No. 233/1/2018-Wind
Government of India
Ministry of New and Renewable Energy
Wind Energy Division

Atal Akshaya Urja Bhawan,
CGO Complex, Lodi Road, New Delhi-110003
Dated: 29th October, 2025

OFFICE MEMORANDUM

Subject: Standard Operating Procedure (SOP) for Approved List of Models and Manufacturers – Wind (ALMM-Wind) and Approved List of Models and Manufacturers - Wind Turbine Components (ALMM-WTC) -reg.

In continuation of MNRE's O.M. of even no. dated 31.07.2025 regarding amendment to 'Procedure for inclusion/updating Wind Turbine Model in the RLMM (renamed as ALMM(Wind)), the Standard Operating Procedure (SOP) on the above cited subject is hereby issued for benefit of stakeholders and compliance.

2. This issues with the approval of competent authority.

(Rishikesh Vaishnav)
Scientist 'C'

To
All concerned

Copy to:

i. Sr. PPS to Secretary, MNRE
ii. PPS to Joint Secretary (Wind), MNRE
iii. PA to Director (PKD), MNRE

Standard Operating Procedure

for

Approved List of Manufacturers and Models for Wind Turbines (ALMM-Wind)

and

Approved List of Manufacturers and Models for Wind Turbine Components (ALMM-WTC)

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SOP for ALMM-Wind and ALMM-WTC

1.0 Introduction

The Approved List of Models & Manufacturers for Wind (ALMM-Wind) is a list of type and quality certified wind turbine models that are eligible for installation in the country. This list is issued to facilitate State Nodal Agencies (SNAs), investors, lenders, and developers. The ALMM-Wind is based on type testing, type certification and quality assurance of wind turbines, as per the Guidelines for Development of Onshore Wind Power Projects issued by this Ministry on October 22, 2016 and Procedure to apply for inclusion of a Wind Turbine Model in the Revised List of Models and Manufacturers of Wind Turbines (RLMM) dated 1st November, 2018 along with subsequent amendments.

As per the amendment to 'Procedure for inclusion/ updating Wind Turbine Model in the Revised List of Models and Manufacturers of Wind Turbines (RLMM)' dated July 31, 2025, the RLMM is renamed as Approved List of Models and Manufacturers (Wind) i.e. ALMM (Wind) and the Type Certificate of a wind turbine model must mandatorily include the vendors and sources for blade, tower, generator, gearbox, and special bearings (Main, Pitch, and Yaw Bearing). Further, this amendment mandates data control and research centre within India to address the cyber security issues. A separate list named Approved List of Models & Manufacturers for Wind Turbine Components (ALMM-WTC), will be issued for these components after a comprehensive inspection of the manufacturing facilities of the component suppliers. This inspection will verify the manufacturing Infrastructure, Capacities, capabilities and quality assurance processes to ensure they meet the standards required for inclusion in the ALMM-WTC list.

2.0 Scope

This Standard Operating Procedure (SOP) governs the process for all entities applying for enlistment in either the ALMM-Wind or ALMM-WTC.

The Type Certificate of a wind turbine model, issued by an accredited Type Certification Body (CB), serves as the foundational scientific and technical

documentation for a wind turbine's eligibility for enlistment in the ALMM-Wind. This Type Certificate must explicitly include an approved and the associated list of major components, including the blade, tower, generator, gearbox, and special bearings (Main, Pitch, and Yaw Bearing).

Enlistment of components in the ALMM-WTC list is dependent upon inclusion in an approved wind turbine Type Certificate & RLMM-Wind, submission of a valid, independent component certificate and subsequent inspection by a designated team. This ensures a direct and verifiable link between the component and its certified performance within a specific wind turbine model.

3.0 Pre-Application Requirements by the Applicant

- **Type Certification:** The applicant must possess a Full Type Certificate or a Provisional Type Certificate without any safety related outstanding issues for the wind turbine model and all associated documents.
- **ISO Certification:** The applicant must demonstrate compliance with relevant ISO standards.
- **Technical Documentation:** The applicant is required to submit all relevant technical documents that have been issued by the accredited Type Certification Body.

4.0 The ALMM-Wind and ALMM-WTC Enlistment Process:

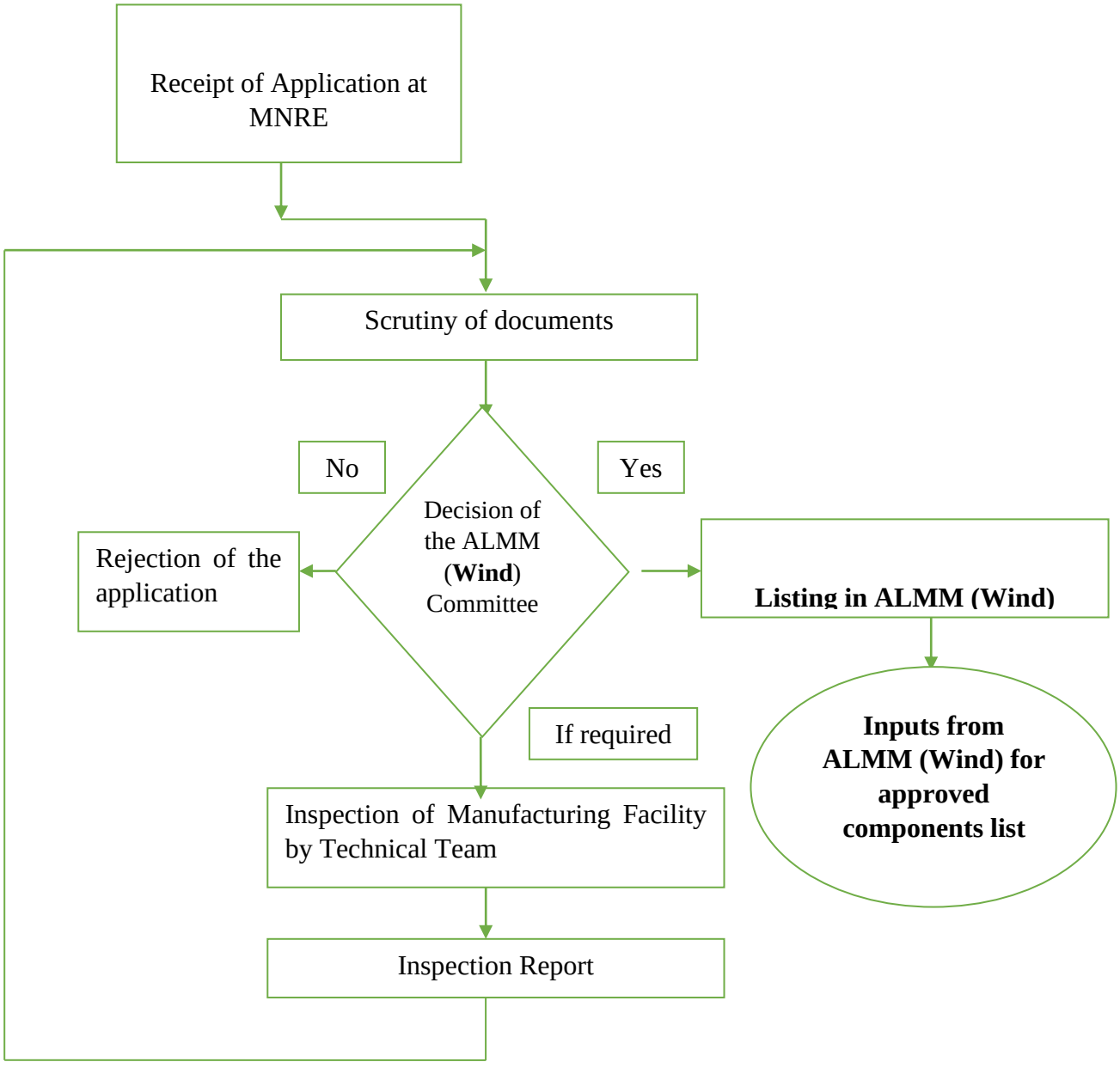
This section outlines the complete process flow, from initial application to final enlistment, for both wind turbine models (ALMM-Wind) and major components (ALMM-WTC). This multi-stage procedure is designed to ensure technical compliance and quality assurance to safeguard interest of various stakeholders including consumers, Grid operators, Funding agencies, State & Central Govt. Agencies etc.

4.1 The ALMM-Wind Enlistment Process

The process for a wind turbine model to be listed in ALMM-Wind will be initiated with receipt of a complete application from a manufacturer, which includes the valid Type Certificate issued by Accredited Type Certification Body, Conformity Statements, Final Evaluation Report and Certified Power Curve, and ISO Certificates. The

ALMM-Wind Committee will conduct a thorough scrutiny of these documents against the requirement of Applicable guidelines and Standards.

- **Committee Decision:** Based on the document scrutiny, the committee will make a recommendation for;
    - **Listing:** If the application is compliant in all respect.
    - **Submission of additional documents/clarification:** If, the minor noncompliance can be closed by the applicant within a weeks' time.
    - **Rejection:** If the application is incomplete or non-compliant having major deficiency or compliance requirements.



A wind turbine model's enlistment in ALMM-Wind is valid in conjunction with its approved list of components in ALMM-WTC, except for projects that qualify for exemption under the OM No. 233/1/2018- Wind dated 31st July 2025, Para 2(a), 2(b) and 2(c)(i).

The approved component list from the Type Certificate of the listed wind turbine model will serve as the official input to the ALMM-WTC process.

