

NSQF QUALIFICATION FILE GUIDANCE

Version 6: Draft of 08 March 2016

NSDA Reference
To be added by NSDA

CONTACT DETAILS OF THE BODY SUBMITTING THE QUALIFICATION FILE

Name and address of submitting body:

Power Sector Skill Council, 2nd Floor, CBIP Building Malcha Marg, Chanakyapuri,
New Delhi

Name and contact details of individual dealing with the submission

Name: Vinod Behari

Position in the organisation: Chief Executive Officer

Address if different from above:

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List of documents submitted in support of the Qualifications File

1. Qualification Pack
2. List of companies and Industry associations participated in the development of these qualification packs (part of report)
3. List of QP/NOS validating companies.

SUMMARY

Qualification Title	Assistant Technician -Street Light Installation & Maintenance
Qualification Code	PSS/Q6003
Nature and purpose of the qualification	Nature of the qualification - Qualification Pack (QP) The main purpose of the qualification - Installation - Maintenance & Repairing
Body/bodies which will award the qualification	Power Sector Skill Council

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Body which will accredit providers to offer courses leading to the qualification	Power Sector Skill Council
Body/bodies which will carry out assessment of learners	Navriti Tehcnologies Pvt Ltd, Bangalore Induslynk Training Service Pvt Ltd., Gurgaon Aspiring Minds Assessment Pvt Ltd., Gurgaon Manipal City and Builds Pvt Ltd. New Delhi Trendsetters Skill Assessors Pvt Ltd., Gurgaon Ace Assessments Pvt Ltd., New Delhi Assure Qualaity Management Certification Services Pvt Ltd. , Panchukula Prima Competencies Pvt Ltd., New Delhi
Occupation(s) to which the qualification gives access	Assistant Technician -Street Light Installation & Maintenance (level 3)
Licensing requirements	N/A
Level of the qualification in the NSQF	3
Anticipated volume of training/learning required to complete the qualification	200
Entry requirements and/or recommendations	10 th Pass and minimum age should be 18 years
Progression from the qualification	Technician -Street Light Installation & Maintenance (level 4)
Planned arrangements for the Recognition of Prior learning (RPL)	RPL arrangements and policies are under development. The guidelines should be ready in 2-3 months.
International comparability where known	In the process of being developed
Date of planned review of the qualification.	19/07/2018 of
Formal structure of the qualification	

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Title of component and identification code.	Mandatory/ Optional	Estimated Size (learning hours)	Level
PSS/N6007 Installation	Suggested but not mandatory	84	3
PSS/N6008 Maintenance & Repairing	Suggested but not mandatory	65	3
PSS/N2001 Use basic health and safety practices as the workplace	Suggested but not mandatory	30	3
PSS/N1336 Work effectively with others	Suggested but not mandatory	21	3

Please attach any document giving further detail about the structure of the qualification - eg a Curriculum Document or a Qualification Pack.

Give the titles and other relevant details of the document(s) here. Include page references showing where to find the relevant information.

1. Qualification Pack is attached as Annexure 1

SECTION 1 ASSESSMENT

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Body/Bodies which will carry out assessment:

1. Navriti Tehcnologies Pvt Ltd, Bangalore
2. Induslynk Training Service Pvt Ltd., Gurgaon
3. Aspiring Minds Assessment Pvt Ltd., Gurgaon
4. Manipal City and Builds Pvt Ltd. New Delhi
5. Trendsetters Skill Assessors Pvt Ltd., Gurgaon
6. Ace Assessments Pvt Ltd., New Delhi
7. Assure Qualaity Management Certification Services Pvt Ltd. , Panchukula
8. Prima Competencies Pvt Ltd., New Delhi

How will RPL assessment be managed and who will carry it out?

RPL will be based on the same approved Qualification Pack and Assessment Criteria mentioned in the Qualification Pack.

Describe the overall assessment strategy and specific arrangements which have been put in place to ensure that assessment is always valid, reliable and fair and show that these are in line with the requirements of the NSQF.

