

QUALIFICATIONS PACK - OCCUPATIONAL STANDARDS FOR POWER SECTOR

What are Occupational Standards(OS)?

Ø OS describe what individuals need to do, know and understand in order to carry out a particular job role or function

Ø 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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Qualifications Pack- Operator Ash Handling - Thermal Power Generation

SECTOR: POWER

SUB-SECTOR: Generation

OCCUPATION: Operator Ash Handling - Thermal Power Generation

REFERENCE ID: PSS/Q1001

ALIGNED TO: NCO-2004/NIL

Operator Ash Handling - Thermal Power Generation is responsible for operating plant in operation and monitoring of equipment in the ash handling plant. In operations of plant he takes appropriate actions to ensure safe, efficient and reliable operation of the equipment, ensures smooth operation of dry and wet ash handling equipment, operation, ash disposal system etc.

Brief Job Description: The incumbent in the job will comply with and practice proper equipment clearance procedures, operates ash handling plant and maintain, carry out inspection of equipment and ensure proactive maintenance. Perform all work in compliance with applicable codes, standards, and environment regulations. Perform all work and operate all equipment within the guidelines of the safety policy. Maintain required ash handling documentation including records and log sheets.

Personal Attributes: The person should be able to read, write and communicate effectively and clearly with a number of stakeholders. The candidate will have to be able to support people. The person should demonstrate patience and ability to work and inspect work in detail. The person should not be suffering from any respiratory diseases and shall be able to work in a dusty environment.



Qualifications Pack For Operator Ash Handling - Thermal Power Generation



Job Details

Qualifications Pack Code	PSS/Q1001		
Job Role	Operator Ash Handling - Thermal Power Generation		
Credits (NSQF)	TBD	Version number	1.0
Sector	Power	Drafted on	25/01/2016
Sub-sector	Generation	Last reviewed on	19/07/2016
Occupation	Operator	Next review date	19/07/2018
NSQC Clearance Date	Not Applicable		

Job Role	Operator Ash Handling - Thermal Power Generation
Role Description	Operator Ash Handling - Thermal Power Generation operates ash handling plant in operation and monitoring of equipment in the ash handling plant and takes appropriate actions to ensure safe, efficient and reliable operation of the systems.
NSQF level	4
Minimum Educational Qualifications	ITI (Electrical/Mechanical)
Maximum Educational Qualifications	Not Applicable
Training (Suggested but not mandatory)	Not Applicable
Minimum Job Entry Age	18 years
Experience	Not Applicable
Applicable National Occupational Standards (NOS)	<p>Compulsory:</p> <ol style="list-style-type: none"> PSS/N1001 Perform Operations of Ash Handling Plant PSS/N2001 Use basic health and safety practices at the workplace PSS/N1336 Working effectively with others <p>Optional: Not Applicable</p>
Performance Criteria	As described in the relevant OS units



Definitions	Keywords /Terms	Description
	Sector	Sector is a conglomeration of different business operations having similar businesses and interests. It may also be defined as a distinct subset of the economy whose components share similar characteristics and interests.
	Sub-sector	Sub-sector is derived from a further breakdown based on the characteristics and interests of its components.
	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 for achieving the objectives of the function.
	Job role	Job role defines 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 consistently while carrying out a function at the workplace. Occupational Standards as a set of competencies is applicable both in Indian and overreaching global contexts.
	Performance Criteria	Performance Criteria defined for a task are statements that together specify the standard of performance while carrying out the task.
	National Occupational Standards (NOS)	NOS are Occupational Standards which apply uniquely in Indian context.
	Qualifications Pack Code	Qualifications Pack Code is a unique reference code that identifies a qualifications pack.
	Qualifications Pack(QP)	Qualifications Pack comprises set of OS, together with the educational, training and other criteria that are required to perform a job role satisfactorily at workplace. A Qualifications Pack is assigned a unique qualification pack code for clear identification.
Knowledge and Understanding	Knowledge and Understanding are statements which together as a set specify the technical, generic, professional and organization specific knowledge that an individual needs to possess in order to perform and meet the required standards consistently.	
Organizational Context	Organizational Context includes the way the organization is structured and how it operates. It includes elements of operational knowledge contents defined in relation to functioning of an organization that a skilled professional need to possess specific to its precise areas of responsibility.	



