and punctuality KA3. Benching in quarries, Dressing of overhangs, undercuts, Fencing, First aid and Hygiene KA4. Code of traffic in specific areas of mine. Significance of fences KA5. Standing orders in force at the mine. Safety in the vicinity of machinery KA6. Shot-firing and Safety regulations. How and where to take shelter KA7. Tramways and siding, Haulage rooms, Winding rooms, Boilers, Electrical Gears KA8. Duties of workmen under Mines act KA9. Provision of wages, working hours and accident compensation as per Mines act KA10. Knowledge of mining safety procedures KA11. Outcome of violation of safely procedures KA12. Precautions to be taken when handling heavy equipment KA13. Refresher training as per fourth schedule MVTR (1966) within one month of joining duties following absence from duties for a period exceeding one year. |
| B. Organizational Context (Knowledge of organization processes) | The user/individual on the job needs to know and understand: <ul style="list-style-type: none"> KB1. Job specific documents e.g. daily maintenance checklist and importance of the same KB2. Risk and impact of not following defined procedures/work instructions KB3. Escalation matrix for reporting identified problems KB4. Cost of equipment and loss for the company that results from damage of equipment KB5. Implications of delays in process to the company |
| C. Technical Knowledge | The user/individual on the job needs to know and understand: <ul style="list-style-type: none"> KC1. Different types of Wire saws and their specific use KC2. Specification and details of blast hole Wire saws used in open-cast mines KC3. Instrument panel, various controls their location and operation KC4. Lubrication of Wire saws KC5. Various levers and switches in order to operate the Wire saw properly KC6. Different types of Wire saw bits and their uses KC7. Common terminology vis-à-vis Wire sawing KC8. Routine checks essential before starting Wire saw operations |

| Skills | |
|--|--|
| A. Core Skills/ Generic Skills | Writing Skills |
| | The user/ individual on the job needs to know and understand how to: |
| | SA1. Fill out check-list /activity logbooks detailing maintenance activities conducted |
| | SA2. Fill out administrative forms |
| | Reading Skills |
| | The user/individual on the job needs to know and understand how to: |
| | SA3. Read operators' manual |
| | SA4. Read and understand pre-operation checklist/ activity logbook |
| | SA5. Read and comprehend banners /signage |
| | Oral Communication (Listening and Speaking skills) |
| The user/individual on the job needs to know and understand how to: | |
| SA1. Communicate with supervisors and peers in a polite manner using respectable language. | |
| Integrity | |
| The user/individual on the job needs to know and understand how to: | |
| SA2. Maintain integrity with respect to company property and time | |
| SA3. Resolve difficulties in relationships with colleagues amicably. | |
| Motivation | |
| The user/individual on the job needs to know and understand how to: | |
| SA4. Take responsibility for completing one's own work assignment | |
| SA5. Take initiative to enhance/learn skills in one's area of work | |
| Reliability | |
| The user/individual on the job needs to know and understand how to: | |
| SA6. Avoid absenteeism | |
| SA7. Work in a disciplined environment | |
| SA8. Be punctual | |
| B. Professional Skills | Time Management |
| | The user/individual on the job needs to know and understand how to: |
| | SB1. Prioritize and execute tasks within the scheduled time limits |
| | Analytical Thinking |
| The user/individual on the job should be able to: | |
| SB2. Suggest methods to avoid accidents/errors while operating Wire saw | |
| SB3. Identify possible ways to improve operational efficiency | |
| Organizational Skills | |
| The user/individual on the job needs to know and understand how to: | |
| SB4. Be a team player and achieve collective goals | |

Fault Diagnostic and Maintenance

The user/individual on the job needs to know and understand how to:

- SB6. Check for damage in Wire saw components e.g various pneumatic parts, compressor, Wire saw bit and mechanical parts



NOS Version Control

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|---------------------------------|--------------------------------------|-------------------------|-----------------|
| NOS Code | MIN/N 0432 | | |
| Credits(NVEQF/NVQF/NSQF) | TBD | Version number | 1.0 |
| Sector | Mining | Drafted on | 28/01/14 |
| Sub-sector | Industrial Minerals | Last reviewed on | 24/03/14 |
| Occupation | Mining / quarrying operations | Next review date | 24/03/15 |

