

QUALIFICATIONS PACK - OCCUPATIONAL STANDARD FOR MINING INDUSTRY

What are Occupational Standard (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 standard 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- Grader Operator

SECTOR: MINING

SUB-SECTOR: Open Cast Mines

OCCUPATION: Mining Operations

REFERENCE ID: MIN/Q 0430

ALIGNED TO: NCO-2004/8332.16

A grader operator ensures safe end to end operations of grader and other heavy equipment

Brief Job Description: The Grader Operator operates the grader and other heavy equipment in a safe and effective manner in order to ensure the roadways are accessible, safe and in good operating condition.

Personal Attributes: This job requires the individual to concentrate on the job at hand and complete it efficiently and effectively without any accidents so diligence and hard-work 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 the supervisor.

Job Details	Qualification Pack Code	MIN/ Q0430		
	Job Role	Grader Operator		
	Credits(NSQF)	TBD	Version number	1.0
	Industry	Mining	Drafted on	15/12/2014
	Sub-sector	Open Cast Mines	Last reviewed on	24/03/2015
	Occupation	Mining Operations	Next review date	24/03/2017

Job Role	Grader Operator
Role Description	The Grader Operator is responsible to for operating the grader and other heavy equipment in a safe and effective manner in order to ensure the roadways are accessible, safe and in good operating condition.
NSQF level	4
Minimum Educational Qualification	Class X
Maximum Educational Qualification	NA
Training	Mandatory: <ol style="list-style-type: none"> Technical and gallery training as per first schedule, Mining Vocational Training Rules (MVTR) 1966. Heavy Commercial Vehicle Driving License Suggested <ol style="list-style-type: none"> Refresher training if absent from mines for a period of one year or more before re-employment. 5S and Safety Management
Experience	0 - 10 years' experience
Applicable National Occupational Standards	Compulsory: Click on the hyperlink to read/download the required NOS <ol style="list-style-type: none"> MIN/ N0483 (Prepare Grader for operations and conduct routine maintenance) MIN/ N0484 (Perform grader Operations) MIN/ N0485 (Transport Grader) MIN/ N0901 (Health and Safety) Optional Not Applicable
Performance Criteria	As described in the relevant NOS units

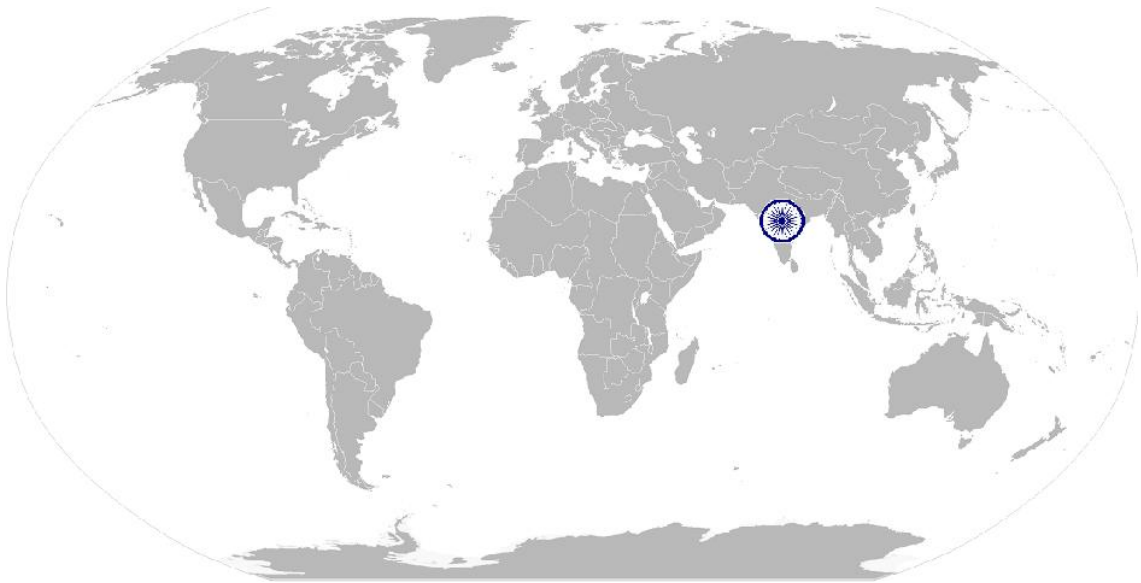
Definitions

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 standard 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 Standard 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 Standard which apply uniquely in the Indian context.
Qualification Pack Code	Qualification Pack Code is a unique reference code that identifies a qualification pack.
Qualification Pack	Qualification Pack comprises the set of OS, together with the educational, training and other criteria required to perform a job role. A Qualification 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.



