QUALIFICATION FILE

O&M Mechanical Technician - Wind Power Plant

☒ Short Term Training (STT) ☐ Long Term Training (LTT) ☐ Apprenticeship

☐ Upskilling ☐ Dual/Flexi Qualification ☐ For ToT ☐ For ToA

☒ General ☐ Multi-skill (MS) ☐ Cross Sectoral (CS)

NCrF/NSQF Level: 4

Submitted By:

Skill Council for Green Jobs

Chief Executive Officer
CBIP Building, Malcha Marg,
Chanakyapuri, New Delhi – 110021
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Contents

Section 1: Basic Details

1.	**Qualification Name**	O&M Mechanical Technician - Wind Power Plant	
2.	**Sector/s**	Renewable Energy	
3.	**Type of Qualification:** ☐ **New**	**NQR Code & version of existing/previous qualification: & version:**	**Qualification Name of existing/previous version:**
4.	**a. OEM Name** **b. Qualification Name** (Wherever applicable)	O&M Mechanical Technician - Wind Power Plant	
5.	**National Qualification Register (NQR) Code &Version**	**version 1**	**6. NCrF/NSQF Level:** 4
7.	**Award (Certificate/Diploma/Advance Diploma/ Any Other**	Certificate	
8.	**Brief Description of the Qualification**	The O&M Mechanical Technician Wind Power Plant, carries out operation and maintenance of mechanical components of wind power plant, complying with all operational manuals, applicable codes, standards and safety requirements	
9.	**Eligibility Criteria for Entry for Student/Trainee/Learner/Employee**	**Entry Qualification & Relevant Experience:** 12th Grade Pass without experience Or 10th Grade Pass plus 2 year NTC/ 10th Garde Pass plus 1 year NTC plus 1 year NAC/ 10th Grade Pass with 2 years of relevant experience Or 8th Pass plus 2-year NTC plus 1 year NAC plus CITS Or or ITI after Class 10th (Electrician /Mechanical/ Fitter/Welder/ and related trades) Or Completed 2nd year of 3-year diploma (after 10th) and pursuing regular Government recognised 3 years Diploma (Electrical/ Mechanical/ Civil/Electronics & Communication / Control & Instrumentation) Or Previous relevant qualification of NSQF Level 3.0 with minimum education as 8th grade pass with 3 years of experience **Age:** 16yrs	
10	**Credits Assigned to this Qualification, Subject to Assessment** (as per National Credit	14	**10. Common Cost Norm Category:** **I**

<table>
<tr><td></td><td>Framework (NCrF))</td><td colspan="2"></td></tr>
<tr><td>11</td><td>Any Licensing requirements for Undertaking Training on This Qualification (wherever applicable)</td><td colspan="2">NA</td></tr>
<tr><td>12</td><td>Training Duration by Modes of Training Delivery (Specify Total Duration as per selected training delivery modes and as per requirement of the qualification)</td><td colspan="2">☒Offline ☐Online ☐Blended
<table>
<tr><th>Training Delivery Modes</th><th>Theory (Hours)</th><th>Practical (Hours)</th><th>OJT Mandatory (Hours)</th><th>OJT Recommended (Hours)</th><th>Employability (Hours)</th><th>Total (Hours)</th></tr>
<tr><td>Classroom (offline)</td><td>120</td><td>120</td><td>120</td><td></td><td>60</td><td>420</td></tr>
<tr><td>Online</td><td></td><td></td><td></td><td></td><td></td><td></td></tr>
</table>
(Refer Blended Learning Annexure for details)</td></tr>
<tr><td>13</td><td>Aligned to NCO/ISCO Code/s (if no code is available mention the same)</td><td colspan="2">NCO-2015/3115.0102
Maintenance Technician – Mechanical</td></tr>
<tr><td>14</td><td>Progression path after attaining the qualification (Please show Professional and Academic progression)</td><td colspan="2">Vertical Progression: CMS Engineer/ O&M Engineer (Mechanical) –Wind Power Plant (level 5)</td></tr>
<tr><td>15</td><td>Other Indian languages in which the Qualification & Model Curriculum are being submitted</td><td colspan="2">NA</td></tr>
<tr><td>16</td><td>Is similar Qualification(s) available on NQR-if yes, justification for this qualification</td><td colspan="2">☐ Yes ☒ No</td></tr>
<tr><td>17</td><td>Is the Job Role Amenable to Persons with Disability</td><td colspan="2">☒ Yes ☐ No
If “Yes”, specify applicable type of Disability:
☐ Deaf ☐ Hard of Hearing ☒ Acid Attack Victims ☐ Dwarfism