The emphasis is on 'learning-by-doing' and practical demonstration of skills and knowledge based on the performance criteria. The assessment papers are developed by Subject Matter Experts (SME) available with the Assessment Agency as per the performance and assessment criteria mentioned in the Qualification Pack. The assessments papers are also checked for the various outcome based parameters such as quality, time taken, precision, tools & equipment requirement etc. The assessment sets are then reviewed by PSSC official for consistency. The assessments are designed so as to assess maximum parts during the practical hands on work. The technical limitations at the training centres are taken care in theory and viva. Criteria such as use of lift to pick heavy objects or selection of fire extinguisher during a fire are also assessed under theory/viva.

The assessment agencies are instructed to hire assessors with integrity, reliability and fairness. Each assessor shall sign a document with its assessment agency by which they commit themselves to comply with the rules of confidentiality and conflict of interest, independence from commercial and other interests that would compromise impartiality of the assessments. The assessment agencies are instructed to Ideally have assessor with minimum 15 years industry experience as an ITI graduate / minimum 10 years' industry experience as diploma engineer and minimum 5 years' industry experience as graduate engineer.

The assessors selected by Assessment Agencies are scrutinized and made to undergo training and introduction to PSSC Assessment Framework, competency based assessments, assessors guide etc.

The assessors are provided with assessors guide developed by the Subject Matter Expert of the assessment agency as per the assessment framework. The assessment guides are developed to ensure the maximum possible consistency in the assessment by different assessors and elaborate on the following

- 1 Qualification Pack Structure
- 2 Guidance for the assessor to conduct theory, practical and viva assessments
- 3 Guidance for trainees to be given by assessor before the start of the assessments.

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- 4 Guidance on assessments process, practical brief with steps of operations practical observation checklist and mark sheet
- 5 Viva guidance for uniformity and consistency across the batch.
- 6 Guidance on assessment evidence collection

The assessment results are backed by evidences collected by assessors.

- 1 The assessor needs to collect a copy of the attendance for the training done under the scheme. The attendance sheets are signed and stamped by the In charge /Head of the Training Centre.
- 2 The assessor needs to verify the authenticity of the candidate by checking the photo ID card issued by the institute as well as any one Photo ID card issued by the Central/Government. The same needs to be mentioned in the attendance sheet. In case of suspicion, the assessor should authenticate and cross verify trainee's credentials in the enrolment form.
- 3 The assessor needs to take a photograph of all the students along with the assessor standing in the middle and with the centre name/banner at the back as evidence.
- 4 The assessor needs to carry a camera to click photograph of the trainees working on the job and giving theory exam as evidence.
- 5 The assessor also needs to carry a photo ID card.
- 6 The assessor also needs to take the photographs as evidence from appropriate angles/sides of the final work piece/job submitted by the trainee. This evidence is signed by the trainee at the time of submission of the job piece.
- 7 The assessor needs to measure the dimensions and finish of the submitted job piece as per the tolerance or standards mentioned in the assessment guide.
- 8 The assessor will also check internal record of assignments, performance records and feedback provided to candidates.

The assessment agencies are instructed to hire assessors with integrity, reliability and fairness. Each assessor shall sign a document with its assessment agency by which they commit themselves to comply with the rules of confidentiality and conflict of interest, independence from commercial and other interests that would compromise impartiality of the assessments. This code of conduct is enclosed. The assessment agencies are instructed to Ideally have assessor with minimum 15 years industry experience as an ITI graduate / minimum 10 years' industry experience as diploma engineer and minimum 5 years' industry experience as graduate engineer.

Please attach any documents giving further information about assessment and/or RPL. Give the titles and other relevant details of the document(s) here. Include page references showing where to find the relevant information.

ASSESSMENT EVIDENCE

Complete a grid for each component as listed in "Formal structure of the the qualification" in the Summary.

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NOTE: this grid can be replaced by any part of the qualification documentation which shows the same information - ie Learning Outcomes to be assessed, assessment criteria and the means of assessment.