Acronyms	Keywords /Terms	Description
	SCMS	Skill council for Mining Sector
	NOS	National Occupational Standard
	NSQF	National Skill Qualification Framework
	NVEQF	National Vocational Educational Qualification Framework
	NVQF	National Vocational Qualification Framework
	OS	Occupational Standard
	PC	Performance Criteria
	QP	Qualification Pack
	SSC	Sector Skill Council

National Occupational Standard



Overview

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

MIN/ N0483 Prepare Grader for operations and conduct routine maintenance

Unit Code	MIN/ N0483
Unit Title(Task)	Prepare Grader for operations and conduct routine maintenance
Description	This unit is about preparing the grader for activities that need to be carried out during a Shift
Scope	<p>This OS unit/task covers the following:</p> <ul style="list-style-type: none"> Understanding of Grader Machine and its operation Conducting pre-operation checks to ensure safety and efficiency Complies with scheduled maintenance requirements
Performance Criteria(PC) w.r.t. the Scope	
Element	Performance Criteria
Understanding of Grader Machine and its operation	<p>PC1. Understand the different types and sizes of graders, e.g. rigid articulating etc., and relevant manufacturers specifications as required</p> <p>PC2. Understand the function of major components, such as circle, mould board, ripper, scarifier, drive train and their importance</p> <p>PC3. Understand common types of ground engaging tools, such as mould board cutting edges (e.g., carbide, standard etc.), ripper tooth</p> <p>PC4. Identify different types of attachments and accessories: and such as V-blades, one-way blades, push-blades, ripper, scarifier, grade control system [e.g., Global Positioning System (GPS), laser], shouldering boot etc.</p> <p>PC5. Understand the purpose of attachments and accessories such as shouldering boot is used to prevent spillage etc.</p> <p>PC6. Understand the basic tools and supplies associated with Grader, such as hammer, screwdrivers, pliers, self-locking pliers, adjustable wrench, assorted other wrenches, grease gun etc.</p> <p>PC7. Understand tyre conditions and inflation pressure</p> <p>PC8. Identify the regulatory documents required for the vehicle</p>
Conducting pre-operation checks to ensure safety and efficiency	<p>PC9. Inspect and service lubrication system to:</p> <ul style="list-style-type: none"> identify service needs, defects, and hazardous conditions through visual inspection, such as low oil levels, dirty filler cap perform basic service, such as adjust oil levels perform or arrange for repair or replacement of defective

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	<p>components, such as seals, gaskets, lines</p> <p>PC10. Inspect and service electrical system to:</p> <ul style="list-style-type: none"> • identify service needs, defects, and hazardous conditions through visual inspection, and brief operation in idle condition • perform or arrange for repair or replacement of defective components, such as batteries <p>PC11. Inspect and service hydraulic systems & suspension systems to:</p> <ul style="list-style-type: none"> • inspect and service hydraulic system and suspension systems through visual inspection and brief operation if required • perform basic maintenance, such as grease pivot points, check hydraulic oil levels, use spill kit, • perform or arrange for repair or replacement of defective components, such as grease fittings and hoses <p>PC12. Inspect and service engine & transmission system to:</p> <ul style="list-style-type: none"> • locate components to be inspected, select and use appropriate tools • identify service needs, defects, and hazardous conditions through visual inspection and brief period of idle running • perform basic service, such as add coolant, use spill kit • perform or arrange for repair or replacement of • defective components, such as hoses, belts <p>PC13. Inspect and service fuel system & air intake system to:</p> <ul style="list-style-type: none"> • locate components to be inspected, select and use appropriate tools • identify service needs, defects, and hazardous conditions through visual inspection and brief period of idle running • perform basic service, such as fill fuel, clean air filter • perform or arrange for repair or replacement of fuel/air filter if required
<p>Complies with scheduled maintenance</p>	<p>PC14. Maintain a checking/maintenance logbook to record all activities to be performed before starting the Grader</p> <p>PC15. read indicators that signal need for replacement</p> <p>PC16. read maintenance records and documentation relating to service, such as log</p>