Qualifications Pack For Operator Ash Handling - Thermal
Power Generation

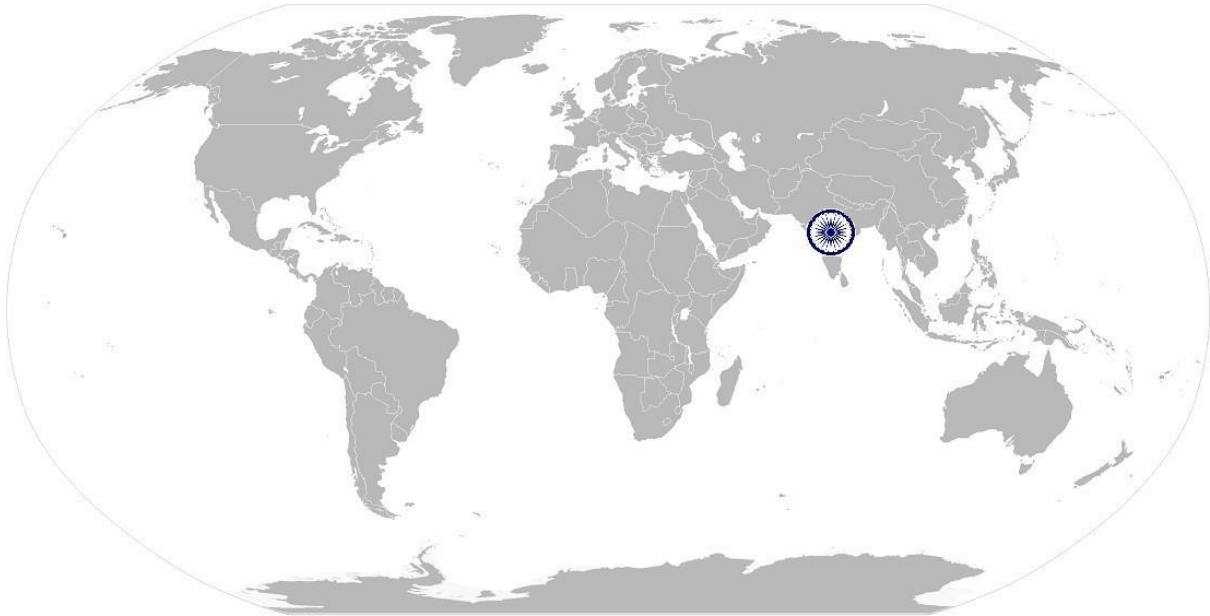


Technical Knowledge	Technical Knowledge is the specific domain knowledge needed to accomplish the task in combination with other competencies. It is usually coined with specifically designated roles and responsibilities.
Core Skills/Generic Skills	Core Skills or Generic Skills as set are group of skills. These are important for working in today's world. These skills are typically needed in any work environment. In the context of the OS, these include mainly communication related skills that are applicable to most job roles.
Keywords /Terms	Description
AHP	Ash Handling Plant
CPR	Cardiopulmonary Resuscitation
KV	Kilovolt
KVA	Kilovolt Ampere
kw	Kilowatt
Kwh	Kilowatt hour
PPE	Personal Protective Equipment
PTW	Permit to Work





National Occupational Standard



Overview

This unit covers the competencies required for operational activities of Ash Handling Plant. It also covers the respective health and safety competencies required to perform such operations.



PSS/N1001

Perform operations of Ash Handling Plant

National Occupational Standard	Unit Code	PSS/N1001
	Unit Title (Task)	Operations of Ash Handling Plant
	Description	Individual operates ash handling plant, carry out inspection of equipment and ensuring preventive maintenance of equipment. Performing all work in compliance with applicable codes, standards, and environment regulations, performing all work and operating all equipment within the guidelines of the safety policy. Maintaining required ash handling documentation including records and log sheets.
	Scope	<p>This unit/task covers the following:</p> <ul style="list-style-type: none"> • understanding and ensuring smooth operation of all equipment of Ash Handling Plant • ash Management • post-operation and inspection activities • working safely
Performance Criteria(PC) w.r.t. the Scope		
Element	Performance Criteria	
Understand and ensure smooth operation of all equipment of Ash Handling Plant	<p>The user/individual on the job needs to:</p> <p>PC1. monitor vacuum levels, vacuum leakage, checking of hopper (empty, partially full, full) and clearing of chokage</p> <p>PC2. handle operations of bottom ash handling equipment such as scrapper conveyor, clinker grinder, their line-up and change over identifying normal defects etc., trench clearing nozzles</p> <p>PC3. start and stop pumps, line up discharge lines, change over pumps</p> <p>PC4. line-up and run pumps for series and parallel operations</p> <p>PC5. line-up and run ash evacuation vacuum pumps</p> <p>PC6. operate dry ash loading plant</p> <p>PC7. prevent/clear choking in the ash slurry pipelines by proper operation of pumps</p> <p>PC8. continuously monitor and inspect ash handling equipment before and during operations</p>	
Ash management	<p>The user/individual on the job needs to:</p> <p>PC9. explain the logic and working of protection and interlocks of ash handling plant systems, including wet ash handling, dry ash evacuation and disposal bottoms ash systems.</p> <p>PC10. reclaim and stockpile bottom wet ash as necessary</p> <p>PC11. check for ash leakage in ash handling plant and ensure corrective action</p> <p>PC12. take steps for suppression of dust such as sprinkling of water in plant</p> <p>PC13. apply understanding of high concentrated slurry disposal</p> <p>PC14. operate horizontal and positive displacement pumps</p>	



PSS/N1001

Perform operations of Ash Handling Plant

Post-operation and inspection activities	<p>The user / individual on the job should be able to:</p> <p>PC15. record details of inspection accurately and clearly in required ledgers, forms and formats as per required and approved procedures</p> <p>PC16. deal promptly and effectively with problems within control, and seek help and guidance from the relevant people for problems that cannot be resolved</p> <p>PC17. leave the work area in a safe and tidy condition on completion of the inspection and testing activities</p> <p>PC18. refer the unresolved job related problems to appropriate personnel for support</p> <p>PC19. monitor the problem and keep the relevant people informed about progress or any delays in resolving the problem</p>
Working safely	<p>The user/individual on the job needs to:</p> <p>PC20. use protective devices in dusty environment</p> <p>PC21. apply knowledge and understanding of impact on health on account of ash handling</p> <p>PC22. apply knowledge of protection being used in case of ash leakage/spill over</p>
Knowledge and Understanding (K)	
A. Organizational Context	<p>The user/individual should understand and have ability to perform below essential functions:</p> <p>KA1. relevant legislation, standards, policies, and procedures followed in the organization relevant to own employment and performance conditions</p> <p>KA2. relevant health and safety requirements applicable in the work place</p> <p>KA3. own job role and responsibilities and sources for information pertaining to employment terms, entitlements, job role and responsibilities</p> <p>KA4. reporting structure, inter-dependent functions, lines and procedures in the work area</p> <p>KA5. how to engage with specialists for support in order to resolve incidents and service requests</p> <p>KA6. importance of working in a clean environment and safe practices and procedures</p> <p>KA7. relevant people and their responsibilities within the work area</p> <p>KA8. escalation matrix and procedures for reporting work and employment related issues</p>