4.2 The ALMM-WTC Enlistment Process

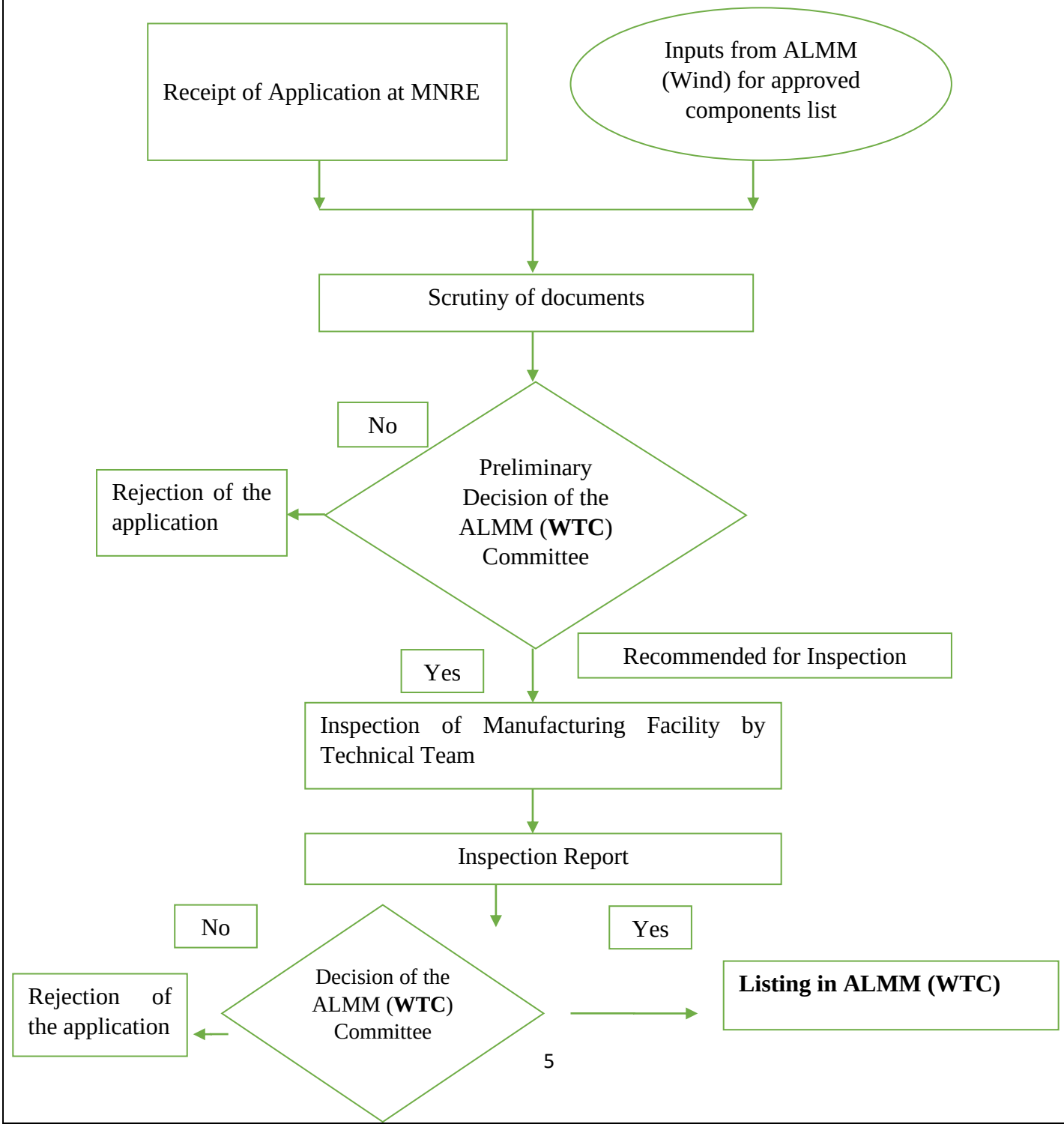
This process governs the enlistment of major wind turbine components, including blades, special bearings (main, pitch and yaw bearing), gearboxes, generators, and towers, into the ALMM-WTC (List 2). The objective is to verify that the manufacturing and assembly facilities of these components to meet the required standards.

- **Application & Document Scrutiny:** The process begins with the receipt of an application, which includes Wind Turbine Type Certificate, Component Certificate, ISO Certificate and documentation (as per annex-2), at MNRE with a copy to NIWE. The ALMM-WTC Committee will scrutinize the documents and review the inputs received from the approved component list of ALMM-Wind.
- **Preliminary Decision of the Committee:** Based on the document scrutiny, the committee will make a recommendation for;
    - **Factory Inspection:** If the application is compliant from documentation angle.
    - **Submission of additional documents/clarification:** If, the minor noncompliance can be closed by the applicant within a weeks' time.
    - **Rejection:** If the application is incomplete or non-compliant having major deficiency or compliance requirements.

- **Inspection:** A physical inspection is a critical regulatory verification step. It is conducted by a Technical Team (Inspection Team) constituted by MNRE in addition to the manufacturing evaluation performed by the accredited Type Certification Body (CB). The inspection team verify that the manufacturing facility consistently adheres to the certified processes and quality controls.

The inspection shall be carried out as per the requirements of ISO/IEC 17020 & relevant standards. In addition, the inspection team may record the key value addition steps, as deemed appropriate, that are being carried out by the manufacturer.

- **Final Review & Listing:** Following a successful inspection, the Technical Team submits a detailed report. The ALMM-WTC Committee will review this report provide recommendation for listing of the component's manufacturer and model in the ALMM-WTC.



A component of any wind turbine model (i.e., blade, special bearings (Main, Pitch, and Yaw Bearing), gearbox, generator, and tower) shall be authorized for installation in the country only after its manufacturer and model have been formally listed in ALMM-WTC, except for projects that qualify for exemption under the OM No. 233/1/2018- Wind dated 31st July 2025, Para 2(a), 2(b) and 2(c)(i).

To facilitate all stakeholders, the MNRE will publish and regularly update the approved list of components for all models listed in ALMM-Wind. The list will be updated on MNRE website. The inspection team may also carry out surveillance inspection post enlistment of the component in the ALMM-WTC.

5.0 Application Submission

The formal process for enlistment in the ALMM-WTC list is initiated by the applicant's submission of an application to Ministry of New & Renewable Energy (MNRE). MNRE may also develop a portal for such applications. This submission must be completed in its entirety and include all required technical and administrative documents as specified in the application checklist. A non-refundable application fee, as detailed in the Section 10.0, is also required at the time of submission. The successful submission and payment mark the official commencement of the review process.

6.0 Document Scrutiny

The ALMM-WTC Committee, a dedicated body appointed by the MNRE, will conduct a comprehensive review of all submitted application and documents to verify their completeness and compliance with the specified requirements. This scrutiny serves as the basis for a preliminary decision on the application.

During this stage, the committee will perform the following actions:

1. **Verification of Prerequisites:** The committee will first verify that a valid Type Certificate for the wind turbine model, issued by an accredited Type Certification Body (CB), has been submitted. This Type Certificate is a mandatory prerequisite for any component to be considered for listing.
2. **Compliance Check:** A detailed technical and administrative check will be performed to ensure all documents, including the Type Certificate, ISO

certifications, and other technical data, are complete and align with the technical specifications and standards outlined in this SOP.

3. **Preliminary Decision:** Based on the outcome of the document scrutiny, the ALMM-WTC Committee will make a preliminary decision. If all documents are complete and compliant, the committee will recommend for a physical inspection of the manufacturing facility. An inspection team will be formally constituted to conduct the on-site verification.

The application will then proceed to the next stage of the process as per the committee's decision.

7.0 Types of ALMM-Wind Applications: New Enlistment and Variants

The ALMM framework distinguishes between a "New Model" and a "Variant" to ensure the list reflects substantive technological differences and to prevent the unnecessary proliferation of entries based on minor design modifications.

7.1 New Enlistment: Definition of a New Wind Turbine Model

A **New Wind Turbine Model** is defined as a specific turbine design that requires its own distinct enlistment in the ALMM-Wind list. A single wind turbine model may, however, be certified under the same Type Certificate (TC) even with alternate components and configurations. These permissible variations include changes to hub height, wind class, tower type, power converter type, output voltage, cut-in and cut-out wind speeds, survival wind speed, ambient temperature range, power de-rating, noise emission levels, and grid compliance settings.

Notwithstanding these acceptable variations, a wind turbine model shall **not** be considered for registration as a new model in the ALMM-Wind list if it meets the following criteria:

- **Rotor Diameter and Rated Power:** It exhibits a rotor diameter variation of less than 2% and/ or a rated power variation of less than 10% when compared to an already-listed wind turbine model under the same manufacturer or designer, within a similar range of rotor diameter and rated power.

However, a wind turbine model may be considered for registration as a new model if it incorporates a distinctly different design architecture. This includes, but is not limited to, a significant change in:

- **Aerodynamic Design:** A significant change in the blade's aerodynamic profile, material composition, or structural design that substantially alters the power curve, noise emissions, or certified load conditions.
- **Generator Technology:** e.g., Direct-Drive Permanent Magnet Synchronous Generator (PMSG) versus Doubly-Fed Induction Generator (DFIG).
- **Control Strategy:** e.g., Pitch-controlled versus Stall-controlled systems.
- **Drive Train Configuration:** e.g., Geared versus Direct-Drive systems.
- **Design Lifetime on account of design change in the components:** e.g., a change from a 20-year to a 25-year design lifetime.

This determination must be supported by complete and independent design documentation as validated by an accredited Type Certification Body.