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National Occupational Standard



Overview

This unit is about performing Wire sawing operation using a rig mounted Wire saw machine

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|---|---|
| Unit Code | MIN/N 0433 |
| Unit Title(Task) | Perform Wire saw Operations |
| Description | This unit is about performing Wire sawing operation using a rig mounted Wire saw machine |
| Scope | This OS unit/task covers the following: <ul style="list-style-type: none"> 1. Travelling of the Wire saw by Trammig or Towing 2. Positioning and mounting the Wire saw 3. Perform Wire sawing operation. |
| Performance Criteria (PC) w.r.t. the Scope | |
| Element | Performance Criteria |
| Transporting the wire-saw | To be competent, the user/individual on the job must be able to: <ul style="list-style-type: none"> PC1. Plan and organize the job according to the site engineer instructions PC2. Organise daily consumables according to the day's plan PC3. Operate propelling motor control levers to smoothly move the Wire saw machine in all four directions. PC4. Ensure all necessary precautions are adhered to before towing the Wire saw to a distant site. PC5. Raise Wire saw guide to 1.5m above ground level and make it horizontal to prevent any damage in transit. |
| Mounting the wire-saw | <ul style="list-style-type: none"> PC6. Ensure a stable base for mounting the Wire saw PC7. Adjust the tracks by methodically manipulating the positions of oscillation cylinder valve and hydraulic track valve. PC8. Have work area barricaded or bunded and erect signage as required to make work area safe. |
| Operate wire-saw | <ul style="list-style-type: none"> PC9. Ensure that the highest level of quality is consistently maintained PC10. Ensure all associated products (couplings/rods etc) are used to their maximum potential, while ensuring their sustainability PC11. Reduce downtime and wastage PC12. Demonstrate caution against hazards of Wire saw machine in operation. |

| Knowledge and Understanding (K) | |
|--|--|
| A. Regulatory context (knowledge of safety guidelines specified by Director General of Mine Safety (DGMS)) | The user/individual on the job needs to know and understand: <ul style="list-style-type: none"> KA1. Different types of mines and detail of the mine he is working in KA2. Mine Organisation, time keeping, need for discipline and punctuality KA3. Benching in quarries, Dressing of overhangs, undercuts, Fencing, First aid and Hygiene KA4. Code of traffic in specific areas of mine. Significance of fences KA5. Standing orders in force at the mine. Safety in the vicinity of machinery KA6. Shot-firing and Safety regulations. How and where to take shelter KA7. Tramways and siding, Haulage rooms, Winding rooms, Boilers, Electrical Gears KA8. Duties of workmen under Mines act KA9. Provision of wages, working hours and accident compensation as per Mines act KA10. Knowledge of mining safety procedures KA11. Outcome of violation of safely procedures KA12. Precautions to be taken when handling heavy equipment KA13. Refresher training as per fourth schedule MVTR (1966) within one month of joining duties following absence from duties for a period exceeding one year. |
| B. Organizational Context (Knowledge of the organization and its processes) | The user/individual on the job needs to know and understand: <ul style="list-style-type: none"> KB1. Types of documentation in organization e.g. daily maintenance checklist and importance of the same KB2. Risk and impact of not following defined procedures/work instructions KB3. Rules and regulations of mine as per standard operating procedure (SOP) KB4. Risk and impact of not following company's SOP KB5. Escalation matrix for reporting identified problems KB6. Duties and responsibilities associated with his job role as per the employer |
| C. Technical Knowledge | The user/individual on the job needs to know and understand: <ul style="list-style-type: none"> KC1. Different types of Wire saws and their specific use KC2. Operation of different sub-assemblies such as drive wheel, hydraulic system, power unit, water supply system, wire tensioning arm, wire length adjustment pulley etc. KC3. Specification and details of Diamond Wire saws used in open-cast mines KC4. Instrument panel, various controls their location and operation. |