Person with disability can be work primarily desk-based and involves working on a computer, it can be accessible to individuals with mobility impairments, provided that the workplace is physically accessible (e.g., wheelchair ramps, elevators, accessible restrooms).</td></tr>
</table>

18	**How Participation of Women will be Encouraged**	Engaging local partners to advertise about training and its benefits to grass root level will help us in women participation. Linkages with industries for jobs in this field will increase women participation.10% of seats can be reserved for women to increase their participation. Selection of the participants will be done as per the eligibility criteria without any gender biases. Linkages with industries for jobs in this field will increase women participation.	
19	**Are Greening/ Environment Sustainability Aspects Covered** (Specify the NOS/Module which covers it)	☒ **Yes** ☐ **No**	
20	**Is Qualification Suitable to be Offered in Schools/Colleges**	**Schools** ☒ **Yes** ☐ **No** **Colleges** ☒ **Yes** ☐ **No**	
21	**Name and Contact Details of Submitting / Awarding Body SPOC** (In case of CS or MS, provide details of both Lead AB & Supporting ABs)	**Name:** Mr. Arpit Sharma **Email:** ceo@sscgj.in **Contact No.:** 9871119101 **Website:** **https://sscgj.in/**	
22	**Final Approval Date by NSQC:**	**23. Validity Duration:** 3 years	**24. Next Review Date:**

Section 2: Module Summary

Mandatory NOS/s

S. No	NOS/Module Name	NOS/Module Code & Version *(if applicable)*	Core/ Non-Core	NCrF/ NSQF Level	Credits as per NCrF	Training Duration (Hours)					Assessment Marks					
						Th.	Pr.	OJT-Man.	Employability	Total	Th.	Pr.	Proj.	Viva	Total	Weightage (%) *(if applicable)*
1.	Operate mechanical components of Wind power plant	SGJ/N1507		4		**60**	**60**			120						
2.	Carry out maintenance of mechanical components of	SGJ/N1504		4		**45**	**45**			90						

S. No	NOS/Module Name	NOS/Module Code & Version *(if applicable)*	Core/ Non-Core	NCrF/ NSQF Level	Credits as per NCrF	Training Duration (Hours)					Assessment Marks					
						Th.	Pr.	OJT-Man.	Employability	Total	Th.	Pr.	Proj.	Viva	Total	Weightage (%) *(if applicable)*
	wind power plant															
3.	Perform basic health and safety practices at project site (Ground and Height)	SGJ/N1201		4		**15**	**15**			30						
4.	Employability Skills	DGT/VSQ/ N0102		4					**60**	60						
5.	On the Job Training			4				**120**		120						
Duration (in Hours) / Total Marks						120	120	120	60	**420**						

NOS/s of Qualifications

(In exceptional cases these could be described as components)

Specify the training duration and assessment criteria at NOS/ Module level. For further details refer curriculum document.

***Th.**-Theory **Pr.**-Practical **OJT**-On the Job **Man.**-Mandatory Training **Rec.**-Recommended **Proj.**-Project*

Assessment - Minimum Qualifying Percentage

Minimum Pass Percentage – Aggregate at qualification level: 70 % *(Every Trainee should score specified minimum aggregate passing percentage at qualification level to successfully clear the assessment.)*

Section 3: Training Related

1.	**Trainer's Qualification and experience in the relevant sector (in years)** *(as per NCVET*	Diploma Electrical, Electronics, Civil, Mechanical, Fitter, Instrumentation With Minimum 2 years of relevant industry experience for Diploma (Electrical, Electronics, Civil, Mechanical, Fitter, Instrumentation) Or

	guidelines)	B.Tech (Civil/Mechanical /Electrical/ Instrumentation / Electronics / Electrical and Electronics Eng.) Or MSc Physics with Minimum 1 years of relevant industry experience for B.Tech (Civil/Mechanical /Electrical/ Instrumentation/ Electronics /MSc Physics As per the Relevant Craft Instructor Training Scheme (CITS)
2.	**Master Trainer's Qualification and experience in the relevant sector (in years)** *(as per NCVET guidelines)*	Engineering Graduate with 5 years of experience in (Civil/Mechanical /Electrical/ Instrumentation / Electronics / Electrical and Electronics Eng.) post their ToT Certification
3.	**Tools and Equipment Required for Training**	☒Yes ☐No (*If "Yes", details to be provided in Annexure) Clamp meter, Multi meter, Battery tester, Earthing tester and General tool kit.*
4.	**In Case of Revised Qualification, Details of Any Upskilling Required for Trainer**	Not Applicable