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Job Role Assistant Technician -Street Lighting Solutions (Installation & Maintenance)

Qualification Pack PSS/Q6003

Qualification Pack Power Sector Skill Council

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/N6007 Installation	<input type="checkbox"/> apply understanding of all type of LED light - Wattage wise and Lumen level wise in detail	100	3	2	1
	<input type="checkbox"/> apply knowledge of technical specification of various type of LED street lights		3	1	2
	<input type="checkbox"/> carry out the root survey before street light pole installation and cable laying		3	0	3
	<input type="checkbox"/> carry all the tools & equipment needed for erection or installation		3	0	3
	<input type="checkbox"/> possess knowledge of technical specification and types of fixture viz sodium vapour lamp, CFL, Halogen, LED, Mercury lamp etc.		3	2	1

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<input type="checkbox"/> ensure proper wiring and connection for erection of street light fixture	3	1	2
<input type="checkbox"/> ensure installation of protection devices- surge protection device, voltage fluctuation, over voltage protection etc.	3	1	2
<input type="checkbox"/> apply knowledge of control switch and time for automatic switch off and switch on	3	1	2
<input type="checkbox"/> understand of wiring diagrams of LED street light	3	1	2
<input type="checkbox"/> apply knowledge about the types/height of Street light pole	3	1	2
<input type="checkbox"/> replace and retrofit the existing light with modern LED light	4	1	3
<input type="checkbox"/> check and replace street light component- driver	4	1	3
<input type="checkbox"/> be able to give street light supply from distribution transformer	4	1	3
<input type="checkbox"/> ensure required PPE for the safety measures	4	1	3
<input type="checkbox"/> test of light fixture and driver prior installation	4	1	3
<input type="checkbox"/> apply operational familiarity with tools and tackles	4	1	3
<input type="checkbox"/> apply knowledge of types of underground cable (3 Core)for street light	4	1	3
<input type="checkbox"/> apply knowledge of process of laying cable and termination	4	1	3
<input type="checkbox"/> ensure supply connection from cable to fixture with proper earthing and transformer load balancing	3	1	2
<input type="checkbox"/> carry all the tools and equipment for digging and laying down the cable	3	1	2
<input type="checkbox"/> wear PPE for the safety	3	1	2
<input type="checkbox"/> troubleshoot problems involving underground electrical wiring	3	1	2

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	<input type="checkbox"/> apply knowledge about the ratings and specifications of cables, fuses, switches and wires		4	1	3
	<input type="checkbox"/> report to supervisor or engineer if found any problem in laying down the wiring		4	1	3
	<input type="checkbox"/> check and perform primary testing on the cables and connections of street light		3	1	2
	<input type="checkbox"/> ensure PPE for required electrical safety measures		3	1	2
	<input type="checkbox"/> follow proper safety procedures in a variety of hazardous environments including high voltage areas		3	1	2
	<input type="checkbox"/> follow electrical safe working procedures such as Tag out/Lock out, PTW (Permit To Work),		3	1	2
	<input type="checkbox"/> ensure safety measures of working on height		3	1	2
	<input type="checkbox"/> ensure road safety while working on road		3	1	2
			100	30	70
2. PSS/N6008 Operation and Maintenance	<input type="checkbox"/> apply understanding of all type of LED light - Wattage wise and Lumen level wise in detail		5	1	4
	<input type="checkbox"/> apply knowledge of technical specification of various type of LED street lights		5	1	4
	<input type="checkbox"/> carry out the root survey before street light pole installation and cable laying		5	2	3
	<input type="checkbox"/> carry all the tools & equipment needed for erection or installation		5	2	3
	<input type="checkbox"/> possess knowledge of technical specification and types of fixture viz sodium vapour lamp, CFL, Halogen, LED, Mercury lamp etc.		5	2	3
	<input type="checkbox"/> ensure proper wiring and connection for erection of street light fixture		5	2	3
	<input type="checkbox"/> ensure installation of protection devices- surge protection device, voltage fluctuation, over voltage protection etc.	100	5	2	3

