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Procedure Author: **程序作者:**	Nan Gu（顾楠） TUV Rheinland (China) Ltd. 莱茵检测认证服务(中国)有限公司
Approved **批准**	Miao Mai（麦苗） TUV Rheinland (China) Ltd. 莱茵检测认证服务(中国)有限公司
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1 Purpose 目的

This document describes the procedure for preparation, submittal, evaluation, and certification of products as defined in the scope for China Mark Approval of TÜV Rheinland (China) Ltd..
本文件阐述了莱茵检测认证服务(中国)有限公司（TRCHN）中国标志认证产品范围内规定的准备、提交、评估和认证程序。

2 Scope 范围

The objective is the definition of the evaluation method and procedure applied for conformity assessment and certification of rotor blade.
本规则适用于对风力发电机组叶片进行合格评定和认证所采用的评估方法和程序。

3 Acc. Standards 依据标准

3.1 The standards for the accredited rotor blade 对获认可范围内的叶片适用标准如下：

- GB/T 18451.1 Wind turbine generator systems - Design requirements
- GB/T 18451.1 风力发电机组设计要求
- GB/T 25383 Wind turbine generator system—Rotor blades
- GB/T 25383 风力发电机组 风轮叶片
- IEC 61400-1 Wind turbines Part 1：Design requirements
- IEC 61400-1 风力发电机组 第 1 部分：设计要求
- IEC 61400-2, Wind turbines Part 2: Design requirements for small wind turbines
- IEC 61400-2, 风力发电机组 第 2 部分：小风机设计要求
- IEC 61400-3, Wind turbines – Part 3: Design requirements for offshore wind turbines
- IEC 61400-3, 风力发电机组 – 第 3 部分: 海上风力发电机组设计要求
- IEC 61400-5: Wind turbines – Part 5: Wind turbine blades
- IEC 61400-5: 风力发电机组 – 第 5 部分: 风力发电机组叶片
- IEC 61400-24: Wind turbines – Part 24: Lightning protection
- IEC 61400-24: 风力发电机组 – 第 24 部分: 雷电防护
- DNVGL-ST-0376 Rotor blades for wind turbines
- DNVGL-ST-0376 风力发电机组风轮叶片
- Or other relevant applicable standards such as IEC, IECRE, GB, GL, ISO, etc
- 或者，其他的 IEC、IECRE、GB、GL、ISO 等相关适用标准

The technical standards related to testing are as follows 和测试相关的技术标准如下：

- GB/T 25384 Wind turbines-Full scale structure testing of rotor blade
- GB/T 25384 风力发电机 组 风轮叶片 全尺寸结构试验
- IEC 61400-23: Wind turbines – Part 23: Full-scale structural testing of rotor blades

- IEC 61400-23: 风力发电机组 – 第 23 部分: 叶片全尺寸结构试验

3.2 Keywords 关键词

Safety 安全合规

4 Type of Approval 认证模式

The certification mode for wind turbine rotor blade is: design evaluation + type test + manufacturing evaluation + supervision after certification.

风力发电机组风轮叶片的认证模式为：设计评估+型式试验+制造评估+获证后监督。

The type certification including but not limited 认证模式的基本环节包括：

- Application 认证的申请
- Design Basis evaluation 设计准则评估
- Design evaluation 设计评估
- Type testing 型式试验
- Manufacturing evaluation 制造评估
- Certification result assessment and approval 认证结果评价和批准
- Follow-up surveillance 获证后监督

5 The application of Certification 认证申请

5.1 Unit partition of the certified products 认证产品单元划分

In principle, according to the product model apply the certification.