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requirements	books and equipment manual PC17. Arrange for or perform scheduled maintenance
Knowledge and Understanding (K)	
A. Regulatory context (knowledge of safety guidelines specified by Director General of Mine Safety (DGMS))	<p>The user/individual on the job needs to know and understand:</p> <p>KA1. Different types of mines and detail of the mine he is working in</p> <p>KA2. Mine Organisation, time keeping, need for discipline and punctuality</p> <p>KA3. Benching in quarries, Dressing of overhangs, Undercuts, Fencing, First aid and Hygiene</p> <p>KA4. Standing orders in force at the mine. Safety in the vicinity of machinery</p> <p>KA5. Shot firing and Safety regulations. How and where to take shelter</p> <p>KA6. Duties of workmen</p> <p>KA7. Provision of wages, working hours and accident compensation as per Mines act</p> <p>KA8. Knowledge of mining safety procedures</p> <p>KA9. Impact of violation of safely procedures</p>
B. Organizational Context (Knowledge of organization processes)	<p>The user/individual on the job needs to know and understand:</p> <p>KB1. Job specific documents 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. Escalation matrix for reporting identified problems</p> <p>KB4. Cost of equipment and loss for the Organization that results from damage of equipment</p> <p>KB5. All direct /indirect cost of accidents to the Organization</p> <p>KB6. Implications of delays in process to the Organization</p> <p>KB7. Locally prepared emergency response /disaster management plan.</p>
C. Technical Knowledge	<p>The user/individual on the job needs to know and understand:</p> <p>KC1. Normal operating conditions</p> <p>KC2. Correct engine oil, lubrication system, components, and functions</p> <p>KC3. Electrical system, components, and functions</p> <p>KC4. Hydraulic systems, components, and functions</p> <p>KC5. Cooling system, components, and functions, such as that fan belts are used to</p>

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	<p>turn fan for cooling</p> <p>KC6. Load bearing structure of the machine</p> <p>KC7. Operator station and components, such as seat, instrument panel and control systems, operating levers, communication devices etc.</p> <p>KC8. Monitoring and warning systems and components</p> <p>KC9. Impact of weather and seasonal conditions on start-up procedures</p> <p>KC10. Common troubles and remedies.</p> <p>KC11. Signage, mining area signs and other safety and emergency signals</p> <p>KC12. Response to emergencies such as fire, accident, major failure etc.</p> <p>KC13. various brake Mechanisms/ Systems</p> <p>KC14 various technical; aspects like Road gradient, turning angle, Road Geometry etc.</p>
Skills (S) [Optional]	
Element	Writing Skills
A. Core Skills/ Generic Skills	<p>The user/ individual on the job needs to know and understand how to:</p> <p>SA1. Note down observations (if any)</p> <p>SA2. Write information documents or enter the information in online ERP systems under guidance of the supervisor</p>
	Reading Skills
	<p>The user/individual on the job needs to know and understand how to:</p> <p>SA3. Read and interpret symbols and measurements</p> <p>SA4. Read information documents</p> <p>SA5. Understand and analyse the available data about the site</p>
	Oral Communication (Listening and Speaking skills)
	<p>The user/individual on the job needs to know and understand how to:</p> <p>SA6. Discuss task lists, schedules and activities</p> <p>SA7. Effectively communicate</p> <p>SA8. Attentively listen with full attention and comprehend the information given by various sources about the site</p>
B. Professional Skills	Plan and Organize
	<p>The user/individual on the job needs to know and understand how to:</p> <p>SB1. Plan and organize the work order and jobs</p> <p>SB2. Organize all process manuals so that sorting/ accessing information is easy</p>

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	Judgment and Critical Thinking
	The user/individual on the job needs to know and understand how to: SB3. Use common sense and make judgments during day to day basis SB4. Use reasoning skills to identify and resolve basic problems SB5. Use intuition to detect any potential problems which could arise
	Desire to learn and take initiatives
	The user/individual on the job needs to know and understand how to: SB6. Follow instructions and work on areas of improvement identified SB7. Complete the assigned tasks with minimum supervision SB8. Complete the job within timelines and quality norms
	Problem Solving and Decision making
	The user/individual on the job needs to know and understand how to: SB9. Detect problems in day to day tasks SB10. Discuss possible solution with the supervisor for problem solving SB11. Make decisions in emergency conditions

