NSDA Reference
To be added by NSDA

Revision made by NSDA_25 May 2015

QUALIFICATION FILE – CONTACT DETAILS OF SUBMITTING BODY

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

Tel number(s): 91-11-40793153, 40793152

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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.

QUALIFICATION FILE SUMMARY

Qualification Title	Consumer Energy Meter Technician
Classification Code	PSS/ Q 0107
Body/bodies which will assess candidates	Pl. See Section 1 below
Body/bodies which will award the certificate for the qualification.	Power Sector Skill Council
Body which will accredit providers to offer the qualification.	Power sector Skills Council
Occupation(s) to which the qualification gives access	Lineman
Proposed level of the qualification in the NSQF.	3
Anticipated volume of training/learning required to complete the qualification.	370 hours For ITI - 185 hrs
Entry requirements / recommendations.	8th Standard
Progression from the qualification.	Lineman
Planned arrangements for RPL.	RPL arrangements and policies are under development. The guidelines should be ready in 2-3 months.
International Comparability	Australia- UETTDRIS60A, UK- City & Guilds Level 2 Diplomas in Smart Metering (7428-21-22-23) Unit 206 and Unit 207, , EUSPTD004

Formal structure of the qualification

Title of unit or other component (include any identification code used)	Mandatory/ Optional	Estimated size (learning hours)	Level
PSS N 0114 (Manually remove, change and install Low voltage, single and three phase meters)	Mandatory	220	3
PSS/ N 2001 (Use basic health and safety practices for power related work)	Mandatory	75	Common across 1-5 levels
CSC/ N 1336 (Work effectively with others)	Mandatory	75	Common across 1-5 levels

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

Give details of the document here:

- Qualification Pack is attached as Annexure 1

SECTION 1

ASSESSMENT

Name of assessment body:

Navriti Tehcnologies Pvt.Ltd	2nd Floor, #15,25/1, 19th A Main , 9th Cross, JP Nagar 2nd Phase, Banglore 560078
Induslynk Training Service Pvt. Ltd	Plot No97, ground Floor, Sector-44, Gurgaon, Haryana - 122003
Aspiring Minds Assessment Pvt Ltd	323, Udyog Vihar Phase-2, Gurgaon, Haryana - 122016
Manipal City and Guilds Pvt Ltd	No.256, Okhla Industrial Estate, Phase-3, Modi Mill Compound, New Delhi-110020
Trendsetters Skill Assessors Pvt ltd	Unit 340, Tower B - 3, Spaze IT Park, Sewctor - 49, Sohna Road, Gurgaon, Haryana - 122018
Ace Assessments Pvt Ltd	488, Sec-11, DDA Pocket-4, Dwarka, New Delhi-110075
Assure Quality Management Certification Services Private Limited	S.C.F 19, M.E, Opp. Flat No. 363-A(Old Housing Complex) Sector 19, Panchkula-134113
Prima Competencies Pvt Ltd*	51 A, 2nd Floor, Uday park, New Delhi 110049

Will the assessment body be responsible for RPL assessment?

Yes

Give details of how RPL assessment for the qualification will be carried out and quality assured.
RPL will be based on the same approved Qualification Pack and Assessment Criteria mentioned in the Qualification Pack.

The process of RPL assessment is under development.

Describe the overall assessment strategy and specific arrangements which have been put in place to ensure that assessment is always valid, consistent 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.
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

A sample format of Assessment Guide for Fitter-Fabrication is attached. Similar Assessor Guides are developed and shared with the assessors before the start of the assessments as standard practices for all assessments by PSSC. The Sample of Assessor Guide is attached as Annexure 4

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 angels/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.

The details on affiliation of assessment agencies are elaborated in PSSC Accreditation of Assessment Agencies form attached.

Please attach any documents giving further information about assessment and/or RPL.
Give details of the document(s) here:

ASSESSMENT EVIDENCE

Complete the following grid for each grouping of NOS, assessment unit or other component as per the assessment criteria. Insert the required number of rows.

CRITERIA FOR ASSESSMENT OF TRAINEES

Job Role : Consumer Energy Meter Technician

Qualification Pack : PSS/ Q 0107

Sector Skill Council : 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	Total Mark	Out of	Theory	Skills Practical
PSS/ N 0114: Manually remove, change and install Low Voltage, single and three phase meters	PC1. obtain job specification or work order from responsible authority	**100**	2	0	2
	PC2. select and use appropriate personal protective equipment (PPE) suitable to the work as per occupational health and safety guidelines		3	1	2
	PC3. select and use appropriate tools and equipment in accordance with the tasks		3	1	2
	PC4. confirm that the selected tools and equipment are safe and ready for use		2	0	2
	PC5. verify the distance between the poles or cables is correct		2	0	2
	PC6. check the underground and/or overhead cables are laid correctly as per work order		2	0	2
	PC7. plan and locate the area inside or outside the customer's premise after assessing possible risks		3	0	3