New Wind Turbine Model will be given exemption for meeting the requirements related to sourcing of major components, including the blade, tower, generator, gearbox, and special bearings (Main, Pitch, and Yaw Bearing) from the ALMM (WTC) list, limited to 800 MW within a maximum period of two years from the date of enlistment in ALMM (Wind) list. Further, the models of major wind turbine components, including the blade, tower, generator, gearbox, and special bearings (Main, Pitch, and Yaw Bearing) already given exemption for a particular new wind turbine model will not be considered for re-exemption in a separate new wind turbine model enlisted/to be enlisted by the same manufacturer.

7.2 Variants (Updation of Existing Wind Turbine Models)

A **Variant** is defined as any modification to an existing, enlisted wind turbine model that does not meet the stringent criteria for a "New Model" as defined in Section 7.1.

Notwithstanding the issuance of a new Type Certificate for a minor change, any modification that falls below the following thresholds will be mandatorily classified as an updation of an existing model:

- **Rated Power and Rotor Diameter:** A rated power variation of less than 10% and/ or a rotor diameter variation of less than 2% when compared to an already-listed wind turbine model under the same manufacturer, within a similar range of rotor diameter and rated power.

Changes that fall under the "permissible variations" within the same Type Certificate (e.g., hub height, wind class, etc.) will also be treated as an updation to the existing model entry. The committee reserves the right to re-classify an application as a variant if it determines that the changes are not substantive enough to qualify as a new model based on the technical criteria in Section 7.1, regardless of the new Type Certificate.

8.0 Types of applications for ALMM (Wind)

8.1 Application for New Enlistment of Wind Turbine Model and Manufacturer

When a new wind turbine manufacturer applies for enlistment in ALMM-Wind, the Type Certificate (TC) issued by an accredited Type Certification Body (CB) serves as the primary basis for the new enlistment with an approved list of associated components. The wind turbine model will be recommended for listing in ALMM-Wind only after a successful review of the documents attached as Annexure 1 by the ALMM-Wind Committee.

The committee's deliberation will focus on a comprehensive technical and qualitative review of the proposed wind turbine model, based on the documents submitted by the applicant. This deliberation is structured around three key areas:

- **Technology & Design Architecture:** The committee will examine critical aspects of the technology type, including the generator type, drive train configuration, control systems, tower type, wind turbine class, and other relevant technical parameters.
- **Innovation & Documentation:** The committee will evaluate any innovative features, consider references to intellectual property or patent filings, and

scrutinize any deviations from the type-certified design to ensure they are clearly explained and supported by the application.

- **Manufacturing & Quality Assurance:** The committee will verify the ISO certifications for the manufacturing and assembly facilities of all major components including the hub, nacelle, blade, tower, generator, gearbox, and special bearings (main, pitch, and yaw bearings) as documented in the Type Certificate and supported by the relevant ISO certificates submitted by the applicant.
- **Performance Efficiency and Safety Issues:** The committee will deliberate on the turbine's performance, ensuring the power curve has been tested and certified by an accredited laboratory in accordance with IEC 61400-12-1 and that all supporting performance data aligns with regulatory expectations including performance in representative geographical conditions. Mandatory prototype testing within India.

The new turbine model may be considered for enlistment based on the committee's recommendations and a successful review of the inspection report submitted by Technical Team, where an inspection is required.

8.2 Application for Enlistment of a New Wind Turbine Model by a Manufacturer Already on the ALMM-Wind List

When a wind turbine manufacturer already having models enlisted in ALMM-Wind applies for the enlistment of a new wind turbine model, the committee will deliberate on the application based on the criteria for "New Enlistment" as stated in Section 8.1.

In addition, the ALMM-Wind Committee shall specifically evaluate the application to distinguish between a new wind turbine model and a variant, with reference to the definitions provided in Section 7.1 and 7.2 of this SOP. The committee will ensure that the proposed model adheres to the following principles:

- **Distinguishing a New Model from a Variant:** The committee will verify that the proposed model is not a minor configuration change. As per Section 7.1, a new model will not be registered if it exhibits a rotor diameter variation of less than 2% *and/ or* a rated power variation of less than 10% when compared to

an already-listed wind turbine model from the same manufacturer, within a similar range of rotor diameter and rated power.

- **Review of Design Architecture:** The committee will assess if the model incorporates a distinctly different design architecture, such as a change in generator technology (e.g., DFIG vs. PMSG), control strategy (e.g., pitch vs. stall), drive train configuration, or design lifetime (e.g., 20 to 25 years). This determination must be supported by complete and independent design documentation.

The committee will also review the "permissible variations" (e.g., changes to hub height, wind class, tower type, etc.) as outlined in the Type Certificate to ensure they are appropriately classified as a variant and do not meet the criteria for a new model.

8.3 Application for Updation of a Wind Turbine Model

When a manufacturer already enlisted in ALMM-Wind applies for an updation, the revised Type Certificate (TC) for the wind turbine model, issued by an accredited Type Certification Body (CB), serves as the basis for the application. The ALMM-Wind Committee will deliberate on the application, referring to the definitions for a "New Model" and "Variant" as outlined in Sections 7.1 and 7.2 to ensure the modification is appropriately classified.

The committee's deliberation will specifically focus on a comparative review of the revised Type Certificate against the previously submitted documentation. The key aspects to be reviewed include:

- **Certification and Accreditation:** Any change in the Type Certification Body and its accreditation status.
- **Component Changes:** Any changes to major components or their vendors/sources, including blades, towers, generators, gearboxes, and special bearings (main, pitch, and yaw bearings).
- **Manufacturing Facility Status:** The status of the manufacturing and assembly facilities for the hub, nacelle, and all major components as reflected in the revised Type Certificate documentation.

- **Performance Changes:** Any changes made to the certified power curve documentation or other performance parameters that were previously submitted.

Based on this review, the committee will determine if the updation is compliant and whether it meets the criteria as defined in Section 7.1/ 7.2 of this SOP.

8.4 Application for updation of revised documents including ISO certificate (Other than type certificate documents)

This process applies when a manufacturer already enlisted in ALMM-Wind submits revised documentation other than a Type Certificate (TC). This typically includes updated ISO certificates or other administrative and technical documents.

The ALMM-Wind Committee will deliberate on the application with the following key objectives:

- **Comparative Review:** A detailed review of the revised documentation will be conducted and compared with the documents previously submitted to the committee.
- **ISO Certificate Verification:** In the case of a revised ISO certificate, the committee will verify its impact on the status of the manufacturing and assembly facilities for all major components, including the hub, nacelle, blades, towers, generators, gearboxes, and special bearings (main, pitch, and yaw bearings), against the details in the original Type Certificate documentation.
- **Accreditation Status:** The committee will deliberate on any changes to the ISO certification body, including its accreditation status, to ensure continued compliance with established standards.

The committee's final decision will be based on a verification that the updated documents do not introduce any non-conformities and that the manufacturer continues to meet all quality and procedural requirements.

9.0 Types of Applications for ALMM-WTC

a. ***New Enlistment of a Component:***

This category applies when a new manufacturer applies for enlistment of a component in the ALMM-WTC list. The Type Certificate of a wind turbine model, issued by an accredited Type Certification Body (CB), serves as the basis for the application. The associated components listed in the TC are reviewed for potential enlistment in ALMM-WTC. The recommendation is subject to a successful review of the documents (as per Annexure 2) by the ALMM-WTC Committee and successful review of the inspection report submitted by the technical team.

b. ***Updation of a Component:***

This applies when a manufacturer already enlisted in ALMM-WTC seeks to update a component. The revised Type Certificate of a wind turbine model issued by an accredited CB is the basis for the updation. The associated components mentioned in the revised TC will be recommended for listing in ALMM-WTC subject to a successful review of the documents (as per Annexure 2) by the ALMM-WTC Committee and successful review of the inspection report submitted by the technical team.

9.1 Verification of Documents and Non-Conformities

The ALMM-WTC Committee will conduct a thorough review of all submitted documents. Any non-conformities identified during this review will be formally communicated to the manufacturer and the technical team. The manufacturer and technical team is responsible for closing all non-conformities and submitting a closure report. The final closure report will be submitted to the committee for a final review and recommendation for listing.

10.0 ALMM-WTC Inspection of a Manufacturing/Assembly Facility

The inspection of a manufacturing or assembly facility is conducted by a technical team in accordance with the requirements of ISO/IEC 17020 and other relevant national and international standards. This inspection is a critical regulatory step to verify that the facility is capable of consistently producing components to certified

standards. The fee for the inspection of a single wind turbine component type is ₹1.5 lakhs plus taxes, excluding travel and logistics expenses.

The inspection requirements for the manufacturing and assembly facilities of major wind turbine components, including hub and nacelle assembly, blades, towers, generators, gearboxes, and special bearings (main, pitch, and yaw bearings), are as follows:

- **General Facility Details:** The inspection will confirm the facility's legal and operational status, including its address, valid factory license, ownership, monthly production capacity, number of shifts, manpower strength & Capabilities land and shop floor area, and safety practices. The specific wind turbine models being produced and the list of in-house versus bought-out components will also be verified.
- **Production Capabilities:** The inspection will assess the availability and adequacy of manufacturing equipment, tools, jigs, fixtures, and material handling systems. Component-specific processes such as welding, machining, heat treatment, surface treatment, or composite layup will be evaluated as applicable.
- **Quality Control and Assurance:** The facility must demonstrate the presence of robust quality control instruments and processes. This includes verifying procedures for dimensional inspection, non-destructive testing (NDT), material traceability, and process control. All relevant ISO certifications and quality protocols will be examined.
- **Testing Infrastructure:** The technical team will review the facility's component-specific testing capabilities, such as static, dynamic, and functional tests conducted in-house. Test procedures, reports, and the calibration of all testing equipment will be examined.
- **Lifting and Handling Systems:** The availability and operational status of adequate lifting equipment, including overhead cranes, mobile cranes, and forklifts, will be verified to ensure they are appropriate for component weight and geometry.