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| <p>C. Technical Knowledge</p> | <p>KC5. Different types of Wire saws and their specific use</p> <p>KC6. Operation of different sub-assemblies such as drive wheel, hydraulic system, power unit, water supply system, wire tensioning arm, wire length adjustment pulley etc.</p> <p>KC7. Specification and details of Diamond Wire saws used in open-cast mines</p> <p>KC8. Instrument panel, various controls their location and operation</p> <p>KC9. Setting up of the saw for various tasks - horizontal, vertical or flush cutting.</p> <p>KC10. Wire sawing pattern and sequence of operations.</p> <p>KC11. Method and significance of twisting the diamond wire before joining connectors.</p> <p>KC12. Mounting of the water supply nozzle for cooling of the wire while cutting</p> <p>KC13. Optimal speed of driving and cutting to ensure best results.</p> <p>KC14. Use of various systems in the remote control unit to control the hydraulic oil flow rate, wire tension control, longitudinal advance control for cutting direction, potentiometer for speed adjustment.</p> <p>KC15. Safety during Wire sawing, marching and other operations</p> <p>KC16. Working area must be cordoned off as flying pieces of rock can be dangerous.</p> <p>KC17. comply with all company Quality, Health, Safety and Environment policies and procedures</p> <p>KC18. Signage, mining area signs and other safety and emergency signals</p> <p>KC19. Response to emergencies such as fire, accident, major failure etc.</p> <p>KC20. Basic maintenance steps such as replacing rubber on the pulleys, cleaning the diamond wire guard and drive wheel guard, keeping grip points free from oil and grease.</p> |
| <p>Skills (S)</p> | |
| <p>A. Core Skills/ Generic Skills</p> | <p>Reading Skills</p> <p>The user/individual on the job needs to know and understand how to:</p> <p>SA1. Read schedule given by site engineer</p> <p>SA2. Read operators' manuals</p> <p>Oral Communication (Listening and Speaking skills)</p> <p>The user/individual on the job needs to know and understand how to:</p> <p>SA3. Communicate with supervisors and peers in a proper manner using individual values of respect</p> <p>Integrity</p> |

