

QUALIFICATION PACK – OCCUPATIONAL STANDARD FOR INFRASTRUCTURE EQUIPMENT 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



Contents

1. Introduction and Contacts..... Page no. 1
2. Qualifications Pack.....Page no.2
3. OS Units.....Page no.2
4. Glossary of Key TermsPage no.3

Introduction

Qualification Pack - Junior Excavator Operator

SECTOR:	INFRASTRUCTURE EQUIPMENT
SUB SECTOR:	Equipment Operations
OCCUPATION:	Operator
REFERENCE ID:	IES/Q0104
ALIGNED TO:	NCO-2004/ NIL

Brief Job Description: A junior excavator operator assists an excavator operator to drive and control the excavator operations; the movement and angle of the arm and the equipment. He assists in determining the angle and speed of the movements of the arm and bucket along the vertical axis.

Personal Attributes: This job requires the individual to have good hand eye coordination as also comply with industry regulations. Willingness to work, strong work ethics, and courteous behavior with co – workers are equally desirable. He should also be physically agile, strong, have good eye sight and not suffer from colour-blindness.

Qualifications Pack Code	IES/Q0104		
Job Role	Junior Excavator Operator		
Credits(NSQF)	TBD	Version number	1.0
Sector	Infrastructure Equipment	Drafted on	16/02/15
Sub-sector	Equipment Operations	Last reviewed on	31/03/15
Occupation	Operator	Next review date	31/03/17
NSQC clearance on	31/03/15		

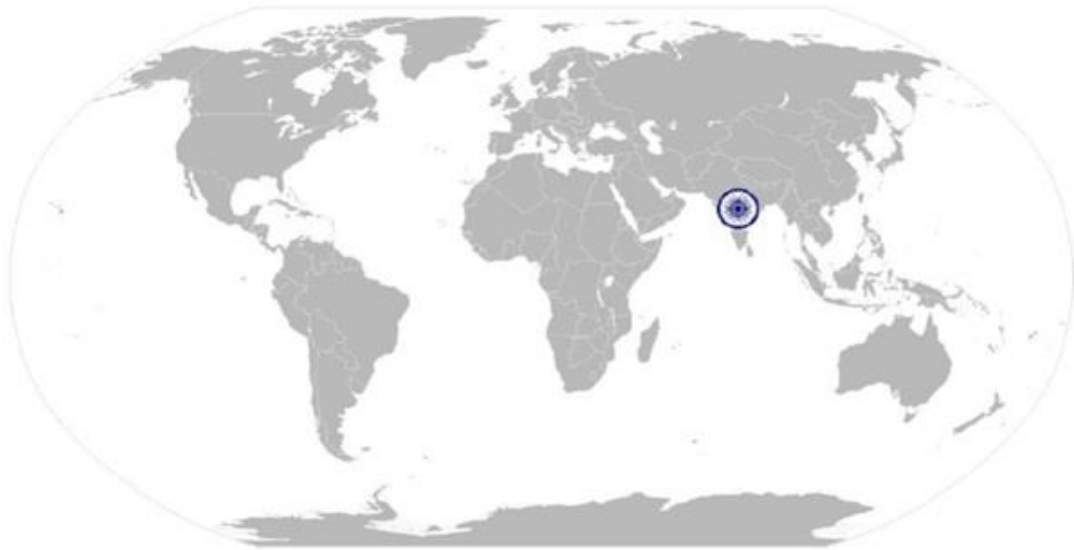
Job Role	Junior Excavator Operator
Role Description	Assist in driving and controlling an excavating machine which is a self – propelled machine used to dig and dump above the base level of the machine
NSQF level	3
Minimum Educational Qualifications*	Preferably Class VIII
Maximum Educational Qualifications*	NA
Training (Suggested but not mandatory)	NA
Minimum Job Entry Age	Preferably 18 years
Experience	NA
Applicable National Occupational Standards (NOS)	<p>Compulsory</p> <ol style="list-style-type: none"> 1. IES/N0110 Assist in carrying out pre-checks of an excavator 2. IES/N0111 Assist in operating an excavator 3. IES/N0112 Assist in regular maintenance of an excavator 4. IES/N7601 Comply with worksite health and safety guidelines <p>Optional: N.A.</p>
Performance Criteria	As described in the relevant OS units

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.
Vertical	Vertical may exist within a sub-sector representing different domain areas or the client industries served by the industry.
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.
Sub-functions	Sub-functions are sub-activities essential to fulfil achieving the objectives of the function.
Job role	Job role defines a unique set of functions that together form a unique employment opportunity in an organization.
Occupational Standards (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; he/she needs 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.
National Occupational Standards (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(QP)	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 find the required one.
Scope	Scope is the set of statements specifying the range of variables that an individual may have to deal with in carrying out the function which have a critical impact on the quality of required performance.
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 up to the required standard.

Acronyms

Keywords /Terms	Description
OS	Occupational Standard(s)
NOS	National Occupational Standard(s)
QP	Qualifications Pack
NSQF	National Skill Qualifications Framework
ITI	Industrial Training Institute
HCV	Heavy Commercial Vehicle
SHE	Safety Health and Environment
SOP	Standard Operating Procedure
TBD	To Be Determined

National Occupational Standard



Overview

This unit provides Performance Criteria, Knowledge & Understanding and Skills & Ability for activities that need to be carried out to prepare the excavator for a shift.

