

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

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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.

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SUMMARY

Qualification Title	Electrician Domestic Solutions
Qualification Code	PSS/Q6001
Nature and purpose of the qualification	<p>Nature of the qualification</p> <ul style="list-style-type: none">- Qualification Pack (QP) <p>The main purpose of the qualification</p> <ul style="list-style-type: none">- Types of House wiring and fault repair in house wiring- Mains, distribution, controls, circuits and protection in house wiring- Maintenance & Repair of house hold electrical gadgets- Entrepreneurship- Customer relationship skills
Body/bodies which will award the qualification	Power Sector Skill Council
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 Technologies 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 Quality Management Certification Services Pvt Ltd. , Panchkula Prima Competencies Pvt Ltd., New Delhi
Occupation(s) to which the qualification gives access	Electrician
Licensing requirements	N/A
Level of the qualification in the NSQF	3
Anticipated volume of training/learning required to complete the qualification	350
Entry requirements and/or recommendations	8 th Pass

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Progression from the qualification	Self-employed Electrician or Senior Electrician Charge-Man (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.	25/07/2021		
Formal structure of the qualification			
Title of component and identification code.	Mandatory / Optional	Estimated size (learning hours)	Level
PSS/ N 6001Types of House wiring and fault repair in house wiring	Mandatory	56	3
PSS/ N 6002 Mains, distribution, controls, circuits and protection in house wiring	Mandatory	62	3
PSS/ N 6003 - Maintenance & Repair of household electrical gadgets	Mandatory	152	3
PSS/N6005 Customer relationship skills	Mandatory	24	3
PSS/N2001 (Use basic health and safety practices at the workplace)	Mandatory	32	3
PSS/N1336 (Work effectively with others)	Mandatory	24	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

- Qualification Pack is attached as Annexure 1

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SECTION 1 ASSESSMENT

Body/Bodies which will carry out assessment:

1. Navriti Technologies 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 Quality Management Certification Services Pvt Ltd. , Panchkula
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

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- 3 Guidance for trainees to be given by assessor before the start of the assessments.
- 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 qualification” in the Summary.

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

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CRITERIA FOR ASSESSMENT OF TRAINEES

Job Role Electrician Domestic Solution

Qualification Pack PSS/Q6001

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. Assessment will be conducted for all compulsory NOS, and where applicable, on the selected elective/option NOS/set of NOS.
4. Individual assessment agencies will create unique question papers for theory part for each candidate at each examination/training center (as per assessment criteria below).
5. Individual assessment agencies will create unique evaluations for skill practical for every student at each examination/training center based on this criterion.
6. To pass the Qualification Pack, every trainee should score a minimum of 50% of aggregate marks to successfully clear the assessment.
7. In case of *unsuccessful completion*, the trainee may seek reassessment on the Qualification Pack.

Compulsory NOS		Total Marks	Out Of	Marks Allocation	
Assessment outcomes	Assessment criteria for outcomes			Theory	Skills Practical
1. PSS/ N 6001 Types of House wiring and fault repair in house wiring	PC1. Develop circuit and wiring diagram and electrical signages, code specifications to plan wiring layouts, consumption points accurately, as may be required	100	3	2	1
	PC2. Understand and use of various types of tools, their functions and application for carrying out work		6	4	2
	PC3. Understand rating and current carrying capacity of wires, cables, fuse, switches, sockets, MCBs, ELCBs and other electrical accessories		5	2	3
	PC4. Lay conduit pipe concealed and open wiring, batten, casing-capping and temporary cleat wiring		4	1	3
	PC5. Implement system in most economical way		5	2	3
	PC6. Understand correct requirement of wires, cables, fuse, switches and other electrical accessories for optimal expenditure		6	3	3
	PC7. Ensure wiring and points selected in wiring is according to load growth in future		5	2	3