	PC8. check that the identified area is accessible to carry out installation, meter testing, commissioning, reading, recording and maintenance		2	0	2
	PC9. ensure the energy meter is correct, examined and tested, and meets all the parameters and specifications set by the Bureau of Indian Standards (BIS)		4	2	2
	PC10. follow safe working practices in accordance with instructions given in the organizational standards and regulations to prevent injury to self and others while carrying out work		4	1	3
	PC11. inspect the facility's wiring system and recognize any possible risks to be isolated such as faulty circuit, loose ends, naked wires, etc.		3	0	3
	PC12. check the consumer's wiring system for any common phase or looping of phase of two or more consumers		3	0	3
	PC13. inform all affected parties of the intended work plan in advance prior to disconnecting power supply line		2	0	2
	PC14. install the energy meter and required supportive equipment using appropriate insulated tools and devices as per organizational procedures		6	2	4
	PC15. equip the energy meter with various anti-tampering features as per regulations and organizational procedures		6	2	4
	PC16. establish immunity against various types of external factors in accordance with relevant regulations		4	1	3
	PC17. ensure the energy meter displays one of more of the following parameters depending upon the tariff requirement for different categories of consumers		4	1	3
	PC18. check that any replaced or repaired equipment are working properly and customer's problems are duly resolved efficiently		3	0	3

	PC19. check the energy meter for earth leakage indication as per relevant regulations		3	1	2
	PC20. test and calibrate the energy meter using appropriate testing devices in line with organizational quality standards and regulations		6	2	4
	PC21. identify and escalate unresolved problems to appropriate authority for rectifications		3	0	3
	PC22. establish the reason for changing the energy meter from responsible source in order to plan the work out		2	0	2
	PC23. identify the meter type, required tools and devices and the recommended removal procedures		5	2	3
	PC24. replace the same with a duly tested energy meter as per instructions given in organizational guidelines and regulations		4	1	3
	PC25. test to confirm that the replaced energy meter conforms to required work specifications		3	1	2
	PC26. record the metered data and maintain all the information related to the consumer's energy meter		2	0	2
	PC27. verify the accuracy of the metered data		3	0	3
	PC28. maintain consumer meters' account history, installation date and testing details, calibration and replacement of meters in line with organizational standards and policies		3	1	2
	PC29. check that tools and devices used are disassembled and stored safely as per instructions		3	1	2
	PC30. dispose waste materials such as wires, tapes, plastic caps, etc. in line with safety and environmental procedures		3	1	2
	PC31. leave the work area is in safe conditions and clear of any hazardous substances		2	0	2
		Total	**100**	**21**	**79**

PSS/ N 2001 (Use basic health and safety practices at the workplace)	PC1. use protective clothing/equipment for specific tasks and work conditions	**100**	3	0	3
	PC2. state the name and location of people responsible for health and safety in the workplace		2	0	2
	PC3. state the names and location of documents that refer to health and safety in the workplace		2	0	2
	PC4. identify job-site hazardous work and state possible causes of risk or accident in the workplace		3	1	2
	PC5. follow electrical safe working procedures such as Tag out/Lock out, PTW (Permit To Work),		3	1	2
	PC6. follow warning signs (danger, out of service, etc.) while working with electrical systems		3	1	2
	PC7. use standard safe working practices when working at heights, confined areas and trenches		3	1	2
	PC8. test any electrical equipment and system using insulated testing devices before touching them		3	1	2
	PC9. ensure positive isolation of electrical equipment & system as per given standards		3	1	2
	PC10. recognize any abnormalities in electrical equipment or system installed alarm annunciation and/or noticing parameters from gauge/ indicator installed		3	1	2
	PC11. carry out safe working practices while dealing with hazards to ensure the safety of self and others		3	1	2
	PC12. state methods of accident prevention in the work environment of the job role		2	0	2
	PC13. state location of general health and safety equipment in the workplace		2	0	2
	PC14. inspect for faults, set up and safely use of scaffolds and elevated platforms and ladders		2	0	2
	PC15. lift, carry and transport heavy objects & tools safely using correct procedures from storage to		3	1	2

	workplace and vice versa				
	PC16. inspect power plant and its equipment routinely for any signs of oil, water and/or steam leakage		3	0	3
	PC17. store flammable materials and machine lubricating oil safely and correctly		2	0	2
	PC18. check that the emission and pollution control devices are working properly in line with environmental policy standards		5	2	3
	PC19. apply good housekeeping practices at all times		3	1	2
	PC20. identify common hazard signs displayed in various areas		2	0	2
	PC21. retrieve and/or point out documents that refer to health and safety in the workplace		2	0	2
	PC22. inform relevant authorities about any abnormal situation/behavior of any equipment/system promptly		3	0	3
	PC23. use the various appropriate fire extinguishers on different types of fires correctly		4	1	3
	PC25. demonstrate good housekeeping in order to prevent fire hazards		3	1	2
	PC26. demonstrate the correct use of a fire extinguisher		3	1	2
	PC27. demonstrate how to free a person from electrocution		3	1	2
	PC28. administer appropriate first aid to victims where required e.g. in case of bleeding, burns, choking, electric shock, poisoning etc.		3	0	3
	PC29. demonstrate basic techniques of bandaging		3	1	2
	PC30. respond promptly and appropriately to an accident situation or medical emergency in real or simulated environments		3	1	2
	PC31. perform and organize loss minimization or rescue activity during an accident in real or simulated environments		3	1	2