Assist in carrying out pre-checks of an excavator

Unit Code	IES/N0110
Unit Title (Task)	Assist in carrying out pre-checks of an excavator
Description	This unit provides Performance Criteria, Knowledge & Understanding and Skills & Ability for activities that need to be carried out to prepare the excavator for a shift.
Scope	This unit/task covers the following: <ul style="list-style-type: none"> Assist in conducting pre-operation checks
Performance Criteria(PC) w.r.t. the Scope	
Element	Performance Criteria
Assist in conducting 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 operator</p> <p>PC2. Assist in visual inspection of the body components for cracks and bearing wear</p> <p>PC3. Assist in checking the sprocket for worn or cracked teeth</p> <p>PC4. Assist in inspecting the boom and the stick for dents and cracked welds</p> <p>PC5. Assist in checking the forks for bends</p> <p>PC6. Inspect all ground engaging tools to ensure stability</p> <p>PC7. Assist in checking that oil levels of engine, transmission, radiant coolant and brake are as per manufacturer's indicators</p> <p>PC8. Assist in checking the differential and hydraulic oil levels</p> <p>PC9. Assist in checking the hydraulic hose and ram for leakages</p> <p>PC10. Assist in conducting checks to ensure proper condition of parking brake, main horn, reverse horn and head light</p> <p>PC11. Assist in checking fan belt tension, electrolyte level and terminal tightness</p> <p>PC12. Assist in conducting visual inspection to check the various controls, gauges, warning lamp and other safety devices</p> <p>PC13. Check and set out all necessary work signs as required</p> <p>PC14. Check load chart is displayed in cabin</p> <p>PC15. Assist in checking the circle turn gear and clean if required</p> <p>PC16. Clean air filter dust bowls and check the gasket and inner filter</p> <p>PC17. Drain water and sediment from the fuel tank</p> <p>PC18. Top up coolant and oil in engine, transmission, etc. if necessary as per manufacturer's indicators</p> <p>PC19. Grease all the greasing pins and pivots points</p> <p>PC20. examine the compressor unit and all fittings and air lines</p> <p>PC21. Clean footplates and steps to keep them free from mud, dirt and oil</p>
Knowledge and Understanding (K)	
A. Organizational Context (Knowledge of the company / organization and its processes)	<p>The user/individual on the job needs to know and understand:</p> <p>KA1. The organization's procedures and guidelines related to Breakdown & Maintenance services</p> <p>KA2. The performance standards & procedures followed in the company</p> <p>KA3. Reporting structure in the company</p> <p>KA4. Escalation matrix for reporting unresolved problems</p> <p>KA5. Timeframe in which the complaint/problem should be resolved</p> <p>KA6. Work target and review mechanism with supervisor for obtaining/</p>

Assist in carrying out pre-checks of an excavator

	<p>giving feedback related to performance process</p> <p>KA7. Location of tools</p> <p>KA8. Contact person in case of queries on procedure or products</p> <p>KA9. Location and process for storage and disposal of waste material</p> <p>KA10. Safety Policy of the company</p>
B. Technical Knowledge	<p>The user/individual on the job needs to know and understand:</p> <p>KB1. Different types of excavators and their use and function</p> <p>KB2. Introduction to engine, transmission, their use and function</p> <p>KB3. Different types of hydraulic mechanisms</p> <p>KB4. Principles of friction</p> <p>KB5. Steering mechanisms and correct way of steering on slopes</p> <p>KB6. Significance of greasing and oiling parts of excavator that need routine lubrication</p> <p>KB7. Instrument panel, their location and operation</p> <p>KB8. Controls, levers and switches in order to operate the excavator properly</p> <p>KB9. Optimal working condition of Excavator components e.g. hoist, propel system, power train, hoist, boom & stick and other attachments</p> <p>KB10. Optimal engine oil pressure, radiator coolant temperature</p> <p>KB11. Visual checks to identify damage, defects, cracks or leaks beforehand</p>
Skills (S)	
A. Core Skills / Generic Skills	Writing Skills
	<p>The user/ individual on the job needs to know and understand how to:</p> <p>SA1. Record any deviations/ incidents as per prescribed norms</p>
	Reading Skills
	<p>The user/ individual on the job needs to know and understand how to:</p> <p>SA2. Read and comprehend basic English to read manuals of operations</p> <p>SA3. Read instructions, guidelines/procedures/rules related to the worksite and equipment operations</p>
	Oral Communication (Listening and Speaking Skills)
	<p>The user/ individual on the job needs to know and understand how to:</p> <p>SA4. Interact effectively with operators in order to clarify instructions and other issues</p> <p>SA5. Use correct technical terms while interacting with operator and other personnel</p>
B. Professional Skills	Decision Making
	<p>The user/ individual on the job needs to know and understand how to:</p> <p>SB1. Decide when to conduct maintenance checks</p>
	Plan and Organize
	<p>The user/ individual on the job needs to know and understand how to:</p> <p>SB2. Work with supervisors/ team mates to carry out work related tasks</p> <p>SB3. Plan work according to the required schedule and location</p> <p>SB4. Plan for cleaning and lubricating the excavator every day</p>
	Customer Centricity
	<p>The user/ individual on the job needs to know and understand how to:</p> <p>SB5. Provide service of the highest order to ensure customer satisfaction</p>
	Problem Solving

National Occupational Standards

Assist in carrying out pre-checks of an excavator

	The user/ individual on the job needs to know and understand how to: SB6. Report problems that you cannot resolve to appropriate authority SB7. Identify sources of support that can be availed for problem solving for various kinds of problems
	Analytical Thinking
	The user/ individual on the job needs to know and understand how to: SB8. Evaluate the complexity of the tasks to determine for any assistance required from superior
	Critical Thinking
	The user/ individual on the job needs to know and understand how to: SB9. Analyse, evaluate and apply the information gathered from observation, experience, reasoning to act efficiently and effectively

