

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

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Introduction

Qualification Pack - Junior Batching Plant Operator

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|----------------------|--------------------------|
| SECTOR: | INFRASTRUCTURE EQUIPMENT |
| SUB SECTOR: | Equipment Operations |
| OCCUPATION: | Operator |
| REFERENCE ID: | IES/Q0117 |
| ALIGNED TO: | NCO-2004/NIL |

Brief Job Description: A junior batching plant operator is responsible for assisting in making the concrete as per mix design supplied by the authorized concerned person. In addition to operating the plant, he will maintain adequate levels of all supplies and products.

Personal Attributes: This job requires the individual to be extremely careful and diligent and have high level of concentration. Hard work and strong work ethics 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.

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| Qualifications Pack Code | IES/Q0117 | | |
| Job Role | Junior Batching Plant Operator | | |
| Credits(NSQF) | TBD | Version number | 1.0 |
| Sector | Infrastructure Equipment | Drafted on | 14/04/16 |
| Sub-sector | Equipment Operations | Last reviewed on | 26/04/16 |
| Occupation | Operator | Next review date | 30/04/18 |
| NSQC Clearance on | NA | | |

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| Job Role | Junior Batching Plant Operator |
| Role Description | A junior batching plant operator is responsible for assisting in making the concrete as per mix design supplied by the authorized concerned person. In addition to operating the plant, he will maintain adequate levels of all supplies and products. |
| NSQF level | 3 |
| Minimum Educational Qualifications | Class VIII preferably. |
| Maximum Educational Qualifications | NA |
| Training (Suggested but not mandatory) | Certification Training in concrete batching plant operations preferred |
| Minimum Job Entry Age | 18 years |
| Experience | Preferably 2 years of experience as helper in batching plant operations |
| Applicable National Occupational Standards (NOS) | <p>Compulsory</p> <ol style="list-style-type: none"> IES/N0149 Assist in carrying Pre-operation checks on a batching plant IES/N0150 Assist in carrying out batching plant operations IES/N0151 Assist in regular maintenance of the batching plant 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. |

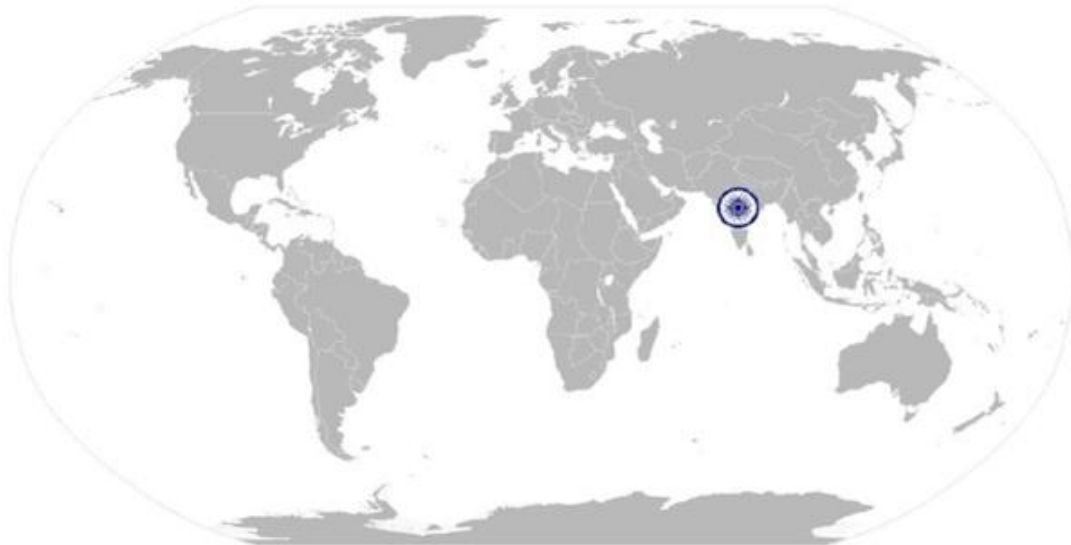
Acronyms

| 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 |

IES/N0149

Assist in carrying Pre-operation checks on a batching plant

National Occupational Standard



Overview

This unit provides Performance Criteria, Knowledge & Understanding and Skills & Ability for assisting to carry out pre-operational checks to prepare the batching plant for a shift.

IES/N0149
Assist in carrying Pre-operation checks on a batching plant

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| Unit Code | IES/N0149 |
| Unit Title (Task) | Assist in carrying Pre-operation checks on a batching plant |
| Description | This unit provides insight into assisting to carry out pre-operational checks to prepare the batching plant for a shift. |
| Scope | This unit/task covers the following: <ul style="list-style-type: none"> • Pre-operation checks • Reporting and documentation |
| Performance Criteria(PC) w.r.t. the Scope | |
| Element | Performance Criteria |
| Pre-operation Checks | To be competent, the user/individual on the job must be able to: <ul style="list-style-type: none"> PC1. Assist in Inspecting oil and filter on air compressor, drain tank manifolds and all water traps as per the procedures set by the manufacturer PC2. Check the oil level in all gear boxes, hydraulic unit, drum motor oil and auto-roll as per instructions from the operator/supervisor PC3. Fill all the bins and silos as per instructions from the operator/supervisor PC4. Check for tensions on all V-drive belts and other belts for wear and tear as per the instructions from the operator/ supervisor PC5. Store the liquid admixtures as per the organizational standards to avoid contamination PC6. Check that admixture dispensers are in good working condition as stated by the operator/ supervisor PC7. Ensure that safety equipment is present and securely mounted as per the organizational standards PC8. Check for wiring damage and loose electrical fitting for the electric drive motors PC9. Turn off mixer motor before carrying out mixer cleaning or chipping PC10. Empty the weigh hoppers from the previous day's operation PC11. Clean the area under plant for spillage and trace source PC12. Check conveyors, boom scrapers and bucket elevators for free running and wear, and adjust as per the instructions from the operator's supervisors PC13. Check all hoppers and doors are in clean and efficient working order PC14. Check tightness of all hydraulic connections and the condition of flexible tubes PC15. Check and remove any cement or concrete build up in the mixer PC16. Check dust seals on cement hoppers for wear PC17. Check mixer drum for structural cracks or damage PC18. Ensure that before work, the machine should have an empty running |
| Reporting and documentation | <ul style="list-style-type: none"> PC19. Assist in maintaining a check/maintenance logbook to record all activities performed before starting the batching plant PC20. Report defects precisely to the operator/ supervisor |