原则上按产品型号申请认证。

E.2 Application documents 申请材料

- application form 申请表
- business license 营业执照
- factory inspection report which approved by TÜV (if have) TÜV莱茵批准的叶片产品的工厂检查报告（如果有）
- test report of TÜV Rheinland or any other TÜV Rheinland appointed ISO/IEC 17025 laboratory (if have) TÜV莱茵测试报告或任何其他的TÜV莱茵指定的符合ISO/IEC 17025要求的实验室出具的型式试验报告（如果有）
- Design basis 设计准则
- Material properties (including material test reports) 材料属性（包括材料测试报告）
- Blade specifications (including mass and stiffness distribution, natural frequencies, blade root geometry, blade mass and centre of gravity) 叶片技术规格书（包括质量和刚度分布、固有频率、叶根几何形状、叶片质量和重心）
- Load report 载荷报告
- Finite Element model 有限元模型
- Blade drawings 叶片图纸
- Blade section geometry 叶片截面几何形状
- Aerodynamic data (calculated or measured lift, drag and moment characteristics) 空气动力学数据（计算或测量的升力、阻力和力矩特性）
- Lightning protection system 雷电防护系统
- Manufacturing description and specification (optional) 制造说明和规范（可选）
- Preliminary blade transportation, installation and O&M manuals 初步叶片运输、安装和运行维护手册
- QM certificates for the design process 设计过程的质量管理证书
- Test specification including test loads 测试规范，包括测试负载
- Test reports 测试报告

- Test assessment report 测试评估报告
- Calibration sheets if not included in the test report 校准表（如果未包含在测试报告中）
- Raw test data 原始测试数据
- Manufacturing documentation for the test blade 试验叶片的制造文件

6 Design basis evaluation 设计准则评估

The certification body shall assess the design basis which shall identify all requirements, assumptions and methodologies essential for the design and the design documentation, including:
认证机构应评估设计依据，设计依据应确定设计和设计文件所必需的所有要求、假设和方法，包括：

- Codes and standards 标准和规范
- Normal and extreme environmental conditions 正常和极端环境条件
- Design parameters, assumptions, methodologies and principles 设计参数、假设条件、方法和规则
- Other requirements, e.g. for manufacture, transportation, installation and commissioning as well as for operation and maintenance 其他要求，如制造、运输、安装和调试、运维等

6 Design Evaluation 设计评估

The purpose of design evaluation is to examine whether the blade is designed and documented in conformity with the design assumptions, specific standards and other technical requirements. The evaluation of design shall be carried out by means of document review and independent analyses.
设计评估的目的是检查叶片的设计和记录是否符合设计假设、特定标准和其他技术要求。设计评估应通过文件审查和独立分析进行。

The certification body shall verify the following aspects:
认证机构应验证以下方面：

- Material properties 材料属性

  The properties of the material used in the rotor blade design shall be proven by material testing to be consistent with the properties applied in the design calculations. All material tests shall be in general carried out by accredited test laboratories according to IEC/ISO 17025 and shall comply with the requirements of the relevant test standards.
  风轮叶片设计中使用的材料性能应通过材料试验证明，与设计计算中应用的性能一致。所有材料试验通常应由经认证的试验实验室根据IEC/ISO 17025进行，并应符合相关试验标准的要求。

- Blade structure 叶片结构
- Blade characteristics (aerodynamic and mechanical) 叶片特性（气动和机械）

  It shall be assessed that the characteristic data of the rotor blade given in the specification and related documents are consistent with the design documentation in order to ensure that the subsequent usage of these data is sufficiently verified.
  应评估规范和相关文件中给出的风轮叶片特性数据与设计文件一致，以确保这些数据的后续使用得到充分验证。

  Mechanical data: It shall be assessed that the blade characteristic mechanical data (e.g. mass and stiffness distribution) given in the blade specification are consistent with the properties resulting from the drawings under consideration of the material properties and tolerances. A consistency check of the dominant natural frequencies may be carried out in the design evaluation, but shall be subject to recheck in the final evaluation stage.
  机械数据：应评估叶片规范中给出的叶片特征机械数据（如质量和刚度分布）是否与考虑材料特性和公差的图纸中得出的特性一致。主导固有频率的一致性检查可在设计评估中进行，但应在最终评估阶段进行复查。

  Aerodynamic data: It shall be assessed that the aerodynamic data of the rotor blade intended for use within the load calculation of a wind turbine are sufficiently demonstrated e.g. through data established for NACA profiles or wind tunnel test in case of non-standard profiles. The data should be adjusted for 3D effects and considering the blade surface roughness during normal operation (dirt, wear, etc.).