Section 4: Assessment Related

1.	**Assessor's Qualification and experience in relevant sector (in years)** *(as per NCVET guidelines)*	Engineering Graduate with 10 years of experience in (Civil/Mechanical /Electrical/ Instrumentation / Electronics / Electrical and Electronics Eng.) Or Certified under relevant Craft Instructor Training Scheme (CITS) course. * The education qualification can be relaxed in case of extraordinary relevant field experience.
2.	**Proctor's Qualification and experience in relevant sector (in years)** *(as per NCVET guidelines)*	Engineering Graduate with 3 years of experience in (Civil/Mechanical /Electrical/ Instrumentation / Electronics / Electrical and Electronics Eng.) Or Certified under relevant Craft Instructor Training Scheme (CITS) course. * The education qualification can be relaxed in case of extraordinary relevant field experience.
3.	**Lead Assessor's/Proctor's Qualification and experience in relevant sector (in years)** *(as per NCVET guidelines)*	Engineering Graduate with 10 years of experience in (Civil/Mechanical /Electrical/ Instrumentation / Electronics / Electrical and Electronics Eng.) post their ToA Certification Or Certified under relevant Craft Instructor Training Scheme (CITS) course. * The education qualification can be relaxed in case of extraordinary relevant field experience.
4.	**Assessment Mode** *(Specify the assessment mode)*	Online and offline both
5.	**Tools and Equipment Required for Assessment**	☒ Same as for training ☒ Yes ☐ No *(details to be provided in Annexure-if it is different for Assessment)*

Section 5: Evidence of the need for the Qualification

Provide Annexure/Supporting documents name.

1.	**Latest Skill Gap Study (not older than 2 years) (Yes/No):** Yes**,**
2.	**Latest Market Research Reports or any other source (not older than 2 years) (Yes/No):** • https://www.cecp-eu.in/uploads/documents/events/Gap_Assessment_of_training_and_skill_building_in_Offshore_wind_energy_sector_in_India_Oct_2021.pdf • https://www.ceew.in/publications/identifying-skill-gap-challenge-facing-wind-industry
3.	**Government /Industry initiatives/ requirement (Yes/No):** The Indian wind sector employed around 25,500 workers as of FY21, but significant growth is needed to meet the 101 GW wind capacity goal by 2030. **Viability Gap Funding (VGF) for Offshore Wind**: In 2024, India approved INR 7,453 crore for offshore wind projects, aiming to install 1 GW of capacity off the coasts of Gujarat and Tamil Nadu. The scheme also includes port upgrades, critical for offshore logistics **Wind-Solar Hybrid Policy**: This policy, launched by the Ministry of New and Renewable Energy (MNRE), promotes combined wind and solar installations to optimize resource use, reduce intermittency, and increase power supply reliability **National Offshore Wind Energy Policy**: Established in 2015, this policy continues to provide the regulatory framework for developing offshore wind farms, targeting 37 GW of offshore capacity by 2030 **Wind Renewable Purchase Obligation (RPO)**: India mandates state utilities to meet a portion of their electricity from wind, ensuring a market for wind energy and pushing capacity additions to meet targets

	Concessional Custom Duty Exemption: Wind turbine generators benefit from exemptions on customs duty for specific components, reducing installation costs and making wind projects more financially viable **Green Energy Corridor**: This project, partially funded by Germany's KfW, facilitates wind and solar power transmission, connecting high-renewable zones to the national grid, enabling smooth integration of variable wind power **Inter-State Transmission System (ISTS) Charges Waiver**: Wind and solar projects commissioned before June 2025 are exempt from ISTS charges for inter-state power sales, reducing costs and enhancing project feasibility **Guidelines for Competitive Bidding**: MNRE's guidelines for competitive bidding aim to standardize procurement, ensuring transparent pricing and reducing costs for power from grid-connected wind projects **Critical Mineral Mission**: Announced in 2024, this mission focuses on securing essential minerals like copper and rare earths, which are crucial for manufacturing wind turbines and other renewable energy infrastructure **National Hydrogen Mission**: Launched in 2021, this mission includes wind power as a source for producing green hydrogen, adding a new market for wind energy beyond traditional electricity generation
4.	**Number of Industry validation provided:** Up to 10 industry validations are expected to be received for the qualification.
5.	**Estimated nos. of persons to be trained and employed:** A large number of workforce shall be employed primarily at small solar project sites for performing various tasks related to installation of small solar projects. It is expected that every year over 20,000 candidates shall be trained and certified on this through Short Term Training mode. Further, thousands of Secondary school students shall also be certified on this if it is successfully introduced in schools.
6.	**Evidence of Concurrence/Consultation with Line Ministry/State Departments:** Concurrence has been requested from the Ministry of New and Renewable Energy