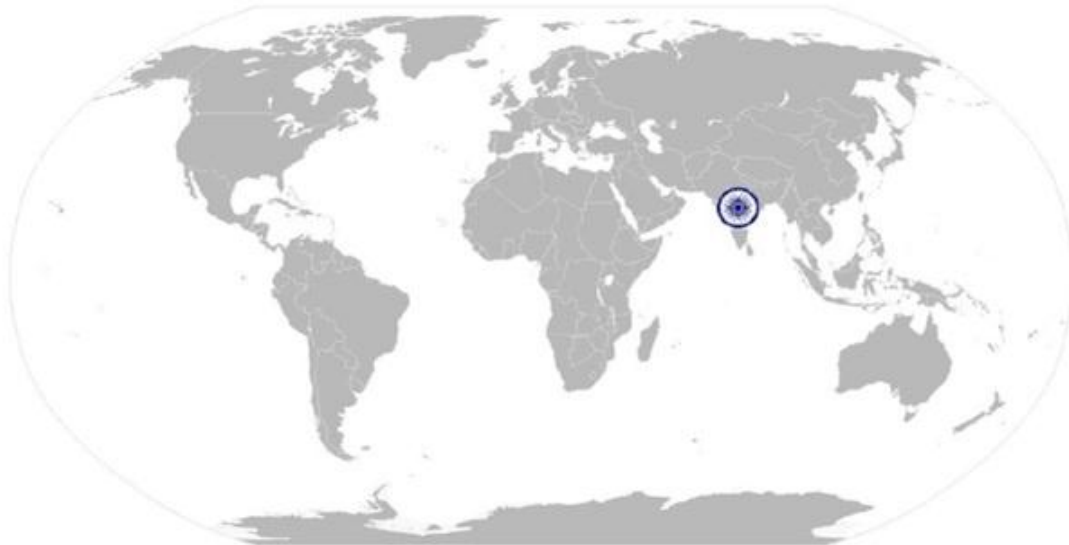
IES/N0149 Assist in carrying Pre-operation checks on a batching plant

| Knowledge and Understanding (K) | |
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| 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. Location of tools KA5. Contact person in case of queries on procedure or products KA6. Location and process for storage and disposal of waste material KA7. Safety Policy of the company |
| B. Technical Knowledge | The user/individual on the job needs to know and understand: KB1. Different types of batching plant and their use and function KB2. Introduction to weighing systems storage systems, water systems conveying systems admix systems, their use and function KB3. Different equipment in batching plant such as conveyors, dust collector storage bins, weigh hoppers, water storage tanks, admix system, pumps, mixers, components, and functions. KB4. Equipment operating systems such as hydraulic systems, electrical system lubricating systems, pneumatic systems, mechanical systems and fuel systems KB5. Synthetic, non-synthetic oils and admixtures KB6. Significance and methods of lubricating different parts of the concrete batching plant KB7. Earthing of plants to protect load cells KB8. Visual checks to identify damage, defects, cracks or leaks beforehand |
| 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 and regional language as applicable to read manuals of operations, guidelines, etc. |
| B. Professional Skills | Oral Communication (Listening and Speaking Skills) |
| | The user/ individual on the job needs to know and understand how to: SA3. Use correct technical terms while interacting with supervisor |
| | Decision Making |
| | The user/ individual on the job needs to know and understand how to: SB1. Assist in deciding when to conduct maintenance checks |
| Plan and Organize | Plan and Organize |
| | The user/ individual on the job needs to know and understand how to: SB2. Work with operators, supervisors/ team mates to carry out work related tasks |
| | Customer Centricity |
| The user/ individual on the job needs to know and understand how to: | |

IES/N0149

Assist in carrying Pre-operation checks on a batching plant

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| | SB3. 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: |
| | SB4. Judge when to seek assistance from the operator/supervisor |
| | Analytical Thinking |
| | The user/ individual on the job needs to know and understand how to: |
| SB5. Identify cause and effect relations in his area of work | |
| Critical Thinking | |
| The user/ individual on the job needs to know and understand how to: | |
| SB6. Analyse, evaluate and apply the information gathered from observation, experience, reasoning, or communication to act efficiently | |

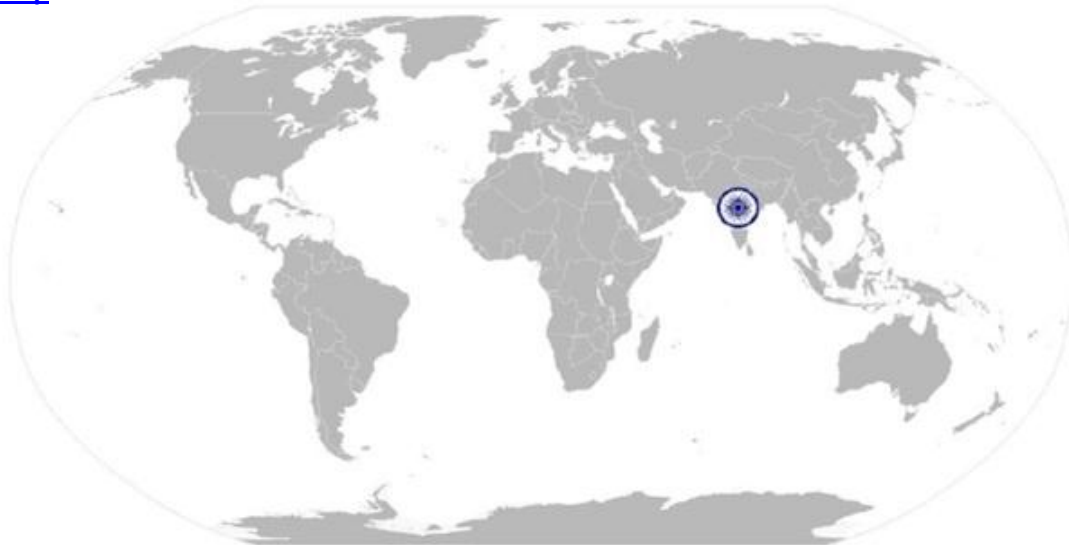


IES/N0149 Assist in carrying Pre-operation checks on a batching plant

NOS Version Control

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| NOS Code | IES/N0149 | | |
| Credits(NSQF) | TBD | Version number | 1.0 |
| Sector | Infrastructure Equipment | Drafted on | 14/04/16 |
| Industry Sub-sector | Equipment Operations | Last reviewed on | 26/04/16 |
| Occupation | Operator | Next review date | 30/04/18 |