	PC32. administer first aid to victims in case of a heart attack or cardiac arrest due to electric shock, before the arrival of emergency services in real or simulated cases		3	1	2
	PC33. demonstrate the artificial respiration and the CPR Process		3	1	2
	PC34. participate in emergency procedures		3	1	2
	PC35. complete a written accident/incident report or dictate a report to another person, and send report to person responsible		3	1	2
	PC36. demonstrate correct method to move injured people and others during an emergency		3	1	2
		Total	**100**	**24**	**76**
CSC/ N 1336 (Work effectively with others)	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
	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		10	3	7
	PC7. display active listening skills while interacting with others at work		10	3	7
	PC8. use appropriate tone, pitch and language to convey politeness, assertiveness, care and professionalism		10	3	7
	PC9. demonstrate responsible and disciplined behaviors at the workplace		10	3	7

	PC10. escalate grievances and problems to appropriate authority as per procedure to resolve them and avoid conflict		10	3	7
		Total	**100**	**30**	**70**

SECTION 2

EVIDENCE OF NEED

What evidence is there that the qualification is needed?

While collecting data from secondary sources 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.

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

Please attach any documents giving further information about any of the topics above.
Give details of the document(s) here:

- Report to the Governing Council
- Minutes of the meeting of GC meetings
- CEA and 12th plan Human Resource & Skills Requirement in Power Sector

SECTION 3

SUMMARY OF DIRECT EVIDENCE OF LEVEL

Justify the NSQF level allocated to the QP. Relate information about the job role and build upon the five descriptors for the level to justify.

Consumer Energy Meter Technician					PSS/ Q 0107
Process required	**Professional Knowledge**	**Professional Skills**	**Core Skills**	**Responsibility**	**Level**
The incumbent will carry out the meter installation as per specifications and company procedures. The job requires limited range of activities, routine and predictable. • install the energy meter and required supportive equipment using appropriate insulated tools and devices as per organizational procedures The competence level is more than level 2 as this requires understanding of components, types of meters, etc.	The incumbent needs to be equipped with basic facts, processes and principles in order to carry out the work. The incumbent requires understanding of different types, components of the meter Eg. • different components of a consumer energy meter and their functions • difference between LV and HT meters	Recall and demonstrate practical skill, in a routine and repetitive manner in narrow range of application Most of the professional skills are based on recall and carrying out practice in limited range of application. (Indoor/Outdoor, single phase/three phase) This is more than level 2 as this requires some independent work and not just assisting others. This also requires some understanding	The incumbent is required to communicate with customers and internal staff, with some basic clarity on routine matters including both written and oral. This may not require a level 4 of communication for the context is fairly limited and routine statements are required to be used. Also understanding of political environment is not really required as mentioned in the level 4 descriptor. Example of communication with others and writing ability is as follows:	While the role does not require constant supervision, the lineman and not the meter technician is ultimately held accountable for the work and would handle all complaints and check the installation for correctness. The Metering Technician is responsible for carrying out the task as per specifications and internally answerable to the lineman. Eg. • identify and escalate unresolved problems to appropriate authority for rectifications	3

The incumbent is expected to make decisions based on organisational procedures and norms and not independent opinion. The scope of work is limited and does not warrant a level 4.	and their respective uses in the power sector The incumbents needs to understand the installation procedures within a limited range of contexts. (eg. indoor/ outdoor, single phase and three phase) There is no real need for having factual knowledge of field of knowledge or study, but for limited procedural knowledge and that of laid down specifications.	of acceptable and not acceptable standards of work. This is lower than level 4 requirements as this does not involve understanding of quality concepts, but merely adhering to acceptable and non-acceptable standards as per specifications.	• inform all affected parties of the intended work plan in advance prior to disconnecting power supply line • record the metered data and maintain all the information related to the consumer's energy meter • verify the accuracy of the metered data • maintain consumer meters' account history, installation date and testing details, calibration and replacement of meters in line with organizational standards and policies •		
3	3	3	3	3	

OTHER EVIDENCE OF LEVEL [This need only be filled in where evidence other than primary outcomes was used to allocate a level] (**Optional)**

Summary of other evidence (if used):

nil

SECTION 4

EVIDENCE OF RECOGNITION OR 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 options have been articulated, horizontal mobility will be articulated once full occupational mapping of the sector is completed.

Please attach any documents giving further information about any of the topics above.
Give details of the document(s) here:

- List of companies and Industry associations participated in developed of these qualifications