

Qualification Pack



Iron & Steel - Dumper Operator

QP Code: IES/ISC/Q0403

Version: 1.0

NSQF Level: 4

Infrastructure Equipment Skill Council || Infrastructure Equipment Skill Council, Avik Royale-First Floor
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Bengaluru 560026

Qualification Pack

Borrowed Qualification Pack (QP) Parameters

Originating SSC	Iron & Steel
Borrowing SSC	Infrastructure Equipment
Borrowing Request Validity	01/07/2018 to 31/03/2020
Assessment and Certification to be conducted by	Infrastructure Equipment
Certification Logos to be included	Infrastructure Equipment

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IES/ISC/Q0403: Iron & Steel - Dumper Operator

Brief Job Description

The Dumper/Tipper operator drives a heavy specialized truck used to haul large volumes of over burden, rock or ore over short distances. The dumper operator then uses the body hoist control lever to tip the rear part of the truck in order to discharge its load to rear, bottom or one side of the truck. Dumper operators are responsible to check that their safety systems are working properly and for performing basic maintenance on the Dumper.

Personal Attributes

This job requires the individual to concentrate on the job at hand and complete it without any accidents so diligence and hardworking is a desired attribute for individuals in this role. The individual should also be skilled in performing various driving and manoeuvring operations with the Dumper. He / she must be able to follow instructions provided by supervisor.

Applicable National Occupational Standards (NOS)

Compulsory NOS:

1. [ISC/N0407: Prepare Dumper for operations](#)
2. [ISC/N0408: Perform dumper operations](#)
3. [ISC/N0409: Performing routine maintenance and troubleshooting](#)
4. [ISC/N0410: Carry out reporting and logging](#)
5. [ISC/N0434: Health and safety](#)

Qualification Pack (QP) Parameters

Sector	Infrastructure Equipment
Sub-Sector	
Occupation	Iron Making
Country	India
NSQF Level	4
Aligned to NCO/ISCO/ISIC Code	NCO-2004/NIL

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Minimum Educational Qualification & Experience	8th Class with 3-5 Years of experience Experience in driving heavy vehicles OR 8th Class with 5-10 Years of experience In lieu of minimum qualification, the incumbent should have 5 yearsâ€™ experience of driving heavy vehicles.
Minimum Level of Education for Training in School	
Pre-Requisite License or Training	Technical and gallery training Refresher training if absent from work site for a period of one year or more before re-employment Driving license compulsory and no previous history of accidents
Minimum Job Entry Age	18 Years
Last Reviewed On	30/12/2014
Next Review Date	31/03/2020
NSQC Approval Date	18/06/2015
Version	1.0

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ISC/N0407: Prepare Dumper for operations

Description

This unit is about preparing the Dumper for activities that need to be carried out during a shift prior to starting of operations

Scope

This OS unit/task covers the following:

- Conduct pre-operation checks to ensure the Dumper is safe to use
- Conduct pre-operation routine maintenance of Dumper

Elements and Performance Criteria

Conduct pre-operation checks to ensure the Dumper is safe to use

To be competent, the user/individual on the job must be able to:

- PC1.** adhere to time limits given by supervisor
- PC2.** check oil levels of engine, transmission, radiator coolant and brake
- PC3.** check differential and hydraulic oil levels
- PC4.** check the hydraulic hose and ram for leakages
- PC5.** check condition of parking brake, main horn, reverse horn, and head light.
- PC6.** check the various controls, gauges, warning lamp and other safety devices
- PC7.** check fan belt tension, electrolyte level and terminal tightness
- PC8.** check and adjust driving position, rear and side mirrors, seat belts
- PC9.** clean air filter dust bowls
- PC10.** drain water and sediment from the fuel tank
- PC11.** top up coolant and oil in engine, transmission, etc. if necessary
- PC12.** apply grease to all greasing pins and pivot points
- PC13.** ensure the locking bar is in position to prevent the front and rear chassis moving and creating a crushing zone (articulated machines only)

Conduct preoperation routine maintenance of Dumper

To be competent, the user/individual on the job must be able to:

- PC14.** keep footplates and steps clean and free from mud, dirt and oil
- PC15.** maintain a checking/maintenance logbook to record all activities performed before starting the excavator
- PC16.** report defects precisely to the supervisor if beyond scope of his role

Knowledge and Understanding (KU)

The individual on the job needs to know and understand:

- KU1.** job specific documents e.g. daily maintenance checklist and importance of the same

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- KU2.** safety policy of the company
- KU3.** emergency organisation of the specific work site
- KU4.** risk and impact of not following defined procedures/work instructions
- KU5.** escalation matrix for reporting identified problems
- KU6.** cost of equipment and loss for the company that result from damage of equipment and direct / indirect cost of accidents
- KU7.** implications of delays in process to the company
- KU8.** different types of heavy earth moving machines (h.e.m.m) and their use
- KU9.** introduction to diesel and petrol engines, their sub-components and function
- KU10.** different gears and their power transmission mechanism
- KU11.** different types of steering mechanisms
- KU12.** functioning of hydraulic systems in dumpers
- KU13.** service brakes and parking brakes
- KU14.** instrument panel, their location and operation
- KU15.** controls, levers and switches in order to operate the dumper properly
- KU16.** general safety rules vis--vis loading, hauling, dumping, stocking and parking
- KU17.** signage, mining area signs and other safety and emergency signals
- KU18.** traffic rules to be followed inside the steel plant
- KU19.** correct maintenance procedures for dumper
- KU20.** response to emergencies e.g. correct way to use fire extinguisher

Generic Skills (GS)

User/individual on the job needs to know how to:

- GS1.** create first level process manuals, control plans, work instructions in a manner that the operators can easily understand the process requirements and process steps
- GS2.** create small notes/ work documents/ diagrams for supervisors ,operators and helpers to help them understand the process
- GS3.** use emails and other business correspondence methods (internal memos, circular etc.) for communicating with other team members/ vendors/ suppliers etc.
- GS4.** read equipment manuals and process documents given by the equipment supplier to understand the equipment and processes better
- GS5.** effectively explain supervisors, operators and helpers about equipment operations, process steps and other operational requirements
- GS6.** answer the queries raised by the operative team as well as intercompany departments
- GS7.** effectively communicate with the operators and helpers and make them aware of work expectations, targets, policies, processes etc.
- GS8.** discuss task lists, schedules, and work-loads with the operative team members
- GS9.** attentively listen with full attention the queries and grievances raised by the operative team and comprehend the information given by the speaker
- GS10.** maintain integrity with respect to company property and time
- GS11.** communicate with people in a polite manner using respectful language

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- GS12.** resolve difficulties in relationships with colleagues amicably
- GS13.** take responsibility for completing ones own work assignment
- GS14.** take initiative to enhance/learn skills in ones area of work
- GS15.** reflect and act upon ones learning from experience
- GS16.** avoid absenteeism
- GS17.** work in a disciplined environment
- GS18.** be punctual
- GS19.** prioritize and execute tasks within the scheduled time limits
- GS20.** check for damage in dumper components e.g. engine components, tracks, hydraulic ram, brakes, horn, etc.
- GS21.** conduct maintenance tasks e.g. checking and topping up engine oil levels

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Assessment Criteria

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
<i>Conduct pre-operation checks to ensure the Dumper is safe to use</i>	60	140	-	-
PC1. adhere to time limits given by supervisor	-	5	-	-
PC2. check oil levels of engine, transmission, radiator coolant and brake	5	10	-	-
PC3. check differential and hydraulic oil levels	5	15	-	-
PC4. check the hydraulic hose and ram for leakages	5	10	-	-
PC5. check condition of parking brake, main horn, reverse horn, and head light.	5	10	-	-
PC6. check the various controls, gauges, warning lamp and other safety devices	5	10	-	-
PC7. check fan belt tension, electrolyte level and terminal tightness	5	15	-	-
PC8. check and adjust driving position, rear and side mirrors, seat belts	5	10	-	-
PC9. clean air filter dust bowls	5	10	-	-
PC10. drain water and sediment from the fuel tank	5	10	-	-
PC11. top up coolant and oil in engine, transmission, etc. if necessary	5	10	-	-
PC12. apply grease to all greasing pins and pivot points	5	15	-	-
PC13. ensure the locking bar is in position to prevent the front and rear chassis moving and creating a crushing zone (articulated machines only)	5	10	-	-
<i>Conduct preoperation routine maintenance of Dumper</i>	20	30	-	-
PC14. keep footplates and steps clean and free from mud, dirt and oil	5	10	-	-