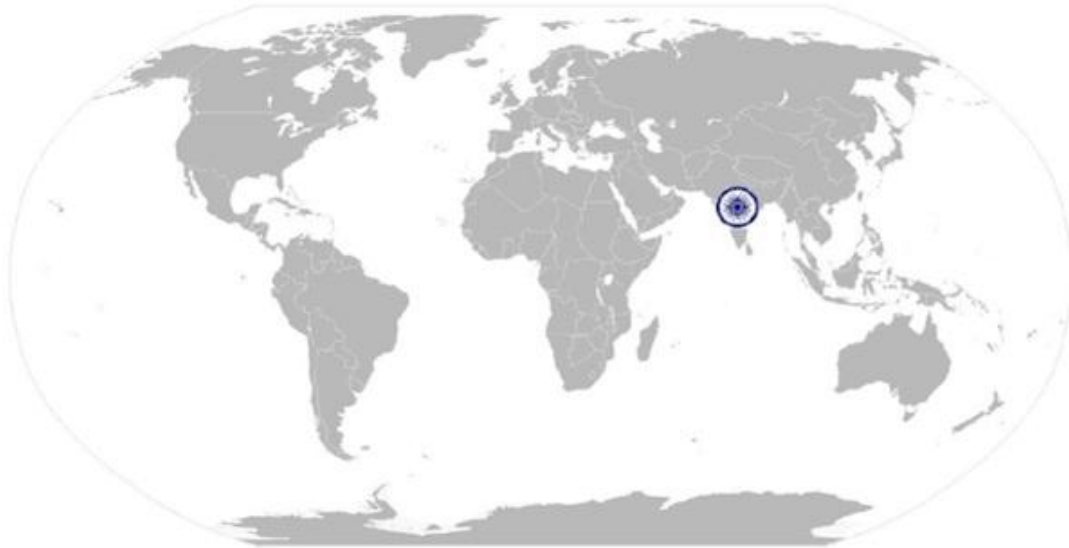
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IES/N0150

Assist in carrying out batching plant operations

National Occupational Standard



Overview

This unit provides Performance Criteria, Knowledge & Understanding and Skills & Ability for activities that are required for operating a concrete batching plant.

IES/N0150

Assist in carrying out batching plant operations

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| Unit Code | IES/N0150 |
| Unit Title (Task) | Assist in carrying out batching plant operations |
| Description | This unit provides insight into activities that are required for operating a concrete batching plant. |
| Scope | This unit/task covers the following: <ul style="list-style-type: none"> • Batching plant operations • Safety during operations |
| Performance Criteria(PC) w.r.t. the Scope | |
| Element | Performance Criteria |
| Batching plant operations | To be competent, the user/individual on the job must be able to: <p>PC1. Assist in starting components in correct order as per instructions from the operator/ supervisor</p> <p>PC2. Assist in monitoring and regulate materials such as proportions of aggregates, cement, water, and admixtures as per instructions from the operator/ supervisor</p> <p>PC3. Use the emergency stop button to disable all power to the batching plant in case of a crisis, as per instructions from the operator/supervisor</p> <p>PC4. Coordinate with ground personnel, loader operators and truck drivers</p> <p>PC5. Ensure that truck is properly positioned under sock to ensure correct direction of the drum</p> <p>PC6. Discharge batched concrete into delivery trucks/mixers as per instructions from the operator/ supervisor</p> <p>PC7. Assist in shutting down procedures as per instructions from the operator/ supervisor</p> |
| Safety during operations | PC8. Wear dust masks when working around the plant PC9. Make positive eye contact with other equipment operators at the site before crossing in front of or behind the equipment PC10. Wear all PPE while sampling concrete and for all operations |
| 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: <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. Location of tools</p> <p>KA5. Contact person in case of queries on procedure or products</p> <p>KA6. Location and process for storage and disposal of waste material</p> <p>KA7. Safety Policy of the company</p> |
| B. Technical Knowledge | The user/individual on the job needs to know and understand: <p>KB1. Different types of mixers such as</p> <ul style="list-style-type: none"> - Non-tilting reversible drum concrete mixer - Double conical tilting mixer - Pan mixer - Turbo pan mixer |

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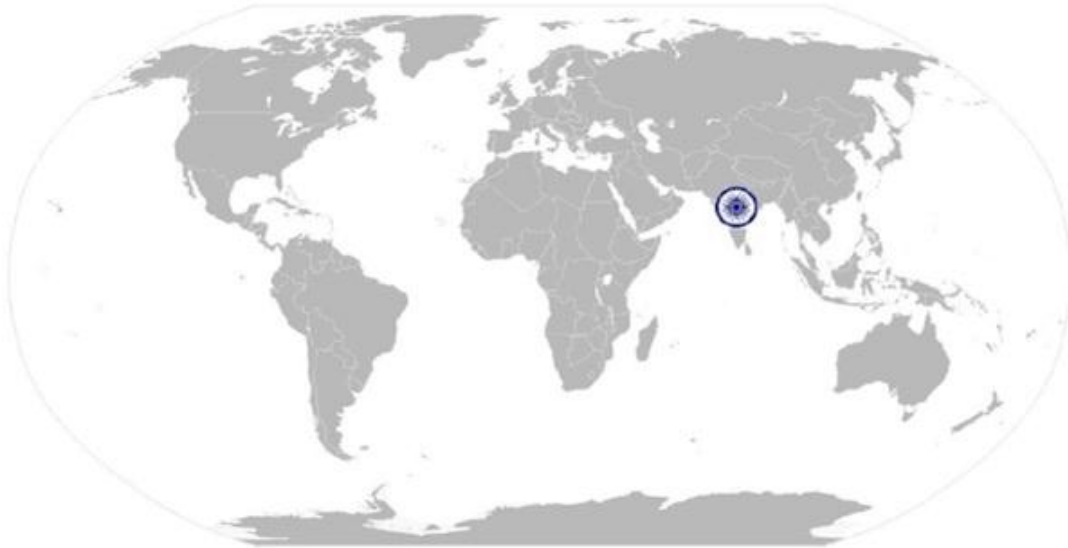
Assist in carrying out batching plant operations

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| | <p>- Single shaft/twin shaft compulsory mixer/pug mill</p> <p>KB2. Different types of batching equipment such as manual, semi-automatic and automatic</p> <p>KB3. Types of cements materials used</p> <p>KB4. Feeding methods for cement, flash into the silos</p> <p>KB5. Number and size of silos</p> <p>KB6. Different methods of feeding cement using bucket elevator, screw conveyor and pneumatic system</p> <p>KB7. Different admixtures that are added to concrete mixes, such as aerators, retarders super plasticizers, accelerators, colours water reducers fiber mesh etc.</p> <p>KB8. Types of control systems – calibration/scada/automatic operations</p> <p>KB9. Basic tools such as screw driver, hammer, assorted wrenches, grease gun, hand scraper, tape measure, sledge hammer, multi-meter, shovel, etc.</p> <p>KB10. The location and procedure of using the emergency stop button</p> <p>KB11. Basic procedures for operating a batching plant</p> <p>KB12. 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 and regional language as applicable to read manuals of operations, guidelines, etc. SA3. Interpret stakes and signage on the worksite |
| | Oral Communication (Listening and Speaking Skills) |
| | The user/ individual on the job needs to know and understand how to: SA4. Use correct technical terms while interacting with operator/ supervisor |
| 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 batching plant and take action accordingly |
| | Plan and Organize |
| | The user/ individual on the job needs to know and understand how to: SB2. Work with supervisors/ team mates to carry out work related tasks |
| | Customer Centricity |
| | The user/ individual on the job needs to know and understand how to: SB3. 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: SB4. Identify immediate or temporary solutions to resolve mechanical issues SB5. Judge when to seek assistance from operator/supervisor |
| | Analytical Thinking |
| The user/ individual on the job needs to know and understand how to: | |