- **Electrical Power and Backup:** The electrical supply type (HT/LT), connected load, and the presence of a functional backup power system will be verified with supporting documents.
- **Component Documentation and Safety:** The typical weights of key components (e.g., blade, hub, nacelle, gearbox) will be documented. The facility's compliance with safety norms, including fire, electrical, and personnel safety, will be ensured, and the presence of visible safety signage will be verified.
- **Fater sales service/maintenance capacities, spare parts availability/arrangements for the operational life of the wind turbines/components.**
- **Intellectual Property Rights and Licence to Usage**

All inspection findings will be substantiated with photographic evidence to support the assessments and enable consistent documentation across all applicant facilities.

11.0 Report Submission and Review

After the inspection of the manufacturing or assembly facility, the technical team submits a comprehensive inspection report in the prescribed format to the ALMM-WTC Committee, in accordance with the requirements of ISO/IEC 17020.

The ALMM-WTC Committee will conduct a thorough review of the reports (Format for Inspection report placed at **Annexure-3**) submitted by both the manufacturer and the technical team. Based on this review, the committee will make a recommendation for the enlistment of the applied wind turbine component type to the MNRE for further approval.

In cases where any non-conformities are observed, the committee may recommend seeking further clarification from the manufacturer or the technical team for corrective action. This may include:

- An online re-inspection.
- A physical re-inspection.
- A review of revised documents.

If the review of the corrective actions submitted in the closure report does not demonstrate compliance with the requirements, the ALMM-WTC Committee reserves the right to recommend the rejection of the application.

12.0 References

- Amendment to “Procedure for inclusion/updating Wind Turbine Model in the Revised List of Models and Manufacturers of Wind Turbines (RLMM)” dated 31.07.2025, issued by MNRE.
- “Procedure to apply for inclusion of a Wind Turbine Model in the Revised List of Models and Manufacturers of Wind Turbines (RLMM)” issued by MNRE vide OM No. 293/8/2017-Wind dated 01.11.2018.
- Guidelines for Development of Onshore Wind Power Projects dated 21.11.2016, issued by MNRE.
- IS/IEC or IEC 61400 Series: National/International standards for wind turbine design and testing.

Annexure-1- List of documents submitted with application for inclusion of new wind turbine models and manufactures for ALMM (Wind)

S. No.	Documents
1	Application in prescribed format **(Appendix-I)**
2	Copy of Certificate of Incorporation of the applying entity issued by registrar of companies, Ministry of Corporate Affairs, Government of India
3	Document authorising the signatory to sign and submit the application
4	Copy of valid Type certificate of the wind turbine model, proposed for enlistment, issued by any internationally accredited type certification body as per IS/IEC or IECRE type certification scheme
5	Copy of Conformity Statements
6	Copy of Final Evaluation Report
7	Copy of Type Test Report (Certified power curve)
8	Copy of valid ISO certificate for quality management system issued in the name of applicant
9	Whether Type certificate include Hub and Nacelle assembly/manufacturing facility in India?
10	Whether Type certificate include major components such as blade, tower, generator, gearbox, and special bearings (Main, Pitch, and Yaw Bearing) assembly/manufacturing facility?
11	Whether ISO certificate include Hub and Nacelle assembly/manufacturing facility in India?
12	Whether ISO certificate include major components such as blade, tower, generator, gearbox, and special bearings (Main, Pitch, and Yaw Bearing) assembly/manufacturing facility?
13	Copy of accreditation certificate of Type certifying body
14	Copy of accreditation certificate of ISO certifying body
15	Affidavit in the prescribed format on non-judicial stamp paper (Rs.100) duly signed and attested **(Appendix-II)**
16	Indemnity Bond in the prescribed format on non-judicial stamp paper (Rs.100) duly signed and attested **(Appendix-III)**
17	All documents duly signed by authorised signatory

18 Check List of Documents/requirements submitted with application **(Appendix-IV)**

Annexure-2 List of documents submitted with application and Declaration for inclusion of wind turbine component models and manufactures for ALMM (WTC)

S.No.	Documents
1	Application in prescribed format **(Appendix-I)**
2	Copy of Certificate of Incorporation of the applying entity issued by registrar of companies, Ministry of Corporate Affairs, Government of India
3	Document authorising the signatory to sign and submit the application
4	Copy of valid ISO certificate for quality management system issued in the name of applicant
5	Whether the type certificate which includes the major components such as blade, tower, generator, gearbox, and special bearings (Main, Pitch, and Yaw Bearing) assembly/manufacturing facility has already been included in the ALMM (Wind)?
6	Whether ISO certificate includes major components such as blade, tower, generator, gearbox, and special bearings (Main, Pitch, and Yaw Bearing) assembly/manufacturing facility?
7	Customer Declaration for Inspection of Wind turbine major components - General- Overview - Management - Test Procedures - Equipment - Quality management System - Supplier details - Materials requirements - Staff details - Manufacturing device - Monitoring device - Service and aftermarket support
8	Affidavit in the prescribed format on non-judicial stamp paper (Rs.100) duly signed and attested **(Appendix-II)**
9	Indemnity Bond in the prescribed format on non-judicial stamp paper (Rs.100) duly signed and attested **(Appendix-III)**

10 All documents duly signed by authorised signatory

11 Check List of Documents/requirements submitted with application **(Appendix-IV)**

Annexure-3 Format of Inspection Reports

Format for Inspection Report (Nacelle and Hub)

Sr. No.	Category	Inspection Points (Hub and Nacelle)	Remarks
1	**Product Design, Development & Engineering**	Evaluation of in-house design and engineering capabilities, team experience, and technical strength	
2	**Project Management**	Availability and competence of dedicated project management resources	
3	**Inward & Raw Material Inspection**	Inspection of incoming mechanical, electrical, electronics, and composite materials; verification of associated documents	
		Generation of GRN and documentation updates in ERP	
4	**Material Storage and Handling**	Covered and organized storage for incoming and prepared materials	
		Adequacy of material handling equipment and logistics flow	
5	**Calibration Facility**	In-house calibration of gauges, instruments, and test equipment	
6	**General Facility**	Minimum one dedicated assembly lines each for nacelle, hub, and drivetrain	
		Adequate layout for materials, logistics, assembly, and support services	
		Defined movement paths and gate sizes for hub and nacelle	
		Specialized zones for QC, maintenance, sample storage	
		Walkways, platforms, and clearances per safety and process requirements	
		Access to yard with suitable turning radius for large assemblies	
		Availability of EOT cranes, forklifts with safe operational height	
		Controlled environment for	

Sr. No.	Category	Inspection Points (Hub and Nacelle)	Remarks
		critical assembly processes (e.g. bearings)	
		Defined areas for packing and pre-dispatch inspection	
7	**Utilities**	Availability of electrical connections (230V / 400V), power backup, and adequate installed capacity	
		Internet and network infrastructure: ≥1 GB connectivity, Wi-Fi 6, LAN, ≥100 Mbps	
		UPS and generator backup for critical operations	
		Adequate lighting levels in all operational zones	
8	**In-Process Inspection**	Inspection per approved In-process QAP	
		Monitoring of key process and product parameters	
		Workforce competency, training records, and skill matrix	
		ERP-based result recording and traceability	
		Non-conformance handling and production order release process	
9	**Final Testing and Inspection**	Nacelle and hub simulation and functional testing	
		Visual inspection, pre-dispatch inspection per checklist	
		Packing, dispatch, and preparation of history cards	
		Final product release and document archival	
10	**In-house Testing Capability**	Availability of test setups for nacelle, hub, and free run tests	
		Test panel with AC drive and data recording	
11	**Calibration Management**	Calibration via external NABL-accredited labs	
		Scheduling, SAP-based order release, and record tracking	

Sr. No.	Category	Inspection Points (Hub and Nacelle)	Remarks
		IMTE tagging and master list management	
12	**Finished Goods Storage**	Sufficient yard space for storage of completed nacelle assemblies	
13	**Power Supply and Backup**	Installed capacity (e.g. 500 kVA) and DG backup arrangements (e.g. 350 kVA)	
14	**Service & Aftermarket Support**	Field service capabilities and shop-level repair facilities	
15	**Management Systems**	Certifications: ISO 9001, safety, environment, HR compliance	
		Supplier management and ESG (Environmental, Social, Governance) systems	
		Customer satisfaction systems and third-party audit certifications	

Format for Inspection Report (Blade)

Sr. No.	Description	Inspection Points (Rotor Blade)	Remarks
1	**Product Design, Development & Engineering**	Capability, Experience, and Strength of In-house Team	
2	**Process Design, Development & Engineering**	Capability, Experience, and Strength of In-house Team	
3	**Project Management**	Dedicated Project Management Team	
4	**Incoming Material Inspection & Testing**	Dimension Checks	
		Material Certifications Review (if applicable)	
		Coatings and Substances Verification	
5	**Raw Materials Storage and Handling**	Designated Material Storage Area with Environmental Control Facility	
		Safety Stock Management for Key Materials (Glass, Carbon, Resins, etc.)	
6	**Material Testing Laboratory**	Chemical and Mechanical Testing Capabilities	
7	**Non-Destructive Testing & Process Validation**	Non-Destructive Testing (e.g., Ultrasonic, Visual)	
		Process Qualification and Validation	
		Personnel Qualification	
		3D Geometry Inspection (Laser/Other Tech)	
8	**Calibration Facility**	Calibration of Gauges, Instruments, and Testing Facilities	
9	**General Facility**	Minimum of Two Main Mould Systems	
		Adequate Plot Layout for Material, Waste, and Logistics	
		Dedicated Resin Infusion and Blade Movement Pathways	
		Special Areas for Maintenance, Resin Mixing, and Quality Control	
		Platforms, Walkways, and Sufficient Turning Space for Operations	
		EOT Cranes in Various Facility Areas	
		Dust Extraction Systems for Specific Operations	