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Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
PC15. maintain a checking/maintenance logbook to record all activities performed before starting the excavator	5	15	-	-
PC16. report defects precisely to the supervisor if beyond scope of his role	10	5	-	-
NOS Total	80	170	-	-

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National Occupational Standards (NOS) Parameters

NOS Code	ISC/N0407
NOS Name	Prepare Dumper for operations
Sector	Iron and Steel
Sub-Sector	Steel, Sponge Iron, Ferro Alloys, Re-Rollers, Refractory
Occupation	Iron Making
NSQF Level	3
Credits	TBD
Version	1.0
Last Reviewed Date	30/12/2014
Next Review Date	01/04/2017
NSQC Clearance Date	18/06/2015

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ISC/N0408: Perform dumper operations

Description

This unit is about performing operations while using the Dumper

Scope

This OS unit/task covers the following:

- Starting and driving the Dumper safely to the operations area
- Loading and hauling the load to the designated destination
- Discharging the load in correct way by tipping the dump with careful manoeuvring of hoist lever

Elements and Performance Criteria

Operations

To be competent, the user/individual on the job must be able to:

- PC1.** plan and organize the job according to given instructions
- PC2.** inspect the worksite to identify any loose soil, hidden deep trenches or marshy patches where dumper could get stuck.
- PC3.** start the engine using the pushbutton switch and key switch together
- PC4.** check the priming pump and pre-heater to start the engine in cold weather conditions
- PC5.** always wear safety belt while driving
- PC6.** ensure proper functioning of rear view camera and audio visual alarm
- PC7.** not use mobile phones while driving
- PC8.** look out for people working and hazards such as trenches, potholes and cables
- PC9.** operate the shifting quadrant device for selecting the correct gear range

Loading

To be competent, the user/individual on the job must be able to:

- PC10.** ensure dumper load and operating speed is within limits specified by the manufacturer.
- PC11.** adhere to time limits given by supervisor
- PC12.** follow the traffic rule / codes developed locally
- PC13.** perform in-operation visual checks on critical temperature and pressure gauges.
- PC14.** ensure that walkway rules e.g. operating the dumper within the permissible/allocated areas are followed
- PC15.** utilize judiciously various signalling devices available in the dumper such as turn signal, parking indicator, air horn etc.
- PC16.** keep a safe distance from a tip edge and use an approved stop block before tipping over an edge
- PC17.** select and use the right type of brake in different situations and conditions.
- PC18.** inform supervisor of any problems while operating the dumper
- PC19.** ensure that dumper is always parked on firm, level ground; with handbrake applied and drive and controls disengaged

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PC20. operate the body hoist control handle to manoeuvre the hydraulic ram that tips the dumper

Discharging

To be competent, the user/individual on the job must be able to:

PC21. discharge the load safely at the position and in the manner designated by the supervisor

PC22. ensure that no other operators travel on or stand near the dumper

Knowledge and Understanding (KU)

The individual on the job needs to know and understand:

KU1. job specific documents e.g. daily maintenance checklist and importance of the same

KU2. safety policy of the company

KU3. emergency organisation of the specific work site

KU4. risk and impact of not following defined procedures/work instructions

KU5. escalation matrix for reporting identified problems

KU6. cost of equipment and loss for the company that result from damage of equipment and direct / indirect cost of accidents

KU7. implications of delays in process to the company

KU8. different types of heavy earth moving machines (h.e.m.m) and their use

KU9. introduction to diesel and petrol engines, their sub-components and function

KU10. different gears and their power transmission mechanism

KU11. different types of steering mechanisms

KU12. functioning of hydraulic systems in dumpers

KU13. service brakes and parking brakes

KU14. instrument panel, their location and operation

KU15. controls, levers and switches in order to operate the dumper properly

KU16. general safety rules vis--vis loading, hauling, dumping, stocking and parking