IES/N0150

Assist in carrying out batching plant operations

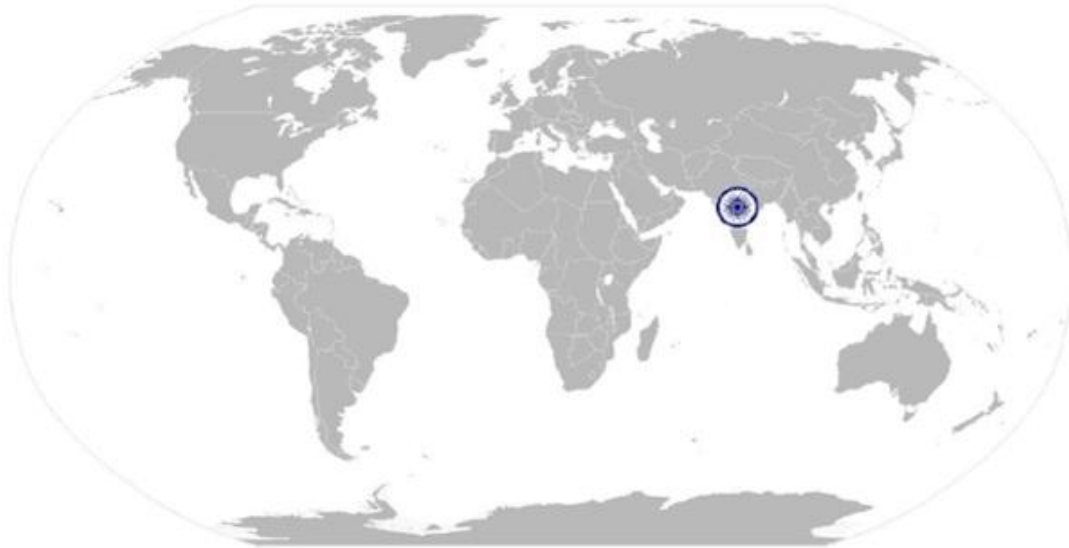
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| | SB6. Identify cause and effect relations in his area of work |
| | Critical Thinking |
| | The user/ individual on the job needs to know and understand how to: SB7. Analyse, evaluate and apply the information gathered from observation, experience, reasoning, or communication to act efficiently |



IES/N0150 **Assist in carrying out batching plant operations**
NOS Version Control

| NOS Code | IES/N0150 | | |
|---------------------|-----------------------------|------------------|----------|
| Credits(NSQF) | TBD | Version number | 1.0 |
| Sector | Infrastructure Equipment | Drafted on | 14/04/16 |
| Industry Sub-sector | Equipment Operations | Last reviewed on | 26/04/16 |
| Occupation | Operator | Next review date | 30/04/18 |

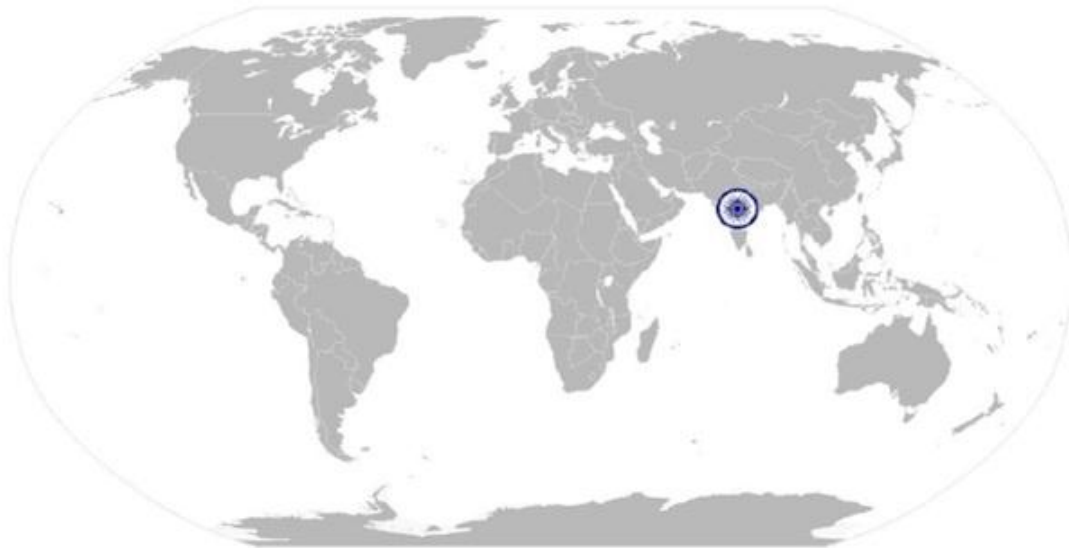
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IES/N0151

Assist in regular maintenance of the batching plant

National Occupational Standard



Overview

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

IES/N0151
Assist in regular maintenance of the batching plant

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| Unit Code | IES/N0151 |
| Unit Title (Task) | Assist in regular maintenance of the batching plant |
| Description | This unit provides insight into activities that are required for performing routine maintenance and troubleshooting on the batching plant. |
| Scope | <p>This unit/task covers the following:</p> <ul style="list-style-type: none"> • Routine maintenance • Basic diagnostics and troubleshooting • Documentation and Reporting |
| Performance Criteria(PC) w.r.t. the Scope | |
| Element | Performance Criteria |
| Routine maintenance | <p>To be competent, the user/individual on the job must be able to:</p> <p>PC1. Clean drum mixer internally as per instructions from the operator/ supervisor</p> <p>PC2. Wash the batching plant externally with water to remove all built-up deposits as per instructions from the operator/ supervisor</p> <p>PC3. Lubricate the equipment in different parts as per instructions of the operator</p> <p>PC4. Replace defective components as per instructions from the operator/ supervisor</p> <p>PC5. Clean the rubber chute that discharges the cement into the mixer as per instructions from the operator/ supervisor</p> <p>PC6. Assist in performing basic housekeeping activities in the control room</p> <p>PC7. Adjust all belt wipers as per instructions from the operator/ supervisor</p> <p>PC8. Blow clean all air filters on air compressor and aeration blowers as per instructions from the operator/ supervisor</p> <p>PC9. Adjust tension of the chain and scoops unit as per instructions from the operator/ supervisor</p> |
| Basic diagnostics and troubleshooting | <p>PC10. Turn off the mains power from panel completely before carrying out maintenance work</p> <p>PC11. Replace the defective parts are replaced immediately as per instructions from the operator/ supervisor</p> <p>PC12. Clean magnetic oil plugs during each oil change as per instructions from the operator/ supervisor</p> <p>PC13. Handle and dispose waste based on environmental guidelines at the work place</p> |
| Reporting and Documentation | <p>PC14. Follow reporting procedures as laid down by the employer</p> <p>PC15. Report and escalate problems/ incidents as required in a timely manner</p> |
| Knowledge and Understanding (K) | |
| A. Organizational Context (Knowledge of the company / organization and | <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> |