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	<input type="checkbox"/> apply knowledge of control switch and time for automatic switch off and switch on	4	1	3
	<input type="checkbox"/> understand of wiring diagrams of LED street light	4	1	3
	<input type="checkbox"/> apply knowledge about the types/height of Street light pole	4	2	2
	<input type="checkbox"/> replace and retrofit the existing light with modern LED light	5	2	3
	<input type="checkbox"/> check and replace street light component- driver	5	2	3
	<input type="checkbox"/> be able to give street light supply from distribution transformer	5	2	3
	<input type="checkbox"/> ensure required PPE for the safety measures	4	1	3
	<input type="checkbox"/> test of light fixture and driver prior installation	5	1	4
	<input type="checkbox"/> apply operational familiarity with tools and tackles	5	1	4
	<input type="checkbox"/> apply knowledge of types of underground cable (3 Core)for street light	5	1	4
	<input type="checkbox"/> apply knowledge of process of laying cable and termination	5	1	4
	<input type="checkbox"/> ensure supply connection from cable to fixture with proper earthing and transformer load balancing	5	1	4
	<input type="checkbox"/> carry all the tools and equipment for digging and laying down the cable	5	1	4
	<input type="checkbox"/> wear PPE for the safety	4	1	3
		100	30	70

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<p>3. PSS/N2001 Use basic health and safety practices for power related work</p>	<p><input type="checkbox"/> use protective clothing/equipment for specific tasks and work conditions Protective clothing: leather or asbestos gloves, flame proof aprons, flame proof overalls buttoned to neck, cuffless (without folds), trousers, reinforced footwear, helmets/hard hats, cap and shoulder covers, ear defenders/plugs, safety boots, knee pads, particle masks, glasses/goggles/visors Equipment: hand and face shields, machine guards, residual current devices, shields, dust sheets, respirator</p>	100	3	0	3
	<p><input type="checkbox"/> state the name and location of people responsible for health and safety in the workplace</p>		2	0	2
	<p><input type="checkbox"/> state the names and location of documents that refer to health and safety in the workplace</p>		2	0	2
	<p><input type="checkbox"/> identify job-site hazardous work and state possible causes of risk or accident in the workplace Hazards: electrical hazards (dealing with high voltage equipment, power supply and points, loose and naked cables and wires, electrical machines and appliances, etc.); sharp edged and heavy tools; heated metals; oxyfuel and gas cylinders; welding radiation; hazardous surfaces(sharp, slippery, uneven, chipped, broken, etc.); hazardous substances(chemicals, gas, oxy-</p>		3	1	2

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<p>fuel, fumes, dust, hazardous waste materials, etc.); physical hazards(working at heights, working in windy or moist areas, large and heavy objects and machines, sharp and piercing objects, moving objects and part of machinery, tolls and machines, intense light, load noise, abnormal temperature; obstructions in corridors, by doors, blind turns, over stacked shelves and packages, etc.); working in high temperatures. Possible causes of risk and accident: physical actions; not following instructions; inattention; sickness and incapacity (such as drunkenness); health hazards (such as untreated injuries and contagious illness); not taking safety precautions</p>			
<p><input type="checkbox"/> follow electrical safe working procedures such as Tag out/Lock out, PTW (Permit To Work),</p>	3	1	2
<p><input type="checkbox"/> follow warning signs (danger, out of service, etc.) while working with electrical systems</p>	3	1	2
<p><input type="checkbox"/> use standard safe working practices when working at heights, confined areas and trenches</p>	3	1	2
<p><input type="checkbox"/> test any electrical equipment and system using insulated testing devices before touching them</p>	3	1	2
<p><input type="checkbox"/> ensure positive isolation of electrical equipment & system as per given standards</p>	3	1	2
<p><input type="checkbox"/> recognize any abnormalities in electrical equipment or system installed alarm annunciation and/or noticing parameters from gauge/ indicator installed Parameters: temperature, pressure, flow& current</p>	3	1	2

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	<p>□ carry out safe working practices while dealing with hazards to ensure the safety of self and others Safe working practices: using protective clothing and equipment; putting up and reading safety signs; handle tools in the correct manner and store and maintain them properly; keep work area clear of clutter, spillage and unsafe object lying</p>	3	1	2
	<p>casually; while working with electricity take all electrical precautions like insulated clothing, adequate equipment insulation, use of control equipment, dry work area, switch off the power supply when not required, etc.; safe lifting and carrying practices; use equipment that is working properly and is well maintained; take due measures for safety while working at heights, etc. including safety harness, fall arrestors, guardrails, proper work positioning, do not jump or overload, etc.; take due measures for safety while working in confined spaces or trenches, etc.</p>			
	<p>□ state methods of accident prevention in the work environment of the job role Methods of accident prevention: training in health and safety procedures; using health and safety procedures; use of equipment and working practices (such as safe carrying procedures); safety notices, advice; instruction from colleagues and supervisors</p>	2	0	2
	<p>□ state location of general health and safety equipment in the workplace General health and safety equipment: fire extinguishers; first aid equipment; safety instruments and clothing; safety</p>	2	0	2