Section 6: Annexure & Supporting Documents Check List

Specify Annexure Name / Supporting document file name

1.	**Annexure:** NCrF/NSQF level justification based on NCrF level/NSQF descriptors *(Mandatory)*	Annexure: Evidence of Level
2.	**Annexure:** List of tools and equipment relevant for qualification *(Mandatory, except in case of online course)*	Annexure: Tools and Equipment (Lab Set-Up)
3.	**Annexure:** Detailed Assessment Criteria *(Mandatory)*	Annexure: Detailed Assessment Criteria (Mandatory)
4.	**Annexure:** Assessment Strategy *(Mandatory)*	Annexure: Assessment Strategy
5.	**Annexure:** Acronym and Glossary *(Optional)*	Annexure: Acronym and Glossary
6.	**Supporting Document:** Model Curriculum *(Mandatory – Public view)*	Attached
7.	**Supporting Document:** Career Progression *(Mandatory - Public view)*	Annexure: Career progression and OM
8.	**Supporting Document:** Occupational Map *(Mandatory)*	Solar PV systems designing and installation and commissioning, Solar Plant Operator, Solar Technician, Self-sustainable Entrepreneur
9.	**Supporting Document:** Assessment SOP *(Mandatory)*	Annexure: Assessment Strategy

Annexure: Evidence of Level

Title/Name of qualification/component: O&M Mechanical Technician-Wind Power Plant Level: 4			
NSQF Domain	**Outcomes of the Qualification/Component**	**How the outcomes relate to the NSQF level descriptors**	**NSQF Level**
Professional Theoretical Knowledge/ Process	The individual is expected to carry out operation and maintenance of mechanical components of wind power plant complying with all operational manuals/applicable codes/standards and safety requirements.	A professionally trained individual who independently performs familiar, predictable, routine situation of clear choice such as carrying out scheduled & preventive inspections of WTG/ blade and associated equipment's, monitor working efficiency of WTG and associated equipment's, assisting the plant engineer in undertaking breakdown maintenance, conducting the online testing for all mechanical equipment's/components - real time calibration & comparison with parameters against predefined specifications and etc. Since the job holder is expected to independently perform work of familiar, predictable and routine nature within situations of clear choice as mentioned above s/he can be placed at Level 4. As the job holder is not required to exhibit well developed skill in Wind energy such as, perform erection & commissioning and operations &maintenance of Control system in Wind power plant, hence s/he does not qualify for Level 5. This role requires the job holder to work in a familiar, predictable, routine of clear choice and the activities that h/she is expected to perform are not limited in range. For example, repairing or	4

Title/Name of qualification/component: O&M Mechanical Technician-Wind Power Plant		Level: 4	
NSQF Domain	**Outcomes of the Qualification/Component**	**How the outcomes relate to the NSQF level descriptors**	**NSQF Level**
		replacing faulty mechanical equipment's/components. Hence it cannot be placed at level 3.	
Professional and Technical Skills/ Expertise/ Professional Knowledge	The individual is expected to be exhibit the knowledge of basic concepts of wind technology and wind power generation, knowledge of components and equipments of wind power plant like WTG/blades/shell/transformer/substation/switchgear/transmission line, knowledge of common electricity terminology and correct interpretation of the same terminology: e.g. current, voltage, resistance, kilowatt (kw), kilowatt hour (kwh), principles and practices of electrical safety the process of E&C of WTG, transformer and other plant equipment and various types of pre and post commissioning tests/inspections	The job holder is expected to exhibit an understanding factual knowledge of a wind power plant like knowledge about basic concepts of wind technology and wind power generation, knowledge of components and equipments of wind power plant like WTG/blades/shell/transformer/substation/switchgear/transmission line, knowledge of common electricity terminology and correct interpretation of the same terminology: e.g. current, voltage, resistance, kilowatt (kw), kilowatt hour (kwh), principles and practices of electrical safety the process of E&C of WTG, transformer and other plant equipment and various types of pre and post commissioning tests/inspections. Along with hazards/ safe working practices/ materials and equipment needed/ tasks and activities to the required standard. S/he should also have the ability to speak read and write in the local vernacular language and English. Since all the above-mentioned areas are related to factual knowledge of wind power plant, the role qualifies for Level 4. The job holder is expected to know more than basic facts and principles, such as s/he is expected to know ratings and specifications of cables, fuses, switches and wires. Therefore, it cannot be pegged at level 3. Further, since the job holder is not expected to be aware of principles/ process & general concepts of a wind power plant as a whole, like the process of installation of CMS and associated components, therefore it can't be pegged at level 5	4