IES/N0151

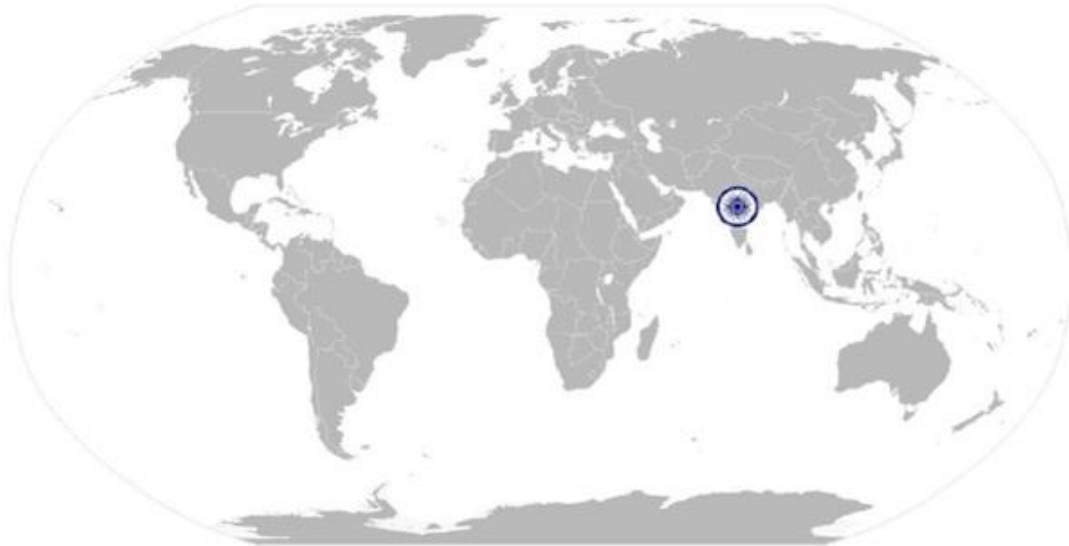
Assist in regular maintenance of the batching plant

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| its processes) | <p>KA4. Location of tools</p> <p>KA5. Contact person in case of queries on procedure or products</p> <p>KA6. Location and process for storage and disposal of waste material</p> <p>KA7. 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 mixers such as</p> <ul style="list-style-type: none"> - Non-tilting reversible drum concrete mixer - Double conical tilting mixer - Pan mixer - Turbo pan mixer - Single shaft/twin shaft compulsory mixer/pug mill <p>KB2. Different types of batching equipment such as manual, semi-automatic and automatic</p> <p>KB3. Types of cements materials used</p> <p>KB4. Number and size of silos</p> <p>KB5. Different methods of feeding cement using bucket elevator, screw conveyor and pneumatic system</p> <p>KB6. Different admixtures that are added to concrete mixes, such as aerators, retarders super plasticizers, accelerators, colours water reducers fiber mesh etc.</p> <p>KB7. Basic tools such as screw driver, hammer, assorted wrenches, grease gun, hand scraper, tape measure, sledge hammer, multi-meter, shovel, etc.</p> <p>KB8. The location and procedure of using the emergency stop button</p> <p>KB9. Basic procedures for operating a batching plant</p> <p>KB10. Response to emergencies e.g. correct way to use fire extinguisher</p> |
| Skills (S) | |
| A. Core Skills / Generic Skills | <p>Writing Skills</p> <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> <p>Reading Skills</p> <p>The user/ individual on the job needs to know and understand how to:</p> <p>SA2. Read and comprehend basic English and regional language as applicable to read manuals of operations, guidelines, etc.</p> <p>Oral Communication (Listening and Speaking Skills)</p> <p>The user/ individual on the job needs to know and understand how to:</p> <p>SA3. Use correct technical terms while interacting with operator/ supervisor</p> |
| B. Professional Skills | <p>Decision Making</p> <p>The user/ individual on the job needs to know and understand how to:</p> <p>SB1. Assist in deciding when to conduct maintenance checks</p> <p>Plan and Organize</p> <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>Customer Centricity</p> <p>The user/ individual on the job needs to know and understand how to:</p> |

IES/N0151

Assist in regular maintenance of the batching plant

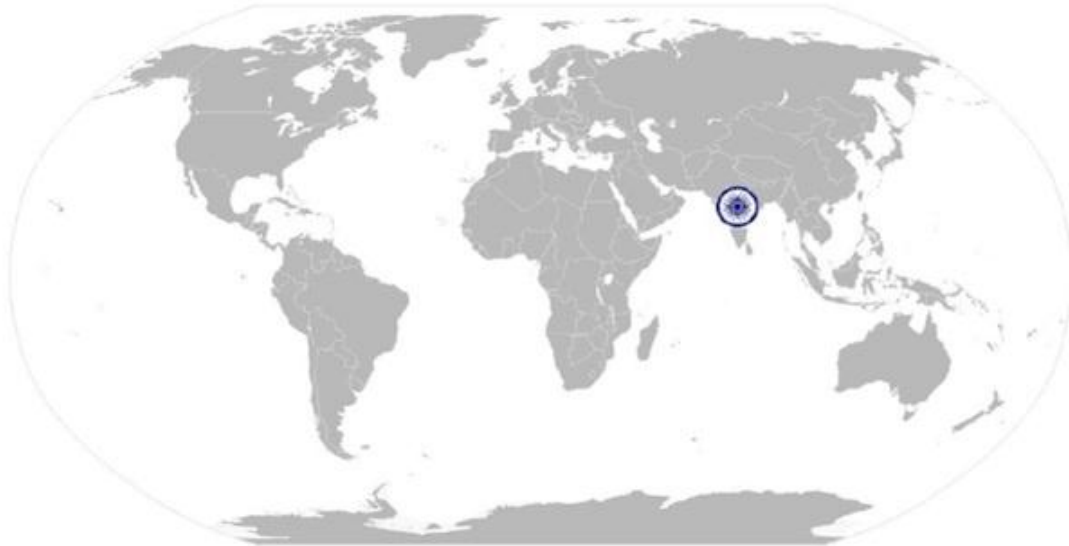
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| | SB4. Provide service of the highest order to ensure customer satisfaction |
| | Problem Solving |
| | The user/ individual on the job needs to know and understand how to: SB5. Judge when to seek assistance from operator/supervisor |
| | Analytical Thinking |
| | The user/ individual on the job needs to know and understand how to: SB6. Identify cause and effect relations in his area of work |
| | Critical Thinking |
| The user/ individual on the job needs to know and understand how to: SB7. Analyse, evaluate and apply the information gathered from observation, experience, reasoning, or communication to act efficiently | |