PSS/N1001

Perform operations of Ash Handling Plant

<p>B. Technical Knowledge</p>	<p>The individual on the job should know and have:</p> <p>KB1. knowledge of types of ash generated in coal fired power plant – Bottom ash (wet) and fly ash (dry)</p> <p>KB2. basic knowledge of types of ash handling system – wet ash handling and dry ash handling systems</p> <p>KB3. basic knowledge of operations of equipment used in wet ash handling system and dry ash handling systems along with their specifications</p> <p>KB4. basic knowledge of processes carried out for disposal of wet and dry ash in an ash handling plant</p> <p>KB5. basic knowledge of operations of equipment in an ash handling plant: filters, pumps, valves, wet ash lines, slurry pump house, clinker grinders, water exhauster units, hoppers, ash dikes, compressors, back filters, nozzles, intermediate silo etc.</p> <p>KB6. knowledge of the use of tools to operate the ash handling plant equipment and machinery</p> <p>KB7. understanding of entire ash handling systems in the plant including wet ash equipment, dry ash equipment, pumps, water exhauster and handle wet ash/wet ash disposal.</p> <p>KB8. understanding of vertical pump operation, nozzle/jetting diffuser, clinker grinders, sluice gate, wet ash line, slurry pump house, wetting head, ash dike, partial discharge pumps, horizontal and vertical displacement pumps, compressor, operation of intermediate silo, K Pumps and back filters; filters, valves, water exhaust unit, shut off vacuum, reference vacuum, hopper opening vacuum and hopper closing vacuum.</p> <p>KB9. understanding and knowledge of principles of thermodynamics</p> <p>KB10. common electricity terminology and correct interpretation of the same terminology: e.g. Current, Voltage, Resistance, Inductance, Capacitance, Kilovolt ampere (kVA), Kilowatt (kw), active power, Kilowatt hour (kwh), Power factor</p> <p>KB11. ability to extend arms overhead while performing duties or perform duties while standing, stooping, twisting, bending, kneeling or from a prone position for up to one hour may be required</p>
Skills (S)	
<p>A. Core Skills/ Generic Skills</p>	<p>Writing Skills</p> <p>The user/ individual on the job needs to know and understand how to:</p> <p>SA1. communicate effectively with other operators and plant personnel and write the information communicated by the in-charge of work</p> <p>SA2. understand and execute written instructions and relay instructions to follow-on shifts when multi-shift operations are used.</p> <p>SA3. write properly about the technical problems and other conditions of site</p>



PSS/N1001

Perform operations of Ash Handling Plant

	SA4. note down testing repair observations, critical points and report problems SA5. prepare and fill up all technical forms and data as per guidelines and format
	Reading Skills
	The user/individual on the job needs to know and understand how to: SA6. read and have understanding of written sentences and paragraphs SA7. read Metric System for all measurements SA8. Interpret the process required for performing of work and understand the rules and methods SA9. read equipment manuals and understand the equipment operation and process requirement
	Oral communication (Listening and Speaking skills)
	The user/individual on the job needs to know and understand how to: SA10. perform effective oral communication with team and other staff SA11. communicate effectively with good body language, voice modulation, tone of voice and eye contact SA12. discuss task lists, schedules and activities with colleagues
	B. Professional Skills
	Decision Making
	The user/individual on the job needs to know and understand how to: SB1. make work related judgments appropriately SB2. identifying complex problems and review related information to develop and evaluate SB3. follow organization rule based decision making process SB4. take decision with systematic course of actions and/or response
	Plan and Organize
	The user/individual on the job needs to know and understand: SB5. planning and organization of tasks to meet deadlines
	Customer Centricity
	The user/individual on the job needs to know and understand how to: SB6. build customer relationships and use customer centric approach.
Problem Solving	
The user/individual on the job needs to: SB7. identify problems and review related information to develop and evaluate options and implement solutions SB8. perform to solve the problems SB9. monitor problem solving to take corrective action with individuals and organizations SB10. analyse problems and changes in conditions, operations, and the environment to solve problems	
Analytical Thinking	
The user/individual on the job needs to know and understand how to: SB11. analyze the problem seen in the equipment	



PSS/N1001

Perform operations of Ash Handling Plant

	SB12. collect the information and technical data and define process for doing testing and maintenance
	Critical Thinking
	The user/individual on the job needs to know and understand how to: SB13. critically evaluate operation parameters in relation to equipment features

NOS Version Control

NOS Code	PSS/N1001		
Credits (NSQF)	TBD	Version number	1.0
Industry	Power	Drafted on	25/01/2016
Industry Sub-sector	Generation	Last reviewed on	19/07/2016
Occupation	Ash Handling Plant Operator	Next review date	19/07/2018

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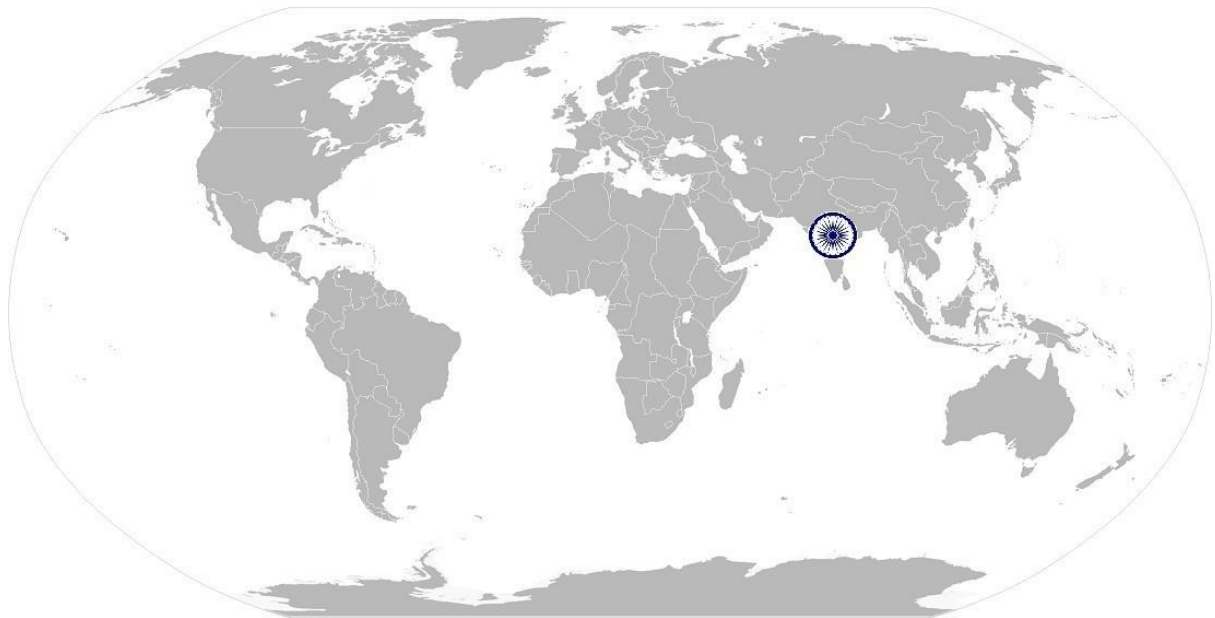
NOS
National Occupational Standards



PSS/N2001

Use basic health and safety practices for power related work

National Occupational Standard



Overview

This unit covers health, safety and security for power related work. This includes procedures and practices that candidates need to follow to help maintain a healthy, safe and secure work environment.



