

QUALIFICATIONS PACK - OCCUPATIONAL STANDARDS FOR TELECOM 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

Qualifications Pack-Tower Technician

SECTOR: TELECOM

SUB-SECTOR: Passive Infrastructure

OCCUPATION: Operation & Maintenance

REFERENCE ID: TEL/Q4100

Tower Technician in the telecom industry is also known as a Site Engineer/Tower Engineer/Site Technician

Brief Job Description: Individual in this role is responsible to maintain site live 24x7, maintain and repair level-1 faults/issues at telecom tower site, level-1 preventive and corrective maintenance and report faults to the supervisor in time. Individual also needs to travel inter-state and work during odd hours, when required.

Personal Attributes: This job requires the individual to be technically qualified; self-disciplined; assertive; team player; action-orientated; possess analytical skills & problem solving ability; effective communication skills and ability to work under pressure.

Job Details	Qualifications Pack Code	TEL/Q4100		
	Job Role	Tower Technician		
	Credits(NVEQF/NVQF/NSQF) [OPTIONAL]	TBD	Version number	1.0
	Sector	Telecom	Drafted on	14/05/2013
	Sub-sector	Passive Infrastructure	Last reviewed on	25/07/2013
	Occupation	Operations & Maintenance	Next review date	31/05/2015

Job Role	Tower Technician
Role Description	Keep sites live 24x7 through site maintenance
NVEQF/NVQF level	4
Minimum Educational Qualifications	10+2 and/or ITI Diploma in Electrical/Mechanical
Maximum Educational Qualifications	Graduate
Training (Suggested but not mandatory)	NA
Experience	0-3 years of experience is desired
Applicable National Occupational Standards (NOS)	<p>(Click to open the below hyperlinks)</p> <p>Compulsory:</p> <ol style="list-style-type: none"> 1. TEL/N4100 (Site hygiene) 2. TEL/N4101 (Preventive Maintenance) 3. TEL/N4102 (Site Management) 4. TEL/N4103 (Task reporting) <p>Optional:</p> <ol style="list-style-type: none"> 5. TEL/N4104 (Corrective Maintenance)
Performance Criteria	As described in the relevant OS units

Keywords /Terms	Description
Core Skills/Generic Skills	Core Skills or Generic Skills are a group of skills that are key to learning and working in today's world. These skills are typically needed in any work environment. In the context of the OS , these include communication related skills that are applicable to most job roles
Description	Description gives a short summary of the unit content. This would be helpful to anyone searching on a database to verify that this is the appropriate OS they are looking for
Function	Function is an activity necessary for achieving the key purpose of the sector, occupation, or area of work, which can be carried out by a person or a group of persons. Functions are identified through functional analysis and form the basis of OS
Job role	Job role defines a unique set of functions that together form a unique employment opportunity in an organization
Knowledge and Understanding	Knowledge and Understanding statements which together specify the technical , generic, professional and organizational specific knowledge that an individual needs in order to perform to the required standards
National Occupational Standards	NOS are Occupational Standards which apply uniquely in the Indian context
Occupation	Occupation is a set of job roles under which role-holders perform similar/related set of functions in an industry
Organizational Context	Organizational Context includes the way the organization is structured and how it operates, including the extent of operative knowledge managers have of their relevant areas of responsibility
OS (Occupational Standards)	OS specify the standards of performance an individual must achieve when carrying out a function in the workplace, together with the knowledge and understanding they need to meet that standard consistently. Occupational Standards are applicable both in the Indian and global contexts
Performance Criteria	Performance criteria are statements that together specify the standards of performance required when carrying out a task
QP (Qualification Pack)	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.
Qualification Pack Code	Qualifications Pack Code is a unique reference code that identifies a qualifications pack
Scope	Scope is a set of statements specifying the range of variables that an individual may have to deal with, in carrying out the function which has a critical impact on the quality of performance required
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
Technical Knowledge	Technical Knowledge is the specific knowledge needed to accomplish specific designated responsibilities
Telecom	Is a communication sector consisting of companies who provide

Definitions

	telephonic communication facilities to the public
Unit Code	Unit Code is a unique identifiers for an 'OS' unit, which can be denoted with either an 'o' or an 'N'
Unit Title	Unit title gives a clear overall statement about what the incumbent should be able to do

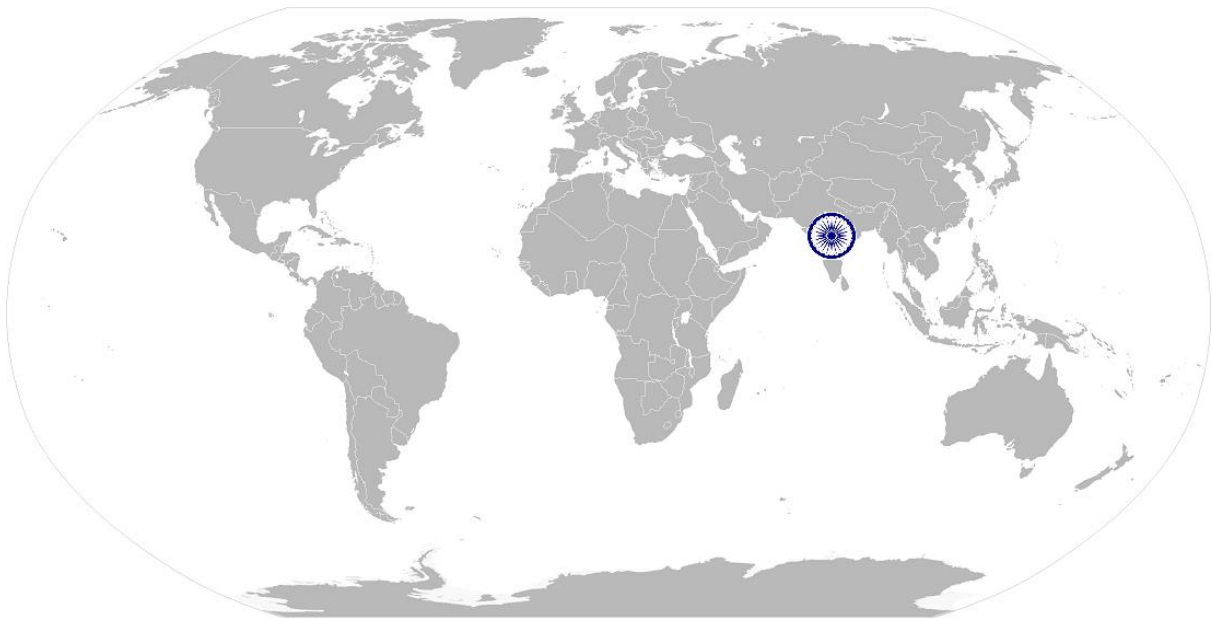
The following acronyms/codes have been used in the nomenclature above:

Acronyms

Keywords /Terms	Description
CI	Cluster Incharge
CIT	Customer Interface Tool
IM	Infra Manager
MTD	Month Till Date
NOC	Network Operations Centre
OPCO	Mobile Operator
PIU	Power Interface Unit
PM	Preventive Maintenance
R&M	Repair and Maintenance
SLA	Service Level Agreement
SLA	Service Level Agreement
TAT	Turn Around Time
TOC	Telecom Operation Control
ZOM	Zonal Operation Manager

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National Occupational Standard

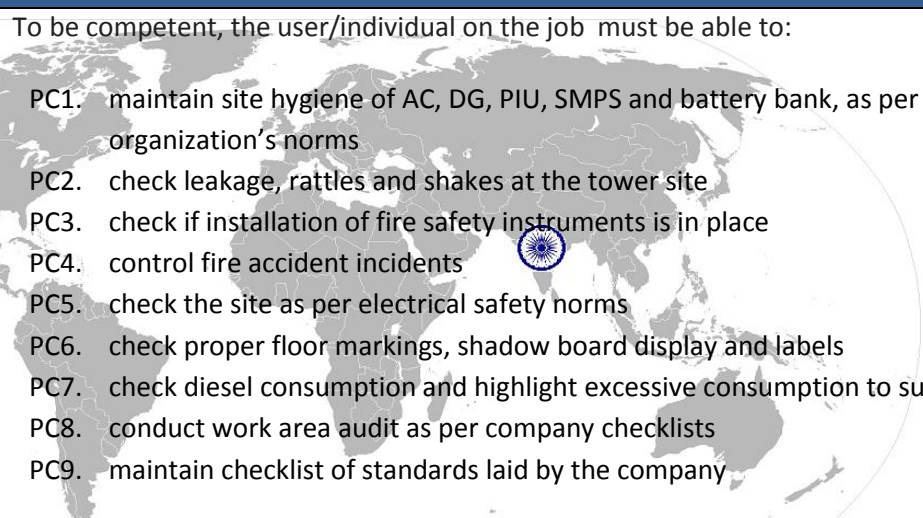


Overview

This unit is about maintenance of tower site by maintaining site hygiene, at regular intervals.

TEL/N4100

Site hygiene

Service Provider	Unit Code	TEL/N4100
	Unit Title (Task)	Site hygiene
	Description	This OS unit is about maintaining the site hygiene
	Scope	This unit/task covers the following: Key stakeholders: <ul style="list-style-type: none"> • tower technician Maintain site hygiene
	Performance Criteria(PC) w.r.t. the Scope:	
	Element	Performance Criteria
		To be competent, the user/individual on the job must be able to: <ul style="list-style-type: none"> PC1. maintain site hygiene of AC, DG, PIU, SMPS and battery bank, as per organization's norms PC2. check leakage, rattles and shakes at the tower site PC3. check if installation of fire safety instruments is in place PC4. control fire accident incidents PC5. check the site as per electrical safety norms PC6. check proper floor markings, shadow board display and labels PC7. check diesel consumption and highlight excessive consumption to supervisor PC8. conduct work area audit as per company checklists PC9. maintain checklist of standards laid by the company 
	Knowledge and Understanding	
	A. Organizational Context (Knowledge of the company / organization & its process relevant to area of responsibilities)	The user/individual on the job needs to know and understand: <ul style="list-style-type: none"> KA1. checklists for preventive maintenance and site hygiene KA2. asset layout as per company standards
	B. Technical Knowledge	The user/individual on the job needs to know and understand: <ul style="list-style-type: none"> KB1. basic use of mechanical equipments KB2. basic layout of the tower site KB3. general aspects of electrical wiring KB4. safety requirements at the tower site