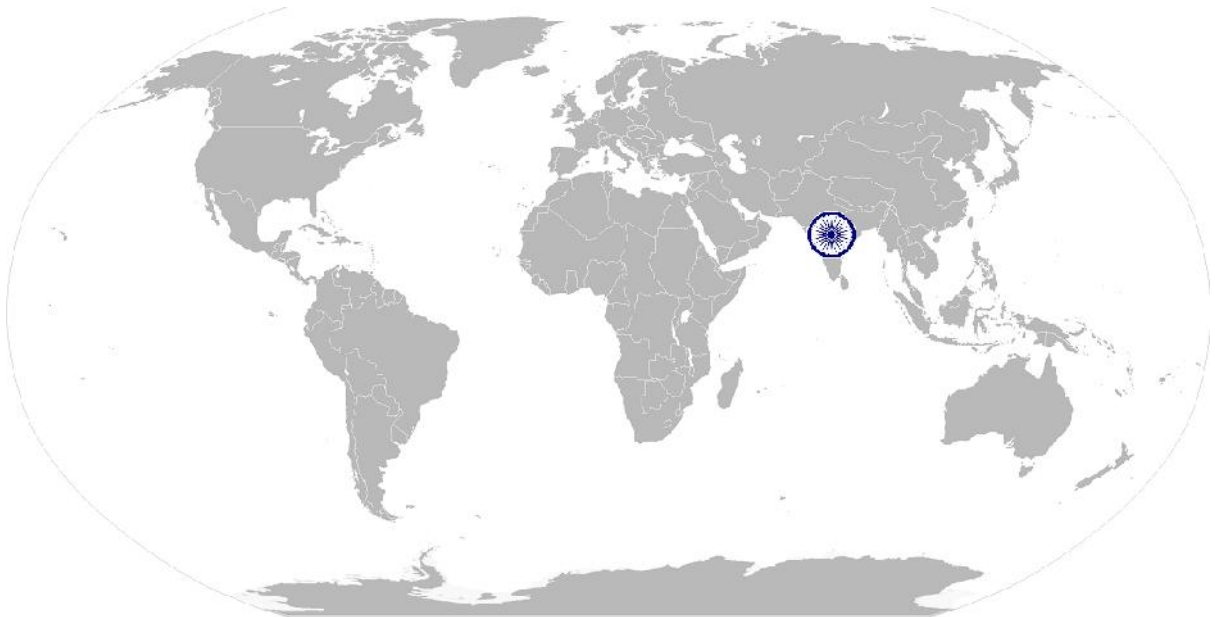


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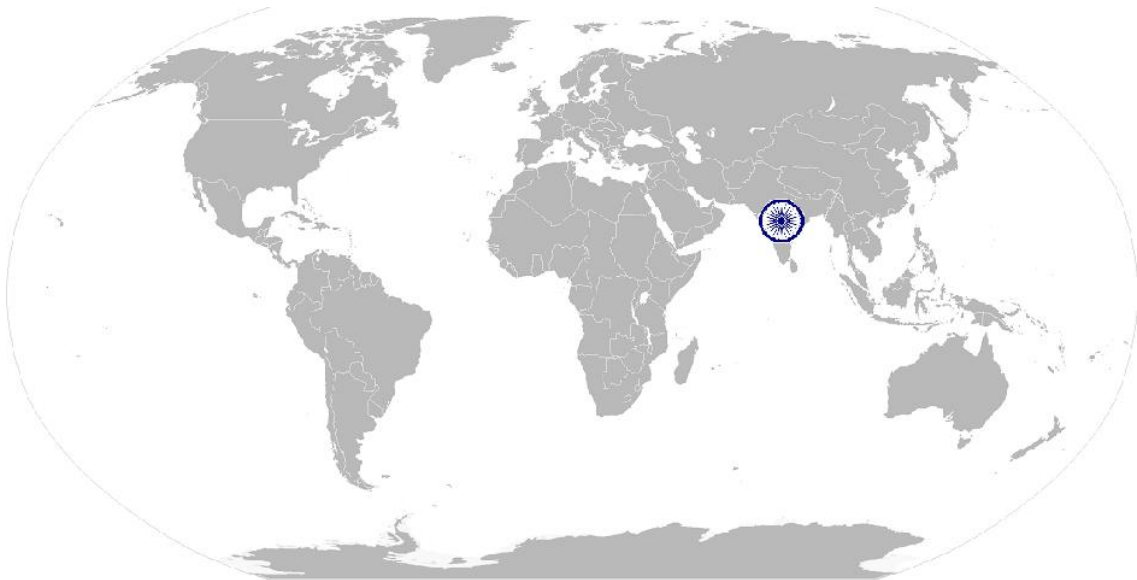
NOS Version Control

NOS Code	MIN/ N0483		
Credits(NSQF)	TBD	Version number	1.0
Industry	Mining	Drafted on	15/12/2014
Industry Sub-sector	Open Cast Mines	Last reviewed on	24/03/2015
Occupation	Mining Operations	Next review date	24/03/2017

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National Occupational Standard



Overview

This unit is about performing the Grader operations for activities that need to be carried out during a shift