Title/Name of qualification/component: O&M Mechanical Technician-Wind Power Plant Level: 4			
NSQF Domain	**Outcomes of the Qualification/Component**	**How the outcomes relate to the NSQF level descriptors**	**NSQF Level**
Employment Readiness & Entrepreneurship **Skills & Mind-set/Professional Skill**	The job holder is expected to operate/ use screw driver, inspection fixtures, wire cutter, pliers, testers, spanner, etc., plan and organize the regular activities to be conducted at the wind power plant. Further, the job holder must be able to take the day to day decisions and solve problem/s at work. The job holder should also be able to critically analyze the information gathered from different sources to perform day to day activities.	The job holder is expected to recall and demonstrate practical skills, which are routine and repetitive in narrow range of application such as following organization rule-based decision making process, planning and organizing work to meet deadlines, choosing best methods to complete assigned tasks, critically evaluating information obtained from customers, supervisor and co-workers to perform day to day activities. Further, the incumbent refers to and uses defined rules in SOP manual and tools as per organization's guidelines to conduct various types of maintenance activities Since all the above mentioned professional skill are related to demonstrating practical skills, which are routine and repetitive in a narrow range and using appropriate rule and tool, the role qualifies for Level 4. The Job holder expected to possess professional skills more than just demonstrating practical skills, which are routine and repetitive in a narrow range but also using appropriate rules & tools to analyze & interpret information such as performing risk analysis which high lightens the possible risks, their likelihood and reduction strategies. Hence, the job holder can't be placed at Level 3. Further the job holder doesn't require to use much cognitive skills to accomplish tasks and solve problems at the workplace. The activities performed primarily requires only practical skill like applying domain knowledge, observations and data to select course of action to perform tasks related to wind power plant. Hence s/he can't be placed at level 5	4
Broad Learning	The individual is expected to exhibit effective communication skills by communicating clearly with the supervisor and understanding the	The job holder is expected to exhibit effective oral communication skills (including awareness of vernacular language) so as to	4

Title/Name of qualification/component: O&M Mechanical Technician-Wind Power Plant		Level: 4	
NSQF Domain	**Outcomes of the Qualification/Component**	**How the outcomes relate to the NSQF level descriptors**	**NSQF Level**
Outcomes/ Core Skill	instructions given by him/ her. Further, the individual is expected to perform respective record maintaining work and using basic arithmetic/ algebraic principles to identify common faults in the any components. The individual should also possess basic understanding of natural environment to understand the common faults and issues which can occur at the wind power plant	understand the instructions of the supervisor as well as clearly instruct helpers while carrying out day to day activities. The job holder is also expected to possess reading and writing skills so as to read and understand equipment manuals, health and safety instructions, various signage and standard code and concepts well as well as maintain records as per organisation policies. The job holder is also expected to display basic arithmetic/ algebraic awareness to analyze and interpret the quality parameters & quality assessment based on physical parameters etc. The incumbent must understand the social, political of the local environment so as to communicate effectively with wind project helpers who primarily belong to the surrounding regions and natural environment so as to identify common issues and faults which can affect the health of the any parts in the wind power plant. Since all the above mentioned core skills are related to exhibiting effective oral, written communication skills along with basic understanding of the arithmetic principles as well as understanding of the social, political and natural environment therefore the role qualifies for Level 4. The Job holder expected to possess core skills more than just demonstrating minimum clarity in oral & written communication such as getting specific instructions from the supervisor and carrying out activity or reporting to supervisor specific observations from the wind power plant. Hence, the job holder can't be placed at Level 3.	