NOS

National Occupational Standards



N.S.D.C

National Skill Development Corporation

PSS/N2001 Use basic health and safety practices for power related work

National Occupational Standard	Unit Code	PSS/N2001
	Unit Title (Task)	Use basic health and safety practices for power related work
	Description	This unit covers health, safety and security for power related work. This includes procedures and practices that candidates need to follow to help maintain a healthy, safe and secure work environment. It covers responsibilities towards self, others, assets and the environment. .
	Scope	This unit/task covers the following: <ul style="list-style-type: none"> health and safety fire safety emergencies, rescue and first-aid procedures
	Performance Criteria(PC) w.r.t. the Scope	
	Element	Performance Criteria
	Health and safety	<p>The user/individual on the job needs to:</p> <p>PC1. use protective clothing/equipment for specific tasks and work conditions.</p> <p>PC2. state the name and location of people responsible for health and safety in the workplace</p> <p>PC3. state the names and location of documents that refer to health and safety in the workplace</p> <p>PC4. identify job-site hazardous work and state possible causes of risk or accident in the workplace</p> <p>PC5. follow electrical safe working procedures such as Tag out/Lock out and display PTW (Permit To Work),</p> <p>PC6. follow warning signs (danger, out of service, etc.) while working with electrical systems</p> <p>PC7. use standard safe working practices when working at heights, confined areas and trenches</p> <p>PC8. test any electrical equipment and system using insulated testing devices before touching them</p> <p>PC9. ensure positive isolation of electrical equipment & system as per given standards</p> <p>PC10. recognize any abnormalities in electrical equipment or system installed alarm annunciation and/or noticing parameters from gauge/ indicator installed</p> <p>PC11. carry out safe working practices while dealing with hazards to ensure the safety of self and others</p> <p>PC12. state methods of accident prevention in the work environment of the job role</p> <p>PC13. state location of general health and safety equipment in the workplace</p> <p>PC14. inspect for faults, set up and safely use of scaffolds and elevated platforms and ladder</p> <p>PC15. lift, carry and transport heavy objects & tools safely using correct procedures from storage to workplace and vice versa</p> <p>PC16. inspect Grid station and its equipment routinely for any signs of oil and water leakage</p> <p>PC17. store flammable materials and machine lubricating oil safely and correctly</p>



NOS

National Occupational Standards



PSS/N2001 Use basic health and safety practices for power related work

	<p>PC18. check that the emission and pollution control devices are working properly in line with environmental policy standards</p> <p>PC19. apply good housekeeping practices at all times</p> <p>PC20. identify common hazard signs displayed in various areas</p> <p>PC21. retrieve and/or point out documents that refer to health and safety in the workplace</p> <p>PC22. inform relevant authorities about any abnormal situation/behavior of any equipment/system promptly</p>
<p>Fire safety</p>	<p>The user/individual on the job needs to:</p> <p>PC23. use the various appropriate fire extinguishers on different types of fires correctly</p> <p>PC24. distinguish types of fire</p> <p>PC25. demonstrate rescue techniques applied during fire hazard</p> <p>PC26. demonstrate good housekeeping in order to prevent fire hazards</p> <p>PC27. demonstrate the correct use of a fire extinguisher</p>
<p>Emergencies, rescue and first-aid procedures</p>	<p>The user/individual on the job needs to:</p> <p>PC28. demonstrate how to free a person from electrocution</p> <p>PC29. administer appropriate first aid to victims where required e.g. in case of bleeding, burns, choking, electric shock, poisoning etc.</p> <p>PC30. demonstrate basic techniques of bandaging</p> <p>PC31. respond promptly and appropriately to an accident situation or medical emergency in real or simulated environments</p> <p>PC32. perform and organize loss minimization or rescue activity during an accident in real or simulated environments</p> <p>PC33. administer first aid to victims in case of a heart attack or cardiac arrest due to electric shock, before the arrival of emergency services in real or simulated cases</p> <p>PC34. demonstrate the artificial respiration and the CPR Process</p> <p>PC35. participate in emergency procedures Emergency procedures: raising alarm, safe/efficient, evacuation, correct means of escape, correct assembly point, roll call, correct return to work</p> <p>PC36. complete a written accident/incident report or dictate a report to another person, and send report to person responsible</p> <p>PC37. demonstrate correct method to move injured people and others during an emergency</p>
<p>Knowledge and Understanding (K)</p>	
<p>A. Organizational Context</p>	<p>The user/individual on the job needs to know and understand:</p> <p>KA1. names (and job titles if applicable), and where to find, all the people responsible for health and safety in a workplace.</p> <p>KA2. names and location of documents that refer to health and safety in the workplace.</p>