空气动力学数据：应评估拟用于风力发电机组负荷计算的风轮叶片的空气动力学数据是否得到充分证明，例如，通过NACA剖面或非标准剖面的风洞试验建立的数据。应根据3D效应调整数据，并考虑正常运行期间的叶片表面粗糙度（污垢、磨损等）。

- Blade modelling 叶片建模

The structural calculation model used by the designer for the verification of the rotor blade strength shall be assessed by the certification body for suitability by reviewing the design calculation report. For e.g. the application of finite element method the mesh and the used FE technologies (e.g. element type, boundary conditions et cetera) shall be checked.
认证机构应通过审查设计计算报告，评估设计人员用于验证转子叶片强度的结构计算模型的适用性。对于有限元法的应用，应检查网格和使用的有限元技术（例如，单元类型、边界条件等）。

- Evaluation of blade strength calculations 叶片强度计算评估

The blade strength calculations provided by the designer shall be evaluated by the certification body through documentation review supported by the results from certification body's independent strength calculations in regard to:
设计方提供的叶片强度计算应由认证机构通过文件审查进行评估，并由认证机构的独立强度计算结果支持：

Ultimate strength analysis极限强度分析:

In addition to operational loads also transport and installation loads shall be considered in the strength calculations.
除运行载荷外，强度计算中还应考虑运输和安装载荷。

Fatigue failure analysis疲劳失效分析:

The independent fatigue strength calculation shall among others properly consider the mean stress effects.
独立疲劳强度计算应适当考虑平均应力效应。

- Inter-fibre failure analysis 内部纤维失效分析
- Stability analysis 稳定性分析

At a certain load compressed structures will start to buckle. Buckling may occur on large scale where the complete shell panel buckles or on a small scale where only the surface shell of a sandwich panel buckles (wrinkling). The buckling of all blade panels including the trailing edge shall be avoided with the required safety or the buckled condition shall be considered in the strength analysis if allowed by the applied and agreed design standard.
在一定载荷下，压缩结构将开始屈曲。屈曲可能发生在整个壳面板屈曲的大范围内，或仅夹层面板表面壳体屈曲（起皱）的小范围内。所有叶片面板（包括后缘）的屈曲应以所需的安全性避免，或者如果适用和商定的设计标准允许，则应在强度分析中考虑屈曲条件。

Sometimes the buckling is verified by pure analytical procedures on the basis of diagrams or analytical formulas obtained for curved orthotropic structures. In this case and if allowed by the applied and agreed design standard, the certification body shall assess that the analytical procedures are based on representative experiments and that they result in a design with the required safety.
有时，根据曲线正交各向异性结构的图表或分析公式，通过纯分析程序验证屈曲。在这种情况下，如果应用和商定的设计标准允许，认证机构应评估分析程序基于代表性实验，并得出具有所需安全性的设计。

In addition to buckling of blade shell panels, the column buckling of the trailing edge shall be analysed.
除了叶片壳体的屈曲外，还应分析后缘的立柱屈曲。

- Bonding joint strength analysis 粘接接头强度分析

The bonding strength shall be assessed with regard to ultimate and fatigue loads considering manufacturing methods and resulting tolerances.
应考虑制造方法和产生的公差，根据极限载荷和疲劳载荷评估粘结强度。

- Eigenfrequency analysis 特征频率分析

The natural frequencies are often used as a simplified measure for the stiffness of the blade structure. It is used to compare the blade data during testing or load verification with the design documentation of the blade. The natural frequencies of the blade shall be assessed based on the model used for structural verification and checked for compliance with the blade specification.

固有频率通常用作叶片结构刚度的简化度量。它用于将测试或负载验证期间的叶片数据与叶片的设计文档进行比较。应根据用于结构验证的模型评估叶片的固有频率，并检查其是否符合叶片规范。

- Analysis of the blade root section 叶根截面分析

  The blade root shall be assessed based on documentation review, normally supported by testing.
  应根据文件审查对叶根进行评估，通常由测试支持。

- Lightning protection 雷电防护

  The lightning protection shall be assessed according to IEC 61400-24.

- Testing procedures 测试程序

  Full scale structural testing shall consider the design critical locations of a rotor blade. The test specification shall be assessed during the design evaluation to make sure that a sufficient load level is applied and design critical modes are sufficiently tested. The full-scale structural testing shall be performed according to IEC 61400-23 and, if required, for lightning protection according to IEC 61400-24.
  全尺寸结构试验应考虑转子叶片的设计关键位置。应在设计评估期间评估测试规范，以确保应用了足够的负载水平，并对设计关键模式进行了充分测试。应根据IEC 61400-23进行全尺寸结构试验，如果需要，还应根据IEC 61 400-24进行防雷保护。