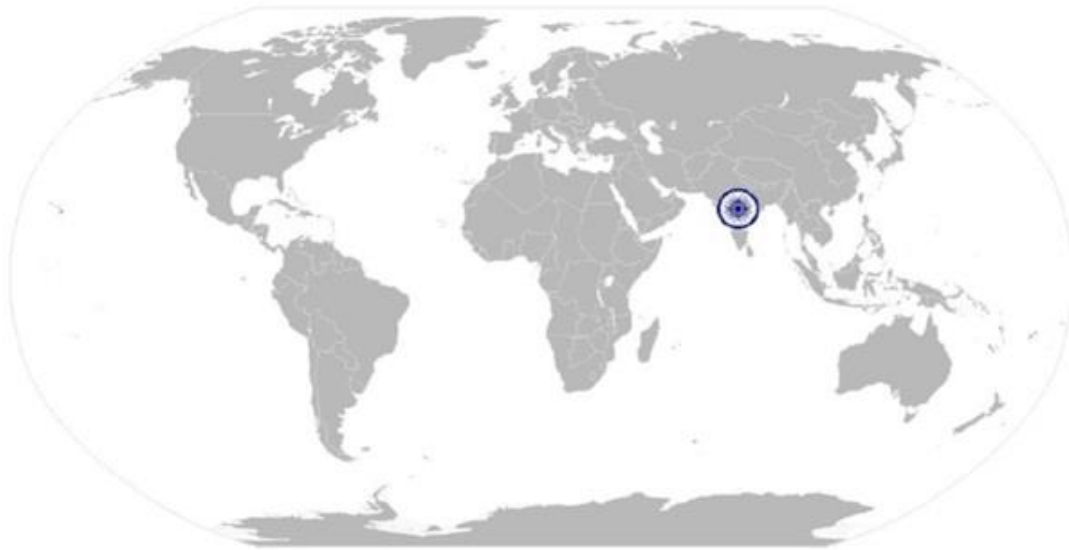
NOS Version Control

NOS Code	IES/N0110		
Credits(NSQF)	TBD	Version number	1.0
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Industry Sub-sector	Equipment Operations	Last reviewed on	31/03/15
Occupation	Operator	Next review date	31/03/15

[Back To Top](#)

Assist in operating an excavator

National Occupational Standard



Overview

This unit provides Performance Criteria, Knowledge & Understanding and Skills & Ability for activities that are required for assisting in operating an excavator.

Assist in operating an excavator

National Occupational Standard	Unit Code	IES/N0111
	Unit Title (Task)	Assist in operating an excavator
	Description	This unit provides Performance Criteria, Knowledge & Understanding and Skills & Ability for activities that are required for assisting in operating an excavator.
	Scope	This unit/task covers the following: <ul style="list-style-type: none"> Assist in performing loading and hauling of the load Assist in dumping of the load
	Performance Criteria(PC) w.r.t. the Scope	
	Element	Performance Criteria
	Assist in performing loading and hauling of the load	To be competent, the user/individual on the job must be able to: PC1. Assist in inspecting the worksite to identify and loose soil, hidden deep trenches or marshy patches where excavator could get stuck PC2. Assist in identifying and selecting the required attachment to be used for performing the task at a work site PC3. Assist in ensuring excavator load and operating speed is within limits specified by the manufacturer PC4. Assist in taking precaution for hazards such as trenches, potholes and cables PC5. Adhere to time limits given by the operator and supervisors PC6. Assist in determining a safe distance from a tip edge and usage of an approved stop block before tipping over an edge PC7. Assist in keeping a safe distance from other plant or vehicles
	Assist in dumping of the load	PC8. Assist in ensuring that excavator is always parked on firm, level ground; with handbrake applied and drive and controls disengaged PC9. Assist in determining a position for discharging the load safely and in the manner designated by the supervisor PC10. Assist in ensuring that no other operators travel on or stand near the Excavator PC11. Inform supervisor of any problems while assisting in operating the Excavator
	Knowledge and Understanding (K)	
	A. Organizational Context (Knowledge of the company / organization and its processes)	The user/individual on the job needs to know and understand: KA1. The organization's procedures and guidelines related to Breakdown & Maintenance services KA2. The performance standards & procedures followed in the company KA3. Reporting structure in the company KA4. Escalation matrix for reporting unresolved problems KA5. Timeframe in which the complaint/problem should be resolved KA6. Work target and review mechanism with supervisor for obtaining/ giving feedback related to performance process KA7. Location of tools KA8. Contact person in case of queries on procedure or products KA9. Location and process for storage and disposal of waste material KA10. Safety Policy of the company
	B. Technical	The user/individual on the job needs to know and understand:

Assist in operating an excavator

Knowledge	<p>KB1. Different types of excavators and their specific use</p> <p>KB2. Appropriate usage of various attachments such as – Excavation Bucket, Extreme Excavation Bucket, Skeleton Bucket, Ditch Cleaning Bucket, Tilttable Ditch Cleaning Bucket, Trapezoidal Bucket, Quick Couplers, Pin Grabber Plus Quick Coupler, Hammers, rock breaker, Contractor's Grapples, Demolition and sorting grapples, Orange peel Grapples Direct fit, Breakers, Teeth and adapters etc.</p> <p>KB3. Distinguish between different types of attachments</p> <p>KB4. Introduction to engine, transmission, their use and function</p> <p>KB5. Different types of hydraulic mechanisms</p> <p>KB6. Principles of friction</p> <p>KB7. Steering mechanisms and correct way of steering on slopes</p> <p>KB8. Significance of greasing and oiling, parts if Excavator that need routine lubrication</p> <p>KB9. Instruments panel, their location and operation</p> <p>KB10. Controls, levers and switches in order to operate the excavator properly</p> <p>KB11. Optimal working condition of Excavator components e.g. hoist, propel system, power train and other attachments</p> <p>KB12. Optimal engine oil pressure, radiator coolant temperature</p> <p>KB13. Visual checks to identify damage, defects or leaks beforehand</p> <p>KB14. General safety rules vis-à-vis digging and stacking</p> <p>KB15. Dangers of digging in vicinity of misfired shots</p> <p>KB16. All safety signs and other emergency signals</p> <p>KB17. Correct maintenance procedures for excavator</p> <p>KB18. Response to emergencies e.g. correct way to use fire extinguisher</p>
Skills (S)	
A. Core Skills / Generic Skills	Writing Skills
	The user/ individual on the job needs to know and understand how to: SA1. Record any deviations/ incidents as per prescribed norms
	Reading Skills
	The user/ individual on the job needs to know and understand how to: SA2. Read and comprehend basic English to read and interpret decals/indicators in the machine/operator's manual SA3. Interpret stakes and signage on the road and during worksite operations SA4. Read instructions, guidelines/procedures/rules related to the worksite and equipment operations
	Oral Communication (Listening and Speaking Skills)
	The user/ individual on the job needs to know and understand how to: SA5. Interact effectively with operators in order to clarify instructions and other issues SA6. Use correct technical terms while interacting with operator and other personnel
B. Professional Skills	Decision Making
	The user/ individual on the job needs to know and understand how to: SB1. Assess for any damage/faulty component in the excavator and report to the operator

Assist in operating an excavator

	Plan and Organize
	The user/ individual on the job needs to know and understand how to:
	SB2. Carry out work tasks in line with instructions of the operator/ other supervisors and as per timelines
	SB3. Plan work according to the required schedule and location
	Customer Centricity
	The user/ individual on the job needs to know and understand how to:
	SB4. Provide service of the highest order to ensure customer satisfaction
	Problem Solving
	The user/ individual on the job needs to know and understand how to:
	SB5. Report problems that you cannot resolve to appropriate authority
	SB6. Identify sources of support that can be availed for problem solving for various kinds of problems
	Analytical Thinking
	The user/ individual on the job needs to know and understand how to:
	SB7. Evaluate the complexity of the tasks to determine if he/she needs any assistance from the senior
	SB8. Assess the situation and support the operator with navigation during driving operations
	Critical Thinking
	The user/ individual on the job needs to know and understand how to:
	SB9. Analyse, evaluate and apply the information gathered from observation, experience, reasoning to act efficiently and effectively

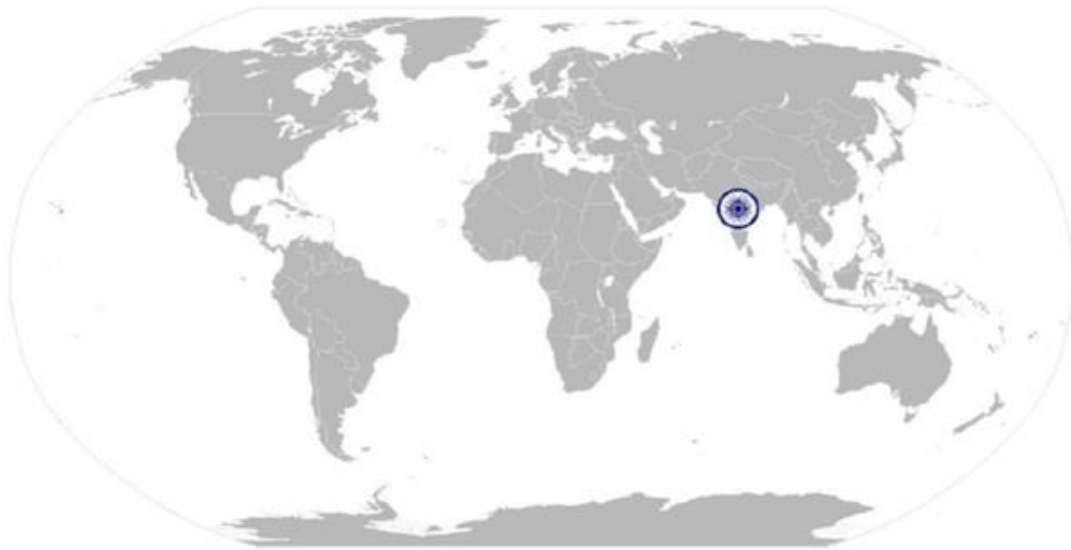
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NOS Code	IES/N0111		
Credits(NSQF)	TBD	Version number	1.0
Sector	Infrastructure Equipment	Drafted on	16/02/15
Industry Sub-sector	Equipment Operations	Last reviewed on	31/03/15
Occupation	Operator	Next review date	31/03/15

[Back To Top](#)

Assist in regular maintenance of an excavator

National Occupational Standard



Overview

This unit provides Performance Criteria, Knowledge & Understanding and Skills & Ability for activities that are required for assisting in performing routine maintenance and troubleshooting on the excavator.