Sr. No.	Description	Inspection Points (Rotor Blade)	Remarks
10	**Utilities**	Availability of Electrical Power (e.g., 230V & 400V)	
		Network Connectivity (Bandwidth, Wi-Fi)	
		Emergency Power Backup (Generators, UPS)	
		Lighting Levels for Different Facility Areas	
11	**Product Testing Facility**	Overload and Fatigue Testing	
		Vibration Testing and Accelerated Life Testing	
12	**Coating Facility**	Designated and Controlled Coating Facility	
13	**Finished Goods Storage**	Storage Yard for Finished Products (Capacity)	
		Preservation and Packaging Process	
14	**Service Facility**	Aftermarket Support (Field Service, Repairs, etc.)	
15	**Management Systems**	Quality System Certification (e.g., ISO 9001)	
		Safety and Environmental Certifications	
		Compliance with Legal, HR, and Sustainability Standards	
		Supplier Management and Third-Party Certifications	

Format for Inspection Report (Tower)

Sr. No.	Description	Inspection Points (Tower)	Remarks
1	**Process Design, Development & Engineering**	Capability and Strength of In-house Team	
2	**Project Management**	Dedicated Project Management Team	
3	**Incoming Material Inspection & Testing**	Dimension Verification	
		Material Certifications (if applicable)	
		Coating Materials Review	
		Welding and Blasting Consumables Review	
4	**Raw Materials Handling at Plant**	Carrier Access to Areas (Cranes/Forklifts)	
		Safe Handling of Steel Plates, Flanges, etc. (Vacuum Jaws, Magnetic Lifters, etc.)	
5	**Raw Materials Storage at Plant**	Covered Storage for Key Materials (Steel Plates, Flanges, Internals)	
		Controlled Environment for Welding & Coating Consumables	
6	**Material Testing Laboratory**	Chemical & Mechanical Testing in Accredited Labs (e.g., NABL)	
7	**Calibration Facility**	Calibration Services Tied with Accredited Labs	
8	**Non-Destructive Testing Facility**	Ultrasonic Testing	
		Visual Testing	
		Magnetic Particle Testing	
		Dye Penetrant Testing	
		Process and Personnel Qualification	
		3D Geometry & Flatness/Tiltness Inspection (Laser/Other Tools)	
9	**Pre-Blasting & Cutting**	Pre-blasted & Primer-Coated Plates	
		CNC Plasma or Gas Cutting with Groove Preparation	
10	**Bending/Rolling Process for Shell Forming**	CNC-Programmed Rolling Machines (Online Control)	
		Material Thickness and Width Specifications (e.g., ≥50mm thickness, ≥3000mm width)	

Sr. No.	Description	Inspection Points (Tower)	Remarks
11	**Fabrication Operations**	Long Seam Fit-Up (Rollers/Supports)	
		Flange Fit-Up (CNC-controlled Stations)	
		Circular Seam Fit-Up (Multiple Welding Lines with Hydraulic Fit-Up Rollers)	
		Automated Door & Duct Hole Cutting	
		Automated Door Frame Welding with Full Penetration Capability	
12	**Welding Operations**	Robotic or Automated Power Arc/Pulsed Arc Welding Technologies	
		Tack Welding (GMAW) with Full-Length Welds as per Approved Procedures (WPS)	
13	**Welding Procedure Qualification (WPS)**	Qualified WPS through Performance Qualification (PQR) Witnessed by Third Party	
14	**Blasting Facility**	Automated Blasting with Environment & Process Controls	
		Automated Blast Rotation & CNC/NC Process Control	
		In-Process Control for Surface Profile, Finish, and Environment	
15	**Painting at Plant**	Automated Painting Facility with Environment Control & Valid Certifications	
		Rotational/Fixture Control with CNC/NC Fixtures	
		Paint Mixing Process Control with Automated Systems	
16	**Internals Manufacture, Assembly & Welding**	Well-Equipped Internals Manufacturing, Assembly & Welding Facilities	
		Own Galvanizing Facility	
		Profile Cutting (CNC-controlled Gas/Plasma Cutting with Mechanical Cleaning)	
17	**Product Assembly**	Pre-Assembly, Main Assembly, and Final Assembly	

Sr. No.	Description	Inspection Points (Tower)	Remarks
18	**General Facility**	Separate Manufacturing Line for Different Tower Components	
		Adequate Plant Layout for Material, Waste, and Logistics	
		Sufficient Tower Movement Pathways and Gate Dimensions	
		Availability of Bevelling and Drilling Machines	
		Pathways for Movement to Blasting & Painting with Sufficient Turning Space	
		Emergency Generators & EOT Cranes in Fabrication Area	
19	**Finished Storage Area**	Safe Placement of Sections on Stands/Saddles Without Damage	
		Adequate Storage Yard for Finished Towers	
		Packaging & Dispatching Process	
20	**Service Facility - Aftermarket Sales & Service**	Field Service Support (Repairs, Inspections, etc.)	
		Shop Repair Facility	
21	**Management Systems**	Quality System Certifications (e.g., ISO 9001, ISO 3834-2, EN 1090-2)	
		Safety and Environmental Certifications	
		Legal, Compliance, and HR Practices	
		NABL Accreditation or Tie-up with Accredited Labs	
		Supplier Management Systems	
		Environmental, Social, and Governance (ESG) Practices	
		Customer Satisfaction & Feedback Management	
		Third-Party Certification Systems for Design & Manufacturing Evaluation	

Format for Inspection Report (Gearbox)

Sr. No.	Description	Inspection Points (Gearbox)	Remarks
1	**Product Design, Development & Engineering**	Capability, Experience, and Strength of In-house Team	
2	**Incoming Material Inspection & Testing**	Dimension and Material Testing (e.g., hardness, tensile, etc.)	
3	**Gearbox Components (Gears & Castings) Machining Facility**	Gear Component Production	
		In-house Casting Component Production	
4	**Heat Treatment**	Carburizing Treatment	
		Nitriding Treatment	
		Induction Hardening	
		Shot Blasting	
5	**Material Testing Laboratory**	Mechanical Properties Testing (e.g., tensile strength, impact resistance, etc.)	
6	**Metallurgical Laboratory**	Metallurgical Properties Testing (e.g., microstructure, hardness)	
7	**Chemical Laboratory**	Chemical Testing (e.g., composition, impurities)	
8	**Non-Destructive Testing (NDT) Facility**	Ultrasonic Testing	
		Magnetic Particle Testing	
		Dye Penetrant Testing	
		Grinding Burn Inspection	
9	**In-house Gears & Casting Components Inspection & Testing**	Gear Geometry and Parameter Testing	
		3D Geometry Inspection of Components	
10	**In-house Calibration Facility**	Calibration of Gauges, Instruments, and Test Facilities	
11	**Product Assembly**	Pre-Assembly, Main Assembly, and Final Assembly	
12	**Product Flushing & Cleanliness**	Cleanliness Measurement (e.g., particle counts, oil cleanliness)	
13	**Product Testing Facility**	Basic Functional Load Test (e.g., load, temperature, noise, vibration)	
		Overload Test (for Prototypes)	
		Dynamic Test (e.g., fatigue, performance) for Prototypes	
		Cold Chamber Test (e.g., -40°C)	

Sr. No.	Description	Inspection Points (Gearbox)	Remarks
		for Prototypes	
14	**In-house Painting Facility**	Corrosion Protection Levels (e.g., coating thickness, adhesion tests)	
15	**Service Facility - Aftermarket Sales & Service**	Field Service Support (e.g., repairs, inspections, upgrades)	
		Shop Repair Facility	
16	**Management Systems**	Quality System Certification (e.g., ISO 9001, ISO 3834-2, EN 1090-2)	
		Safety and Environmental Certifications	
		Legal and Compliance Systems (e.g., HR practices, regulatory adherence)	
		NABL Accreditation or Tie-up with Accredited Labs	
		Supplier Management Systems	
		Environmental, Social, and Governance (ESG) Practices	
		Customer Satisfaction Management Systems (feedback, surveys)	
		Third-Party Certification Systems for Design and Manufacturing Evaluation	

Format for Inspection Report (Generator)

Sr. No.	Description	Inspection Points (Generator)	Remarks
1	**Product Design, Development & Engineering**	Capability, Experience, and Strength of In-house Team	
2	**Project Management**	Dedicated Project Management Team	
3	**Incoming Material Inspection & Testing**	Dimension and Material Testing (e.g., mechanical, electrical)	
4	**Generator Components (Copper Bar, Shaft, Bearings, Laminations, etc.)**	Winding Facility with Specified Controlled Environment (Dust-Free, Temp Control)	
		Lamination Blanking and Preparation	
		Automatic Stator and Rotor Winding (In-house/Outsourced)	
		Welding and Core Building Fixtures	
		Pressing Machine and Capacity	
		CNC Vertical Machining Centre	
		Shaft Balancing Machine with Proper Safety	
		Coil Preparation (Looping, Stretching, and Bending)	
		Induction Brazing and Crimping/Soldering Machines	
		Automated Vacuum Pressure Impregnation Equipment	
		Heating Furnace for Curing/Hardening	
		Painting Facility with Protective Coatings	
5	**Electrical Testing**	High Voltage (HV) Megger Test, Winding Resistance	
		Surge Test, No-Load Run Test, Vibration and Noise Measurement	
6	**Special Process Validation**	WPS/PQR (Welding Procedure Specification / Procedure Qualification Record) Validation	
		Coating, Brazing, and Crimping Process Validation	
7	**In-house Non-Destructive Testing (NDT) Facility**	Ultrasonic Testing	
		Magnetic Particle Testing	