- Manufacturing procedures 制造程序

  During the design evaluation the manufacturing procedures shall be assessed for suitability to reach the quality and material strength assumed during the design verification.
  在设计评估期间，应评估制造程序是否适合达到设计验证期间假设的质量和材料强度。

  Repair procedures normally applied in the blade manufacturing shall be evaluated based on the applied and agreed design standard.
  叶片制造中通常采用的维修程序应根据适用和商定的设计标准进行评估。

- Transportation, installation and maintenance procedures 运输、安装和维护程序

  The manuals shall be reviewed for compliance with the requirements in the design basis e.g. transport requirements and blade inspection and repair procedures.
  应审查手册是否符合设计依据中的要求，如运输要求和叶片检查和维修程序。

7 Independent analyses 独立分析

When necessary, blade design assessment may be realized through a finite element model including pre-processing and post-processing for composite. The extent of independent analyses is of the responsibility of the certification body.
必要时，可通过有限元模型实现叶片设计评估，包括复合材料的前处理和后处理。独立分析的范围由认证机构负责。

8 Type test evaluation 型式试验评估

The purpose of blade tests is to verify blade structural design and to verify the suitability of manufacturing processes. The evaluation of type testing will be carried out by means of document review, inspection and witnessing.
叶片试验的目的是验证叶片结构设计，并验证制造工艺的适用性。型式试验的评估将通过文件审查、检查和见证的方式进行。

Fatigue tests as well as static tests are required and shall be done according to IEC 61400-23, or other standers accept by the certification body.
需要进行疲劳试验和静态试验，并应根据IEC 61400-23进行，或其他可以被认证机构接受的标准。

The certification body shall review the final type test plan based on the design evaluation documents.
认证机构应根据设计评估文件审查最终型式试验计划。

The certification body may inspect the test blade before as well as after the tests in order to confirm the manufacturer's judgment in case of observed damage or other observations/deviations.
认证机构可在试验前和试验后检查试验叶片，以便在观察到损坏或其他观察/偏差的情况下确认制造商的判断。

Test blades shall be representative for the blade design subject to design evaluation. Hence, the manufacturing documentation of the test blade shall be compared with the design documentation for the blade.
试验叶片应代表设计评估的叶片设计。因此，应将试验叶片的制造文件与叶片的设计文件进行比较。

Deviations will be subject to approval of certification body. New tests shall be required for significant changes in blade design including modifications to the blade structure. Significant changes also include modifications to the structural system, including the internal stiffening arrangement.
偏差将得到认证机构的批准。叶片设计的重大变化，包括叶片结构的修改，需要进行新的试验。重大变化还包括对结构系统的修改，包括内部加强布置。

The test laboratory is approved by CNAS, or the certification body should witness the test process.
实验室应该具有CNAS资质，否则应该见证测试过程。

This test report will be evaluated by the certification body to ensure that the tests have been carried out in accordance with the detailed test plan and that the test report properly documents the aspects required for evaluation.
认证机构将对该测试报告进行评估，以确保测试按照详细的测试计划进行，并且测试报告正确记录了评估所需的方面。

9 Manufacturing Evaluation 制造评估

9.1 General 概述

The purpose of manufacturing evaluation is to assess if a specific wind turbine type is manufactured in conformity with the documentation design verified during the design evaluation. This evaluation shall include the following elements:
制造评估的目的是评估特定型号的风力发电机组的制造是否符合设计评估期间验证的文件设计。该评估应包括以下要素：

- quality system evaluation 质量体系评估
- manufacturing inspection 制造检查

The manufacturing evaluation presupposes that the manufacturer of the wind turbine and the main components operates a quality system. It requires manufacturing of at least one representative specimen of the type under certification.
制造能力评估假定风力发电机组及关键零部件制造商已经运行了相应的质量体系，认证时要求至少制造一个相应的样本。

9.2 Quality system evaluation 质量体系评估

The requirement for evaluation of the quality system is satisfied if the quality system is certified to be in conformance with ISO 9001. This system certification shall be carried out by an accredited body that operates according to ISO/IEC 17021.
如果厂家的质量体系已被验证其符合 ISO 9001，则符合本节质量体系评估要求。质量体系的认证须由获得认可的机构（依据 ISO/IEC 17021）执行。

If the quality system is not certified, the certification body shall evaluate the system of the applicant. The following aspects shall be evaluated:
如果申请人的质量体系未获得认证，认证机构应对其进行评估。须评估以下方面：