Title/Name of qualification/component: O&M Mechanical Technician-Wind Power Plant Level: 4			
NSQF Domain	**Outcomes of the Qualification/Component**	**How the outcomes relate to the NSQF level descriptors**	**NSQF Level**
		Further since the job holder doesn't require to use detailed mathematical skill or skill of collecting & organizing information such as collecting information regarding plant operating parameters, getting information from sub-ordinates and peers to identify possible issues and faults, hence s/he can't be placed at level 5	
Responsibility	The individual is primarily responsible for carrying out operation and maintenance of mechanical components of wind power plant complying with all operational manuals, applicable codes, standards, and safety requirements.	The O&M Mechanical Technician- Wind Power Plant is responsible for his/ her own work and learning as s/he is responsible for carrying out operation and maintenance of wind power plant turbine system. S/he also is responsible to inspect, diagnose, adjust and repair wind turbines and associated components and complying with all operational manuals, applicable codes, standards, and safety requirements. S/he works under some supervision but primarily carries out his/her day to day activities independently. Thus s/he can be placed at level 4. Since s/he is neither expected to be responsible of other's work or learning by hence s/he can't be placed at level 5 Also as is evident from the above examples that the incumbent is fully responsible for responsible for his her own work and learning rather than being responsible in defined limit since s/he gathers the practical skills/ techniques required to perform a task in the on the job, s/he analyses & interprets how to utilize the acquired skills & techniques while executing the maintenance activities and enhances his/her knowledge base about use of several tools, equipments and materials for a given task therefore s/he can't even be placed at Level 3	4

Title/Name of qualification/component: O&M Mechanical Technician-Wind Power Plant		Level: 4	
NSQF Domain	**Outcomes of the Qualification/Component**	**How the outcomes relate to the NSQF level descriptors**	**NSQF Level**

Annexure: Tools and Equipment (Lab Set-Up)

List of Tools and Equipment

Batch Size:

S. No.	Tool / Equipment Name	Specification	Quantity for specified Batch size
1.	Screw Drivers set	Taparia / Equalant	1
2.	Measuring tape	ISI Mark	1
3.	Wrench	10/11 & 12/13 – Taparia	2
4.	Pliers	Taparia / ISI Mark	1
5.	Hammers	200 grm / 500 grm	1
6.	Wire Cutters	0.5 mm	1
7.	Allen Keys	1-6 inch	1
8.	Multi meter (basic model)	DC Voltage 200mV/2/20/200/1000V	1
9.	Neon tester	Line tester	1
10.	Wire stripper	0.5mm	1

11.	Torque wrenches	Standard	1
12.	Impact wrenches	Standard	1
13.	Hydraulic torque tools	Standard	1
14.	Hard hats	Standard	30
15.	Harnesses	Standard	2
16.	Gloves	Standard	30
17.	Anti-static wear	Standard	30
18.	Eye and ear protection.	Standard	1
19.	Grease guns	Standard	1
20.	Oil cans	Standard	1
21.	Lubricant dispensers.	Standard	1
22.	Pressure guage	Standard	1
23.	Hydraulic jacks	Standard	1
24.	hydraulic pumps	Standard	1
25.	crimping tools	Standard	1
26.	Insulation Tester	Standard	1
27.	Meghaohmmeter	Standard	1

Classroom Aids

The aids required to conduct sessions in the classroom are:

1. Tool kit for the practical session
2. SPV models to be used for the session

Annexure: Industry Validations Summary

Provide the summary information of all the industry validations in table. This is not required for OEM qualifications.

S.No	Organization Name	Representative Name	Designation	Contact Address	Contact Phone No	E-mail ID	***LinkedIn Profile** (if available)*
1.							

2.							
3.							
4.							
5.							
6.							

Annexure: Training & Employment Details

Training and Employment Projections:

Year	Total Candidates		Women		People with Disability	
	Estimated Training #	Estimated Employment Opportunities	Estimated Training #	Estimated Employment Opportunities	Estimated Training #	Estimated Employment Opportunities
2023-24						
2024-25						
2025-26						

Data to be provided year-wise for next 3 years

Training, Assessment, Certification, and Placement Data for previous versions of qualifications:

Year	Total Candidates				Women				People with Disability			
	Trained	Assessed	Certified	Placed	Trained	Assessed	Certified	Placed	Trained	Assessed	Certified	Placed
2018-19												
2019-20												
2020-21												
2021-22												

Applicable for revised qualifications only, data to be provided year-wise for past 3 years.