Unit Code	MIN/ N0484
Unit Title(Task)	Perform Grader Operations
Description	This unit is about performing Grader operation
Scope	<p>This OS unit/task covers the following:</p> <ul style="list-style-type: none"> Complies with grades and stakes Operates Grader Follows shutdown procedure
Performance Criteria (PC) w.r.t. the Scope	
Element	Performance Criteria
Complies with grades and stakes	<p>PC1. Recognize symbols and markings used on job site</p> <p>PC2. Interpret survey markers, construction grades, and stakes to differentiate between types of survey markers, construction grades, and stakes identify what is indicated by different types of survey markers, construction grades, and stakes</p> <p>PC3. Mark stakes/surface with appropriate symbols or markings, such as coloured paint, ribbons</p> <p>PC4. Demonstrate use of grade-checking devices such as laser levels, line levels, sight levels and check grades using information on stakes and plans</p>
Operate grader	<p>PC5. Set up equipment correctly to adjust to factors affecting safe operation of equipment, maintain stability of equipment, position equipment correctly communicate with traffic control person/signaller</p> <p>PC6. Install attachments to the equipment following correct procedures and mechanisms specified by the equipment manufacturer</p> <p>PC7. Use tools effectively to for installing attachments, positions equipment and attachments for installation and installs attachments safely</p> <p>PC8. Use Operating controls safely and smoothly, use different operating controls simultaneously and react to changing conditions/situations</p> <p>PC9. Monitor performance of equipment from gauges and symbols, and using own senses and judgment to monitor/ adjust performance and identify equipment problems</p> <p>PC10. Identify and troubleshoot equipment problems and possible solutions, communicate problems accurately to others, such as maintenance personnel if</p>

	<p>required</p> <p>PC11. Observe and respond to movement of others (people, vehicles, and other equipment in work area while performing tasks</p> <p>PC12. Communicate with others, such as site personnel, signaller, traffic control person use and respond to hand and audible signals</p> <p>PC13. Optimize equipment capabilities by position equipment correctly by adjusting operation to accommodate weather conditions, materials being handled, limitations of equipment, ground conditions, seasonal conditions, and stability characteristics adjust work procedures as necessary</p> <p>PC14. Scarify and rip surface materials, such as reclaiming road surface materials to maintain road within the capabilities and limitations of equipment and site obstructions and hazards, such as underground utilities</p> <p>PC15. Strip/windrow surface materials according to job specifications while avoiding site obstructions and hazards</p> <p>PC16. Work surface materials, such as combine, separate, windrow and spread materials as per the job specifications</p> <p>PC17. Create rough/finish grade ditches in accordance with job specifications</p> <p>PC18. Create slopes (also known as inclines) by cutting or filling and blending materials in accordance with job specifications</p> <p>PC19. Establish grade profiles by reading site plans and positioning attachments of the equipment correctly to generate rough/finish grades to job specifications, such as correct elevation</p>
Follows shutdown procedure	<p>PC20. Clean wheels and attachments according to manufacturers' specifications and company policies and procedures</p> <p>PC21. Identify appropriate parking location and park equipment according to company policies and procedures, lower attachments before shutting down</p> <p>PC22. Shut down and secures equipment as per company policy and procedures and manufacturer's specification to protect against movement, theft and vandalism</p> <p>PC23. Perform housekeeping of the equipment as per the manufacturer's specification and cleans items such as windshields, rails, steps, instrument panel</p> <p>PC24. Perform visual inspection, identify existing or potential problems communicate concerns to appropriate personnel, such as supervisor, mechanic</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. 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. Duties of workmen KA7. Provision of wages, working hours and accident compensation as per Mines act KA8. Knowledge of mining safety procedures KA9. Impact of violation of safely procedures
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 Organization's SOP KB5. Escalation matrix for reporting identified problems KB6. The duties and responsibilities associated with his job role as per the employer KB7. Cost of delays to the Organization KB8. Direct /Indirect cost of accidents to the Organization KB9. Locally prepared emergency response /disaster management plan.
C. Technical Knowledge	<ul style="list-style-type: none"> KC1. Symbols and markings, such as colour-coded ribbons, surface paint marks KC2. Job site colour coding for utility grades and stakes KC3. Types and uses of survey markers, construction grades, and stakes KC4. Site plan and grade templates KC5. Equipment manufacturers' specifications for operation of the equipment KC6. Safety controls and equipment, such as travel alarms, seat belt caution, warning, and hazard decals, lights and symbols