TEL/N4100

Site hygiene

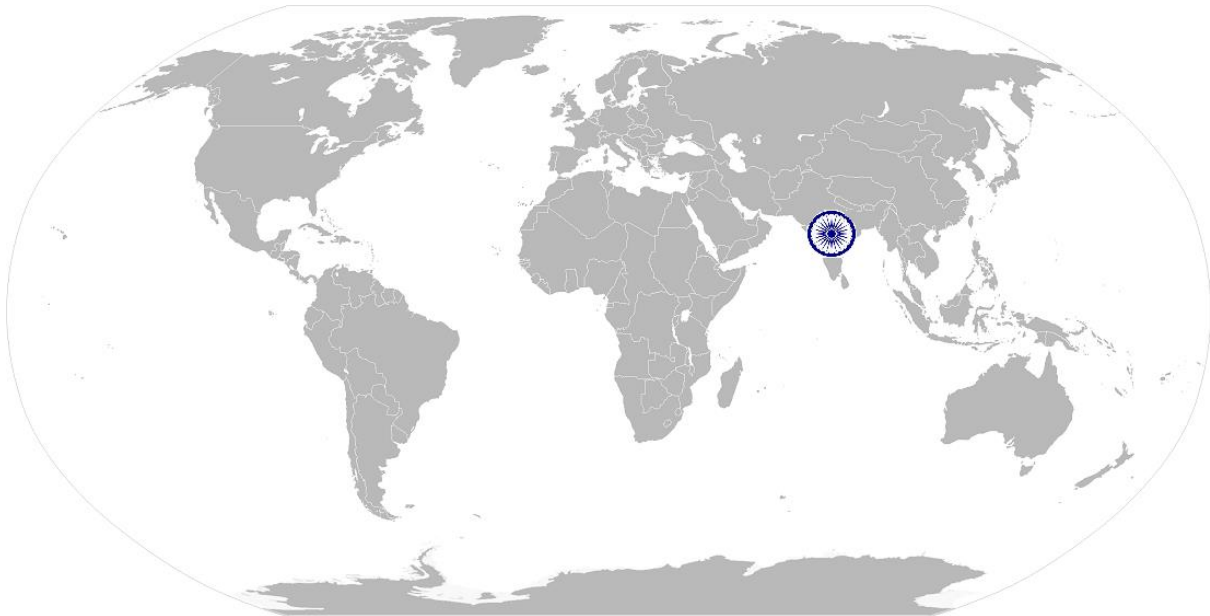
	<p>KB5. how to use fire extinguisher at the time of emergency</p> <p>KB6. how to calculate energy cost and site up-time</p> <p>KB7. site standards as per company policies</p>
Skills (S)	
A. Core Skills/ Generic Skills	Comprehension Skills
	<p>The user/ individual on the job needs to know and understand how to:</p> <p>SA1. comprehend formats and checklists for PM (preventive maintenance) and site hygiene</p>
B. Professional Skills	Planning and Execution
	<p>The user/individual on the job needs to know and understand how to:</p> <p>SB1. prioritize daily activities for the up-keep of tower site</p>
	Relationship Building
	<p>The user/individual on the job needs to know and understand how to:</p> <p>SB2. maintain healthy relationship with the landlord</p>

TEL/N4100

Site hygiene

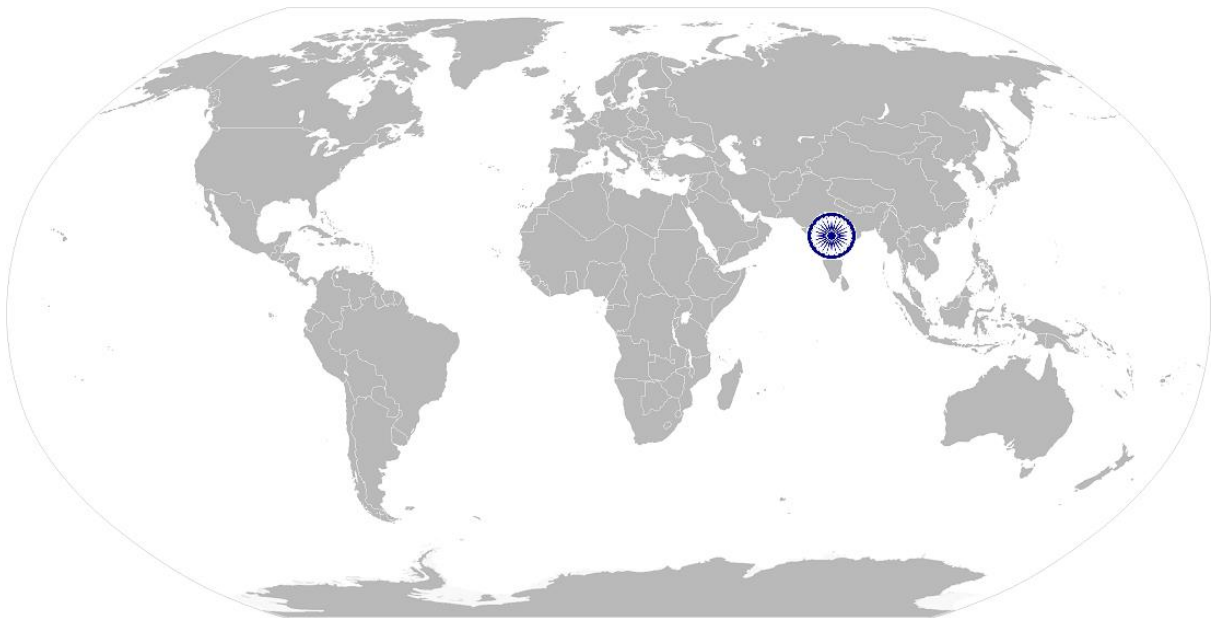
NOS Version Control:

NOS Code	TEL/N4100		
Credits(NVEQF/NVQF/NSQF) [OPTIONAL]		Version number	1.0
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Industry Sub-sector	Passive Infrastructure	Last reviewed on	25/07/2013
		Next review date	31/05/2015



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National Occupational Standard



Overview

This unit is about conducting regular preventive maintenance activities at the tower site.