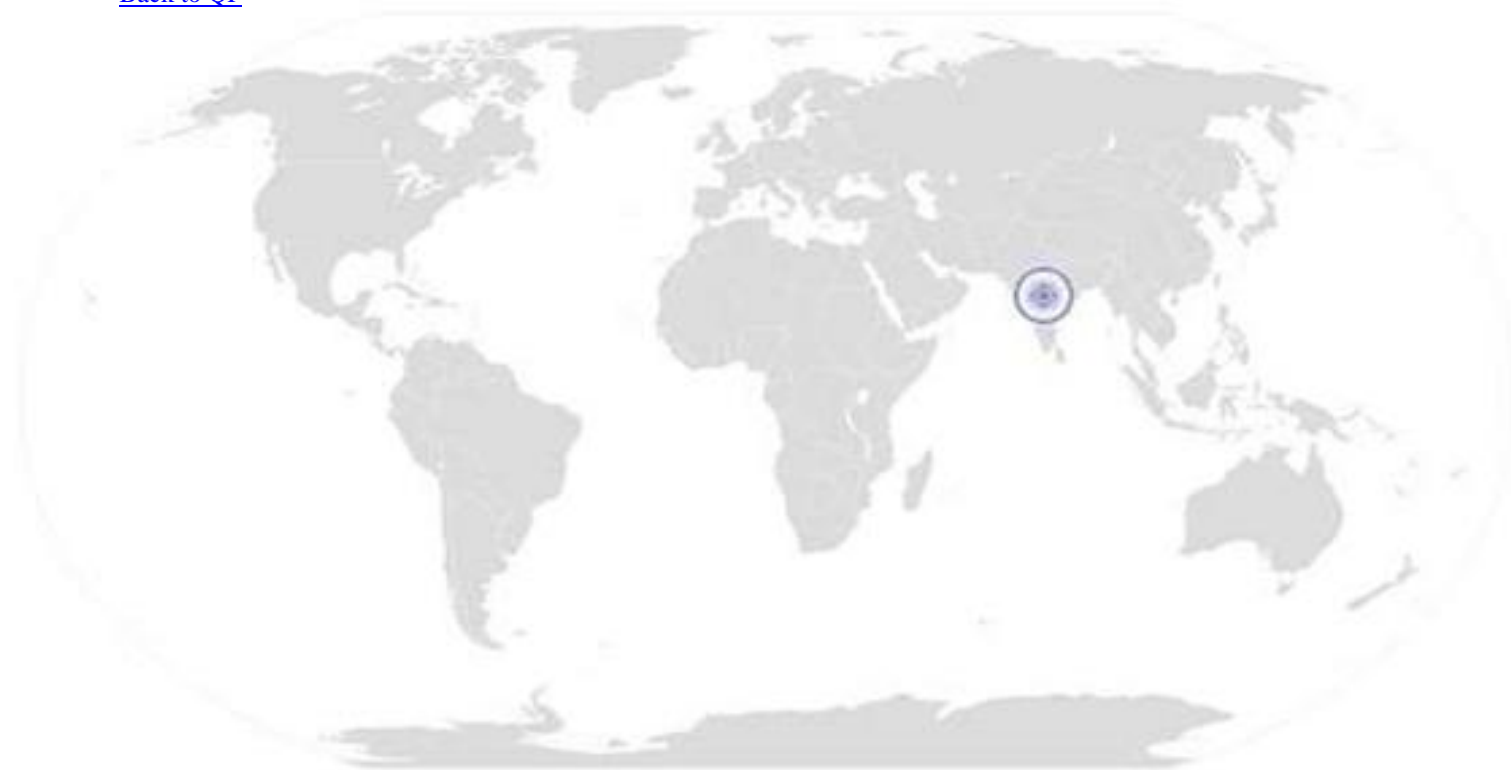
| | |
|------------------------|--|
| | <p>The user/individual on the job needs to know and understand how to:</p> <p>SA4. Maintain integrity with respect to company property and time</p> <p>SA5. Resolve any difficulties in relationships with colleagues amicably</p> |
| | <p>Motivation</p> |
| | <p>The user/individual on the job needs to know and understand how to:</p> <p>SA6. Take responsibility for completing one's own work assignment</p> <p>SA7. Take initiative to enhance/learn skills in one's area of work.</p> |
| | <p>Reliability</p> |
| | <p>The user/individual on the job needs to know and understand how to:</p> <p>SA8. Avoid absenteeism</p> <p>SA9. Work in a disciplined environment</p> <p>SA10. Be punctual</p> |
| | <p>Analytical Thinking</p> |
| B. Professional Skills | <p>The user/individual on the job needs to know and understand how to:</p> <p>SB1. Suggest methods to avoid accidents/errors while operating Wire saw</p> <p>SB2. Identify possible ways to improve operational efficiency</p> |
| | <p>Time Management</p> |
| | <p>The user/individual on the job needs to know and understand how to:</p> <p>SB3. Prioritize and execute tasks within the scheduled time limits</p> |
| | <p>Organizational Skills</p> |
| | <p>The user/individual on the job needs to know and understand how to:</p> <p>SB4. Adjust according to capacity and manpower needs during peak and non-peak hours</p> <p>SB5. Be a team player and achieve collective goals</p> <p>SB6. Concentrate on task at hand and complete it without errors</p> <p>SB7. Ensure adequate knowledge sharing with supervisors and subordinates</p> |

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| | Wire saw operations |
| | <p>The user/individual on the job needs to know and understand how to:</p> <p>SB8. Drill through holes to insert the diamond wire</p> <p>SB9. Operate control levers to safely operate the Wire saw machine.</p> <p>SB10. Ensure that the highest level of quality is consistently maintained</p> <p>SB11. Ensure that diamond wires, coolants etc. are used to their maximum potential</p> <p>SB12. Connect and crimp the diamond wires to ensure the right tension and motion.</p> <p>SB13. Arrangements to setup the pulley system to affect horizontal, vertical or flush cuts in the rock.</p> <p>SB14. Right alignment of pulleys to ensure minimum wear and reduce the risk of wire jumping off.</p> |
| | Fault Diagnostic and Maintenance |
| | <p>The user/individual on the job needs to know and understand how to:</p> <p>SB15. Check for damage in Wire saw components e.g. hydraulic hoses, wire distributor system, various pulleys and the rubber rim, saw head etc.</p> |