Assist in regular maintenance of an excavator

National Occupational Standard	Unit Code	IES/N0112
	Unit Title (Task)	Assist in regular maintenance of an excavator
	Description	This unit provides Performance Criteria, Knowledge & Understanding and Skills & Ability for activities that are required for assisting in performing routine maintenance and troubleshooting on the excavator.
	Scope	This unit/task covers the following: <ul style="list-style-type: none"> • Assist in routine maintenance • Assist in basic diagnostics and troubleshooting • Documentation and Reporting
	Performance Criteria(PC) w.r.t. the Scope	
	Element	Performance Criteria
	Assist in routine maintenance	To be competent, the user/individual on the job must be able to: PC1. Assist in assessing the right service schedule by tracking machine operating hours PC2. Clean air filter dust bowls at regular intervals PC3. Clean footplates, pedals and steps free from mud, dirt, ice and snow at regular intervals PC4. Drain water and sediment/ fuel separators everyday PC5. Replenish coolants, lubricants and fluids everyday PC6. Grease all greasing pins and pivot points everyday PC7. Assist in checking battery levels and condition of the terminals and carry out minor adjustments if required PC8. Check and maintain the tyre rims, air pressure, wheel nuts and treads as per manufacturer's indicators
	Assist in basic diagnostics and troubleshooting	PC9. Assist in ensuring the machine is on firm and level ground before any maintenance is carried out; assist in tracking machine operating hours to assess the right service schedule PC10. Assist in completing timely and legibly daily/ weekly maintenance sheets as provided by the company PC11. Assist in ensuring that suitable props/ support devices are used and the bucket is not raised while performing maintenance PC12. Assist in ensuring that no maintenance task on the engine is performed when running or still hot PC13. Assess when the problem is beyond his competence and report the problem to suitably qualified and competent personnel PC14. Handle and dispose waste based on environmental guidelines at the work place
	Documentation and Reporting	PC15. Follow reporting procedures as laid down by the employer PC16. Report defects precisely to the operator if beyond scope of his role PC17. Report defects precisely to the operator and supervisor if beyond scope of his role
	Knowledge and Understanding (K)	
	A. Organizational Context (Knowledge of the	The user/individual on the job needs to know and understand: KA1. The organization's procedures and guidelines related to Breakdown & Maintenance services

Assist in regular maintenance of an excavator

company / organization and its processes)	<p>KA2. The performance standards & procedures followed in the company</p> <p>KA3. Reporting structure in the company</p> <p>KA4. Escalation matrix for reporting unresolved problems</p> <p>KA5. Timeframe in which the complaint/problem should be resolved</p> <p>KA6. Work target and review mechanism with supervisor for obtaining/ giving feedback related to performance process</p> <p>KA7. Location of tools</p> <p>KA8. Contact person in case of queries on procedure or products</p> <p>KA9. Location and process for storage and disposal of waste material</p> <p>KA10. Safety Policy of the company</p>
B. Technical Knowledge	<p>The user/individual on the job needs to know and understand:</p> <p>KB1. The organization's procedures and guidelines related to Breakdown & Maintenance services</p> <p>KB2. The performance standards & procedures followed in the company</p> <p>KB3. Reporting structure in the company</p> <p>KB4. Escalation matrix for reporting unresolved problems</p> <p>KB5. Timeframe in which the complaint/problem should be resolved</p> <p>KB6. Work target and review mechanism with supervisor for obtaining/ giving feedback related to performance process</p> <p>KB7. Location of tools</p> <p>KB8. Contact person in case of queries on procedure or products</p> <p>KB9. Location and process for storage and disposal of waste material</p> <p>KB10. Safety Policy of the company</p>
Skills (S)	
A. Core Skills / Generic Skills	Writing Skills
	The user/ individual on the job needs to know and understand how to:
	SA1. Record any deviations/ incidents as per prescribed norms
	Reading Skills
	The user/ individual on the job needs to know and understand how to:
	SA2. Read and comprehend basic English to read and interpret decals/indicators in the machine/operator's manual
B. Professional Skills	SA3. Read instructions, guidelines/procedures/rules related to the worksite and equipment operations
	Oral Communication (Listening and Speaking Skills)
	The user/ individual on the job needs to know and understand how to:
	SA4. Interact effectively with operators in order to clarify instructions and other issues
B. Professional Skills	SA5. Use correct technical terms while interacting with operator and other personnel
	Decision Making
	The user/ individual on the job needs to know and understand how to:
	SB1. Decide when to conduct maintenance checks
B. Professional Skills	SB2. Evaluate the decision and conduct basic trouble shooting
	Plan and Organize
	The user/ individual on the job needs to know and understand how to:
	SB3. Carry out work tasks in line with instructions of the operator/ other

Assist in regular maintenance of an excavator

	supervisors and as per timelines
	SB4. Plan work according to the required schedule and location
	SB5. Plan for regular maintenance on a daily basis before machine operations
	Customer Centricity
	The user/ individual on the job needs to know and understand how to:
	SB6. Provide service of the highest order to ensure customer satisfaction
	Problem Solving
	The user/ individual on the job needs to know and understand how to:
	SB7. Report problems that you cannot resolve to appropriate authority
	SB8. Identify sources of support that can be availed for problem solving for various kinds of problems
	Analytical Thinking
	The user/ individual on the job needs to know and understand how to:
	SB9. Evaluate the complexity of the tasks to determine if he/she needs any assistance from the senior
	SB10. Check for damages and diagnose common problems in the excavator and report to appropriate authority
	Critical Thinking
	The user/ individual on the job needs to know and understand how to:
	SB11. Analyse, evaluate and apply the information gathered from observation, experience, reasoning to act efficiently and effectively