KU17. signage, mining area signs and other safety and emergency signals

KU18. traffic rules to be followed inside the steel plant

KU19. correct maintenance procedures for dumper

KU20. response to emergencies e.g. correct way to use fire extinguisher

Generic Skills (GS)

User/individual on the job needs to know how to:

GS1. create first level process manuals, control plans, work instructions in an manner that the operators can easily understand the process requirements and process steps

GS2. create small notes/ work documents/ diagrams for supervisors ,operators and helpers to help them understand the process

GS3. use emails and other business correspondence methods (internal memos, circular etc.) for communicating with other team members/ vendors/ suppliers etc.

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- GS4.** read equipment manuals and process documents given by the equipment supplier to understand the equipment and processes better
- GS5.** effectively explain supervisors, operators and helpers about equipment operations, process steps and other operational requirements
- GS6.** answer the queries raised by the operative team as well as intercompany departments
- GS7.** effectively communicate with the operators and helpers and make them aware of work expectations, targets, policies, processes etc.
- GS8.** discuss task lists, schedules, and work-loads with the operative team members
- GS9.** attentively listen with full attention the queries and grievances raised by the operative team and comprehend the information given by the speaker
- GS10.** maintain integrity with respect to company property and time
- GS11.** communicate with people in a polite manner using respectful language
- GS12.** resolve difficulties in relationships with colleagues amicably
- GS13.** take responsibility for completing ones own work assignment
- GS14.** take initiative to enhance/learn skills in ones area of work
- GS15.** reflect and act upon ones learning from experience
- GS16.** avoid absenteeism
- GS17.** work in a disciplined environment
- GS18.** be punctual
- GS19.** prioritize and execute tasks within the scheduled time limits
- GS20.** suggest methods to avoid accidents/errors while operating dumper
- GS21.** identify possible ways to improve operational efficiency
- GS22.** perform driving operations such as forward, reverse, u turn, tight spot maneuvering, etc
- GS23.** select and use the correct combination of levers to operate the dumper
- GS24.** select and use the correct combination of levers to operate the dumper

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Assessment Criteria

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
<i>Operations</i>	45	65	-	-
PC1. plan and organize the job according to given instructions	5	5	-	-
PC2. inspect the worksite to identify any loose soil, hidden deep trenches or marshy patches where dumper could get stuck.	5	5	-	-
PC3. start the engine using the pushbutton switch and key switch together	5	5	-	-
PC4. check the priming pump and pre-heater to start the engine in cold weather conditions	5	5	-	-
PC5. always wear safety belt while driving	5	5	-	-
PC6. ensure proper functioning of rear view camera and audio visual alarm	5	10	-	-
PC7. not use mobile phones while driving	5	10	-	-
PC8. look out for people working and hazards such as trenches, potholes and cables	5	10	-	-
PC9. operate the shifting quadrant device for selecting the correct gear range	5	10	-	-
<i>Loading</i>	45	110	-	-
PC10. ensure dumper load and operating speed is within limits specified by the manufacturer.	5	10	-	-
PC11. adhere to time limits given by supervisor	-	5	-	-
PC12. follow the traffic rule / codes developed locally	5	10	-	-
PC13. perform in-operation visual checks on critical temperature and pressure gauges.	5	10	-	-
PC14. ensure that walkway rules e.g. operating the dumper within the permissible/allocated areas are followed	5	10	-	-

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Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
PC15. utilize judiciously various signalling devices available in the dumper such as turn signal, parking indicator, air horn etc.	5	15	-	-
PC16. keep a safe distance from a tip edge and use an approved stop block before tipping over an edge	5	10	-	-
PC17. select and use the right type of brake in different situations and conditions.	5	15	-	-
PC18. inform supervisor of any problems while operating the dumper	-	5	-	-
PC19. ensure that dumper is always parked on firm, level ground; with handbrake applied and drive and controls disengaged	5	10	-	-
PC20. operate the body hoist control handle to manoeuvre the hydraulic ram that tips the dumper	5	10	-	-
<i>Discharging</i>	10	25	-	-
PC21. discharge the load safely at the position and in the manner designated by the supervisor	5	15	-	-
PC22. ensure that no other operators travel on or stand near the dumper	5	10	-	-
NOS Total	100	200	-	-