. ***Justification:*** *Estimated training is 1 and estimated employment per training is 25 per financial year as proposed.*

Content availability for previous versions of qualifications:

Participant Handbook

Languages in which Content is available: English

Annexure: Blended Learning

Blended Learning Estimated Ratio & Recommended Tools:

Refer NCVET "Guidelines for Blended Learning for Vocational Education, Training & Skilling" available on:
https://ncvet.gov.in/sites/default/files/Guidelines%20for%20Blended%20Learning%20for%20Vocational%20Education,%20Training%20&%20Skilling.pdf

S. No.	Select the Components of the Qualification	List Recommended Tools – for all Selected Components	Offline : Online Ratio
1	☒Theory/ Lectures - Imparting theoretical and conceptual knowledge		60:40
2	☒Imparting Soft Skills, Life Skills, and Employability Skills /Mentorship to Learners		
3	☒Showing Practical Demonstrations to the learners		
4	☒Imparting Practical Hands-on Skills/ Lab Work/ workshop/ shop floor training		

5	☒Tutorials/ Assignments/ Drill/ Practice		
6	☒Proctored Monitoring/ Assessment/ Evaluation/ Examinations		
7	☒On the Job Training (OJT)/ Project Work Internship/ Apprenticeship Training		

Annexure 3: Detailed Assessment Criteria

NOS/Module Name	Assessment Criteria for Performance Criteria/Learning Outcomes			
	Theory	Practical	Project Marks	Viva Marks
Operate mechanical components of Wind power plantplant	**50**	**50**		
Carry out maintenance of mechanical components of wind power plant	**35**	**35**		
Perform basic health and safety practices at project site (Ground and Height)	**15**	**15**		
Employability Skills	**20**	**30**		
On the job training	**20**	**30**		
Grand Total	**140**	**160**		

Annexure: Assessment Strategy

This section includes the processes involved in identifying, gathering, and interpreting information to evaluate the Candidate on the required competencies of the program.

1. Assessment System Overview:

- Batches assigned to the assessment agencies for conducting the assessment on SDSM/SID or email
- Assessment agencies send the assessment confirmation to VTP/TC looping SCGJ
- Assessment agency deploys the ToA certified Assessor for executing the assessment
- SCGJ monitors the assessment process & records

2. Testing Environment:

- Confirm that the centre is available at the same address as mentioned on SDMS or SID
- Check the duration of the training.
- Check the Assessment Start and End time to be as 10 a.m. and 5 p.m.
- Check that the allotted time to the candidates to complete Theory & Practical Assessment is correct.
- Check the mode of assessment—Online (TAB/Computer) or Offline (OMR/PP).
- Confirm the number of TABs on the ground are correct to execute the Assessment smoothly.
- Check the availability of the Lab Equipment for the particular Job Role.

3. Assessment Quality Assurance levels / Framework:

- Question papers created by the Subject Matter Experts (SME)
- Question papers created by the SME verified by the other subject Matter Experts
- Questions are mapped with NOS and PC
- Question papers are prepared considering that level 1 to 3 are for the unskilled & semi-skilled individuals, and level 4 and above are for the skilled, supervisor & higher management
- Assessor must be ToA certified & trainer must be ToT Certified
- Assessment agency must follow the assessment guidelines to conduct the assessment

4. Types of evidence or evidence-gathering protocol:
    - Time-stamped & geotagged reporting of the assessor from assessment location
    - Center photographs with signboards and scheme specific branding
    - Biometric or manual attendance sheet (stamped by TP) of the trainees during the training period
    - Time-stamped & geotagged assessment (Theory + Viva + Practical) photographs & videos

5. Method of verification or validation:
    - Surprise visit to the assessment location
    - Random audit of the batch
    - Random audit of any candidate

6. Method for assessment documentation, archiving, and access
    - Hard copies of the documents are stored
    - Soft copies of the documents & photographs of the assessment are uploaded / accessed from Cloud Storage
    - Soft copies of the documents & photographs of the assessment are stored in the Hard Drives

On the Job:

OJT Monitoring Report

- As in Green Jobs Sector, reproducing the evidence for assessment is not feasible due to constraints like cost, confidentiality and controlled environment, every
- Apprentice is required to record the evidences performed during the OJT and the same gets authorized by his/her supervisor.
- The evidence recording is done in a structured monitoring report, termed as OJT Monitoring report.
- During the OJT, every trainee is required to fill the OJT monitoring report which is required to be signed by his/her supervisor.
- Towards the end of OJT period these reports are submitted with the HR department of company
- These duly submitted reports are then verified by an Industry nominated assessor for verification of evidence.