IES/N0151 Assist in regular maintenance of the batching plant NOS Version Control

| NOS Code | IES/N0151 | | |
|---------------------|--------------------------|------------------|----------|
| Credits(NSQF) | TBD | Version number | 1.0 |
| Sector | Infrastructure Equipment | Drafted on | 14/04/16 |
| Industry Sub-sector | Equipment Operations | Last reviewed on | 26/04/16 |
| Occupation | Operator | Next review date | 30/04/18 |

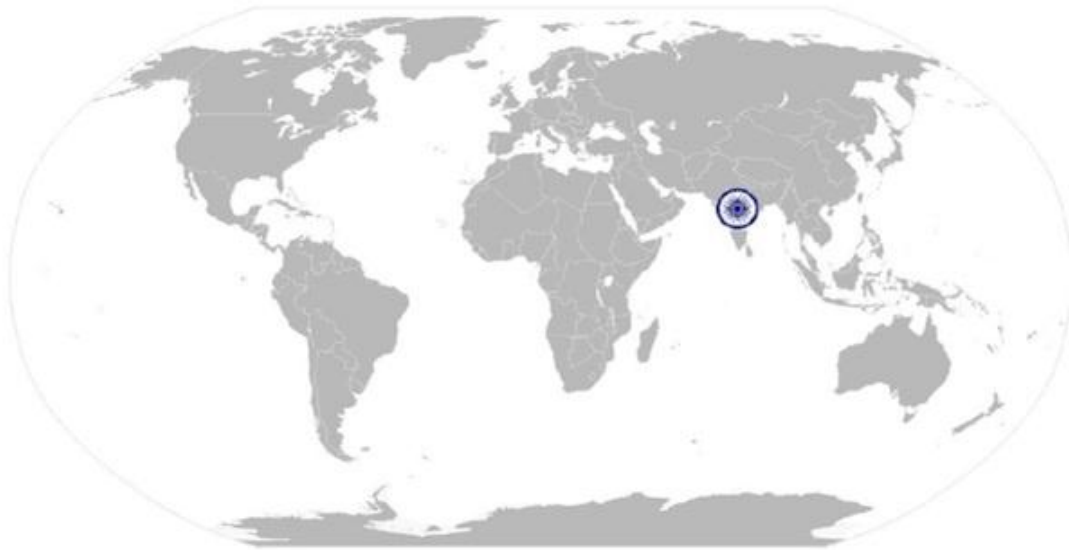
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IES/N7601

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.

IES/N7601 Comply with worksite health and safety guidelines

National Occupational Standard

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| 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 | To be competent, the user/individual on the job must be able to: <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 as applicable to the equipment and the worksite</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. Operate various grades of fire extinguishers, as applicable</p> <p>PC7. Support in administering basic first aid and report to concerned team members, as required, in case of an accident</p> <p>PC8. Respond promptly and appropriately to an accident/ incident or emergency situation, within limits of your role and responsibility</p> <p>PC9. 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) | The user/individual on the job needs to know and understand: <p>KA1. Health, safety, environmental(HSE) and security related policies/ guidelines of the organization and the worksite and its importance</p> <p>KA2. Personnel responsible for Health, Safety and environment (HSE) related matters and their contact details</p> <p>KA3. Location of worksite storage, HSE team and safe assembly points</p> <p>KA4. Reporting and documentation procedures for HSE and security matters</p> |
| B. Technical Knowledge | The user/individual on the job needs to know and understand: <p>KB1. Manufacturer's guidelines related to health and safety requirements</p> <p>KB2. Common types of health, safety, environment and security risks related to the worksite and operations</p> <p>KB3. Types, use and importance of Personal Protective Equipment (PPE) and other safety gear</p> <p>KB4. Safe working practices to avoid common hazards and risks</p> <p>KB5. Guidelines for transport, storage and disposal of hazardous materials</p> |

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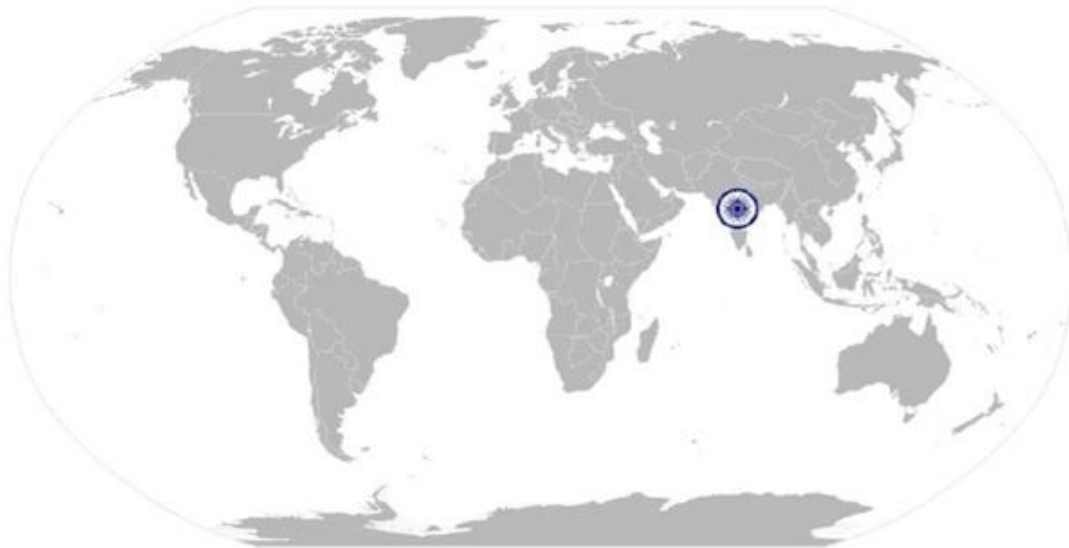
Comply with worksite health and safety guidelines