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installations(e.g. fire exits, exhaust fans)			
<input type="checkbox"/> inspect for faults, set up and safely use of scaffolds and elevated platforms and ladder Faults: corrosion of metal components, deterioration, splits and cracks timber components, imbalance, loose rungs, missing/ unfixed nuts or bolts, etc. Set up: firm/level base, clip/lash down, leaning at the correct angle, appropriate load as per capacity, etc.	2	0	2
<input type="checkbox"/> lift, carry and transport heavy objects & tools safely using correct procedures from storage to workplace and vice versa	3	1	2
<input type="checkbox"/> inspect power plant and its equipment routinely for any signs of oil, water and/or steam leakage	3	0	3
<input type="checkbox"/> store flammable materials and machine lubricating oil safely and correctly	2	0	2
<input type="checkbox"/> check that the emission and pollution control devices are working properly in line with environmental policy standards	3	1	2
<input type="checkbox"/> apply good housekeeping practices at all times Good housekeeping practices: clean/tidy work areas, removal/disposal of waste products, protect surfaces	3	1	2
<input type="checkbox"/> identify common hazard signs displayed in various areas Various areas: on chemical containers; equipment; packages; inside buildings; in open areas and public spaces, etc.	2	0	2

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<input type="checkbox"/> retrieve and/or point out documents that refer to health and safety in the workplace Documents: fire notices, accident reports, safety instructions for equipment and procedures, company notices and documents, legal documents (e.g. government notices)	2	0	2
<input type="checkbox"/> inform relevant authorities about any abnormal situation/behavior of any equipment/system promptly	3	0	3
<input type="checkbox"/> use the various appropriate fire extinguishers on different types of fires correctly	3	1	2
<input type="checkbox"/> types of fires: Class A: e.g. ordinary solid combustibles, such as wood, paper, cloth, plastic, charcoal, etc.; Class B: flammable liquids; Class C: e.g. combustible gases, such as gasoline, propane, diesel fuel, tar, cooking oil, and similar substances; Class D: combustible chemicals and metals such as magnesium, titanium, and sodium (These fires burn at extremely high temperatures and require special suppression agents) These categories of fires become Class A, B, C and D fires when the electrical equipment that initiated the	2	2	0

fire is no longer receiving electricity; Class E: e.g. electrical equipment such as appliances, wiring, breaker panels, etc.			
<input type="checkbox"/> demonstrate rescue techniques applied during fire hazard	1	0	1
<input type="checkbox"/> demonstrate good housekeeping in order to prevent fire hazards	3	1	2
<input type="checkbox"/> demonstrate the correct use of a fire extinguisher.	3	1	2
<input type="checkbox"/> demonstrate how to free a person from electrocution	3	0	3

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<input type="checkbox"/> administer appropriate first aid to victims whenever required e.g. in case of bleeding, burns, choking, electric shock, poisoning etc.	3	0	3
<input type="checkbox"/> demonstrate basic techniques of bandaging	3	1	2
<input type="checkbox"/> respond promptly and appropriately to an accident situation or medical emergency in real or simulated environments	3	1	2
<input type="checkbox"/> perform and organize loss minimization or rescue activity during an accident in real or simulated environments	3	1	2
<input type="checkbox"/> 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
<input type="checkbox"/> demonstrate the artificial respiration and the CPR Process	3	1	2
<input type="checkbox"/> 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
<input type="checkbox"/> complete a written accident/incident report or dictate a report to another person, and send report to person responsible Incident Report includes details of: name, date/time of incident, date/time of report, location, environment conditions, persons involved, sequence of events, injuries sustained, damage sustained, actions taken, witnesses, supervisor/manager notified	3	1	2
<input type="checkbox"/> demonstrate correct method to move injured people and others during an emergency	3	1	2
<input type="checkbox"/>	100	24	76