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National Occupational Standards (NOS) Parameters

NOS Code	ISC/N0408
NOS Name	Perform dumper operations
Sector	Iron and Steel
Sub-Sector	Steel, Sponge Iron, Ferro Alloys, Re-Rollers, Refractory
Occupation	Iron Making
NSQF Level	3
Credits	TBD
Version	1.0
Last Reviewed Date	30/12/2014
Next Review Date	01/04/2017
NSQC Clearance Date	18/06/2015

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ISC/N0409: Performing routine maintenance and troubleshooting

Description

This unit is about performing routine maintenance and troubleshooting tasks on the Dumper.

Scope

This OS unit/task covers the following:

- Routine maintenance in accordance with the manufacturer's recommendations and company procedures
- Basic diagnostics and Troubleshooting

Elements and Performance Criteria

Routine maintenance

To be competent, the user/individual on the job must be able to:

- PC1.** track machine operating hours to assess the right service schedule.
- PC2.** clean air filter dust bowls
- PC3.** clean footplates, pedals and steps free from mud, dirt, ice and snow
- PC4.** drain water and sediment /fuel separators
- PC5.** replenish coolants, lubricants and fluids
- PC6.** grease all greasing pins and pivot points
- PC7.** check battery levels and condition of the terminals and carrying out minor adjustments if required
- PC8.** check and maintain the tyre rims, air pressure, wheel nuts and treads

Diagnostics

To be competent, the user/individual on the job must be able to:

- PC9.** assess when the problem is beyond his competence and report the problem to suitably qualified and competent personnel
- PC10.** ensure the machine is on firm and level ground before attempting to carry out any maintenance activity.
- PC11.** ensure the locking bar is in position to prevent the front and rear chassis moving and creating a crushing zone (articulated machines only)
- PC12.** ensure that no maintenance task on the engine is performed when running or still hot

Knowledge and Understanding (KU)

The individual on the job needs to know and understand:

- KU1.** types of documentation in organization e.g. daily maintenance checklist and importance of the same
- KU2.** risk and impact of not following defined procedures/work instructions
- KU3.** rules and regulations of steel plant as per standard operating procedure (sop)

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- KU4.** risk and impact of not following company's SOP
- KU5.** escalation matrix for reporting identified problems
- KU6.** controls and switches needed to operate the dumper properly
- KU7.** basic physics and mechanics involved in various functions of the dumper
- KU8.** response to emergencies e.g. fire
- KU9.** safety regulations while handling the dumper
- KU10.** the optimal levels of control indicators e.g. fuel gauge, engine oil pressure and temperature
- KU11.** detection of faults in running engine
- KU12.** use of lifting jacks
- KU13.** need for lubrication and its proper way and knowledge of all points where it is required

Generic Skills (GS)

User/individual on the job needs to know how to:

- GS1.** create first level process manuals, control plans, work instructions in a manner that the operators can easily understand the process requirements and process steps
- GS2.** create small notes/ work documents/ diagrams for supervisors, operators and helpers to help them understand the process
- GS3.** use emails and other business correspondence methods (internal memos, circular etc.) for communicating with other team members/ vendors/ suppliers etc.
- GS4.** read equipment manuals and process documents given by the equipment supplier to understand the equipment and processes better
- GS5.** effectively explain supervisors, operators and helpers about equipment operations, process steps and other operational requirements
- GS6.** answer the queries raised by the operative team as well as intercompany departments
- GS7.** effectively communicate with the operators and helpers and make them aware of work expectations, targets, policies, processes etc.
- GS8.** discuss task lists, schedules, and work-loads with the operative team members
- GS9.** attentively listen with full attention the queries and grievances raised by the operative team and comprehend the information given by the speaker
- GS10.** maintain integrity with respect to company property and time
- GS11.** communicate with people in a polite manner using respectful language
- GS12.** resolve difficulties in relationships with colleagues amicably
- GS13.** take responsibility for completing one's own work assignment
- GS14.** take initiative to enhance/learn skills in one's area of work
- GS15.** reflect and act upon one's learning from experience
- GS16.** avoid absenteeism
- GS17.** work in a disciplined environment
- GS18.** be punctual
- GS19.** prioritize and execute tasks within the scheduled time limits
- GS20.** suggest methods to avoid accidents/errors while operating dumper
- GS21.** identify possible ways to improve operational efficiency