NOS Version Control

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|---------------------------------|-----------------------------|-------------------------|----------|
| NOS Code | MIN/N0433 | | |
| Credits(NVEQF/NVQF/NSQF) | TBD | Version number | 1.0 |
| Sector | Mining | Drafted on | 01/02/14 |
| Sub-sector | Industrial Minerals | Last reviewed on | 24/03/14 |
| Occupation | Mining/quarrying operations | Next review date | 24/03/15 |

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National Occupational Standard



Overview

This unit is about reporting and documentation

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|--|---|
| Unit Code MIN/N 0434 | |
| Unit ID (Task) Carry out reporting and documentation | |
| Description | This unit is about carrying out reporting and documentation |
| Scope | This unit/task covers the following: <ul style="list-style-type: none"> 1. Reporting of problem/incidents etc. 2. Reporting and Documentation |
| Performance Criteria (PC) w.r.t. the Scope | |
| Element | Performance Criteria |
| Incident Reporting | To be competent, the user/individual on the job must be able to: <ul style="list-style-type: none"> PC1. Report problems/incidents as applicable in a timely manner PC2. Report to the appropriate authority as laid down by the employer PC3. Follow reporting procedures as prescribed by the employer |
| Documenting | <ul style="list-style-type: none"> PC4. Identify documentation to be completed relating to one's role PC5. Record details accurately using the appropriate format PC6. Complete all documentation within stipulated time. |
| Knowledge and Understanding (K) | |
| A. Regulatory context (knowledge of safety guidelines specified by Director General of Mine Safety (DGMS)) | The user/individual on the job needs to know and understand: <ul style="list-style-type: none"> KA1. Different types of mines and detail of the mine he is working in KA2. Mine Organisation, time keeping, need for discipline and punctuality KA3. Benching in quarries, Dressing of overhangs, undercuts, Fencing, First aid and Hygiene KA4. Code of traffic in specific areas of mine. Significance of fences KA5. Standing orders in force at the mine. Safety in the vicinity of machinery KA6. Shot-firing and Safety regulations. How and where to take shelter KA7. Tramways and siding, Haulage rooms, Winding rooms, Boilers, Electrical Gears KA8. Duties of workmen under Mines act KA9. Provision of wages, working hours and accident compensation as per Mines act KA10. Knowledge of mining safety procedures KA11. Outcome of violation of safely procedures KA12. Precautions to be taken when handling heavy equipment |

| | |
|---|--|
| <p>B. Organizational</p> <p>Context (Knowledge of the organization and its processes)</p> | <p>The user/individual on the job needs to know and understand:</p> <p>KB1. Types of documentation in organization e.g. daily maintenance checklist and importance of the same</p> <p>KB2. Risk and impact of not following defined procedures/work instructions</p> <p>KB3. Rules and regulations of mine as per standard operating procedure (SOP)</p> <p>KB4. Risk and impact of not following company's SOP</p> <p>KB5. Escalation matrix for reporting identified problems</p> <p>KB6. The duties and responsibilities associated with his job role as per the employer</p> |
| <p>Skills (S)</p> | |
| <p>A. Core Skills/ Generic Skills</p> | <p>Writing Skills</p> |
| | <p>The user/ individual on the job needs to know and understand how to:</p> <p>SA1. Fill up documentation applicable to one's role</p> |
| | <p>Reading Skills</p> |
| | <p>The user/individual on the job needs to know and understand how to:</p> <p>SA2. Read english and/or vernacular language with few pauses and a constant speed</p> <p>SA3. Read and understand manuals, health and safety instructions, memos etc</p> <p>SA4. Ability to read from different sources - books, screens in machines, signange etc.</p> <p>SA5. Understand the various color codes, as per standard mining nomenclature</p> |
| | <p>Oral Communication (Listening and Speaking skills)</p> |
| | <p>The user/individual on the job needs to know and understand how to:</p> <p>SA6. Express statements or information clearly so that others can hear and understand</p> <p>SA7. Participate in and understand the main points of simple discussions</p> <p>SA8. Respond appropriately to any queries</p> <p>SA9. Communicate with supervisor</p> |