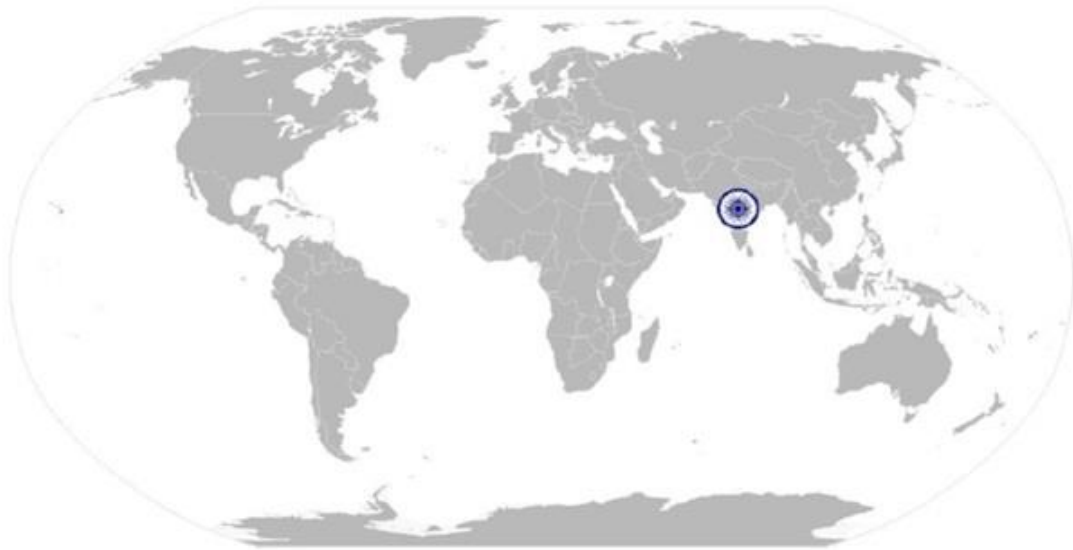
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NOS Code	IES/N0112		
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Occupation	Operator	Next review date	31/03/15

[Back To Top](#)

Comply with worksite health and safety guidelines

National Occupational Standard



Overview

This unit is about adhering to health and safety requirements at the worksite during equipment operations.

Comply with worksite health and safety guidelines

National Occupational Standard	Unit Code	IES/N7601
	Unit Title (Task)	Comply with worksite health and safety guidelines
	Description	This unit is about adhering to health and safety requirements at the worksite during equipment operations.
	Scope	This unit/task covers the following: <ul style="list-style-type: none"> • Worksite health and safety
	Performance Criteria(PC) w.r.t. the Scope	
	Element	Performance Criteria
	Worksite health and safety	<p>To be competent, the user/individual on the job must be able to:</p> <p>PC1. Comply with safety, health, security and environment related regulations/ guidelines at the work site</p> <p>PC2. Use Personal Protective Equipment (PPE) and other safety gear such as seat belt, body protection, respiratory protection, eye protection, ear protection and hand protection</p> <p>PC3. Follow safety measures during operations to ensure that the health and safety of self or others (including members of the public) is not at risk</p> <p>PC4. Carry out operations as per the manufacturer's and worksite related health and safety guidelines</p> <p>PC5. Handle the transport, storage and disposal of hazardous materials and waste in compliance with worksite health, safety and environmental guidelines</p> <p>PC6. Follow safety regulations and procedures with regard to worksite hazards and risks</p> <p>PC7. Operate various grades of fire extinguishers, as applicable</p> <p>PC8. Support in administering basic first aid and report to concerned team members, as required, in case of an accident</p> <p>PC9. Respond promptly and appropriately to an accident/ incident or emergency situation, within limits of your role and responsibility</p> <p>PC10. Record and report details related to operations, incidents or accidents, as applicable</p>
	Knowledge and Understanding (K)	
	A. Organizational Context (Knowledge of the company / organization and its processes)	<p>The user/individual on the job needs to know and understand:</p> <p>KA1. Health, safety, environmental(HSE) and security related policies/ guidelines of the organization and the worksite</p> <p>KA2. The importance of complying with health, safety, environmental and security guidelines at the worksite and during operations</p> <p>KA3. Contact details of personnel responsible for Health, Safety and environment (HSE) related matters</p> <p>KA4. Location of worksite storage, SHE team and safe assembly points</p> <p>KA5. Concerned personnel to reach out in case of emergencies and accidents/ incidents</p> <p>KA6. Reporting and documentation procedures for HSE and security matters</p>
	B. Technical Knowledge	<p>The user/individual on the job needs to know and understand:</p> <p>KB1. Health, safety, environmental(HSE) and security related policies/ guidelines of the organization and the worksite</p>