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- GS22.** perform driving operations such as forward, reverse, u turn, tight spot maneuvering, etc
- GS23.** select and use the correct combination of levers to operate the dumper
- GS24.** maneuver the blade and rear attachments to achieve various tasks
- GS25.** adjust according to capacity and manpower needs during peak and non-peak hours
- GS26.** be a team player and achieve collective goals
- GS27.** concentrate on task at hand and complete it without errors
- GS28.** ensure adequate knowledge sharing with supervisors and subordinates

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Assessment Criteria

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
<i>Routine maintenance</i>	40	100	-	-
PC1. track machine operating hours to assess the right service schedule.	5	10	-	-
PC2. clean air filter dust bowls	5	10	-	-
PC3. clean footplates, pedals and steps free from mud, dirt, ice and snow	5	10	-	-
PC4. drain water and sediment /fuel separators	5	10	-	-
PC5. replenish coolants, lubricants and fluids	5	15	-	-
PC6. grease all greasing pins and pivot points	5	15	-	-
PC7. check battery levels and condition of the terminals and carrying out minor adjustments if required	5	15	-	-
PC8. check and maintain the tyre rims, air pressure, wheel nuts and treads	5	15	-	-
<i>Diagnostics</i>	20	40	-	-
PC9. assess when the problem is beyond his competence and report the problem to suitably qualified and competent personnel	5	10	-	-
PC10. ensure the machine is on firm and level ground before attempting to carry out any maintenance activity.	5	10	-	-
PC11. ensure the locking bar is in position to prevent the front and rear chassis moving and creating a crushing zone (articulated machines only)	5	15	-	-
PC12. ensure that no maintenance task on the engine is performed when running or still hot	5	5	-	-
NOS Total	60	140	-	-

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National Occupational Standards (NOS) Parameters

NOS Code	ISC/N0409
NOS Name	Performing routine maintenance and troubleshooting
Sector	Iron and Steel
Sub-Sector	Steel, Sponge Iron, Ferro Alloys, Re-Rollers, Refractory
Occupation	Iron Making
NSQF Level	3
Credits	TBD
Version	1.0
Last Reviewed Date	30/12/2014
Next Review Date	01/04/2017
NSQC Clearance Date	18/06/2015

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ISC/N0410: Carry out reporting and logging

Description

This unit is about carrying out reporting and documentation

Elements and Performance Criteria

Reporting

To be competent, the user/individual on the job must be able to:

- 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

Recording and Documentation

To be competent, the user/individual on the job must be able to:

- PC4.** identify documentation to be completed relating to ones role
- PC5.** record details accurately using the appropriate format
- PC6.** complete all documentation within stipulated time.
- PC7.** ensure documents are available to appropriate authorities to inspect

Knowledge and Understanding (KU)

The individual on the job needs to know and understand:

- KU1.** job specific documents e.g. daily maintenance checklist and importance of the same
- KU2.** safety policy of the company
- KU3.** risk and impact of not following defined procedures/work instructions
- KU4.** escalation matrix for reporting identified problems
- KU5.** cost of equipment and loss for the company that result from damage of equipment
- KU6.** direct/indirect cost of accidents to the company
- KU7.** implications of delays in process to the company

Generic Skills (GS)

User/individual on the job needs to know how to:

- GS1.** create first level process manuals, control plans, work instructions in an manner that the operators can easily understand the process requirements and process steps
- GS2.** create small notes/ work documents/ diagrams for supervisors ,operators and helpers to help them understand the process
- GS3.** use emails and other business correspondence methods (internal memos, circular etc.) for communicating with other team members/ vendors/ suppliers etc.
- GS4.** read equipment manuals and process documents given by the equipment supplier to understand the equipment and processes better