Theory, Practical & Viva:

- Scope – Is used to test the knowledge and understanding and skills acquired during the OJT as well as to conform the OJT monitoring report.
- Some personality traits and generic skills (such as – promptness, sharpness, communication skills, depth of knowledge, comprehension, presentation, patience
- etc) can also be tested, which is also required for the QP.
- Tools – The assessment's questions should be aligned with the Qualification Pack, covering the PCs. There will be summative assessment at

the end of the OJT.

- Method – Direct questions open and close ended questions, situation-based questions, analytical questions, and decision-making based questions for Viva,
- MCQ for the theory and performing QP related operations for practical. Different questions in theory, practical and viva are included to test relevant PCs from
- the QP
- Analysis – Assessor draws a spectrum of ready answers to be expected from trainee for Viva. This reduces effect of subjectivity of the assessor. Comparative
- Quality of trainees within a batch or different institutes can be gauged. The skill is gauged by observing the practical work.

Execution of OJT Assessment:

- HR department hands over the individual OJT monitoring report with Industry nominated assessor and schedules an assessment meeting for each trainee.
- Industry nominated assessor assesses each trainee based on OJT monitoring report, viva on each PC and also takes into account attendance of each trainee towards the end of the OJT period.
- The OJT marks are compiled for each NOS by the Industry nominated assessor and submitted with HR department of company.
- The OJT assessment results are then sent to SCGJ by HR department of company in a sealed envelope for compiling the assessment results in case of offline assessment.

Annexure: Acronym and Glossary

Acronym

Acronym	Description
AA	Assessment Agency
AB	Awarding Body
ISCO	International Standard Classification of Occupations
NCO	National Classification of Occupations
NCrF	National Credit Framework
NOS	National Occupational Standard(s)
NQR	National Qualification Register
NSQF	National Skills Qualifications Framework
OJT	On the Job Training

Glossary

Term	Description
National Occupational Standards (NOS)	NOS define the measurable performance outcomes required from an individual engaged in a particular task. They list down what an individual performing that task should know and also do.
Qualification	A formal outcome of an assessment and validation process which is obtained when a competent body determines that an individual has achieved learning outcomes to given standards
Qualification File	A Qualification File is a template designed to capture necessary information of a Qualification from the perspective of NSQF compliance. The Qualification File will be normally submitted by the awarding body for the qualification.
Sector	A grouping of professional activities on the basis of their main economic function, product, service or technology.
Long Term Training	Long-term skilling means any vocational training program undertaken for a year and above. https://ncvet.gov.in/sites/default/files/NCVET.pdf

Annexure: Annexure: Career Progression and OM

	Occupation Map and J																		
Sub Sector																			
NSQF Level/domain	Solar Photovoltaic Rooftop																		
8	MD/Director																		
6.5-7	Branch Manager		Solar PV BD Manager		Solar PV Designer				Solar PV Project Manager – E&C				Solar PV O&M Manager (Roof Top)						
5.5-6		Liaison Officer				Energy Modeller		Procurement Manager	Solar PV Site In-Charge										
4.5-5	Solar Proposal Evaluation Specialist		Market research analyst		Solar PV Site Surveyor	Solar PV Assistant Structural Design Engineer	Solar PV Assistant Electrical Design Engineer	Procurement Executive	Rooftop Solar Grid Engineer	Solar PV Engineer			Solar Photovoltaic Entrepreneur	Solar PV O&M Supervisor/Rooftop solar Supervisor			HSE Engineer		
3.5-4					Solar PV Assistant Site Surveyor	CAD/Draughtsman (Mechanical)	CAD/Draughtsman (Electrical)			Solar PV Installer (Civil)	Solar PV Installer (Electrical)	Solar PV Installer (Suryamitra)	Solar PV Installer (Suryamitra)	Solar PV Maintenance Technician (Electrical)	Solar PV Maintenance Technician (Civil/ Mechanical)	Solar PV Maintenance Technician (Suryamitra)			
2.5-3																			
2					Solar PV Project Helper					Solar PV Project Helper	Solar PV Project Helper	Solar PV Project Helper		Solar PV Project Helper	Solar PV Project Helper	Solar PV Project Helper			
1																			