Comply with worksite health and safety guidelines

	<p>KB2. The importance of complying with health, safety, environmental and security guidelines at the worksite and during operations</p> <p>KB3. Contact details of personnel responsible for Health, Safety and environment (HSE) related matters</p> <p>KB4. Location of worksite storage, SHE team and safe assembly points</p> <p>KB5. Concerned personnel to reach out in case of emergencies and accidents/ incidents</p> <p>KB6. Reporting and documentation procedures for HSE and security matters</p>
Skills (S)	
A. Core Skills / Generic Skills	Writing Skills
	The user/ individual on the job needs to know and understand how to:
	SA1. Document and report any health and safety related incidents/ accidents
	Reading Skills
	The user/ individual on the job needs to know and understand how to:
	SA2. Read and comprehend basic English to read and interpret decals/indicators in the machine/operator's manual
B. Professional Skills	SA3. Read all organizational and equipment related health and safety manuals and documents
	SA4. Read instructions, guidelines/procedures/rules related to the worksite and equipment operations
	Oral Communication (Listening and Speaking Skills)
	The user/ individual on the job needs to know and understand how to:
	SA5. Interact effectively with operators in order to clarify instructions and other issues
	SA6. Use correct technical terms while interacting with operator and other personnel
	Decision Making
	The user/ individual on the job needs to know and understand how to:
	SB1. Make an appropriate timely decision in responding to emergencies/accidents in line with organizational/ worksite guidelines
	SB2. Use correct PPE and other safety gear while at the worksite
	Plan and Organize
	The user/ individual on the job needs to know and understand how to:
	SB3. Carry out work tasks in line with instructions of the operator/ other supervisors and as per timelines
	SB4. Plan work according to the required schedule and location
	Customer Centricity
	The user/ individual on the job needs to know and understand how to:
	SB5. Build and maintain positive and effective relationships with colleagues and customers
	Problem Solving
	The user/ individual on the job needs to know and understand how to:
	SB6. Seek appropriate assistance from other sources to resolve problems
	Analytical Thinking
	The user/ individual on the job needs to know and understand how to:

Comply with worksite health and safety guidelines

	SB7. Assess the intensity of the fire accident and operate fire extinguishers
	Critical Thinking
	The user/ individual on the job needs to know and understand how to: SB8. Apply balanced judgment to different situations SB9. Carry out operations at the worksite in line with health, safety, environmental (HSE) and security guidelines

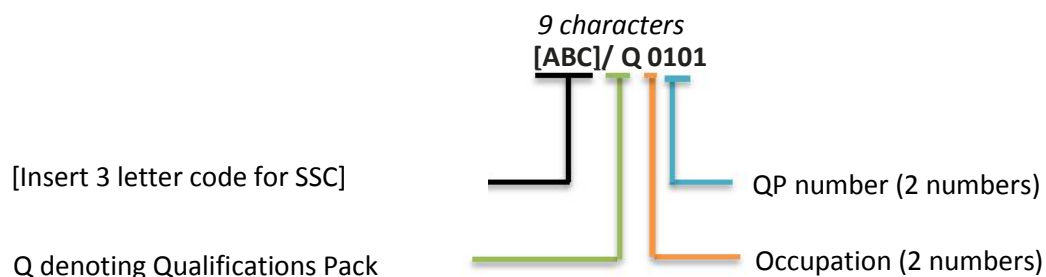
NOS Version Control

NOS Code	IES/N7601		
Credits(NSQF)	TBD	Version number	1.0
Sector	Infrastructure Equipment	Drafted on	16/02/15
Industry Sub-sector	Equipment Operations	Last reviewed on	31/03/15
Occupation	Operator	Next review date	31/03/15

[Back To Top](#)

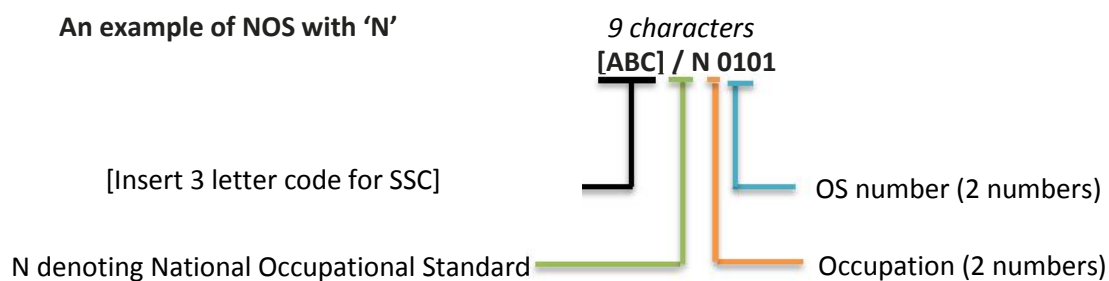
Nomenclature for QP and NOS units

Qualifications Pack



Occupational Standard

An example of NOS with 'N'



Nomenclature for QP and NOS units

The following acronyms/codes have been used in the nomenclature above:

Sub-sector	Range of Occupation numbers
Equipment Operations	1 to 10
Equipment Service and spares	11 to 20
Equipment Production	21 to 40
Equipment Sales	41 to 50
Equipment Financing	51 to 55
Core Enablers	56 to 65
Other Enablers	66 to 75
Common Occupations	76 to 85

Sequence	Description	Example
Three letters	Industry name	IES
Slash	/	/
Next letter	Whether QP or NOS	N
Next two numbers	Occupation code	01
Next two numbers	OS number	01

CRITERIA FOR ASSESSMENT OF TRAINEES

Job Role Junior Excavator Operator

Qualification Pack IES/Q0104

Sector Skill Council Infrastructure & Equipment

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 center (as per assessment criteria below)
4. Individual assessment agencies will create unique evaluations for skill practical for every student at each examination/training center based on this criteria
5. To pass the Qualification Pack, every trainee should score a minimum of 70% aggregate
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

NOS	Performance Criteria	Total Mark	Out Of	Marks Allocation	
				Theory	Skills Practical
1. IES/N0110 Assist in carrying out pre – operation checks of an excavator operations	PC1. Adhere to time limits given by supervisor	30	1	0	1
	PC2. Assist in visual inspection of the body components for cracks and bearing wear		2	1	1
	PC3. Assist in checking the sprocket for worn or cracked teeth		1	0	1
	PC4. Assist in inspecting the boom and the stick for dents and cracked welds		2	1	1
	PC5. Assist in checking the forks for bends		2	1	1
	PC6. Inspect all ground engaging tools to ensure stability		1	0	1