- responsibilities 职责分工
- control of documents 文件控制
- sub-contracting 分包
- purchasing 采购
- process control 过程控制
- inspection and testing 检验和测试
- corrective measures 整改措施
- quality recordings 质量记录
- training 培训
- product identification and traceability 产品的标识和可追溯性

9.3 Manufacturing inspection 制造检查

It shall be ensured that the requirements identified during the design evaluation with regard to critical components and critical manufacturing processes are observed and implemented in production and assembly. The certification body shall verify by inspection that at least one representative specimen is manufactured according to the design under certification.
制造检查应确认设计评估中关键部件和关键生产工艺的要求在制造和装配过程中得到了遵守与实施。认证机构应通过检查以确认至少一个对应的样本是跟据认证过的设计要求进行制造的。检查内容包括：
The inspection shall comprise:
检查内容包括：

- verification that design specifications are properly implemented in workshop 确认在车间正确地执行了设计规范要求
- workshop instructions, purchase specifications and installation instructions 车间作业指导书，采购规范，安装说明书
- evaluation of manufacturer's workshop, if relevant 对相关制造车间进行评估
- verification of fabrication methods, procedures and qualifications of personnel 确认制造方法、工艺及人员资质
- review of material certificates 审核材料合格证
- random checks on effectiveness of procedures for acceptance of purchased components 随机检查外购件验收流程的有效性
- random checks of fabrication processes 随机检查制造工艺

Changes in manufacturing processes that influence the component quality or component properties shall be reported to the certification body. In the event of major process changes documentation shall be submitted for renewed evaluation and, if necessary, the inspection shall be repeated.
如果制造工艺变更影响到了部件的质量或性能，应向认证机构汇报。如果关键工艺变更，认证机构应对修改后的文件重新进行评估，必要时需重新进行制造检查。

The manufacturing inspections shall be repeated as part of the renewal of the certificate.
重新进行制造检查应作为证书更新的一部分。

9.4 Period of manufacturing evaluation 制造评估时间

The man-day of manufacturing evaluation is 2 man-days.
制造评估人日数为 2 人日。

9.5 Manufacturing conformity statement 制造能力符合性声明

A satisfactory manufacturing conformity evaluation is concluded with a manufacturing conformity statement.
制造能力评估合格后，可签发制造能力评估符合性声明。

10 Evaluation and approval of the certification 认证结果评价与批准

10.1 Evaluation and approval of the certification 认证结果评价与批准

TRCHN organize the evaluation for the result of the design evaluation and the factory inspection. After evaluation, issue the certificate to the applicant, every application unit with one certificate.

TRCHN 组织对设计评估结论和工厂检查结论进行综合评价。评价合格后，向申请人颁发产品认证证书。每一个申请认证单元颁发一份认证证书。

The same products, accept the result of the design evaluation and factory/construction site inspection report for the other TÜV's voluntary product certification, should be approved by the certifier and indicate the reason. The factory/construction site inspection report must be within 12 months and cannot be used beyond the time limit.
同样产品，采信已经获得 TÜV 莱茵颁发的自愿性产品认证证书的设计评估报告和工厂检查报告结论。工厂/施工现场检查报告必须在 12 个月内，超期不能采用。

10.2 Lead-time 交付周期

After finishing the design evaluation and factory/construction site inspection, and compliance with the certification requirements, TRCHN will issue the type certificate within two weeks when all the documents are provided.
完成设计评估和工厂检查后，对符合认证要求的，将在提供所有文件之后 2 周颁发型式认证证书。

If only the design evaluation is completed without factory inspection, TRCHN will issue the design evaluation conformity statement within two weeks when all the documents are provided.
如果只完成了设计评估，不做工厂检查，对符合认证要求的，将在提供所有文件之后 2 周颁发设计评估符合性声明。

10.3 Termination the certification 认证终止

When the design evaluation is disqualification or the factory inspection is no-pass, TRCHN make the unqualified decision, and terminate the certification. If continue the certification after the termination, should start from the new application.
当设计评估或工厂检查不通过，TRCHN 做出不合格决定，终止认证。终止认证后，如要继续申请，按新申请进行。