	<p>KC7. Job specifications and activities</p> <p>KC8. Factors affecting safe operation, such as weather, ground conditions, utilities</p> <p>KC9. Correct positioning of equipment and stability characteristics of equipment</p> <p>KC10. Attachments and specifications</p> <p>KC11. Procedures and mechanisms for installation of attachments</p> <p>KC12. Operating controls, instrument panel, such as gauges, symbols and functions of the equipment</p> <p>KC13. General understanding of normal operating charecterstics</p> <p>KC14. Site traffic patterns</p> <p>KC15. Equipment blind spots</p> <p>KC16. Understanding of code of signals (Hand/audible and any other signal)</p> <p>KC17. Stability characteristics, such as centre of gravity, leverage, tipping axis and correct positioning of equipment</p> <p>KC18. Grades and stakes</p> <p>KC19. Surface materials and their characteristics, such as sand, gravel and their characteristics e.g. density, moisture content and related phenomenon</p> <p>KC20. Using scarifier and ripper</p> <p>KC21. Identifying site obstructions and hazards, such as underground utilities</p> <p>KC22. Grade Profiles and definition of rough and finish grades</p>
Skills (S) [Optional]	
<p>A. Core Skills/</p> <p>Generic Skills</p>	<p>Writing Skills</p>
	<p>The user/ individual on the job needs to know and understand how to:</p> <p>SA1. Note down observations (if any)</p> <p>SA2. Write information documents or enter the information in online ERP systems under guidance of the supervisor</p>
	<p>Reading Skills</p>
	<p>The user/individual on the job needs to know and understand how to:</p> <p>SA3. Read and interpret symbols and measurements</p> <p>SA4. Read information documents</p> <p>SA5. Understand and analyse the available data about the site</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. Discuss task lists, schedules and activities</p> <p>SA7. Effectively communicate</p> <p>SA8. Attentively listen with full attention and comprehend the information given by various sources about the site</p>
B. Professional Skills	Plan and Organize
	<p>The user/individual on the job needs to know and understand how to:</p> <p>SB1. Plan and organize the work order and jobs</p> <p>SB2. Organize all process manuals so that sorting/ accessing information is easy</p>
	Judgment and Critical Thinking
	<p>The user/individual on the job needs to know and understand how to:</p> <p>SB3. Use common sense and make judgments during day to day basis</p> <p>SB4. Use reasoning skills to identify and resolve basic problems</p> <p>SB5. Use intuition to detect any potential problems which could arise</p>
	Desire to learn and take initiatives
	<p>The user/individual on the job needs to know and understand how to:</p> <p>SB6. Follow instructions and work on areas of improvement identified</p> <p>SB7. Complete the assigned tasks with minimum supervision</p> <p>SB8. Complete the job within timelines and quality norms</p>
	Problem Solving and Decision making
	<p>The user/individual on the job needs to know and understand how to:</p> <p>SB9. Detect problems in day to day tasks</p> <p>SB10. Discuss possible solution with the supervisor for problem solving</p> <p>SB11. Make decisions in emergency conditions</p>



MIN/ N0484 Perform Grader Operations

NOS Version Control

NOS Code	MIN/ N0484		
Credits(NSQF)	TBD	Version number	1.0
Industry	Mining	Drafted on	15/12/2014
Industry Sub-sector	Open Cast Mines	Last reviewed on	24/03/2015
Occupation	Mining Operations	Next review date	24/03/2017

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Overview

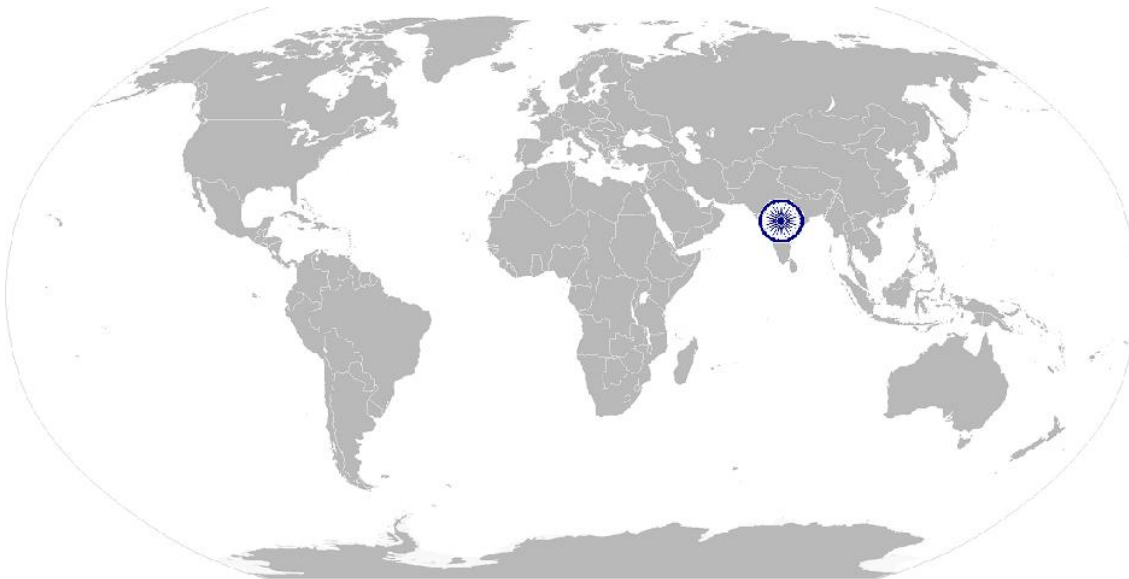
This unit is about transporting Grader Machine from one location to another as per the requirement, while ensuring public safety, equipment safety and efficiency and comply with relevant transport legislations, processes and procedures