TEL/N4101

Preventive Maintenance

Service Provider	Unit Code	TEL/N4101
	Unit Title (Task)	Preventive Maintenance
	Description	This OS unit is about performing regular preventive maintenance activities
	Scope	<p>This unit/task covers the following:</p> <p>Key stakeholders:</p> <ul style="list-style-type: none"> • tower technician • cluster in-charge/supervisor <p>Ensure preventive maintenance activities at the tower site</p>
	Performance Criteria(PC) w.r.t. the Scope:	
	Element	Performance Criteria
		<p>To be competent, the user/individual on the job must be able to:</p> <p>PC1. adhere to PM (preventive maintenance) plan</p> <p>PC2. comply with Beat plan execution, for self</p> <p>PC3. conduct site PM (preventive maintenance)</p> <p>PC4. keep a check on site up-time</p> <p>PC5. perform unique site down PM (preventive maintenance)</p> <p>PC6. perform health check on site like checking engine oil, voltage etc.</p> <p>PC7. check premature ageing of Battery Bank, Diesel Generator, Air Conditioner, PIU and SMPS</p> <p>PC8. monitor outages due to Diesel Generator</p> <p>PC9. close maximum number of complaints registered</p> <p>PC10. provide timely resolutions to trouble tickets raised</p> <p>PC11. comply with preventive maintenance schedule</p>
	Knowledge and Understanding	
	A. Organizational Context (Knowledge of the company / organization & its process relevant to area of responsibilities)	<p>The user/individual on the job needs to know and understand:</p> <p>KA1. PM (preventive maintenance) norms as per the company</p> <p>KA2. site up-time targets of the company, to avoid penalties</p> <p>KA3. repair and maintenance guidelines of the company</p>

TEL/N4101

Preventive Maintenance

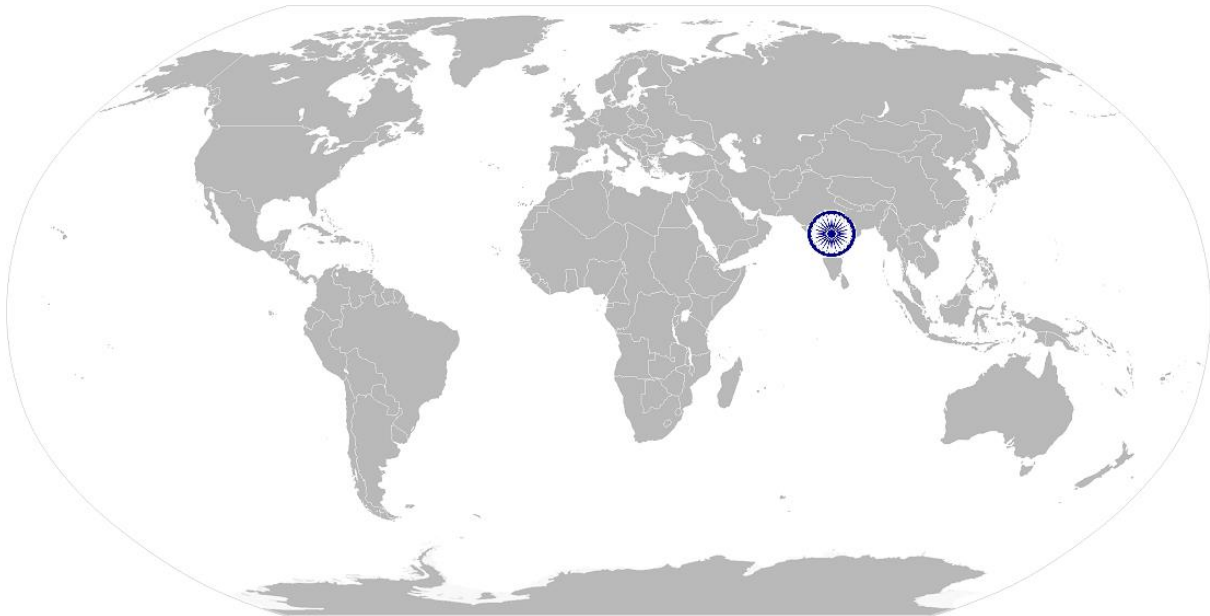
<p>B. Technical Knowledge</p>	<p>The user/individual on the job needs to know and understand:</p> <p>KB1. troubleshooting of AC, DG, PIU, SMPS, battery bank and shelter</p> <p>KB2. the basic use and care of tools and mechanical equipment</p> <p>KB3. safety hazards and perform duties in a safe manner</p>
<p>Skills (S)</p>	
<p>A. Core Skills/ Generic Skills</p>	<p>Reading Skills</p> <p>The user/ individual on the job needs to know and understand how to:</p> <p>SA1. read and comprehend company polices and guidelines to conduct timely preventive maintenance activities</p> <p>SA2. comprehend formats and checklists to verify PM (preventive maintenance)</p>
<p>B. Professional Skills</p>	<p>Analytical Skills</p> <p>The user/individual on the job needs to know and understand how to:</p> <p>SB1. diagnose reasons of down-time through up-time analysis</p> <p>SB2. perform fault analysis to identify and repair recurring faults on site</p> <p>Planning and Execution</p> <p>The user/individual on the job needs to know and understand how to:</p> <p>SB1. prioritize to conduct preventive maintenance activities effectively</p>