Sr. No.	Description	Inspection Points (Generator)	Remarks
		Dye Penetrant Testing	
8	**In-house Components Inspection & Testing**	Linear & Geometrical Parameter Checks	
		3D Geometry Inspection (e.g., using CMM - Coordinate Measuring Machine)	
9	**In-house Calibration Facility**	Calibration of Gauges, Instruments, and Test Equipment	
10	**Product Assembly**	Pre-Assembly, Main Assembly, and Final Assembly	
11	**Product Testing Facility: Routine/Serial Tests**	Insulation Resistance of Windings	
		Winding Resistance Measurements	
		Open Circuit Voltage Ratio	
		Locked Rotor Test	
		No-Load Running Test for 2 Hours at Rated Voltage, Rated Frequency, Rated Speed	
		No-Load Curve/Characteristics for Losses	
		Vibration Velocity (r.m.s.) at No-Load, Rated Voltage, Rated Speed	
		Sound Pressure/Power Test at No-Load, Rated Voltage, Rated Speed	
		Phase Sequence & Direction of Rotation	
		Shaft/Bearing Voltage & Current Measurement	
		Functional Test of Auxiliary Devices	
		High Voltage Test on Windings	
		Slip Ring Brush Holder Insulation Resistance Measurement	
		Bearing Insulation Resistance Measurement	
12	**Product Testing Facility: Type Test**	Load Test for Efficiency, Power Factor, Losses at Various Loads (100%, 115%, 110%, 75%, 50%, 25%)	
		Pull-Out/Breakdown Torque Test	

Sr. No.	Description	Inspection Points (Generator)	Remarks
		Temperature Rise Test (Stator & Rotor)	
		Momentary Overload Test	
		Over-Speed Test	
		No-Load Saturation Curve	
		Vibration Measurement at Multiple Load Steps (25%, 50%, 75%, 100% Load)	
		Sound Power Measurement at Various Load Levels (25%, 50%, 75%, 100%)	
		Loss Determination at Various Load Points	
		Ground Current Measurement at Full Load	
		Load & Temperature Rise Test at 85% Voltage and 100% Load (Including Vibration, Shaft Voltage, Ground Current)	
13	**Product Testing Facility: Test on First Prototype Generator**	Temperature Rise at Generator Operation (Worst Case Conditions)	
		Temperature Rise at Generator Rated Conditions and Generator Efficiency (Inverter Operation)	
		Load Point Measurement & Ground Current at Generator Operation	
		Shaft/Bearing Voltage & Current Measurement at Generator Operation at Rated Load	
		Short-Circuit Testing	
		Vibration Measurement at Every Load Point (at least 6 Measuring Positions, 4 Load Steps)	
		Sound Power Measurement for Generator Operation (25%, 50%, 75%, 100% Load)	
		Moment of Inertia Test	
		IP (Ingress Protection) Test (First and Second Numeral)	
14	**In-house Painting Facility**	Corrosion Protection Levels	

Sr. No.	Description	Inspection Points (Generator)	Remarks
		(Coating Thickness and Adhesion)	
15	**Service Facility - Aftermarket Sales & Service**	Field Service Support (Repairs, Inspections, Upgrades)	
		Shop Repair Facility	
16	**Management Systems**	Quality System Certification (e.g., ISO 9001, ISO 3834-2, EN 1090-2)	
		Safety and Environmental Certifications	
		Legal and Compliance Systems (e.g., HR practices, Regulatory Adherence)	
		NABL Accreditation or Tie-up with Accredited Labs	
		Supplier Management Systems	
		Environmental, Social, and Governance (ESG) Practices	
		Customer Satisfaction Management Systems (Feedback, Surveys)	
		Third-Party Certification Systems for Design and Manufacturing Evaluation	

Format for Inspection Report (Yaw Bearing)

Sr. No.	Description	Inspection Points (Yaw Bearing)	Remarks
1	**Product Design, Development & Engineering**	Capability and Strength of In-house Team	
		Design Calculations & Simulations	
2	**Incoming Material Inspection & Testing**	Dimension Inspection	
		Material Testing (e.g., hardness, mechanical properties)	
		Material Traceability	
		Inspection Infrastructure and Testing Capabilities	
3	**Gear Rim Machining Facility**	Machining Capability (e.g., CNC Vertical/Horizontal Turret, CNC Drilling, Gear Cutting)	
		Material Handling Capabilities	
		Availability of Tooling & Fixtures	
4	**Heat Treatment**	Process Qualification/Validation (e.g., CQI-9)	
		Heat Treatment Process: HH+QT, CNC Induction Hardening	
		Stress Relieving Process	
5	**Laboratory Accreditation**	Accreditation like ISO/IEC 17025 or Equivalent	
6	**Material Testing Laboratory**	Mechanical Properties Testing (e.g., tensile strength, elongation)	
		Hardenability Testing	
7	**Metallurgical Laboratory**	Metallurgical Properties Testing (e.g., microstructure, composition)	
8	**Chemical Laboratory**	Chemical Composition and Analysis (e.g., for alloys and coating materials)	
9	**In-house Non-Destructive Testing Facility**	Personal Qualification of Inspectors	
		Ultrasonic Testing	
		Magnetic Particle Testing	
		Visual Testing	
		Case Depth & Hardness Verification	
		Dye Penetrant Testing	
10	**In-house Inspection & Testing**	Gear Geometry & Parameter Testing (e.g., pitch, teeth profile, backlash)	
		Linear, Circular, and Geometrical Dimension Inspections	
		Components 3D Geometry Inspection	

Sr. No.	Description	Inspection Points (Yaw Bearing)	Remarks
		(e.g., using CMM - Coordinate Measuring Machine)	
11	**Calibration Facility**	Calibration of Gauges, Instruments, and Test Equipment	
12	**Product Testing Facility**	Auxiliary Test Dimension Verification Facility	
13	**In-house Coating Facility**	Process Qualification/Validation	
		Shot / Grit Blasting for Surface Preparation	
		Thermal Zinc Spray Coating Process	
		Coating Process (e.g., Paint, Anti-corrosion Coating)	
		Personal Qualification of Coating Operators	
		Corrosion Protection Levels (e.g., coating thickness, adhesion)	
14	**Marking and Packaging**	Product Marking and Traceability through Raw Materials	
		Preservation and Packaging (e.g., for storage and shipping)	
15	**Service Facility - Aftermarket Sales & Service**	Field Service Support (Repairs, Inspections, Upgrades)	
		Shop Repair Facility	
16	**Management Systems**	Quality System Certification (e.g., ISO 9001, ISO 3834-2, etc.)	
		Safety and Environmental Certifications	
		Legal and Compliance Systems (e.g., HR practices, Regulatory Adherence)	
		Supplier Management Systems	
		Environmental, Social, and Governance (ESG) Practices	
		Wind Turbine Generator (WTG) Certification (e.g., IS/IEC 61400-22)	
		Customer Satisfaction Management Systems (Feedback, Surveys)	
		Third-Party Certification Systems for Design, Manufacturing Evaluation	

Format for Inspection Report (Pitch Bearing)

Sr. No.	Description	Inspection Points (Pitch bearing)	Remarks
1	**Product Design, Development & Engineering**	Capability and strength of in-house design team, design calculations, and simulations	
2	**Incoming Material Inspection & Testing**	Dimensional inspection, material testing, material traceability, inspection infrastructure, and testing capabilities	
3	**Incoming Material Inspection (Lubricants, Coatings, and Chemicals)**	Verification of technical certificates (TC), in-house verification facilities for materials	
4	**Component Machining Facility**	Machining capabilities (e.g., CNC vertical/horizontal machines, gear cutting, turning), material handling, tooling & fixture availability	
5	**Seal Inspection and Vulcanizing Facility**	Seal inspection, testing, vulcanization processes, exchange procedures	
6	**Heat Treatment**	Process qualification/validation (CQI-9), CNC induction hardening machine, stress relieving	
7	**Laboratory Accreditation**	Accreditation such as ISO/IEC 17025 or equivalent	
8	**Material Testing Laboratory**	Mechanical properties testing (tensile, impact, hardness, etc.)	
9	**Metallurgical Laboratory**	Metallurgical properties testing (grain structure, phase analysis, etc.)	
10	**Chemical Laboratory**	Chemical composition testing	
11	**Destructive Testing**	Component failure testing (e.g., seal joint testing)	
12	**Non-destructive Testing (NDT)**	Personnel qualification, ultrasonic testing, magnetic particle testing, visual inspection, case depth and hardness verification, dye penetrant testing	
13	**Component Inspection & Testing**	Gear geometry testing, dimensional inspections (linear, circular, geometric), 3D geometry inspection	
14	**Lubrication**	Grease filling and weighing, greasing process, operating temperature range, greasing points identification, flushing procedure	
15	**Calibration Facility**	Calibration of gauges, instruments, and test facilities	
16	**Product Assembly**	Pre-assembly, main assembly, and final	

Sr. No.	Description	Inspection Points (Pitch bearing)	Remarks
		assembly processes	
17	**Torque Testing**	Running and starting torque tests	
18	**Product Testing Facility**	Certification of the product, basic functional testing, overload testing, FE analysis (static, fatigue, dynamic load testing), prototype tests	
19	**Coating Facility**	Process qualification/validation, shot/ grit blasting, thermal zinc spray, corrosion protection levels, personal qualifications	
20	**Marking and Packaging**	Marking, traceability through raw materials, preservation, and packaging	
21	**Aftermarket Sales & Service**	Field service support, shop repair facilities	
22	**Management Systems**	Quality certification (ISO 9001, etc.), safety and environmental certifications, legal compliance systems, supplier management systems, sustainability, customer satisfaction management	