Unit Code	MIN/ N0485
Unit Title(Task)	Transport Grader
Description	This unit is about transporting Grader Machine from one location to another as per the requirement, while ensuring public safety, equipment safety and efficiency and comply with relevant transport legislations, processes and procedures
Scope	<p>This OS unit/task covers the following:</p> <ul style="list-style-type: none"> • Prepare Grader for transportation • Driving Grader on public roads
Performance Criteria(PC) w.r.t. the Scope	
Element	Performance Criteria
Prepare Grader for Transportation	<p>PC1. Prepare to load grader and attachments for transport such as clean blades and wheels</p> <p>PC2. Load or assist with loading Grader and attachments while avoiding hazards such as uneven ground, utility lines etc.</p> <p>PC3. Use and respond to code of signals (Hand/audible sounds etc.)</p> <p>PC4. Protect equipment from damage, such as cover exhaust pipe etc.</p> <p>PC5. Assist with securing Grader and attachment to transport vehicle driver as required, such as attach warning flags and reflectors</p> <p>PC6. Unload or assist with unloading grader and attachments and assist transport driver as required</p> <p>PC7. Assess and adjust to hazards, such as overhead obstructions, narrow landing areas</p> <p>PC8. Understand the working of visual attachments, rear view camera etc</p>
Driving grader on public roads	<p>PC9. Prepare Grader for road travel:</p> <ul style="list-style-type: none"> • Secure attachments in proper positions for road travel • Complete inspection, such as check brakes, steering, lights, tires, and Back-up warnings • Clean equipment <p>PC10. Drive Grader on public road:</p> <ul style="list-style-type: none"> • Comply with applicable legislation, such as possess appropriate and valid driver's licence

	<ul style="list-style-type: none"> Follow route to destination Adjust to road and weather conditions, such as adjust speed Recognize and avoid potential hazards
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 practice 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. Duties of workmen KA8. Provision of wages and working hours as per Mines act KA9. Knowledge of mining safety procedures KA10. Impact of violation of safely procedures
B. Organizational Context (Knowledge of the Organization / 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 Organization's SOP KB5. Escalation matrix for reporting identified problems
C. Technical Knowledge	<ul style="list-style-type: none"> KC1. Manufacturers' specifications of grader and attachments KC2. Company policies and procedures KC3. How to load grader onto different types of transport vehicles, such as beavertail, folding gooseneck KC4. Impact of weather conditions KC5. Code of signals (Hand/ audible signals etc.) KC6. Tie down points of Grader KC7. Loading Unloading technique using proper rigging techniques KC8. applicable legislation, such as traffic laws KC9. Understanding of route and destination

	<p>KC10. Proper positioning of attachments for road travel</p> <p>KC11. Equipment's limitations on public roads, such as speed, blind spots</p>
Skills (S) [Optional]	
A. Core Skills/ Generic Skills	Writing Skills
	<p>The user/ individual on the job needs to know and understand how to:</p> <p>SA1. Note down observations (if any)</p> <p>SA2. Write information documents or enter the information in online ERP systems under guidance of the supervisor</p>
	Reading Skills
	<p>The user/individual on the job needs to know and understand how to:</p> <p>SA3. Read and interpret symbols and measurements</p> <p>SA4. Read information documents</p> <p>SA5. Understand and analyse the available data about the site</p>
	Oral Communication (Listening and Speaking skills)
	<p>The user/individual on the job needs to know and understand how to:</p> <p>SA6. Discuss task lists, schedules and activities</p> <p>SA7. Effectively communicate</p> <p>SA8. Attentively listen with full attention and comprehend the information given by various sources about the site</p>
B. Professional Skills	Plan and Organize
	<p>The user/individual on the job needs to know and understand how to:</p> <p>SB1. Plan and organize the work order and jobs</p> <p>SB2. Organize all process manuals so that sorting/ accessing information is easy</p>
	Judgment and Critical Thinking
	<p>The user/individual on the job needs to know and understand how to:</p> <p>SB3. Use common sense and make judgments during day to day basis</p> <p>SB4. Use reasoning skills to identify and resolve basic problems</p> <p>SB5. Use intuition to detect any potential problems which could arise</p>
	Desire to learn and take initiatives
	<p>The user/individual on the job needs to know and understand how to:</p> <p>SB6. Follow instructions and work on areas of improvement identified</p> <p>SB7. Complete the assigned tasks with minimum supervision</p> <p>SB8. Complete the job within timelines and quality norms</p>