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4. PSS/N 1336 Work efficiently with others	<input type="checkbox"/> accurately receive information and instructions from the supervisor and fellow workers, getting clarification where required	100	10	3	7
	<input type="checkbox"/> accurately pass on information to authorized persons who require it and within agreed timescale and confirm its receipt		10	3	7
	<input type="checkbox"/> give information to others clearly, at a pace and in a manner that helps them to understand		10	3	7
	<input type="checkbox"/> display helpful behavior by assisting others in performing tasks in a positive manner, where required and possible		10	3	7
	<input type="checkbox"/> consult with and assist others to maximize effectiveness and efficiency in carrying out tasks		10	3	7
	<ul style="list-style-type: none"> • display appropriate communication etiquette while working • Communication etiquette: do not use abusive language; use appropriate titles and terms of respect; do not eat or chew while talking (vice versa) etc. 		10	3	7
	<input type="checkbox"/> display active listening skills while interacting with others at work		10	3	7
	<input type="checkbox"/> use appropriate tone, pitch and language to convey politeness, assertiveness, care and professionalism		10	3	7
	<input type="checkbox"/> demonstrate responsible and disciplined behaviors at the workplace Disciplined behaviors: e.g. punctuality; completing tasks as per given time and standards; not gossiping and idling time; eliminating waste, honesty, etc.		10	3	7
<input type="checkbox"/> escalate grievances and problems to appropriate authority as per procedure to resolve them and avoid conflict	10	3	7		
		100	30	70	

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SECTION 2 EVIDENCE OF LEVEL

OPTION B

Title/Name of qualification/component: Assistant Technician -Street Light Installation & Maintenance		Level: 3	
NSQF Domain	Key requirements of the job role	How the job role relates to the NSQF level descriptors	NSQF Level
Process	Under limited supervision, provides specialized electrical services in the installation, operation and maintenance of street and lighting and other related equipment in the city, and performs related duties as assigned. Work is performed outdoors in all weather conditions and requires availability in the event of emergency situations. Work requires the ability to lift large heavy objects poles and perform strenuous physical labor. Work requires bending, climbing, pulling, carrying, kneeling, walking, and standing for significant periods of time. Work involves exposure to excessive noise, and irregular terrain. Periodic night-time work is required.	<p>The job expects a person to carry out a job which may require limited range of activities routine and predictable. Hence, it qualifies as a Level 3 role. Since it does not involve situation of clear choice, the role does not qualify for Level 4.</p> <p>This role requires the job holder to work in a familiar, routine, predictable, and the activities that h/she is expected to perform are not repetitive, Work requires the ability to lift large heavy objects poles and perform strenuous physical labor, on a regular basis, with little application of understanding, more of practice. Hence it cannot be placed at level 2.</p>	3

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Professional knowledge	<ul style="list-style-type: none"> • common electricity terminology & correct interpretation of the same • terminology: e.g. current, voltage, resistance, kilowatt (kw), kilowatt hour(kwh) • types of LED fixture- wattage wise and Lumen level wise of street light • the technical specification of LED lights and associated components • various type of protection driver/device - surge protection, 	<p>The job holder is expected to have Basic facts, process and principle applied in trade of employment. The role qualifies for Level 3. The job holder is expected to be familiar with all machines and equipment's. He/she is not expected to know material, tools and applications in a limited context, understands context</p>	<p>3</p>
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Title/Name of qualification/component: Assistant Technician -Street Light Installation & Maintenance		Level: 3	
NSQF Domain	Key requirements of the job role	How the job role relates to the NSQF level descriptors	NSQF Level
	<p>voltage fluctuation , over voltage etc.</p> <ul style="list-style-type: none"> • the cabling system for LED street light • the various types/heights of LED street light poles • control switch and timer of automatic operation • operational knowledge of lux meter and multimeter and other testing equipment • importance of reporting problems and resolving in a timely manner • ratings and specifications of cables, fuses, switches and wires • skills in handling all machineries, equipment & vehicles • appropriate judgment and initiative pertaining to work methods and tools • technical manuals, blueprints, schematics, diagrams, plans, specifications, • how to estimate time, material and equipment needed to complete assignments • standard procedures how to deal with electric shocks and electrocutions to rescue and minimize damage and harm • quality parameters, quality assessment based on physical parameters 	<p>of work and quality, and the technical specification of LED lights and associated, so it cannot be pegged at level 2.</p>	