TEL/N4101

Preventive Maintenance

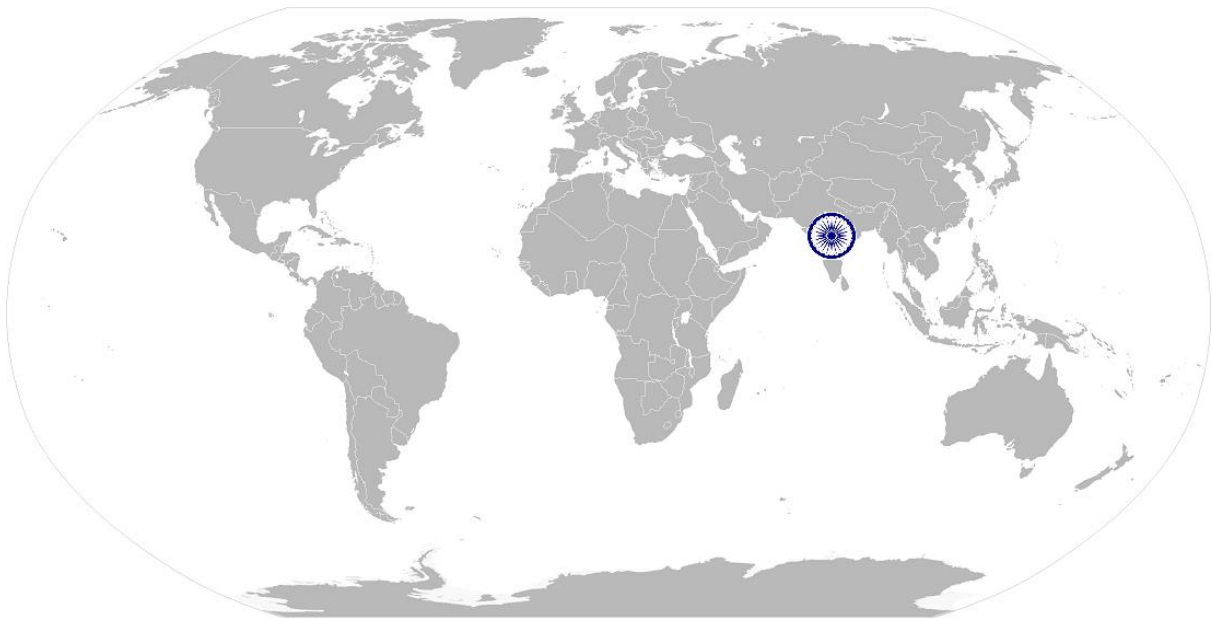
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National Occupational Standard



Overview

This unit is about executing operational activities at the tower site like submission of electricity bill, alarm check etc.

TEL/N4102

Site management

Service Provider	Unit Code	TEL/N4102
	Unit Title (Task)	Site Management
	Description	This OS unit is about site management
	Scope	<p>This unit/task covers the following:</p> <p>Key stakeholders:</p> <ul style="list-style-type: none"> • tower technician • cluster in-charge/supervisor <p>Operational maintenance of the site</p>
	Performance Criteria(PC) w.r.t. the Scope:	
	Element	Performance Criteria
		<p>To be competent, the user/individual on the job must be able to:</p> <p>PC1. monitor reading as per EB (electricity bill) against reading on PIU (power interface unit)</p> <p>PC2. timely collect and submit the EB (electricity bill) at the office</p> <p>PC3. check number of alarms active at the site</p> <p>PC4. check site for faulty alarms</p> <p>PC5. attend alarms within the defined SLA</p> <p>PC6. identify the reasons for site lock</p> <p>PC7. co-ordinate with service providers for quality fuel to be filled</p> <p>PC8. interact with site owners w.r.t. rent, access issues etc.</p>
	Knowledge and Understanding	
	A. Organizational Context (Knowledge of the company / organization & its process relevant to area of responsibilities)	<p>The user/individual on the job needs to know and understand:</p> <p>KA1. EB (electricity bill) collection and payment process</p>

TEL/N4102

Site management

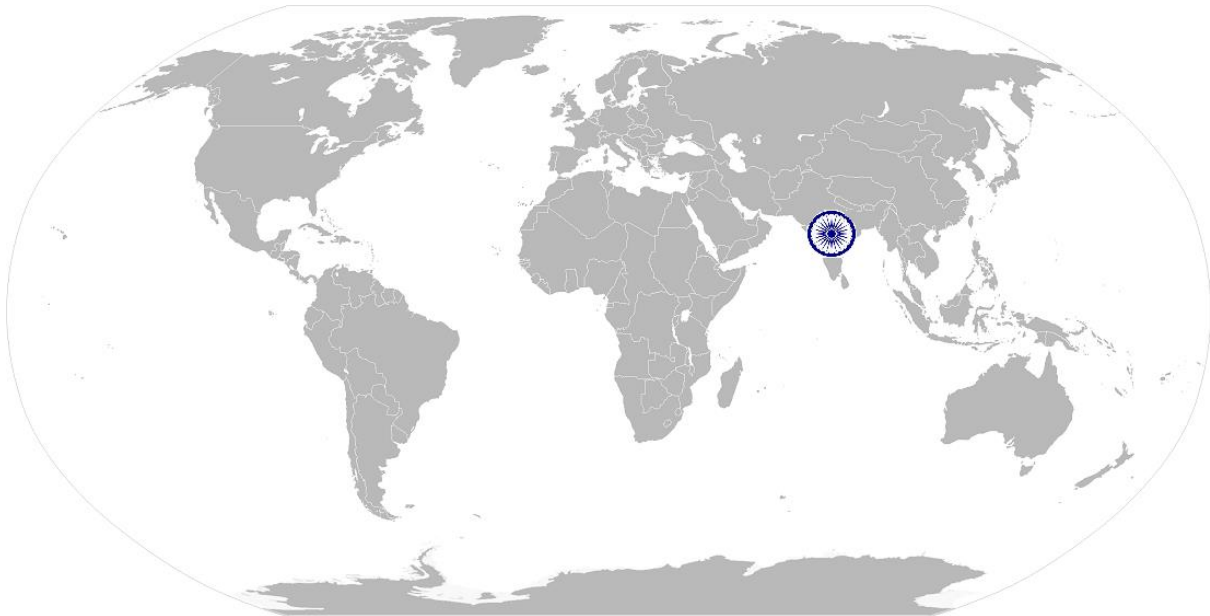
<p>B. Technical Knowledge</p>	<p>The user/individual on the job needs to know and understand:</p> <p>KB1. whereabouts of relevant EB (Electricity Board) offices & key EB personnel</p> <p>KB2. functioning of NOC/TOC</p> <p>KB3. basic functioning of alarm box and the interface</p> <p>KB4. basic aspects of distribution panel</p>
<p>Skills (S)</p>	
<p>A. Core Skills/ Generic Skills</p>	<p>Reading Skills</p> <p>The user/ individual on the job needs to know and understand how to:</p> <p>SA1. read and comprehend process and policies of the company</p>
<p>B. Professional Skills</p>	<p>Planning and Execution</p> <p>The user/individual on the job needs to know and understand how to:</p> <p>SB1. prioritize activities to effectively manage the tower site</p> <p>Technical Skills</p> <p>The user/individual on the job needs to know and understand how to:</p> <p>SB2. use test and repair equipment</p>