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	PC8. Use under-voltage protective devices, choice of setting of protective devices, labelling of protective devices, switches and terminals		6	0	6
	PC9. Ensure insulation resistance of all live conductors to earth, insulation resistance between live conductors.		4	1	3
	PC10. Impliment methods of protection against electric shock		5	0	5
	PC11. selection of equipment appropriate to external influences, access to switchgear and equipment, presence of warning signs and danger notices		5	2	3
	PC12. Understand updated technology products also consider its ageing		4	1	3
	PC13. Inspect fault locating points e.g. fuse blown, MCB, RCD trip or short circuit location in Wiring circuit		4	1	3
	PC14. Check open circuit due to overheated switches, socket and wires in control board due to loose contact and overload		4	1	3
	PC15. Check polarity to ensure all switches are connected in phase conductors		5	0	5
	PC16. Check equal distribution of load on three phase wiring in large residential and commercial units		5	2	3
	PC17. Check the color coading, proper selection of conductors, wires and connectors and connections of single pole device		5	3	2
	PC18. Check routing of cables, checking proper selection of conductors, checking connection of single pole device		3	1	2
	PC19. Work safely at all times, complying with health and safety legislation, regulation and other relevant guidelines		3	0	3
	PC20. Adhere to procedures for safety to wear PPE's.		5	1	4
	PC21. Ensure that all tools & tackles, fittings, accessories etc. are in safe and usable condition		4	0	4
	PC22. Ensure work area is clean and safe from hazards before and after the job is completed		4	1	3
			100	30	70
2. PSS/ N 6002 Mains, distribution, controls, circuits and	PC1. Understand standard location of main board ensure for utility's service line connection	100	6	3	3
	PC2. Understand layout of main switch, circuit breakers require at		5	2	3

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protection in house wiring

main board
PC3. Ensure of controlling and protection devices for different circuits being used for lighting and power loads at each floor or portion
PC4. Check types of conduit, batten, underground and open wiring
PC5. Locate and mark the position of conduit pipe Ensures, connections into the structures with proper equipment's like measuring tape, hammer, saw, drill machines etc.
PC6. Cut openings in structures to accommodate conduit pipes or pipe fittings, using hand or power tools
PC7. Read plan Ensure around obstructions like electrical wiring, gas fittings etc.
PC8. Laying of conduit pipe with clamps
PC9. Install brackets and hangers to support electrical equipment
PC10. Install, replace and repair lighting fixtures and electrical control and distribution equipment, such as switches, relays and circuit breaker panels
PC11. Lay & pull wire through conduits and through holes in walls and floors
PC12. Join and connect wire to fixtures and components to form circuits
PC13. Repair extended line for additional points with bearing capacity of existing system or augment/replacement of existing lines to with hold the additional load
PC14. Install the protective device i.e. fuse, MCB, RCCB, MCCB's ratings as per the load

4	2	2
4	1	3
4	1	3
4	0	4
4	2	2
1	0	1
1	0	1
6	2	4
4	0	4
6	2	4
5	2	3
6	2	4

PC15. Ensure proper working and functioning of all protective devices that are necessary to save lives of human, livestock, animals
PC16. Ensure fuse, switch or circuit breaker should not be placed in an earthed neutral conductor and are wired only in the phase conductor only
PC17. Ensure all the connections are made properly, tightened and color coding

3	1	2
3	0	3
4	1	3

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	PC18. Ensure that the correct type, size and current-carrying capacity of cables is chosen to bear the load		3	1	2
	PC19. Ensure that the all accessible points which may be switched on/off must be easily approached by the users		3	2	1
	PC20. Understand types of earthing plate and pipe earthing layout location		4	2	2
	PC21. Understand importance of earth connection with household gadgets and equipments		3	2	1
	PC22. Understand procedure of earth connection with appliance, sockets main board and distribution board		3	1	2
	PC23. Use of devices available in market such as trimmers, impulse relay, programmable switch, twilight switch, movement detector		2	0	2
	PC24. Ensure of assembling of various type, design and capacity fans, tube lights, LED lights, bulbs, lamps, doorbells, switches, geysers, inverters, exhaust fan, safety alarms, decorative lights and chandliers		3	1	2
	PC25. Ensure of various size and capacity water pump motors according to the load with their control circuit of water level in tank		3	1	2
	PC26. Make connections and operate instruments to check the healthiness of house wiring in terms of leakage insulation resistance		2	0	2
	PC27. Operate instruments to check the continuity, open circuit, short circuit and load flow		2	0	2
	PC28. Operate instruments to check the earth resistance		2	0	2
			100	31	69
3. PSS/ N 6003 Maintenance & Repair of house hold electrical gadgets	PC1. Read and interpret drawings, circuit diagrams and electrical code specifications of the electrical equipment, gadgets	100	7	3	4
	PC2. Read, interpret and understand the capacity in KW, load in Amperes and power consumption in KWH for each appliance		4	3	1
	PC3. Check connection of equipment, checking for status of tripping device		4	2	2
	PC4. Ensure presence of appropriate devices for isolating and switching		3	2	1