PSS/N2001 Use basic health and safety practices for power related work

<p>B. Technical Knowledge</p>	<p>The individual on the job needs to know and understand:</p> <p>KB1. meaning of “hazards” and “risks”</p> <p>KB2. health and safety hazards commonly present in the work environment and related precautions</p> <p>KB3. possible causes of risk, hazard or accident in the workplace and why risk and/or accidents are possible</p> <p>KB4. possible causes of risk and accident</p> <p>KB5. methods of accident prevention</p> <p>KB6. safe working practices when working with tools and machines</p> <p>KB7. safe working practices while working at various hazardous sites</p> <p>KB8. where to find all the general health and safety equipment in the workplace</p> <p>KB9. various dangers associated with the use of electrical equipment</p> <p>KB10. positive isolation of electrical equipment and system</p> <p>KB11. safe handling and disposal of hazardous power plant wastes</p> <p>KB12. use of emission and pollution control devices and measures taken to control pollution</p> <p>KB13. various safety procedures and equipment used to work at heights, trenches and confined places</p> <p>KB14. safe working practices specific to working with electrical equipment & system e.g. lock out/ tag out, PTW, etc.</p> <p>KB15. preventative and remedial actions to be taken in the case of exposure to toxic materials</p> <p>KB16. importance of using protective clothing/equipment and other insulated work gear while handling electrical system and equipment</p> <p>KB17. precautionary activities taken to prevent fire accident</p> <p>KB18. various causes of fire</p> <p>KB19. techniques of using the different fire extinguishers</p> <p>KB20. different methods of extinguishing fire</p> <p>KB21. different materials used for extinguishing fire</p> <p>KB22. emergency rescue techniques applied during a fire hazard</p> <p>KB23. various types of safety signs and what they mean</p> <p>KB24. appropriate basic first aid treatment relevant to the condition e.g. shock, electrical shock, bleeding, breaks to bones, minor burns, resuscitation, poisoning, eye injuries</p>
<p>Skills (S)</p>	
<p>A. Core Skills/ Generic Skills</p>	<p>Writing Skills</p> <p>The user/ individual on the job needs to know and understand how to:</p> <p>SA1. note the information communicated by the officer incharge.</p> <p>SA2. note down observations (if any) related to the operation/maintenance.</p> <p>Reading Skills</p> <p>The user/individual on the job needs to know and understand how to:</p> <p>SA3. read and interpret the process required for different types of manuals for maintenance.</p> <p>SA4. read and interpret the flowchart of all parts of an assembly.</p>



PSS/N2001 Use basic health and safety practices for power related work

	SA5. read manuals and documents to understand the product-details & how they can be used.
	Oral Communication (Listening and Speaking skills)
	The user/individual on the job needs to know and understand how to: SA6. discuss task lists, schedules and activities with the colleague. SA7. effectively communicate with the team members. SA8. attentively listen and comprehend the information given by the colleague /contractor. SA9. communicate clearly with the colleague on the issues faced during query/fault.
	Decision Making
B. Professional Skills	The user/individual on the job needs to know and understand how to: SB1. follow colleague/contractor rule-based decision making process. SB2. take decisions with systematic course of actions and/or response.
	Plan and Organize
	The user/individual on the job needs to know and understand: SB3. planning and organization of tasks to meet deadlines.
	Customer Centricity
	The user/individual on the job needs to know and understand how to: SB4. build customer relationships and use customer centric approach.
	Problem Solving
	The user/individual on the job needs to know and understand how to: SB5. seek and comprehend operation related inputs for clarification SB6. find ways of modifying difficult operating stages to make it operation friendly
	Analytical Thinking
	The user/individual on the job needs to know and understand how to: SB7. work systematically and logically to resolve the issues and identify causation and anticipate unexpected results. SB8. quick approach and solution towards faults repairing.
	Critical Thinking
	The user/individual on the job needs to know and understand how to: SB9. critically evaluate operation parameters in relation to system normality SB10. develop a holistic and comprehensive profile of grid station on segregated discrete process.