TEL/N4102

Site management

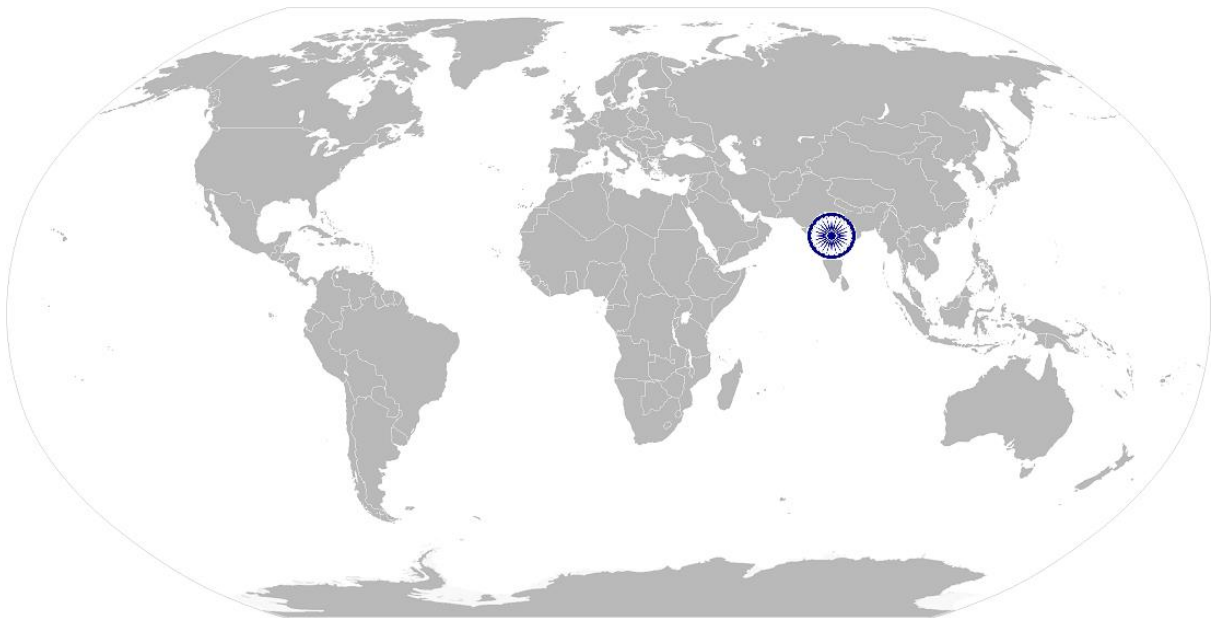
NOS Version Control:

NOS Code	TEL/N4102		
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Industry	Telecom	Drafted on	15/05/2013
Industry Sub-sector	Passive Infrastructure	Last reviewed on	25/07/2013
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National Occupational Standard



Overview

This unit is about reporting and record-keeping as per company's processes and defined SLAs

TEL/N4103

Task Reporting

Service Provider	Unit Code	TEL/N4103
	Unit Title (Task)	Task Reporting
	Description	This OS unit is about reporting and record-keeping as per company's processes and defined SLAs
	Scope	<p>This unit/task covers the following:</p> <p>Key stakeholders:</p> <ul style="list-style-type: none"> • tower technician • cluster in-charge/supervisor <p>Fill respective reports/check lists</p> <p>Follow the escalation matrix</p>
	Performance Criteria(PC) w.r.t. the Scope:	
	Element	Performance Criteria
		<p>To be competent, the user/individual on the job must be able to:</p> <p>PC1. escalate faults/issues at site to supervisor</p> <p>PC2. fill the preventive maintenance checklists/reports</p> <p>PC3. fill the corrective maintenance checklists/reports</p> <p>PC4. accurately report diesel filling, electricity bill and DG reading</p> <p>PC5. report any changes in the site or movement of any material</p> <p>PC6. report theft if any from the site location</p> <p>PC7. report movement of tower technicians to supervisor</p>
Knowledge and Understanding		
A. Organizational Context (Knowledge of the company / organization & its process relevant to area of responsibilities)	<p>The user/individual on the job needs to know and understand:</p> <p>KA1. PM (preventive maintenance) norms as per the company</p> <p>KA2. corrective maintenance norms as per the company</p> <p>KA3. site up-time targets of the company, to avoid penalties</p> <p>KA4. repair and maintenance guidelines of the company</p>	