Format for Inspection Report (Main Bearing)

Sr. No.	Description	Inspection Points (Main Bearing)	Remarks
1	**Product Design, Development & Engineering**	Capability and strength of in-house design team, design calculations, and simulations	
2	**Incoming Material Inspection & Testing**	Dimensional inspection, material testing, material traceability, inspection infrastructure, testing capabilities	
3	**Main Bearing Components (Rings) Machining Facility**	Machining capabilities (turning, honing, grinding), material handling, tooling & fixture availability	
4	**Heat Treatment**	Process qualification/validation (CQI-9), carburizing treatment, quenching & tempering, induction hardening (if applicable)	
5	**Laboratory Accreditation**	Any relevant accreditation like ISO/IEC 17025 or similar	
6	**Material Testing Laboratory**	Mechanical properties testing (tensile, impact, hardness, etc.)	
7	**Metallurgical Laboratory**	Metallurgical properties testing (grain structure, phase analysis, etc.)	
8	**Chemical Laboratory**	Chemical composition testing	
9	**Non-destructive Testing (NDT)**	Personnel qualification, ultrasonic testing, magnetic particle testing, visual inspection, case depth and hardness verification, dye penetrant testing	
10	**In-house Inspection of Main Rings, Cages, Rollers & Guide Rings**	Linear & geometric parameter inspection, 3D geometry inspection (e.g., CMM)	
11	**Calibration Facility**	Calibration of gauges, instruments, and test facilities	
12	**Product Assembly**	Pre-assembly, main assembly, and final assembly processes	
13	**Product Cleanliness**	Cleanliness measurement facilities (cleanliness standards, particle count)	
14	**Product Testing Facility**	Product certification, basic functional testing, overload testing, FE analysis (static & fatigue load testing), dynamic testing for prototypes	
15	**Corrosion Protection**	Oil bath dipping or other corrosion protection treatments	
16	**Marking and**	Marking, traceability through raw	

Sr. No.	Description	Inspection Points (Main Bearing)	Remarks
	Packaging	materials, preservation, and packaging	
17	**Service Facility – Aftermarket Sales & Service**	Field service support, shop repair facilities	
18	**Management Systems**	Quality system certification (e.g., ISO 9001), safety and environmental certifications, legal compliance systems, supplier management, sustainability, customer satisfaction management, third-party certifications (design, manufacturing evaluation)	

Appendix-I

Application Format to apply for inclusion of a Wind Turbine Model in the Approved List of Models and Manufacturers of Wind Turbines (ALMM-Wind) or Wind Turbine Component in the Approved List of Models and Manufacturers of Wind Turbines Components (ALMM-WTC)

(To be filled separately for each wind turbine model)

(Tick the relevant box wherever applicable)

1.	**Details of Wind Turbine/Component Manufacturer and Model**		
a)	Name of Indian Company **(Attach a copy of certificate of Incorporation issued by Registrar of Companies)** **Attachment number_____**		
b)	Registered office Address		
		Phone:	Fax:
c)	Communication Address		
		Phone:	Fax:
d)	Address to be mentioned in the list, if enlisted.	Registered Office Address (or) ☐	
		Communication Address ☐	
e)	Does company's objectives include wind business	Yes ☐	No ☐
f)	Wind Turbine Model/Component Applied for	Model	
g)	Wind Turbine Details	Rotor Diameter in m	
		Hub Height in m	
		Tower Type	
h)	Authorized signatory details **(Attach a copy of the Board resolution / Power of Attorney/ Authorization letter issued by the Chairman/ Managing Director)** **Attachment number_____**	Name	
		Designation	
		Phone	
		Mobile	
		Fax	
		E-mail	

2.	**Collaboration / Design Ownership details**			
a)	Model			
b)	Whether Collaboration available for this wind turbine model/Component	Yes ☐	No ☐	
c)	Name of Collaborator and Country	Name		
		Country		
d)	Indian Territory Jurisdiction of Collaboration and period of Collaboration	Yes ☐	No ☐	
		Period	From	To
e)	Ownership of design rights of the wind turbine model/component available with the Indian Company	Yes ☐	No ☐	
3.	**Type Certification Details**			
a)	Rated Capacity of the wind turbine (225 kW and above) /Component	**---------- kW**		
b)	Model			
c)	Type Certificate Number **(Pl Attach a copy of a valid Type Certificate as per the standard in vogue)** **Attachment number_____**			
d)	Date of Issue	DD ☐☐	MM ☐☐	YYYY ☐☐☐☐
e)	Valid Until	DD ☐☐	MM ☐☐	YYYY ☐☐☐☐
f)	Type Certification Scheme	IS/IEC ☐	IECRE OD 501 ☐	
g)	Type Certificate	TYPE ☐	PROVISIONAL ☐	

h)	Documents (Conformity Statement/Statement of Compliance, Final Evaluation Report and Certified Power Curve) **(Pl Attach documents mentioned in the Type Certificate)** **Attachment number_____**			
i)	Name of Certification Body	NIWE ☐	TUV NORD ☐	
		DNV ☐	DEWI -OCC ☐	
		TUV SUD ☐	TUV RHEINLAND ☐	
		WIND GUARD ☐	ANY OTHER Pl Specify_____ ☐	
		INTERTEK ☐		
3.1.	**For Certification Bodies**			
a)	Name of the Accreditation Body			
b)	Accreditation valid up to **(Pl Attach a copy of valid Accreditation Certificate)** **Attachment number_____**	DD ☐☐	MM ☐☐	YYYY ☐☐☐☐
c)	Contact Person of Certification Body for authentication of Type Certificate and other related documents			
d)	Contact details including E-mail of Contact Person for authentication of Type Certificate and other related documents			
4.	**Manufacturing Facility Details**			
a)	Model			
b)	Manufacturing facility			
c)	Location details of the Hub and Nacelle assembly/manufacturing facility in India for the above said wind turbine model, included in the Type Certificate.			
	Location details of the major components assembly/manufacturing facility for the above said wind turbine model.			
d)	ISO Certificate for the assembly/manufacturing facility			

e)	Name of the ISO Certification Body	
f)	ISO Certificate as per standard	2015 ☐

g)	Validity of the ISO certificate **(Attach a copy of valid ISO certificate)** **Attachment number_____**	DD ☐☐	MM ☐☐	YYYY ☐☐☐☐
h)	Name of the Accreditation Body			
i)	Accreditation valid upto **(Attach a copy of valid Accreditation certificate)** **Attachment number_____**	DD ☐☐	MM ☐☐	YYYY ☐☐☐☐
j)	Contact Person of Certification Body for authentication of ISO Certificate			
k)	Contact details including E-mail of Contact Person for authentication of ISO Certificate			
5.	**Affidavit and Indemnity**			
a)	Model			
b)	Affidavit Provided **(Pl Attach the Affidavit)** **Attachment number_____**	Yes ☐	No ☐	
c)	Indemnity bond Provided **(Pl Attach the Indemnity Bond)** **Attachment number_____**	Yes ☐	No ☐	

Declaration

I do hereby declare that all information and documents are provided in complete manner. I confirm that all the information provided in the 'Application Form' and in the other documents is true, complete and correct. I agree that in the event of any particular information given being found false or incorrect or any discrepancy at any point of time, our application is liable to be rejected or cancelled or liable to be terminated and the wind turbine model shall be removed from the List, if enlisted, without any prior notice by MNRE. I unconditionally agree to comply with all the requirements, terms and conditions stipulated by MNRE.

Authorised Signatory

Appendix-II

(TO BE PRINTED IN Rs.100/- STAMP PAPER (Non-Judicial))

and to be NOTARIZED

AFFIDAVIT SUBMITTED ON BEHALF..... (COMPANY)

I .....…Son/Daughter/Wife of ..... aged about ..... years, having my office at ..... (Address), do hereby solemnly affirm and sincerely state as follows:

1. I am the authorized by the ..... (Designation)of the ..... (company). I have been ..... (company) vide Board Resolution / Power of Attorney/ Authorization Letter dated ..... to sign this affidavit on behalf of the company.
2. I state that ..... (company) has submitted an Application Form dated ..... (dd/mm/yyyy) for ..... in the inclusion of its Wind Turbine Model/Component ..... in the ALMM (Wind)/ ALMM(WTC). This affidavit is sworn on behalf of the ..... (company) to confirm and verify the true, complete and correctness of the information and documents provided therein. I am competent to swear this affidavit on behalf of the ..... (company).
3. I state that the manufacturer details including the name of the company, incorporation, registered office and communication address provided in the Application Form are true and correct.
4. In case of Joint Venture Company
   I state that the ..... (company) is a Joint Venture Company between ..... and..... The share holding pattern in the Joint Venture is as follows…(if applicable)
5. I state that ..... (company) has entered into a Collaboration Agreement namely " "..... (Specific name of the Agreement) signed on with .....(company) for the ..... Wind Turbine Model/Component being applied for ALMM (Wind)/ ALMM(WTC). The above Collaboration Agreement is valid for the period of ..... years from ..... (dd/mm/yyyy) till ..... (dd/mm/yyyy) The Collaboration Agreement is valid as on date and all obligations contained therein are fulfilled. Indian Territory is covered under the Collaboration Agreement.

   or

   I state that the Design Ownership Right of the Wind Turbine Model/Component ..... being applied for ALMM (Wind)/ ALMM(WTC) is owned by the ..... (company). There are no patent related issues pending for the Wind Turbine Model/Component being applied for ALMM (Wind)/ ALMM(WTC) till date either against ..... (company) or its Collaborator.
6. I state that there are no insolvency proceedings either initiated or pending against ..... (company) or its Collaborator.
7. I state that ..... (company) undertakes and has made provisions in the Collaboration Agreement for retaining all the required documentation, tools, equipments and other necessary infrastructure required to carry out the Operation and Maintenance of the installed wind turbines/components in case of termination of the Collaboration Agreement.
8. I state that ..... (company) is committed to provide Operation and Maintenance service/support for carrying out Operation and Maintenance of the all the wind turbines/components (of the wind turbine model/component applied for enlistment in

ALMM (Wind)/ ALMM(WTC)) to be installed after enlistment of the Wind Turbine Model/Component in the ALMM (Wind)/ ALMM(WTC) for a minimum period of 20 years from the date of commissioning of the wind turbines.