	PC7. Assist in checking that oil levels of engine, transmission, radiant coolant and brake are as per manufacturer's indicators		4	1	3
	PC8. Assist in checking the differential and hydraulic oil levels		1	0	1
	PC9. Assist in checking the hydraulic hose and ram for leakages		2	1	1
	PC10. Assist in conducting checks to ensure proper condition of parking brake, main horn, reverse horn and head light		1	0	1
	PC11. Assist in checking fan belt tension, electrolyte level and terminal tightness		1	0	1
	PC12. Assist in conducting visual inspection to check the various controls, gauges, warning lamp and other safety devices		1	0	1
	PC13. Check and set out all necessary work signs as required		1	0	1
	PC14. Check load chart is displayed in cabin		1	0	1
	PC15. Assist in checking the circle turn gear and clean if required		1	0	1
	PC16. Clean air filter dust bowls and check the gasket and inner filter		1	0	1
	PC17. Drain water and sediment from the fuel tank		2	1	1
	PC18. Top up coolant and oil in engine, transmission, etc. if necessary as per manufacturer's indicators		1	0	1
	PC19. Grease all the greasing pins and pivots points		1	0	1
	PC20. examine the compressor unit and all fittings and air lines		1	0	1
	PC21. Clean footplates and steps to keep them free from mud, dirt and oil		2	1	1
		Total	30	7	23

2. IES/N0111 Assist in operating an excavator	PC1. Assist in inspecting the worksite to identify and loose soil, hidden deep trenches or marshy patches where excavator could get stuck	20	2	1	1
	PC2. Assist in identifying and selecting the required attachment to be used for performing the task at a work site		1	0	1
	PC3. Assist in ensuring excavator load and operating speed is within limits specified by the manufacturer		4	1	3
	PC4. Assist in taking precaution for hazards such as trenches, potholes and cables		2	1	1
	PC5. Adhere to time limits given by the operator and supervisors		1	0	1
	PC6. Assist in determining a safe distance from a tip edge and usage of an approved stop block before tipping over an edge		2	1	1
	PC7. Assist in keeping a safe distance from other plant or vehicles		1	0	1
	PC8. Assist in ensuring that excavator is always parked on firm, level ground; with handbrake applied and drive and controls disengaged		4	1	3
	PC9. Assist in determining a position for discharging the load safely and in the manner designated by the supervisor		1	0	1
	PC10. Assist in ensuring that no other operators travel on or stand near the Excavator		1	0	1
	PC11. Inform supervisor of any problems while assisting in operating the Excavator		1	0	1
		Total	20	5	15
3. IES/N0112 Assist in regular maintenance of an excavator	PC1. Assist in assessing the right service schedule by tracking machine operating hours	30	2	1	1

	PC2. Clean air filter dust bowls at regular intervals	2	1	1
	PC3. Clean footplates, pedals and steps free from mud, dirt, ice and snow at regular intervals	2	1	1
	PC4. Drain water and sediment/ fuel separators everyday	1	0	1
	PC5. Replenish coolants, lubricants and fluids everyday	3	0	3
	PC6. Grease all greasing pins and pivot points everyday	2	1	1
	PC7. Assist in checking battery levels and condition of the terminals and carry out minor adjustments if required	1	0	1
	PC8. Check and maintain the tyre rims, air pressure, wheel nuts and treads as per manufacturer's indicators	4	1	3
	PC9. Assist in ensuring the machine is on firm and level ground before any maintenance is carried out; assist in tracking machine operating hours to assess the right service schedule	2	1	1
	PC10. Assist in completing timely and legibly daily/ weekly maintenance sheets as provided by the company	1	0	1
	PC11. Assist in ensuring that suitable props/ support devices are used and the bucket is not raised while performing maintenance	2	1	1
	PC12. Assist in ensuring that no maintenance task on the engine is performed when running or still hot	1	0	1
	PC13. Assess when the problem is beyond his competence and report the problem to suitably qualified and competent personnel	2	1	1

	PC14. Handle and dispose waste based on environmental guidelines at the work place		1	0	1
	PC15. Follow reporting procedures as laid down by the employer		1	0	1
	PC16. Report defects precisely to the operator if beyond scope of his role		1	0	1
	PC17. Report defects precisely to the operator and supervisor if beyond scope of his role		2	1	1
		Total	30	9	21
4. IES/N7601 Comply with worksite health and safety guidelines	PC1. Comply with safety, health, security and environment related regulations/ guidelines at the work site	20	2	1	1
	PC2. Use Personal Protective Equipment (PPE) and other safety gear such as seat belt, body protection, respiratory protection, eye protection, ear protection and hand protection		3	0	3
	PC3. Follow safety measures during operations to ensure that the health and safety of self or others (including members of the public) is not at risk		2	1	1
	PC4. Carry out operations as per the manufacturer's and worksite related health and safety guidelines		3	0	3
	PC5. Handle the transport, storage and disposal of hazardous materials and waste in compliance with worksite health, safety and environmental guidelines		4	1	3
	PC6. Follow safety regulations and procedures with regard to worksite hazards and risks		2	1	1
	PC7. Operate various grades of fire extinguishers, as applicable		1	0	1
	PC8. Support in administering basic first aid and report to concerned team members, as required, in case of an accident		1	0	1

	PC9. Respond promptly and appropriately to an accident/ incident or emergency situation, within limits of your role and responsibility		1	0	1
	PC10. Record and report details related to operations, incidents or accidents, as applicable		1	0	1
		Total	20	4	16