TEL/N4103

Task Reporting

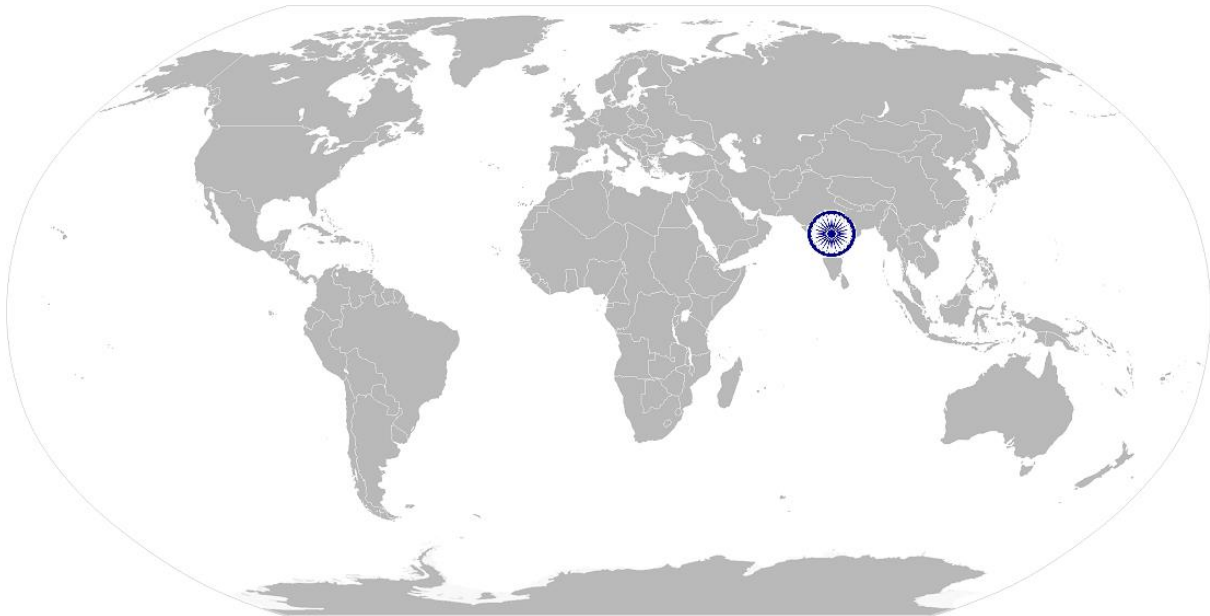
<p>B. Technical Knowledge</p>	<p>The user/individual on the job needs to know and understand:</p> <p>KB1. mathematical calculations</p> <p>KB2. computer basics to use reporting software, if any</p> <p>KB3. how to use reporting formats/checklists</p>
<p>Skills (S)</p>	
<p>A. Core Skills/ Generic Skills</p>	<p>Reading Skills</p> <p>The user/ individual on the job needs to know and understand how to:</p> <p>SA1. read and comprehend formats and checklists for preventive and corrective maintenance</p> <p>Oral communication Skills</p> <p>The user/ individual on the job needs to know and understand how to:</p> <p>SA2. communicate the issue/fault with complete details to the supervisor</p>
<p>B. Professional Skills</p>	<p>Analytical Skills</p> <p>The user/individual on the job needs to know and understand how to:</p> <p>SB1. diagnose reasons of down-time by analyzing site-down incidences</p> <p>SB2. perform fault analysis to identify and repair recurring faults on site</p> <p>Planning and Execution</p> <p>The user/individual on the job needs to know and understand how to:</p> <p>SB1. prioritize to conduct preventive and corrective maintenance activities effectively</p>

TEL/N4103

Task Reporting

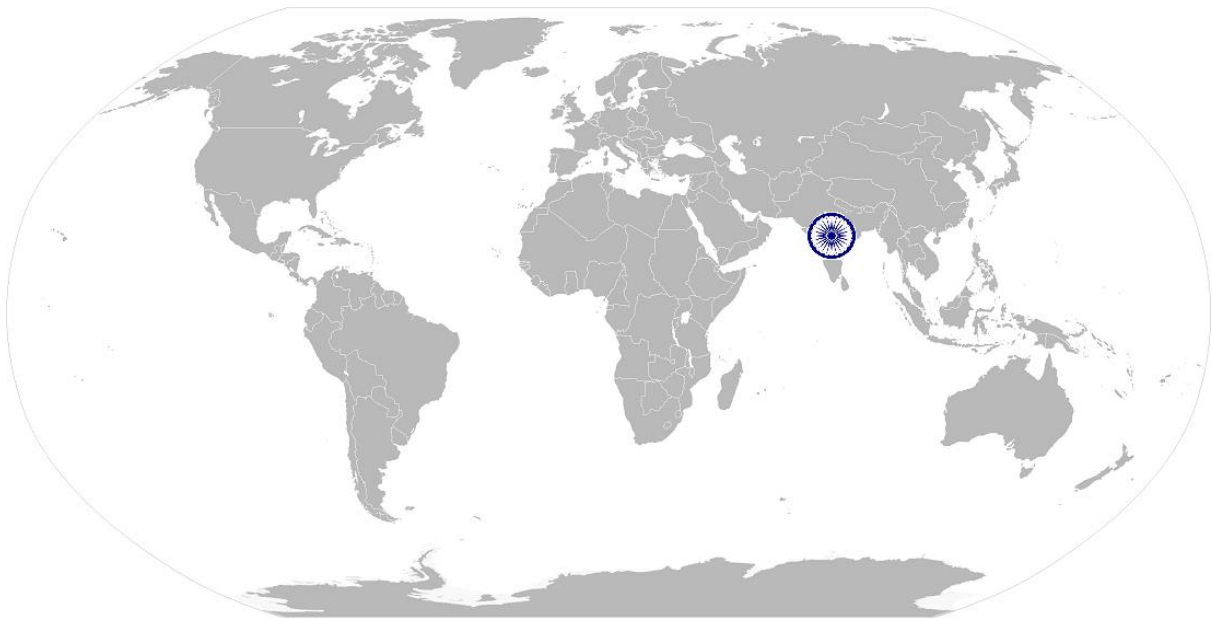
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National Occupational Standard



Overview

This unit is about corrective maintenance of DG, AC, PIU, SMPS, Battery Bank and Shelter, within defined SLA.