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Professional skill	<ul style="list-style-type: none"> • follow organization rule-based decision making process • take decision with systematic course of actions and/or response • planning and organization of tasks to meet deadlines • able to prepare estimates • build customer relationships and use customer centric approach • seek and comprehend operation related inputs for clarification • find ways of modifying difficult operating stages to make it operation friendly • apply domain information to set and define operation parameters that ensures economy and quality of the product • critically evaluate operation parameters in relation to product features intended 	<p>The job holder is expected to carry out recall and demonstrate practical skill, routine and repetitive in narrow range of application, hence qualifying the role for a Level 3.</p> <p>As this job does not requires limited service skills used in limited context; select and apply tools; assist in professional works with no variables; differentiate good and bad quality and apply domain information to set and define operation</p>	3

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Title/Name of qualification/component: Assistant Technician -Street Light Installation & Maintenance		Level: 3	
NSQF Domain	Key requirements of the job role	How the job role relates to the NSQF level descriptors	NSQF Level
	<ul style="list-style-type: none"> □ develop a holistic and comprehensive profile of products based on segregated discrete process stages 	Therefore, it cannot be pegged at level 2.	

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<p>Core skill</p>	<ul style="list-style-type: none"> • apply understanding of all type of LED light - Wattage wise and Lumen level wise in detail • apply knowledge of technical specification of various type of LED street lights • carry out the root survey before street light pole installation and cable laying • carry all the tools & equipment needed for erection or installation • possess knowledge of technical specification and types of fixture viz sodium vapour lamp, CFL, Halogen, LED, Mercury lamp etc. • ensure proper wiring and connection for erection of street light fixture • ensure installation of protection devices- surge protection device, voltage fluctuation, over voltage protection etc. • apply knowledge of control switch and time for automatic switch off and switch on • understand of wiring diagrams of LED street light • apply knowledge about the types/height of Street light pole • replace and retrofit the existing light with modern LED light • check and replace street light component- driver • be able to give street light supply from distribution transformer • ensure required PPE for the safety measures • test of light fixture and driver prior installation • apply operational familiarity with tools and tackles • apply knowledge of types of underground cable (3 Core)for street light • apply knowledge of process of laying cable and termination • ensure supply connection from cable to fixture with proper earthing and transformer load balancing 	<p>The job holder is expected to Communication written and oral, with minimum required clarity, skill of basic arithmetic and algebraic principles, personal banking, basic understanding of social and natural environment. Hence, this role qualifies for Level 3. As this job does not requires to receive and transmit written and oral messages, basic arithmetic, personal financing and understanding of social, political, and religious diversity, hygiene and environment and ensure proper wiring and connection for erection of street light fixture Therefore, it cannot be pegged at level 2</p> <p>The role does not requires to possess skills and language to communicate written or oral, with required clarity, skill to basic arithmetic and algebraic principles, basic understanding of social political and natural environment. Hence cannot be pegged at level 4</p>	<p>3</p>
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Title/Name of qualification/component: Assistant Technician -Street Light Installation & Maintenance

Level: 3

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NSQF Domain	Key requirements of the job role	How the job role relates to the NSQF level descriptors	NSQF Level
	<ul style="list-style-type: none"> • carry all the tools and equipment for digging and laying down the cable • troubleshoot problems involving underground electrical wiring • apply knowledge about the ratings and specifications of cables, fuses, switches and wires • report to supervisor or engineer if found any problem in laying down the wiring • check and perform primary testing on the cables and connections of street light • follow proper safety procedures in a variety of hazardous environments including high voltage areas • follow electrical safe working procedures such as Tag out/Lock out, PTW (Permit To Work), • ensure safety measures of working on height • ensure road safety while working on road • check all the intersections & joints(Junction Box) in the wiring or cable of LED Street light • check the ON-OFF switch or MCB • check visually the LED bulb and head of street light • locate the conduit, cables & other undergoing devices to perform maintenance work • checking lux level • Carry all the testing equipment like tester, multi meter, lux meter, wire, bulb etc. • test the supply across the ON-OFF switch and across the all joints and intersections • check continuity of cable • test the lamp head by multi meter or tester for checking the continuity of supply • test the fixture and other parts of street light system 		