NOS

National Occupational Standards

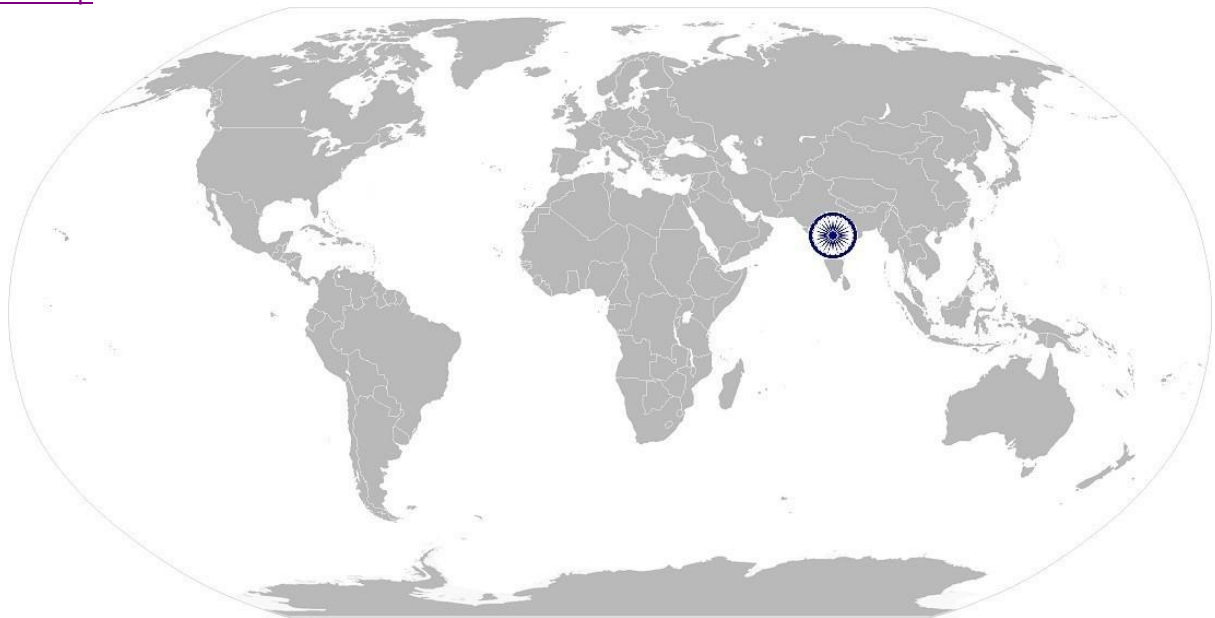


PSS/N2001 Use basic health and safety practices for power related work

NOS Version Control

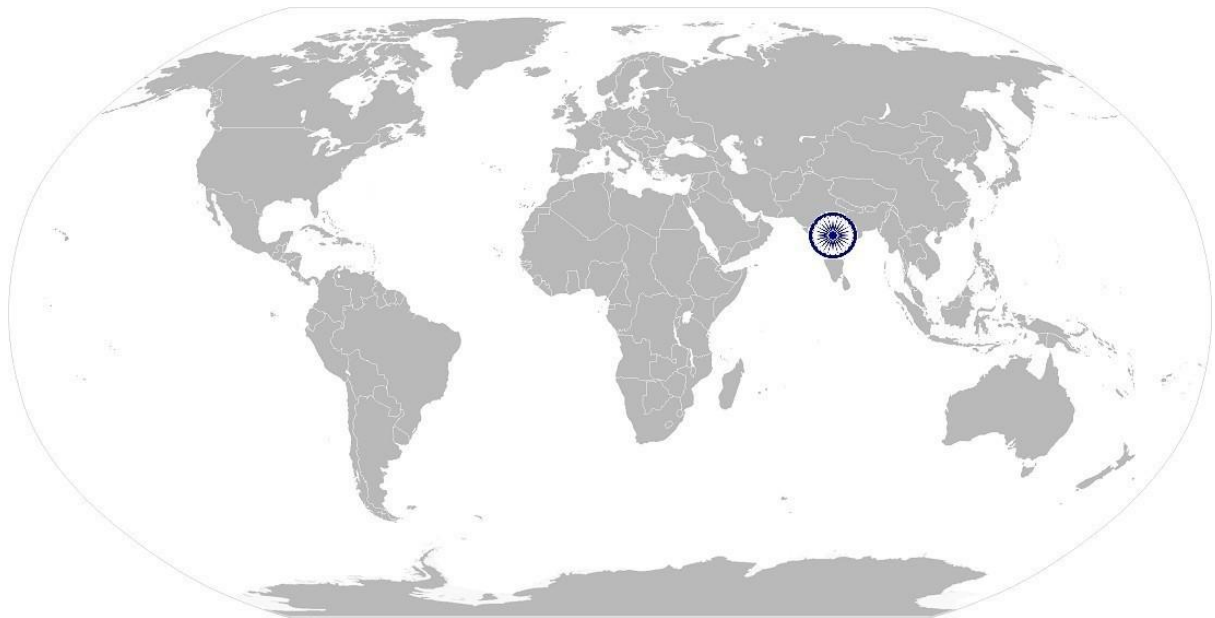
NOS Code	PSS/N2001		
Credits (NSQF)	TBD	Version number	1.0
Industry	Power	Drafted on	04/06/2016
Industry Sub-sector	Generation, Transmission & Distribution	Last reviewed on	19/07/2016
Occupation	Technician	Next review date	19/07/2018

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National Occupational Standard



Overview

This unit covers basic practices that improve effectiveness of working with others in an organizational set-up



PSS/N1336

Work effectively with others

National Occupational Standard

Unit Code	PSS/N1336
Unit Title (Task)	Work effectively with others
Description	<p>This unit covers basic etiquette and competencies that a candidate is required to possess and demonstrate in their behavior and interactions with others at the workplace.</p> <p>These cover areas such as communication etiquette, discipline, listening, handling conflict and grievances.</p>
Scope	<p>This unit/task covers the following:</p> <ul style="list-style-type: none"> working with others
Performance Criteria(PC) w.r.t. the Scope	
Element	Performance Criteria
Working with others	<p>The user/individual on the job should be able to:</p> <p>PC1. accurately receive information and instructions from the supervisor and fellow workers, getting clarification where required</p> <p>PC2. accurately pass on information to authorized persons who require it and within agreed timescale and confirm its receipt</p> <p>PC3. give information to others clearly, at a pace and in a manner that helps them to understand</p> <p>PC4. display helpful behavior by performing tasks in a positive manner, where required and possible</p> <p>PC5. perform with others to maximize effectiveness and efficiency in carrying out tasks</p> <p>PC6. display appropriate communication etiquette while working</p> <p>PC7. display active listening skills while interacting with others at work</p> <p>PC8. use appropriate tone, pitch and language to convey politeness, assertiveness, care and professionalism</p> <p>PC9. demonstrate responsible and disciplined behavior at the workplace</p> <p>PC10. escalate grievances and problems to appropriate authority as per procedure to resolve them and avoid conflict</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. legislation, standards, policies, and procedures followed in the organization relevant to own employment and performance conditions</p> <p>KA2. reporting structure, inter-dependent functions, lines and procedures in the work area</p> <p>KA3. relevant people and their responsibilities within the work area</p> <p>KA4. escalation matrix and procedures for reporting work and employment related issues</p>