| | |
|------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| | <p>and waste</p> <p>KB6. Types of common hazards and risks at the worksite including fire, electrical, gas emergencies, accidents, incidents, structure collapse, machine breakdown</p> <p>KB7. Knowledge of safe lockdown/ stop of machinery use in case of emergencies and incidents/ accidents</p> <p>KB8. Types of fire extinguishers and their use</p> <p>KB9. Common injuries and appropriate basic first aid treatment e.g. electrical shock, bleeding, wounds, fractures, minor burns, eye injuries</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. The user/ individual on the job needs to know and understand how to: |
| | SA3. Read and comprehend basic symbols and signage related health and safety |
| SA4. Read organizational and equipment related health and safety manuals and documents | |
| SA5. 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: | |
| SA6. Give clear instructions to co-workers, subordinates and other personnel | |
| SA7. Use correct technical terms while interacting with supervisor | |
| B. Professional Skills | 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. Work with supervisors/ team mates to carry out work related tasks |
| | 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: | |

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Comply with worksite health and safety guidelines

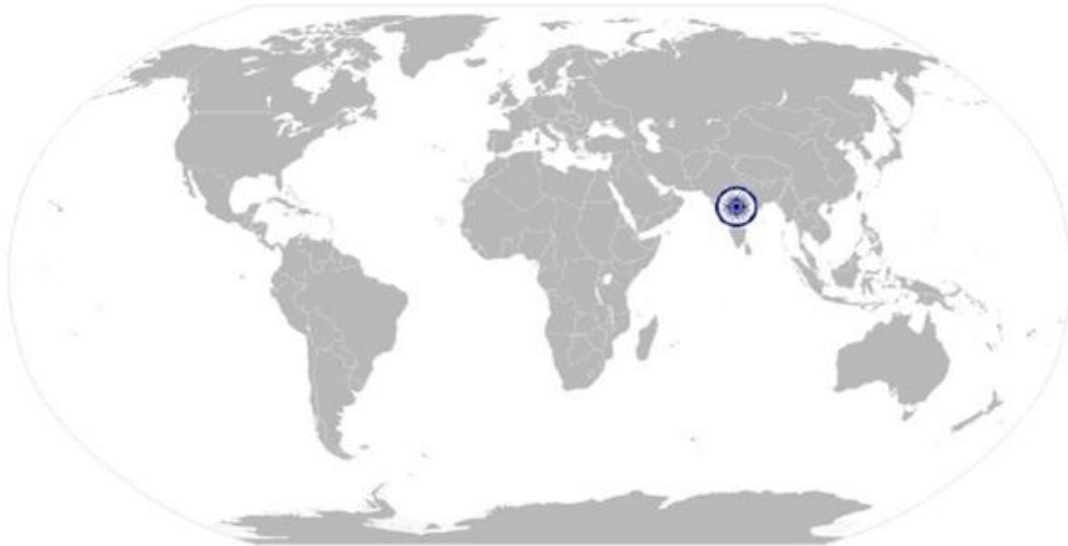
| | |
|--|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| | SB7. Assess the intensity of the fire accident and operate fire extinguishers |
| | Critical Thinking |
| | The user/ individual on the job needs to know and understand how to: SB8. Analyse, evaluate and apply the information gathered from observation, experience, reasoning, or communication to act efficiently |



IES/N7601 **Comply with worksite health and safety guidelines**
NOS Version Control

| | | | |
|----------------------------|-------------------------------------|-------------------------|-----------------|
| NOS Code | IES/N7601 | | |
| Credits(NSQF) | TBD | Version number | 1.0 |
| Sector | Infrastructure Equipment | Drafted on | 14/04/16 |
| Industry Sub-sector | Equipment Operations | Last reviewed on | 26/04/16 |
| Occupation | Operator | Next review date | 30/04/18 |

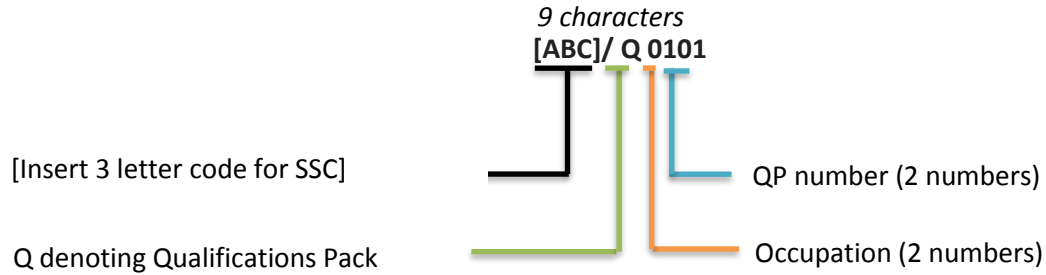
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Annexure

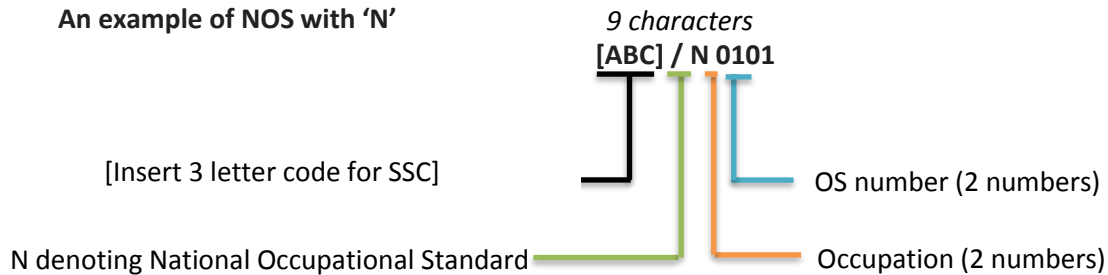
Nomenclature for QP and NOS

Qualifications Pack



Occupational Standard

An example of NOS with 'N'



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 Batching Plant Operator

Qualification Pack IES/Q0117

Sector Skill Council IESC

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 40% in each NOS and 50% 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.