TEL/N4104

Corrective Maintenance

Service Provider	Unit Code	TEL/N4104
	Unit Title (Task)	Corrective Maintenance
	Description	This OS unit is about performing corrective maintenance activities.
	Scope	<p>This unit/task covers the following:</p> <p>Key stakeholders:</p> <ul style="list-style-type: none"> • tower technician • cluster in-charge/supervisor <p>Fill respective reports/check lists</p> <p>Follow the escalation matrix</p>
	Performance Criteria(PC) w.r.t. the Scope:	
	Element	Performance Criteria
		<p>To be competent, the user/individual on the job must be able to:</p> <p>PC1. timely identification of the need for corrective maintenance</p> <p>PC2. adhere to maintenance plan</p> <p>PC3. effective corrective maintenance on all equipment</p> <p>PC4. escalate faults/issues at site to supervisor</p> <p>PC5. fill the corrective maintenance checklists/reports</p> <p>PC6. close maximum number of faults reported</p>
	Knowledge and Understanding	
	A. Organizational Context (Knowledge of the company / organization & its process relevant to area of responsibilities)	<p>The user/individual on the job needs to know and understand:</p> <p>KA1. PM (preventive maintenance) norms as per the company</p> <p>KA2. corrective maintenance norms as per the company</p> <p>KA3. site up-time targets of the company, to avoid penalties</p> <p>KA4. repair and maintenance guidelines of the company</p>
	B. Technical Knowledge	<p>The user/individual on the job needs to know and understand:</p> <p>KB1. functional knowledge of all equipment</p> <p>KB2. knowledge of all system components</p> <p>KB3. knowledge of special tools and equipment used for system repairs</p>

TEL/N4104

Corrective Maintenance

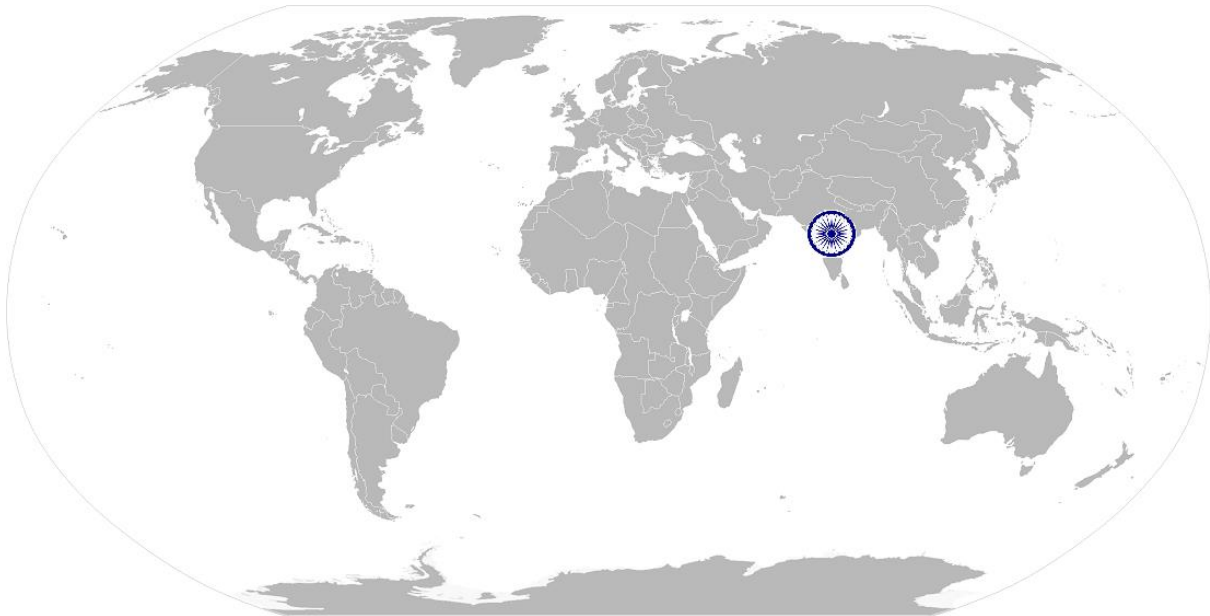
Skills (S)	
A. Core Skills/ Generic Skills	Reading Skills
	The user/ individual on the job needs to know and understand how to: SA1. read and comprehend technical drawings and technical content
	Oral communication Skills
	The user/ individual on the job needs to know and understand how to: SA2. communicate the issue/fault with complete details to the supervisor
B. Professional Skills	Analytical Skills
	The user/individual on the job needs to know and understand how to: SB1. diagnose need for corrective maintenance based on system parameters and performance SB2. perform fault analysis to identify and repair/replace components which may lead to a fault
	Planning and Execution
	The user/individual on the job needs to know and understand how to: SB1. prioritize to conduct corrective maintenance activities effectively

TEL/N4104

Corrective Maintenance

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SSC	QPCode	Name of the QP	NSQF Level	Equipment Name	Min. no. of Equipment required (per batch of 30 trainees)	Unit Type	Is this a mandatory Equipment at the Training Center (Yes/No)	Dimension/Specification/ ANY OTHER REMARK
Telecom	TEL/Q4100	Tower Technician	4	Shelter For Housing Equipment (Porta Cabin)	1	units	Yes	
Telecom	TEL/Q4100	Tower Technician	4	Dg Set	1	pieces	Yes	
Telecom	TEL/Q4100	Tower Technician	4	Battery Banks	1	pieces	Yes	
Telecom	TEL/Q4100	Tower Technician	4	Power Distribution Panel/Power Management Unit	1	pieces	Yes	
Telecom	TEL/Q4100	Tower Technician	4	Smps	1	pieces	Yes	
Telecom	TEL/Q4100	Tower Technician	4	Earth Pits	1	pieces	Yes	
Telecom	TEL/Q4100	Tower Technician	4	Air Conditioning Unit	1	pieces	Yes	
Telecom	TEL/Q4100	Tower Technician	4	Various Types Of Fire Extinguishers	1	pieces	Yes	one of each type
Telecom	TEL/Q4100	Tower Technician	4	Black/White Board	1	pieces	Yes	
Telecom	TEL/Q4100	Tower Technician	4	Projection System With Pc/Laptop	1	pieces	No	