PSS/N1336

Work effectively with others

<p>B. Technical Knowledge</p>	<p>The user/individual on the job needs to know and understand:</p> <p>KB1. various categories of people that one is required to communicate and co-ordinate with in the organization</p> <p>KB2. importance of effective communication in the workplace</p> <p>KB3. importance of teamwork in organizational and individual success</p> <p>KB4. various components of effective communication</p> <p>KB5. key elements of active listening</p> <p>KB6. value and importance of active listening and assertive communication</p> <p>KB7. barriers to effective communication</p> <p>KB8. importance of tone and pitch in effective communication</p> <p>KB9. importance of avoiding casual expletives and unpleasant terms while communicating professional circles</p> <p>KB10. how poor communication practices can disturb people, environment and cause problems for the employee, the employer and the customer</p> <p>KB11. importance of ethics for professional success</p> <p>KB12. importance of discipline for professional success</p> <p>KB13. what constitutes disciplined behavior for a working professional</p> <p>KB14. common reasons for interpersonal conflict</p> <p>KB15. importance of developing effective working relationships for professional success</p> <p>KB16. how to express and address grievances appropriately and effectively</p> <p>KB17. importance and ways of managing interpersonal conflict effectively</p>
<p>Skills (S) (Optional)</p>	
<p>A. Core Skills/ Generic Skills</p>	<p>Writing Skills</p> <p>The user/ individual on the job needs to know and understand how to:</p> <p>SA1. note the information communicated by the officer incharge.</p> <p>SA2. note down observations (if any) related to the operation/maintenance.</p> <p>Reading Skills</p> <p>The user/individual on the job needs to know and understand how to:</p> <p>SA3. read and interpret the process required for different types of manuals</p> <p>SA4. read and interpret the flowchart of all parts of an assembly.</p> <p>SA5. read manuals and documents to understand the product-details & how they can be used.</p> <p>Oral Communication (Listening and Speaking skills)</p> <p>The user/individual on the job needs to know and understand how to:</p> <p>SA6. discuss task lists, schedules and activities with the colleague.</p> <p>SA7. effectively communicate with the team members.</p> <p>SA8. attentively listen and comprehend the information given by the colleague /contractor.</p> <p>SA9. communicate clearly with the colleague on the issues faced during query/fault.</p>
<p>B. Professional Skills</p>	<p>Decision Making</p> <p>The user/individual on the job needs to know and understand how to:</p> <p>SB11. follow colleague/contractor rule-based decision making process.</p>



PSS/N1336

Work effectively with others

	SB12. take decisions with systematic course of actions and/or response.
	Plan and Organize
	The user/individual on the job needs to know and understand: SB13. planning and organization of tasks to meet deadlines.
	Customer Centricity
	The user/individual on the job needs to know and understand how to: SB14. build customer relationships and use customer centric approach.
	Problem Solving
	The user/individual on the job needs to know and understand how to: SB15. seek and comprehend operation related inputs for clarification find ways of modifying difficult operating stages to make it operation friendly
	Analytical Thinking
	The user/individual on the job needs to know and understand how to: SB16. work systematically and logically to resolve the issues and identify causation and anticipate unexpected results. Quick approach and solution towards faults repairing.
	Critical Thinking
	The user/individual on the job needs to know and understand how to: SB17. critically evaluate operation parameters in relation to system normality develop a holistic and comprehensive profile of grid station on segregated discrete processes

NOS Version Control

NOS Code	PSS/N1336		
Credits (NSQF)	TBD	Version number	1.0
Industry	Power	Drafted on	04/06/2016
Industry Sub-sector	Generation, Transmission & Distribution	Last reviewed on	19/07/2016
Occupation	Technician	Next review date	19/07/2018

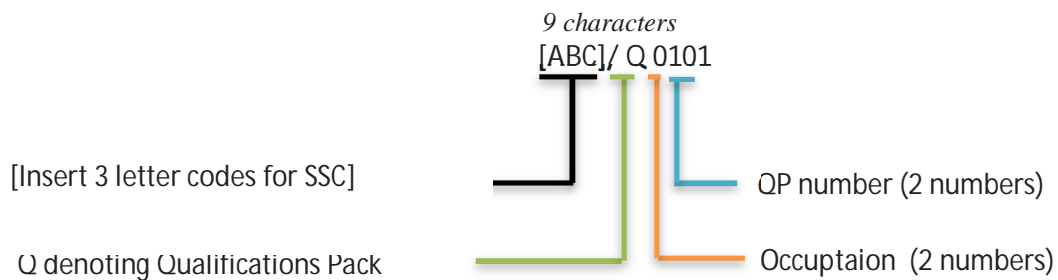
[Back to Top](#)



Annexure

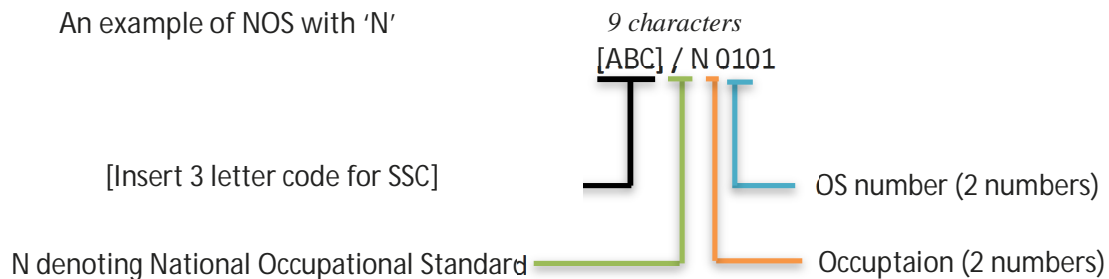
Nomenclature for QP and NOS

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
[Insert Name of Sub-sector1, Font: Calibri (Body), size 11, Bold]	[Insert range]
[Insert Name of Sub-sector2, Font: Calibri (Body), size 11, Bold]	[Insert range]
[Insert Name of Sub-sector3, Font: Calibri (Body), size 11, Bold]	[Insert range]
[Insert Name of Sub-sector4, Font: Calibri (Body), size 11, Bold]	[Insert range]
...	...

Sequence	Description	Example
Three letters	Industry name	[ABC, Font: Calibri (Body), size 11]
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 Operator Ash Handling - Thermal Power Generation

Qualification Pack PSS/Q 1001

Sector Skill Council Power

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% in every NOS
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

Assessable Outcomes	Assessment Criteria for Outcomes	Marks Allocation			
		Total Marks	Out Of	Theory	Skills Practical
1. PSS/N 1001 Operations of Ash handling plant	PC1. monitor vacuum levels, vacuum leakage, checking of hopper (empty, partially full, full) and clearing of chokage	100	5	2	3
	PC2. handle operations of bottom ash handling equipment such as scrapper conveyor, clinker grinder, their line-up and change over identifying normal defects etc., trench clearing nozzles		4	1	3
	PC3. start and stop pumps, line up discharge lines, change over pumps		4	1	3
	PC4. line-up and run pumps for series and parallel operations		4	1	3
	PC5. line-up and run ash evacuation vacuum pumps		4	1	3



Qualifications Pack For Ash Handling Plant Operator (Generation)