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PC5. Understand operating principle of single phase motor, use of condenser	5	4	1
PC6. Understand how rotating field is developed in single phase and three phase motor	2	2	0
PC7. Understand the significance of number of poles significance in motor winding for rpm, speed and direction change	3	2	1
PC8. Measure insulation resistance of motor winding with live conductors to earth and insulation resistance between live conductors	3	1	2
PC9. Understand various parts of motors, pumps and their function like ball bearings, cooling fans, fins and bushes	3	2	1
PC10. Understand various types of winding wires, their gauge and insulating materials for motor winding	2	2	0
PC11. Understand materials used to make various types of heating elements like nicrome, kanthal, eureka etc., various shape, size and capacity of heating elements according to applications and usages	4	0	4
PC12. Understand types of thermal insulations used in electrical gadgets like mica, asbestos, ceramics, glass wool etc.	4	0	4
PC13. Understand timers (motorized, mechanical), thermal relays, bimetallic strips	5	2	3
PC14. Ensure preventive maintenance, regular cleaning, oiling, greasing of house hold gadgets like fans, desert cooler, water pump motors etc.	4	0	4
PC15. Replace damaged switches, MCB, fan- capacitor, regulator, lighting points i.e. holder, choke, starters, water coolers and their pump & motor	6	2	4
PC16. Ensure regular maintenance of electrical equipment's like- iron, toaster, induction-plate & cooker	8	3	5
PC17. Ensure regular maintenance of doorbells, FL tube starters & chokes	8	3	5
PC18. Preventative maintenance of batteries used in inverters	5	2	3
PC19. Solder winding wires, cables and their joints in electrical gadgets	5	1	4
PC20. Verify system grounding and measure insulation resistance	2	0	2

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	PC21. Clean solar panels for removal of dust, bird droppings, pollen, leaves, branches etc. as per maintenance schedule		2	0	2
	PC22. Ensure all electrical connections as per specification, measure and record DC voltages and currents and identify the faults in the system		2	1	1
	PC23. Check for working condition of fuses, circuit breakers and all cables for loose connections		2	1	1
	PC24. Take adequate precautionary measures while handling electrical system adhering to relevant health and safety standards		2	0	2
	PC25. Understand that if reason of error is not clear, do not try to fix anything and call OEM repair and maintenance team		5	2	3
			100	38	62

4. PSS/N6005 Develop customer relationship skills	PC1. Ensure effective verbal communications are polite, clear and completed in a timely manner		6	2	4
	PC2. Ensure prompt greeting or acknowledgement and offer of assistance are provided to customer		4	0	4
	PC3. Ensure consumer is asked if there is anything else they can be helped with		4	0	4
	PC4. Ensure tone of voice and place are monitored to ensure that trust is built		6	2	4
	PC5. Ensure effective and efficient line of questioning is used		6	4	2
	PC6. Ensure consumer needs are correctly identified in a timely manner	100	4	2	2
	PC7. Ensure techniques used are personalized to meet the needs of customers with different cultural backgrounds and demographics, including age and disability status		4	2	2
	PC8. Submit a crisp proposal answering needs of the consumer with financial estimate component, explain full details and seek his/her consent to begin the job		3	0	3
	PC9. Understand new initiative taken up by company in reference to energy conservation products by providing LED lamps, 5 star rating electric gadgets		4	1	3

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PC10.	Ensure power generation equipment like genset, solar panels etc. and other non conventional energy source	4	0	4
PC11.	Ensure appropriate explanation/ solution/ option are determined for the consumer's situation	4	0	4
PC12.	Ensure customer communications are paraphrased to confirm understanding	5	3	2
PC13.	Ensure consumer needs are recognized and acknowledged	4	0	4
PC14.	Ensure issues are escalated or advice is solicited from appropriate departmental staff when necessary to meet consumer needs	3	2	1
PC15.	Show patience : if you deal with consumer on a daily basis, be sure to stay patient when you meet them and they are stumped and frustrated	5	1	4
PC16.	Show attentiveness : the ability to really listen to consumer is so crucial for providing great service for a number of reasons	5	2	3
PC17.	Show clear communication skills : when it comes to important points that you need to relay clearly to consumers, keep it simple and leave nothing to doubt	5	2	3
PC18.	Show time management skills : don't waste time trying to go above and beyond for a consumer in a service area where you will just end of wasting both of your time	5	2	3
PC19.	Show ability to "read" consumer : look and listen for subtle clues about their current mood, patience level, personality etc. and you'll go for in keeping your customer interaction positive	5	2	3
PC20.	Maintain a calming presence	5	2	3
PC21.	Show ability to use "positive language"	4	0	4
PC22.	Show closing ability : being able to close with a consumer means being able to end the service with confirmed satisfaction (or as close to it as you can achieve) and with the consumer feeling that everything has been worked on	5	1	4
		100	30	70