9. I state that ..... (company) undertakes to immediately update any change / modification in the details set out in the Application Form submitted for ALMM (Wind)/ ALMM(WTC) as and when the same may occur for review, approval and updated listing.
10. I state that ..... (company) has no objections to MNRE uploading the submitted documents Certificate of Incorporation, Type Certificate (without enclosures) and ISO Certificate in the RLMM on its website.
11. I state that ..... (company) undertakes that
    (i) The wind turbine data centre and/or server shall be in India and all data pertaining to wind turbine shall be stored and maintained within India.
    (ii) No real-time operational data shall be transferred outside India. Operational control of wind turbine shall be conducted exclusively from a facility located within India.
    (iii) The R&D Centre of Wind Turbine is in India.

12. I do hereby declare that all information and documents are provided in complete manner. I confirm that all the information provided in the "Application Form" and in the other documents are true, complete and correct. I agree that in the event of any particular information given being found false or incorrect or any discrepancy at any point of time, our application is liable to be rejected or cancelled or liable to be terminated and the Wind Turbine Model/Component shall be removed from the List, if enlisted, without any prior notice by MNRE, Government of India. (Company) ..... unconditionally agree to comply with all the requirements, terms and conditions stipulated by MNRE, Government of India. (Company) ..... undertakes to indemnify MNRE, Government of India and to execute an indemnity bond to that effect against any loss or damages for reasons set forth here above from any parties.

DEPONENT

VERIFICATION:

Verified at ....., this the .....day of ..... 20…. That the contents in the above affidavit is true and correct to the best of knowledge and belief. No part of this affidavit is wrong and nothing material has been concealed therefrom.

DEPONENT

Solemnly Affirmed at .....

On this ..... day of..... 20….

And signed his/her name in my presence Deponent signed before me

Appendix -III

{TO BE PRINTED IN Rs.100/- STAMP PAPER {Non-Judicial))

and to be NOTARIZED

DEED OF INDEMNITY

THIS DEED OF INDEMNITY executed at ..... on this ---------- day of----------, Two Thousand and on this ---------- by M/s.----------, a company registered under the Indian Companies Act, having its Registered office at ----------, India represented herein by its Authorised Signatory ----------(Name) the ..... (Designation), hereinafter called the "MANUFACTURER" (the term "MANUFACTURER" shall wherever the context so permits includes its representatives, executors, assigns, successors and successors in interest)

WHEREAS the MANUFACTURER has requested Ministry of New and Renewable Energy (MNRE), Government of India having its office at Atal Akshaya Urja Bhawan, Opposite CGO Complex, Lodhi Road, New Delhi –110 003, (herein after referred to as MNRE) for inclusion of M/s.---------- ------ along with ---------- wind turbine model/component, in the Approved List of Models and Manufacturers of Wind Turbines (ALMM-Wind) or Wind Turbine Component in the Approved List of Models and Manufacturers of Wind Turbines Components (ALMM-WTC)and has submitted an application dated ---------- (dd/mm/yyyy) along with required documents to that effect (hereinafter referred to as the "Application") with MNRE. In this regard, the MANUFACTURER is executing a Deed of Indemnity, which forms part and parcel for the Application dated ----------(dd/mm/yyyy), indemnifying the MNRE against any loss, damages, failures, performance issues, breakdowns, etc., that they may suffer or incur and in order to safeguard the interests of MNRE.

NOW THIS DEED OF INDEMNITY WITNESSETH

1. That in pursuance of the documentation submitted by the MANUFACTURER for inclusion of----------(company) along with ----------wind turbine model in the Revised List of Models and Manufacturers of Wind Turbines (RLMM) issued by the MNRE, the MANUFACTURER shall indemnify and keep indemnified MNRE against any loss, damages, failures, performance issues, breakdowns, etc., that may arise on account of such inclusion of the said wind turbine manufacturer and
   model in the Revised List of Models and Manufacturers of Wind Turbines (RLMM) issued by MNRE, based on the approval of the MNRE.
2. The MANUFACTURER shall indemnify MNRE against any loss, damages, failures, performance issues, breakdowns, etc., on account. of any insurance claim.
3. The MANUFACTURER shall indemnify MNRE against any loss, damage that may arise on account of disputes raised by any third party relating to design rights, intellectual property rights, and all other similar claims as MNRE is in no way connected with it
4. The MANUFACTURER shall indemnify MNRE against any consequential loss, damages on account of inclusion of the said wind turbine manufacturer and model in the Revised List of Models and Manufacturers of Wind Turbines (RLMM) and any other issues in connection with the MANUFACTURER and wind turbine model.
5. The MANUFACTURER shall indemnify MNRE against any documentation loss, damages if arises.

6. The MANUFACTURER shall indemnify MNRE against any loss, damages, failures, performance issues, breakdowns etc., that may arise on account of providing incorrect/false information and/or documentation.
7. The MANUFACTURER shall indemnify MNRE against any loss, damages, failures, performance issues, breakdowns etc., that may arise on account of any legal dispute arising between MNRE and MANUFACTURER or MNRE and any Third Parties.
8. The MANUFACTURER shall indemnify MNRE against any loss, damages, failures, performance issues, breakdowns, etc., due to any issues related to design, manufacture/ assembly, installation, grid synchronization / commissioning and operation and maintenance of the wind turbines.
9. The MANUFACTURER shall indemnify MNRE against any loss, damages, failures, performance issues, breakdowns, etc., or any issues at site(s) including non-compliance of IS 875 (Part 3).
10. The MANUFACTURER shall indemnify and keep indemnified MNRE against any consequential loss, damages and failures arising out or in connection with the review/ verification of documentation and information
11. The MANUFACTURER shall indemnify and keep indemnified MNRE against any loss, damages, failures, claims etc., due to changes / modifications in the Type Certification documents and other documents.
12. The· MANUFACTURER shall indemnify MNRE against any loss, damages, failures, performance issues, breakdowns, etc., or any issues at site(s) that may arise on account of any reasons apart from the above mentioned.
13. The MANUFACTURER unconditionally and irrevocably agree and undertake to indemnify and keep indemnified, save, defend and hold harmless MNRE in respect of any actions, claims, suits, demands, costs, damages, expense, failures in wind turbine / wind farms, causes of any actions for illness, injuries, death or any consequential losses that may arise in the event of such inclusion of ----------(company) along with ---------- wind turbine model in the Revised List of Models and Manufacturers of Wind Turbines (RLMM).
14. The MANUFACTURER shall indemnify and keep indemnified MNRE that in the event of any loss, liability that they may suffer or any claim that may be made against MNRE would be made good by the MANUFACTURER for the loss, costs, charges, expenses, claims whatsoever made including any claim that may be made under any act will be fully taken care of and paid only by the MANUFACTURER and no such claim made in whatsoever manner, will be fastened on MNRE.

IN WITNESS WHEREOF, the party hereto has executed this Deed of Indemnity on the date, month and year first above written.

Signature of Authorised Signatory

Name & Designation

WITNESSES:

1. .....

2. .....

Appendix-IV

Check List of Documents/requirements submitted with application

for inclusion of ..... wind turbine model/Component of ..... (Company)

S. No.	Document	Status
1.	Application in prescribed format	Yes/No
2.	Copy of Certificate of Incorporation of the applying entity issued by Registrar of Companies, Ministry of Corporate Affairs, Government of lndia.	Yes/No
3.	Document authorising the signatory to sign and submit the application	Yes/No
4.	Copy of valid Type Certificate of the wind turbine model/component, proposed for enlistment, issued by any internationally accredited type certification body as per IS/IEC /IECRE OD 501 type certification scheme	Yes/No
5.	Copy of Conformity Statement/Statement of Compliance	Yes/No
6.	Copy of Final Evaluation Report	Yes/No
7.	Copy of Certified Power Curve	Yes/No
8.	Copy of valid ISO Certificate for quality management system issued in the name of Applicant.	Yes/No
9.	Whether Type Certificate include Hub and Nacelle assembly/manufacturing facility in India?	Yes/No
10.	Whether Type Certificate documentation include major components assembly/manufacturing facility?	Yes/No
11.	Whether ISO Certificate include Hub and Nacelle assembly/manufacturing facility in India?	Yes/No
12.	Whether ISO Certificate include major component assembly/manufacturing facility?	Yes/No
13.	Copy of Accreditation certificate of Type certifying body	Yes/No
14.	Copy of Accreditation certificate of ISO certifying body	Yes/No
15.	Affidavit in the prescribed format on non-judicial stamp paper (Rs.100) duly signed and attested	Yes/No
16.	Indemnity Bond in the prescribed format on non-judicial stamp paper (Rs. 100) duly signed and attested	Yes/No
17.	All documents duly signed by authorised signatory	Yes/No