PC6. operate dry ash loading plant	4	1	3
PC7. prevent/clear choking in the ash slurry pipelines by proper operation of pumps	5	1	4
PC8. continuously monitor and inspect ash handling equipment before and during operations	4	1	3
PC9. explain the logic and working of protection and interlocks of ash handling plant systems, including wet ash handling, dry ash evacuation and disposal bottoms ash systems.	4	1	3
PC10. reclaim and stockpile bottom wet ash as necessary	5	1	4
PC11. check for ash leakage in ash handling plant and ensure corrective action	6	2	4
PC12. take steps for suppression of dust such as sprinkling of water in plant	5	2	3
PC13. apply understanding of high concentrated slurry disposal	4	1	3
PC14. operate horizontal and positive displacement pumps	4	1	3
PC15. clear chokage	4	1	3
PC16. record details of inspection accurately and clearly in required ledgers, forms and formats as per required and approved procedures	4	1	3
PC17. deal promptly and effectively with problems within control, and seek help and guidance from the relevant people for problems that cannot be resolved	4	2	2



	PC18. leave the work area in a safe and tidy condition on completion of the inspection and testing activities		5	2	3
	PC19. refer the unresolved job related problems to appropriate personnel for support		4	2	2
	PC20. monitor the problem and keep the relevant people informed about progress or any delays in resolving the problem		5	2	3
	PC21. use protective devices in dusty environment		4	0	4
	PC22. apply knowledge and understanding of impact on health on account of ash handling		4	2	2
	PC23. apply knowledge of protection being used in case of ash leakage/spill over		4	1	3
			100	30	70
2. PSS/N2001 Use basic health and safety practices for power related work	PC1. use protective clothing/equipment for specific tasks and work conditions.	100	3	0	3
	PC2. state the name and location of people responsible for health and safety in the workplace		2	0	2
	PC3. state the names and location of documents that refer to health and safety in the workplace		2	0	2
	identify job-site hazardous work and state possible causes of risk or accident in the workplace		3	1	2
	PC4. follow electrical safe working procedures such as Tag out/Lock out and display PTW (Permit To Work),		3	1	2
	PC5. follow warning signs (danger, out of service, etc.) while working with electrical systems		3	1	2
	PC6. use standard safe working practices when working at heights, confined areas and trenches		3	1	2
	PC7. test any electrical equipment and system using insulated testing devices before touching them		3	1	2



PC8.	ensure positive isolation of electrical equipment & system as per given standards	3	1	2
PC9.	recognize any abnormalities in electrical equipment or system installed alarm annunciation and/or noticing parameters from gauge/indicator installed	3	1	2
PC10.	carry out safe working practices while dealing with hazards to ensure the safety of self and others	3	1	2
PC11.	state methods of accident prevention in the work environment of the job role	2	0	2
PC12.	state location of general health and safety equipment in the workplace	2	0	2
PC13.	inspect for faults, set up and safely use of scaffolds and elevated platforms and ladder	2	0	2
PC14.	lift, carry and transport heavy objects & tools safely using correct procedures from storage to workplace and vice versa	2	1	1
PC15.	inspect Grid station and its equipment routinely for any signs of oil and water leakage	2	0	2
PC16.	store flammable materials and machine lubricating oil safely and correctly	2	0	2
PC17.	check that the emission and pollution control devices are working properly in line with environmental policy standards	3	1	2
PC18.	apply good housekeeping practices at all times	3	1	2
PC19.	identify common hazard signs displayed in various areas	2	0	2
PC20.	retrieve and/or point out documents that refer to health and safety in the workplace	2	0	2
PC21.	inform relevant authorities about any abnormal situation/behavior of any equipment/system promptly	3	0	3
PC22.	use the various appropriate fire extinguishers on different types of fires correctly	2	1	1



	PC23. distinguish types of fire		3	1	2
	PC24. demonstrate rescue techniques applied during fire hazard		3	1	2
	PC25. demonstrate good housekeeping in order to prevent fire hazards		3	1	2
	PC26. demonstrate the correct use of a fire extinguisher		3	1	2
	PC27. demonstrate how to free a person from electrocution		3	1	2
	PC28. administer appropriate first aid to victims where required e.g. in case of bleeding, burns, choking, electric shock, poisoning etc.		3	0	3
	PC29. demonstrate basic techniques of bandaging		3	1	2
	PC30. respond promptly and appropriately to an accident situation or medical emergency in real or simulated environments		3	1	2
	PC31. perform and organize loss minimization or rescue activity during an accident in real or simulated environments		3	1	2
	PC32. administer first aid to victims in case of a heart attack or cardiac arrest due to electric shock, before the arrival of emergency services in real or simulated cases		3	1	2
	PC33. demonstrate the artificial respiration and the CPR Process		3	1	2
	PC34. participate in emergency procedures Emergency procedures: raising alarm, safe/efficient, evacuation, correct means of escape, correct assembly point, roll call, correct return to work		3	1	2
	PC35. complete a written accident/incident report or dictate a report to another person, and send report to person responsible		3	1	2
	PC36. demonstrate correct method to move injured people and others during an emergency		3	1	2
			100	24	76
	PC1. accurately receive information and instructions from the supervisor and	100	10	3	7



3. PSS/N1336 Work effectively with others	fellow workers, getting clarification where required			
	PC2. accurately pass on information to authorized persons who require it and within agreed timescale and confirm its receipt	10	3	7
	PC3. give information to others clearly, at a pace and in a manner that helps them to understand	10	3	7
	PC4. display helpful behavior by performing tasks in a positive manner, where required and possible	10	3	7
	PC5. perform with others to maximize effectiveness and efficiency in carrying out tasks	10	3	7
	PC6. display appropriate communication etiquette while working	10	3	7
	PC7. display active listening skills while interacting with others at work	10	3	7
	PC8. use appropriate tone, pitch and language to convey politeness, assertiveness, care and professionalism	10	3	7
	PC9. demonstrate responsible and disciplined behaviors at the workplace	10	3	7
	PC10. escalate grievances and problems to appropriate authority as per procedure to resolve them and avoid conflict	10	3	7
	100	30	70	