	Problem Solving and Decision making
	<p>The user/individual on the job needs to know and understand how to:</p> <p>SB9. Detect problems in day to day tasks</p> <p>SB10. Discuss possible solution with the supervisor for problem solving</p> <p>SB11. Make decisions in emergency conditions</p>



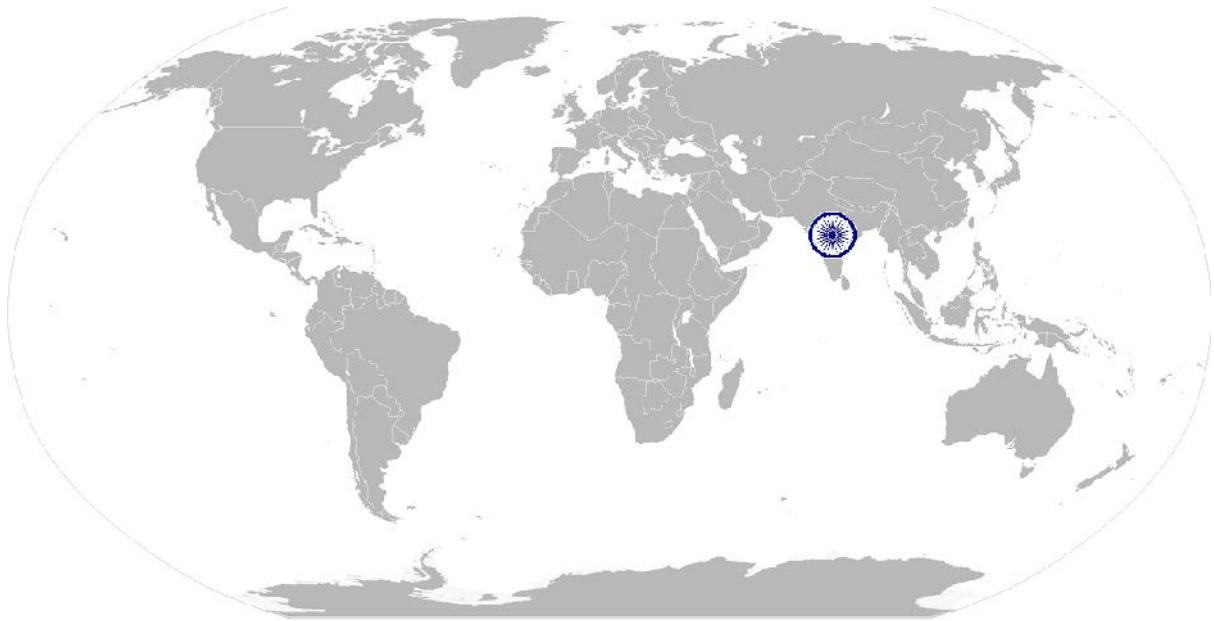
NOS Version Control

NOS Code	MIN/ N0485		
Credits(NSQF)	TBD	Version number	1.0
Industry	Mining	Drafted on	15/12/2014
Industry Sub-sector	Open Cast Mines	Last reviewed on	24/03/2015
Occupation	Mining Operations	Next review date	24/03/2017

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MIN/ N0901 Health and Safety

National Occupational Standard



Overview

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

MIN/ N0901 Health and Safety

National Occupational Standard	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	This OS unit/task covers the following: <ul style="list-style-type: none"> Health and safety measures critical for personnel 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>

MIN/ N0901 Health and Safety

Knowledge and Understanding (K)	
<p>A. Regulatory context (knowledge of safety guidelines specified by Director General of Mine Safety (DGMS))</p>	<p>The user/individual on the job needs to know and understand:</p> <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. Impact 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

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