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<p>5. PSS/ N 2001 Use basic health and safety practices as the workplace</p>	<p>PC1. 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	8	3	5
	<p>PC2. State the names and location of documents that refer to health and safety in the workplace</p>		5	1	4
	<p>PC3. 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-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>		6	2	4

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<p>PC4. 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 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.</p>	8	3	5
<p>PC5. Understand different cause of electrical fire</p> <ul style="list-style-type: none"> • Short circuit • Overload circuits • Faulty electrical equipment • Faulty electrical outlets • Faulty circuit breakers • Old, outdated or wrongly installed appliances 	5	2	3
<p>PC6. Capable to differentiate between different warning signs before electrical fire, such as</p> <ul style="list-style-type: none"> • Sparks or smoke coming out from a socket • Burning smell • Black marks or scorch marks • Cracked, frayed or bare cables • Melted plastic on cables or casing 	5	2	3
<p>PC7. Use the various appropriate fire extinguishers on different types of fires correctly</p>	6	3	3
<p>PC8. Understand 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,</p>	5	2	3

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	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 fire is no longer receiving electricity; Class E: e.g. electrical equipment such as appliances, wiring, breaker panels, etc.				
	PC9. Demonstrate rescue techniques applied during fire hazard		5	2	3
	PC10. Demonstrate good housekeeping in order to prevent fire hazards		5	2	3
	PC11. Demonstrate the correct use of a fire extinguisher.		5	2	3
	PC12. Demonstrate how to free a person from electrocution		4	2	2
	PC13. Demonstrate how to check a person's response		4	1	3
	PC14. Administer appropriate first aid to victims whenever required e.g. in case of bleeding, choking, electric shock, poisoning etc.		5	0	5
	PC15. Demonstrate first-aid procedures if the person has suffered from burns		4	2	2
	PC16. Demonstrate basic techniques of bandaging		6	2	4
	PC17. Respond promptly and appropriately to an accident situation or medical emergency in real or simulated environments		5	2	3
	PC18. Demonstrate the artificial respiration and the CPR Process		5	2	3
	PC19. Demonstrate correct method to move injured people and others during an emergency		4	2	2
			100	37	63
6. PSS/ N 1336 Work effectively with others (Applicable when working with an organization/in a team)	PC1. Accurately receive information and instructions from the supervisor and fellow workers, getting clarification where required	100	10	3	7
	PC2. Accurately pass on information to authorized persons who require it and within agreed timescale and confirm its receipt		10	3	7

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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 assisting others in performing tasks in a positive manner, where required and possible	10	3	7
PC5. Consult with and assist others to maximize effectiveness and efficiency in carrying out tasks	10	3	7
PC6. 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
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. 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
PC10. 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: Electrician Domestic Solution		Level: 3	
NSQF Domain	Key requirements of the job role	How the job role relates to the NSQF level descriptors	NSQF Level
Process	This role requires competencies by Electricians to carry out all sorts of troubleshooting in electrical circuits of domestic wiring, fault repair, alterations, maintenance & repair of electrical equipment installed in households.	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. 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 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.	3
Professional knowledge	<ul style="list-style-type: none"> • Basic elements of electricity, voltage, current, resistance, power, energy, and how electricity flows • Basic Knowledge of electrical circuits drawings and layouts • Wires and cables, their current carrying capacity and their usage • Standard procedures followed in house wiring • Ratings as per technical terminology of control switches, MCB, ELCB, RCD electrical accessories and appliances used in house wiring, their purpose and functioning • How to plan the work correctly using various safety measures. work planning : location, material required and sequence of tasks 	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 of work and quality, and the technical specification of associated equipments, so it cannot be pegged at level 2.	3

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Title/Name of qualification/component: Electrician Domestic Solution		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"> All types of conceal, open wiring. size of conduit pipe, batten and casing-capping required for each circuit Depth of groove, channel size, clamping, boxes, hole pass on walls, pre lanter fittings and hooks on ceiling etc. Knowledge of inserting steel wire to drag the bunch of wires through conduit pipe Tools and tackles used for house wiring e.g. tool's bag containing combination plier, cutter, screw drivers, hammer, chisel, drill machine, wrench set, hacksaw etc. importance of tools and equipment to be kept in a safe and usable condition Specific health and safety precautions which must be taken when carrying out indoor and outdoor wiring, associated hazards, working at heights and PPE's must be worn Basics of power regulations and safety requirements as per CEA/Power company guidelines 		
Professional skill	<ul style="list-style-type: none"> Develop various types of house wiring planning and drawings/layouts according to specific situation Wiring selection, size, ratings of cables, accessories optimization & forecasting Common electrical wiring faults, identification and repair of wiring of residential and commercial units Working safely Ensure of mains, distribution board and protection devices Ensure of new power points, extension boards Ensure of protective devices Types of earthing, procedure to lay and its connection in house wiring. Ensure of electrical appliances Types and use of test instruments in house wiring Inspection& Testing Types of single and three phase motors Types of heating element, thermal relays and insulation Repair and maintenance of household electrical appliances 	<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 Therefore, it cannot be pegged at level 2.</p>	3