11 Follow-up surveillance 获证后监督

After the certificate issued, for the same category and specifications of the products covered by the certificate, the certification body should supervise and verify that the factory quality assurance ability of the production enterprise continues to meet the certification requirements, ensuring the certified products continue to meet the standard requirements and maintain the consistency with the type test samples. The supervision period generally does not exceed 2.5 years. After obtaining the certificate, the application enterprise should submit an annual report every year. The annual report includes: operation management and production of the application enterprise, abnormal operation experience of the product, information of the produced products (quantity and consistency of the produced products), and faults known to the certificate holder. When the certification body apply annual factory supervision inspection to the enterprise after obtaining the certificate, the application enterprise may not provide an annual report.
颁发认证证书后，对于该证书覆盖的同一类别、规格的产品，认证机构应进行监督，以验证生产企业的工厂质量保证能力持续符合认证要求、确保获证产品持续符合标准要求并保持与型式试验样品的一致性。监督周期一般不超过 2.5 年。申请企业获得证书后每年应提交年度报告，年度报告内容包括：申请企业运营管理和生产情况、产品非正常运行经历、已生产产品的信息（生产产品数量及一致性）、证书持有人所知的故障。当认证机构对申请企业获得证书后每年进行工厂监督检查时，申请企业可不提供年度报告。

Supervision inspection in factory conducted by certification body appointing inspector in accordance with " factory quality assurance of TÜV China mark". Inspection of purchasing and incoming, production process control and process, production testing and type testing, consistency of certified product, certificates and certification mark logo usage shall be checked during supervision inspection, the remaining provisions on the basis of spot check. During supervision inspection, the applicant enterprise shall produce according to the same process as certified products.
监督检查由认证机构指定检查员对生产厂按照《TÜV 莱茵中国标志认证工厂质量保证能力要求》进行监督检查，其中采购和进货检验、生产过程控制和过程检验、出厂试验和型式试验、认证产品的一致性、证书及认证标标志的使用情况为必查条款，其余条款依据情况进行抽查。监督检查时，申请企业应有认证产品或相同工艺流程的产品生产。

11.1 Surveillance inspection 监督检查时间

11.1.1 Surveillance frequency 监督检查频次

In general, after finishing the initial factory inspection, follow-up surveillance should be arranged within 12 months, and the timespan of every follow-up surveillance is no more than 12 months. Basis on the production situation, TRCHN can adjust the time of follow-up surveillance. If one of the following occurs, TRCHN would increase the frequency:
一般情况下，初始工厂检查结束后，12 个月内应安排监督检查，每次监督检查间隔不超过 12 个月。依据产品生产的实际情况，TRCHN 可以按年度调整监督检查时间。若发生下述情况之一可增加频次：

A The certified products have the serious quality problem or user make the serious complaint and it was found to be a product problem 获证产品出现严重质量问题或用户提出严重投诉并经查实为产品问题的；

B TRCHN has enough reason query the certified products are not compliance with the certification standards TRCHN 有足够理由对获证产品与认证依据标准的符合性提出质疑时；

C Has enough reason show the manufacturer or constructor change the organization chart, production condition, quality management system and other which can affect the products compliance 有足够信息表明制造商或建设主体由于变更组织机构、生产条件、质量管理体系等而可能影响产品符合性或一致性时；

9.1.2 The man-day of follow-up inspection 监督检查人天数

The man-day of supervising manufacturing evaluation inspection is 2 man-days.

监督制造评估检查人日数为 2 人日。

11.2 Follow-up surveillance content 监督检查的内容

The content of the follow-up surveillance include the inspection of the factory quality assurance and the products compliance. Conduct the surveillance inspection according to the <the factory quality assurance of TÜV China mark>.

监督检查的内容为工厂质量保证能力和产品一致性检查。依据《TÜV 莱茵中国标志认证工厂质量保证能力要求》对工厂进行监督检查。

The rectification of non-conforming items in the previous factory inspection is the necessary content of each supervision and inspection.

前次工厂检查不符合项的整改情况是每次监督检查的必查内容。

11.3 The result of follow-up inspection 监督检查结论

Inspection team (inspector) is responsible for the result of the inspection report. If the inspection result is no-pass, Inspection team (inspector) should report to technical supporting and TRCHN. If the non-conformity was found during the factory inspection, the factory should conduct the corrective action within the time limit, TRCHN verify the result of the corrective action in suitable method. If the factory doesn't conduct the corrective action within the time limit or verify the result of the corrective action is no-pass, the factory inspection is classified as no-pass.