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| NOS Code | MIN/N 0434 | | |
| Credits(NVEQF/NVQF/NSQF) [OPTIONAL] | TBD | Version number | 1.0 |
| Sector | Mining | Drafted on | 01/02/14 |
| Sub-sector | Industrial Minerals | Last reviewed on | 24/03/14 |
| Occupation | Mining / quarrying operation | Next review date | 24/03/15 |

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National Occupation Standards



Overview

This unit is about health and safety measures critical in open-cast mines

| | |
|---|---|
| Unit Code | MIN/N 0901 |
| Unit Title (Task) | Health and Safety |
| Description | This unit is about health and safety measures critical in open-cast mines |
| Scope | <p>This OS unit/task covers the following:</p> <ol style="list-style-type: none"> 1. Health and safety measures critical for personnel working in open-cast mines |
| Performance Criteria (PC) w.r.t. the Scope | |
| Element | Performance Criteria |
| Safety, Security and Administrative | <p>To be competent, the user/individual on the job must be able to:</p> <p>PC1. Comply with occupational health and safety regulations adopted by the employer.</p> <p>PC2. Follow mining operations procedures with respect to materials handling and accidents</p> <p>PC3. Follow the correct safety steps in case of fire, accident, major failure</p> <p>PC4. Work responsibly and carefully so as not to put the health and safety of self or others at risk.</p> <p>PC5. Perform storage and transport of hazardous materials compliant with safety guidelines prescribed by DGMS.</p> <p>PC6. Comply with safety regulations and procedures in case of fire hazard.</p> <p>PC7. Operate various grades of fire extinguishers.</p> <p>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</p> <p>PC9. Demonstrate careful practices in handling explosives and heavy machinery.</p> <p>PC10. Identify characteristics of post-blast fumes and take necessary precautions.</p> |

| Knowledge and Understanding (K) | |
|--|---|
| A. Regulatory context (knowledge of safety guidelines specified by Director General of Mine Safety (DGMS)) | The user/individual on the job needs to know and understand: <ul style="list-style-type: none"> KA1. Benching in quarries, Dressing of overhangs, undercuts, fencing KA2. First aid and hygiene KA3. Code of practice in specific areas of mine. Significance of fences KA4. Standing orders in force at the mine. Safety in the vicinity of machinery KA5. Shot-firing and Safety regulations. How and where to take shelter KA6. Knowledge of mining safety procedures KA7. Outcome of violation of safety procedures KA8. Locally prepared Emergency Preparedness / Disaster Management Plan. KA9. Environmental impact of mining KA10. Sources of dust, noise and vibration and measures to minimise KA11. Hazardous material safety and security rules and regulations as prescribed by DGMS. |

NOS Version Control

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|---------------------------------|------------------------------|-------------------------|-------------------|
| NOS Code | MIN / N 0901 | | |
| Credits(NVEQF/NVQF/NSQF) | TBD | Version number | 1.0 |
| Sector | Mining | Drafted on | 01/02/14 |
| Sub-sector | Industrial Minerals | Last reviewed on | 24/03/2014 |
| Occupation | Mining /quarrying operations | Next review date | 24/03/2015 |

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List of Abbreviations

| Term | Description |
|-------|--|
| NOS | National occupation standards |
| QP | Qualification pack |
| NVEQF | National vocational education qualifications framework |
| NSQF | National skills qualifications framework |
| HEMM | Heavy earth moving machinery |
| NCVT | National council for vocational training |
| DGMS | Directorate general of mines safety |
| PC | Performance Criteria |
| FIMI | Federation of Indian mineral industries |