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Title/Name of qualification/component: Electrician Domestic Solution		Level: 3	
NSQF Domain	Key requirements of the job role	How the job role relates to the NSQF level descriptors	NSQF Level
Core skill	<ul style="list-style-type: none"> • Repair and maintenance of roof top solar panel • Develop circuit and wiring diagram and electrical signages, code specifications to plan wiring layouts, consumption points accurately, as may be required • Use various types of tools, their functions and application for carrying out work • Understand rating and current carrying capacity of wires, cables, fuse, switches, sockets, MCBs, ELCBs and other electrical accessories • Lay conduit pipe concealed and open wiring, batten, casing-capping and temporary cleat wiring • Implement system in the most economical way • Ensure correct requirement of wires, cables, fuse, switches and other electrical accessories for optimal expenditure • Ensure wiring and points selected in wiring are according to load growth in future • Understand use of under-voltage protective devices, choice of setting of protective devices, labelling of protective devices, switches and terminals • Understand insulation resistance of all live conductors to earth, insulation resistance between live conductors • Implement methods of protection against electric shock • Ensure selection of equipment appropriate to external influences, access to switchgear and equipment, presence of warning signs and danger notices • Use updated technology products and take their ageing into consideration • Inspect fault locating points e.g. fuse blown, MCB, RCD trip or short circuit location in wiring circuit • Ensure open circuit due to overheated switches, socket and wires in control board due to loose contact and overload 	<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.</p> <p>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, 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>	3

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Title/Name of qualification/component: Electrician Domestic Solution		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"> • Check polarity to ensure all switches are connected in phase conductors • Check equal distribution of load on three phase wiring in large residential and commercial units • Check the color coding, connection and identification of conductors, cables and wires • Check routing of cables, proper selection of conductors, wires and connectors and connection of single pole devices • Install the protective device i.e. fuse, MCB, RCCB, RCD, MCCB's ratings as per the load • Ensure proper working and functioning of all protective devices that are necessary to save lives of human, livestock, animals through earthing diagrams (TT) • Ensure fuse, switch or circuit breaker is not placed in an earthed neutral conductor and are wired only in the phase conductor only • Ensure all connections are made properly, tightened and color coding • Ensure that the correct type, size and current-carrying capacity of cables is chosen to bear the load • Ensure that all accessible points which may be switched on/off must be easily approached by the users and made as per CEA guidelines standards • Make connections and operate instruments to check the healthiness of house wiring in terms of leakage insulation resistance • Operate instruments to check the continuity, open circuit, short circuit and load flow • Operate instruments to check the earth resistance • Understand drawings, circuit diagrams and electrical code specifications of the electrical equipment and gadgets • Understand the capacity in kW, load in Amperes and power 		

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Title/Name of qualification/component: Electrician Domestic Solution		Level: 3	
NSQF Domain	Key requirements of the job role	How the job role relates to the NSQF level descriptors	NSQF Level
	<p>consumption in kWh for each appliance</p> <ul style="list-style-type: none"> • Check connection of equipment and status of tripping device • Ensure presence of appropriate devices for isolating and switching • Ensure preventive maintenance, regular cleaning, oiling, greasing of household gadgets like fans, desert cooler, water pump motor etc. • Ensure replacement of damaged switches, MCB, fan- capacitor, regulator, lighting points i.e. holder, choke, starters, water coolers and their pump & motor • Ensure regular maintenance of electrical equipment's like- iron, toaster, induction-plate & cooker. • Ensure regular maintenance of doorbells, FL tube starters & chokes • Preventative maintenance of batteries • Ensure soldering of winding wires, cables and their joints in electrical gadgets 		
Responsibility	Responsibility for own work and learning	The job holder is having some responsibility for own work under close supervision within defined limit and ensure safety measures of working, Hence, this role qualifies for Level 3. It does not comprise of any supervisory activities. 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.	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 is over 6 lakhs

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 LMIS 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 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 Senior Electrician Charge-Man or Self-employed Electrician

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.