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- GS5.** effectively explain supervisors, operators and helpers about equipment operations, process steps and other operational requirements
- GS6.** answer the queries raised by the operative team as well as intercompany departments
- GS7.** effectively communicate with the operators and helpers and make them aware of work expectations, targets, policies, processes etc.
- GS8.** discuss task lists, schedules, and work-loads with the operative team members
- GS9.** attentively listen with full attention the queries and grievances raised by the operative team and comprehend the information given by the speaker

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Assessment Criteria

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
<i>Reporting</i>	15	25	-	-
PC1. report problems/incidents as applicable in a timely manner	5	10	-	-
PC2. report to the appropriate authority as laid down by the employer	5	10	-	-
PC3. follow reporting procedures as prescribed by the employer	5	5	-	-
<i>Recording and Documentation</i>	20	40	-	-
PC4. identify documentation to be completed relating to ones role	5	10	-	-
PC5. record details accurately using the appropriate format	5	10	-	-
PC6. complete all documentation within stipulated time.	5	10	-	-
PC7. ensure documents are available to appropriate authorities to inspect	5	10	-	-
NOS Total	35	65	-	-

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National Occupational Standards (NOS) Parameters

NOS Code	ISC/N0410
NOS Name	Carry out reporting and logging
Sector	Iron and Steel
Sub-Sector	Steel, Sponge Iron, Ferro Alloys, Re-Rollers, Refractory
Occupation	Iron Making
NSQF Level	3
Credits	TBD
Version	1.0
Last Reviewed Date	30/12/2014
Next Review Date	01/04/2017
NSQC Clearance Date	18/06/2015

Qualification Pack

ISC/N0434: Health and safety

Description

This unit is about health and safety measures across operations in the plant

Elements and Performance Criteria

Safety, Security and Administrative

To be competent, the user/individual on the job must be able to:

- PC1.** perform storage and transport of hazardous materials compliant with safety guidelines
- PC2.** deal with misfires as per statutory requirement
- PC3.** comply with safety regulations and procedures in case of fire hazard and refueling
- PC4.** operate various grades of fire extinguishers
- PC5.** 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
- PC6.** emergency organisation of the specific work site.
- PC7.** identify characteristics of liquid metal, liquid slag, fumes, gas pipelines, etc. and take necessary precautions
- PC8.** wears safety gear such as hard hat, respiratory protection, eye protection, ear protection

Knowledge and Understanding (KU)

The individual on the job needs to know and understand:

- KU1.** various documents that need to be maintained
- KU2.** company recommended schedule for filling up the documents
- KU3.** the importance of complete and accurate documentation
- KU4.** procedures for reporting to the appropriate authority
- KU5.** procedures for recording damage, breaches etc
- KU6.** guidelines for reporting incidents where standard operating procedures were not followed in specific instances

Generic Skills (GS)

User/individual on the job needs to know how to:

- GS1.** create first level process manuals, control plans, work instructions in a manner that the operators can easily understand the process requirements and process steps
- GS2.** create small notes/ work documents/ diagrams for supervisors, operators and helpers to help them understand the process
- GS3.** use emails and other business correspondence methods (internal memos, circular etc.) for communicating with other team members/ vendors/ suppliers etc.
- GS4.** read equipment manuals and process documents given by the equipment supplier to understand the equipment and processes better

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- GS5.** effectively explain supervisors, operators and helpers about equipment operations, process steps and other operational requirements
- GS6.** answer the queries raised by the operative team as well as intercompany departments
- GS7.** effectively communicate with the operators and helpers and make them aware of work expectations, targets, policies, processes etc.
- GS8.** discuss task lists, schedules, and work-loads with the operative team members
- GS9.** attentively listen with full attention the queries and grievances raised by the operative team and comprehend the information given by the speaker

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Assessment Criteria

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
<i>Safety, Security and Administrative</i>	45	105	-	-
PC1. perform storage and transport of hazardous materials compliant with safety guidelines	5	15	-	-
PC2. deal with misfires as per statutory requirement	5	10	-	-
PC3. comply with safety regulations and procedures in case of fire hazard and refueling	5	15	-	-
PC4. operate various grades of fire extinguishers	5	15	-	-
PC5. 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	5	15	-	-
PC6. emergency organisation of the specific work site.	5	15	-	-
PC7. identify characteristics of liquid metal, liquid slag, fumes, gas pipelines, etc. and take necessary precautions	10	10	-	-
PC8. wears safety gear such as hard hat, respiratory protection, eye protection, ear protection	5	10	-	-
NOS Total	45	105	-	-