| Total Marks:100 | | | | Marks Allocation | |
|--------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------|-------------|--------|------------------|------------------|
| Assessment Outcomes | Assessment Criteria for outcomes | Total Marks | Out Of | Theory | Skills Practical |
| 1. IES/N0149_Assist in carrying pre-operation checks on a batching plant | PC1. Assist in Inspecting oil and filter on air compressor, drain tank manifolds and all water traps as per the procedures set by the manufacturer | 35 | 2 | 1 | 1 |
| | PC2. Check the oil level in all gear boxes, hydraulic unit, drum motor oil and auto-roll as per instructions from the operator/supervisor | | 1 | 0 | 1 |

| | | | | | |
|--|---------------------------------------------------------------------------------------------------------------------------------------------------------|--|---|---|---|
| | PC3. Fill all the bins and silos as per instructions from the operator/ supervisor | | 2 | 1 | 1 |
| | PC4. Check for tensions on all V-drive belts and other belts for wear and tear as per the instructions from the operator/ supervisor | | 1 | 0 | 1 |
| | PC5. Store the liquid admixtures as per the organizational standards to avoid contamination | | 3 | 1 | 2 |
| | PC6. Check that admixture dispensers are in good working condition as stated by the operator/ supervisor | | 2 | 1 | 1 |
| | PC7. Ensure that safety equipment is present and securely mounted as per the organizational standards | | 1 | 0 | 1 |
| | PC8. Check for wiring damage and loose electrical fitting for the electric drive motors | | 2 | 1 | 1 |
| | PC9. Turn off mixer motor before carrying out mixer cleaning or chipping | | 2 | 1 | 1 |
| | PC10. Empty the weigh hoppers from the previous day's operation | | 2 | 0 | 2 |
| | PC11. Clean the area under plant for spillage and trace source | | 1 | 0 | 1 |
| | PC12. Check conveyors, boom scrapers and bucket elevators for free running and wear, and adjust as per the instructions from the operator's supervisors | | 3 | 1 | 2 |
| | PC13. Check all hoppers and doors are in clean and efficient working order | | 1 | 0 | 1 |
| | PC14. Check tightness of all hydraulic connections and the condition of flexible tubes | | 2 | 1 | 1 |

| | | | | | |
|---------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------|-----------|-----------|-----------|
| | PC15. Check and remove any cement or concrete build up in the mixer | | 1 | 0 | 1 |
| | PC16. Check dust seals on cement hoppers for wear | | 3 | 1 | 2 |
| | PC17. Check mixer drum for structural cracks or damage | | 1 | 0 | 1 |
| | PC18. Ensure that before work, the machine should have an empty running | | 2 | 1 | 1 |
| | PC19. Assist in maintaining a check/maintenance logbook to record all activities performed before starting the batching plant | | 1 | 0 | 1 |
| | PC20. Report defects precisely to the operator/ supervisor | | 2 | 1 | 1 |
| | | Total | 35 | 11 | 24 |
| 2. IES/N0150 Assist in carrying out batching plant operations | PC1. Assist in starting components in correct order as per instructions from the operator/ supervisor | 30 | 3 | 1 | 2 |
| | PC2. Assist in monitoring and regulate materials such as proportions of aggregates, cement, water, and admixtures as per instructions from the operator/ supervisor | | 3 | 1 | 2 |
| | PC3. Use the emergency stop button to disable all power to the batching plant in case of a crisis, as per instructions from the operator/supervisor | | 3 | 1 | 2 |
| | PC4. Coordinate with ground personnel, loader operators and truck drivers | | 3 | 1 | 2 |
| | PC5. Ensure that truck is properly positioned under sock to ensure correct direction of the drum | | 4 | 1 | 3 |

| | | | | | |
|------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------|--------------|-----------|----------|-----------|
| | PC6. Discharge batched concrete into delivery trucks/mixers as per instructions from the operator/ supervisor | | 3 | 1 | 2 |
| | PC7. Assist in shutting down procedures as per instructions from the operator/ supervisor | | 3 | 1 | 2 |
| | PC8. Wear dust masks when working around the plant | | 2 | 0 | 2 |
| | PC9. Make positive eye contact with other equipment operators at the site before crossing in front of or behind the equipment | | 3 | 1 | 2 |
| | PC10. Wear all PPE while sampling concrete and for all operations | | 3 | 1 | 2 |
| | | Total | 30 | 9 | 21 |
| 3. IES/N0151_Assist in regular maintenance of the batching plant | PC1.Clean drum mixer internally as per instructions from the operator/ supervisor | 20 | 1.5 | 0.5 | 1 |
| | PC2.Wash the batching plant externally with water to remove all built-up deposits as per instructions from the operator/ supervisor | | 1 | 0 | 1 |
| | PC3.Lubricate the equipment in different parts as per instructions of the operator | | 1 | 0 | 1 |
| | PC4.Replace defective components as per instructions from the operator/ supervisor | | 1.5 | 0.5 | 1 |
| | PC5.Clean the rubber chute that discharges the cement into the mixer as per instructions from the operator/ supervisor | | 2 | 1 | 1 |
| | | | | | |

| | | | | | |
|----------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------|--------------|-----------|----------|-----------|
| | PC6.Assist in performing basic housekeeping activities in the control room | | 1 | 0 | 1 |
| | PC7.Adjust all belt wipers as per instructions from the operator/ supervisor | | 1.5 | 1 | 0.5 |
| | PC8.Blow clean all air filters on air compressor and aeration blowers as per instructions from the operator/ supervisor | | 1 | 0 | 1 |
| | PC9.Adjust tension of the chain and scoops unit as per instructions from the operator/ supervisor | | 1 | 0 | 1 |
| | PC10.Turn off the mains power from panel completely before carrying out maintenance work | | 1 | 0 | 1 |
| | PC11.Replace the defective parts are replaced immediately as per instructions from the operator/ supervisor | | 1.5 | 1 | 0.5 |
| | PC12Clean magnetic oil plugs during each oil change as per instructions from the operator/ superviso | | 1.5 | 0.5 | 1 |
| | PC13.Handle and dispose waste based on environmental guidelines at the work place | | 1 | 0 | 1 |
| | PC14.Follow reporting procedures as laid down by the employer | | 2 | 1 | 1 |
| | PC15.Report and escalate problems/ incidents as required in a timely manner | | 1.5 | 0.5 | 1 |
| | | Total | 20 | 6 | 14 |
| 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 | 15 | 2 | 1 | 1 |

| | | | | | |
|--------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------|------------|-----------|-----------|
| | PC2. Use Personal Protective Equipment (PPE) and other safety gear as applicable to the equipment and the worksite instructions from the operator/ supervisor | | 1 | 0 | 1 |
| | 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 | | 1 | 0 | 1 |
| | PC5. Handle the transport, storage and disposal of hazardous materials and waste in compliance with worksite health, safety and environmental guidelines | | 3 | 1 | 2 |
| | PC6. Operate various grades of fire extinguishers, as applicable | | 1 | 0 | 1 |
| | PC7. Support in administering basic first aid and report to concerned team members, as required, in case of an accident | | 2 | 1 | 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. Record and report details related to operations, incidents or accidents, as applicable | | 2 | 1 | 1 |
| | | Total | 15 | 5 | 10 |
| Grand Total | | | 100 | 31 | 69 |