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	<ul style="list-style-type: none">• maintain and repairs or replace photoelectric control relay and Surge Protection Device for lighting system		
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Title/Name of qualification/component: Assistant Technician -Street Light Installation & Maintenance

Level: 3

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NSQF Domain	Key requirements of the job role	How the job role relates to the NSQF level descriptors	NSQF Level
	<ul style="list-style-type: none"> • replace existing light with modern LED light and associated component • troubleshoot problems involving underground electrical wiring • repair, replace and modify street light equipment including heads, poles, controllers, lights, circuitry, switches, fuses, and cabinet parts • assist in general electrical repair work • help repair other electronic or electrical devices or equipment • ensure PPE for required electrical safety measures • follow proper safety procedures in a variety of hazardous environments including high voltage areas • follow electrical safe working procedures such as Tag out/Lock out, PTW (Permit To Work), • ensure safety measures of working on height • ensure road safety while working on road 		
Responsibility	Under close supervision Some Responsibility for own work within defined limit.	<p>The job holder is having some responsibility for own work under close supervision within defined limit and ensure safety measures of working on height, Hence, this role qualifies for Level 3. It does not comprise of any supervisory activities.</p> <p>Since, the job holder is expected to be responsible for own working under defined limit and is not responsible for own work and learning. Therefore, this role cannot be pegged at level 4.</p>	3

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SECTION 3

EVIDENCE OF NEED

What evidence is there that the qualification is needed?

While collecting data from secondary sources (Details mentioned in the attached skill gap report) and industry representatives, which was collected with respect to roles for which qualification packs development, was to be prioritized. This was largely based on dominant roles in the sector, volume of people required, quantitative and qualitative shortfall which the Industry feels they face. Governing council of PSSC gave final approval and endorsement for the same.

Estimated Demand for the qualification:11,967

What is the estimated uptake of this qualification and what is the basis of this estimate?

Internal Skills Gap analysis Reports for industry demand and secondary research data, though these do not lend to accurate demand projection. These include CEA and 12th plan reports.

- Feedback from industry for demand though again sample size may not lend to accurate figures
- Training duration, and current and potential training capacity envisaged

An LMS development initiative is being put in place to be more precise regarding the demand and supply

An RFP is being issued for a more detailed occupational map and skills gap study and will be used to further provide information regarding the same.

What steps were taken to ensure that the qualification(s) does (do) not duplicate already existing or planned qualifications in the NSQF?

- NSDC list of Approved and Under-Development QPs was checked prior to commissioning the work
- NSDC QRC team also confirmed the same

What arrangements are in place to monitor and review the qualification(s)? What data will be used and at what point will the qualification(s) be revised or updated?

- Agencies have been appointed by the SSC to interact with training providers to gather feedback in implementation.
- Monitoring of results of assessments
- Employer feedback will be sought post-placement
- A formal review is scheduled in two year time (2018)

Please attach any documents giving further information about any of the topics above.

Give the titles and other relevant details of the document(s) here. Include page

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references showing where to find the relevant information. □ Report to the Governing Council

- Minutes of the meeting of GC meetings
- Power Sector Skill Council Skill Gap Report

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SECTION 4 EVIDENCE OF PROGRESSION

What steps have been taken in the design of this or other qualifications to ensure that there is a clear path to other qualifications in this sector?

- Vertical mobility have been articulated, horizontal mobility will be articulated once full occupational mapping of the sector is completed.
- Vertical Mobility to Technician -Street Light Installation & Maintenance

Please attach any documents giving further information about any of the topics above. Give the titles and other relevant details of the document(s) here. Include page references showing where to find the relevant information.

Detailed Occupation Mapping for Distribution Subsector

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