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National Occupational Standards (NOS) Parameters

NOS Code	ISC/N0434
NOS Name	Health and safety
Sector	Iron and Steel
Sub-Sector	Steel, Sponge Iron, Ferro Alloys, Re-Rollers, Refractory
Occupation	Iron Making
NSQF Level	3
Credits	TBD
Version	1.0
Last Reviewed Date	30/12/2014
Next Review Date	01/04/2017
NSQC Clearance Date	18/06/2015

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Assessment Guidelines and Assessment Weightage

Assessment Guidelines

1. Criteria for assessment for each Qualification Pack will be created by the Sector Skill Council. Each Element/ 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 Element/ PC.
2. The assessment for the theory part will be based on knowledge bank of questions created by the SSC.
3. Assessment will be conducted for all compulsory NOS, and where applicable, on the selected elective/option NOS/set of NOS.
4. Individual assessment agencies will create unique question papers for theory part for each candidate at each examination/training center (as per assessment criteria below).
5. Individual assessment agencies will create unique evaluations for skill practical for every student at each examination/ training center based on these criteria.
6. To pass the Qualification Pack assessment, every trainee should score the Recommended Pass % aggregate for the QP.
7. In case of unsuccessful completion, the trainee may seek reassessment on the Qualification Pack.

Minimum Aggregate Passing % at QP Level : 60

(Please note: Every Trainee should score a minimum aggregate passing percentage as specified above, to successfully clear the Qualification Pack assessment.)

Assessment Weightage

Compulsory NOS

National Occupational Standards	Theory Marks	Practical Marks	Project Marks	Viva Marks	Total Marks	Weightage
ISC/N0407.Prepare Dumper for operations	80	170	-	-	250	25
ISC/N0408.Perform dumper operations	100	200	-	-	300	30
ISC/N0409.Performing routine maintenance and troubleshooting	60	140	-	-	200	20

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National Occupational Standards	Theory Marks	Practical Marks	Project Marks	Viva Marks	Total Marks	Weightage
ISC/N0410.Carry out reporting and logging	35	65	-	-	100	10
ISC/N0434.Health and safety	45	105	-	-	150	15
Total	320	680	-	-	1000	100

Qualification Pack

Acronyms

NOS	National Occupational Standard(s)
NSQF	National Skills Qualifications Framework
QP	Qualifications Pack
TVET	Technical and Vocational Education and Training
5S	Technique of maintaining orderliness – Japanese terminology.
CP	Control Plan.
WI	Work Instructions.

Qualification Pack

Glossary

Sector	Sector is a conglomeration of different business operations having similar business 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.
Job role	Job role defines a unique set of functions that together form a unique employment opportunity in an organisation.
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 (KU) they need to meet that standard consistently. Occupational Standards are applicable both in the Indian and global contexts.
Performance Criteria (PC)	Performance Criteria (PC) 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 (QP)	QP comprises the set of OS, together with the educational, training and other criteria required to perform a job role. A QP is assigned a unique qualifications 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.
Scope	Scope is a 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 quality of performance required.
Knowledge and Understanding (KU)	Knowledge and Understanding (KU) are statements which together specify the technical, generic, professional and organisational specific knowledge that an individual needs in order to perform to the required standard.

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Organisational Context	Organisational context includes the way the organisation 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/ Generic Skills (GS)	Core skills or Generic Skills (GS) are a group of skills that are the key to learning and working in today's world. These skills are typically needed in any work environment 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.
Electives	Electives are NOS/set of NOS that are identified by the sector as contributive to specialization in a job role. There may be multiple electives within a QP for each specialized job role. Trainees must select at least one elective for the successful completion of a QP with Electives.
Options	Options are NOS/set of NOS that are identified by the sector as additional skills. There may be multiple options within a QP. It is not mandatory to select any of the options to complete a QP with Options.