检查组（检查员）负责报告检查结论。工厂检查结论为不通过的，检查组（检查员）直接向项目助理和 TRCHN 报告。工厂检查存在不符合项时，工厂应在规定期限内完成整改，TRCHN 采取适当方式对整改结果进行验证。未能按期完成整改的或整改不通过的，按工厂检查不通过处理。

11.4 Result evaluation 结果评价

TRCHN organize the evaluation for the result of the follow-up surveillance. After evaluation, issue the certificate of the factory inspection to the applicant, and the certification certificate maintain valid. If the follow-up surveillance is no-pass, follow the rules of item 10.3.

TRCHN 组织对监督检查结论进行评价，评价合格的，颁发工厂检查通过证书，认证证书保持有效。当监督检查不通过时，按照 10.3 规定执行。

12 Maintain, Change, suspend, restore, cancel and withdraw the certification 认证证书保持，变更，暂停，恢复，注销和撤销

12.1 Maintain the certification 保持认证

12.1.1 Certificate cycle 证书的有效期

The certification cycle of China Mark certificate is five years, re-certification is necessary after certificate expires.

本方案覆盖产品的认证周期是五年，五年有效期满后，需进行再认证。

12.1.2 Certified products changing 认证产品的变更

12.1.2.1 Application for Changing 变更的申请

When the content in the certificate is changed, or when the design, mechanism parameters, façade or critical component/materials involved in the safety and/or performance of the products are changed, license holder should make a change request to TRCHN.

证书上的内容发生变化时，或产品中涉及安全和/或性能的设计、机构参数、外观、关键零部件/材料发生变更时，证书持有者应向 TRCHN 提出变更申请。

12.1.2.2 Evaluate and approve the changing 变更的评价和批准

According to the evaluation of the changed content and the provided materials, TRCHN decide to make the change or not. If need the design evaluation and/or factor inspection, make the change after passing the design

evaluation and factory inspection. In principle, the change evaluation should be based on the certified product that has been conducted the initial design evaluation. The design evaluation and/or factory inspection follow the rules of TRCHN.
TRCHN 根据变更的内容和提供的资料进行评价，确定是否可以变更。如需安排设计评估和/或工厂检查，则设计评估合格和/或工厂检查通过后方能进行变更。原则上，应以最初进行设计评估的认证产品为变更评价的基础。设计评估和工厂检查按照 TRCHN 的规定执行。
Conformance to the requirements, approve the change and issue the new certificate.
对符合要求的，批准变更，并换发新的认证证书。

12.2 Extending scope of certification 扩大认证范围

12.2.1 Extending process 扩大的流程

The license holder want to extend the certification scope that is the same certification unit with the certified products, should start from the certification application and explain the extending request. TRCHEN review the compliance between the extending scope with the certified products, verify the validity of the original certification results for the extending scope, conduct products testing and/or factory inspection for discrepancies and/or extending scope, conformance to the requirements, issue the new certificate according to the requirements of the license holder.
认证证书持有者需要增加与已获得认证的产品为同一认证单元的产品认证范围时，应从认证申请开始办理手续，并说明扩大要求。TRCHN 核查扩大范围产品与原认证产品的一致性，确认原认证结果对扩大范围产品的有效性，针对差异和/或扩大的范围做补充试验和/或工厂检查，对符合要求的，依据认证证书持有者的要求换发证书。
In principle, the extending evaluation should be based on the certified product that has been conducted the initial design evaluation.
原则上，应以最初进行设计认证的认证产品为扩展评价的基础。

12.3 Suspension, Cancellation, Withdrawn and Restoring of certification 认证暂停、注销、撤销和恢复

In any circumstance, finds that a certified product is not in conformity with the essential requirements set out in the China Mark Scheme and / or Testing and Certification Regulation, TRCHN's certifier will suspend, cancel or withdraw related certificates.
无论通过何种方式发现认证产品不符合中国标志认证方案和/或检测认证条例规定的基本要求，TRCHN 签证官将暂停、注销和撤销相应证书。
The corrective action has to be reported and completed by the certificate holder, prior to the permission by China Mark certifier to claim the certified status again and to use the certification mark. The certifier will restore the certificate in valid according to the certification process of China Mark scheme. When certificate was suspended more than 6 months, the certificate shall be cancelled or withdrawn, or the corrective action has not completed as a waiver application, the certificate shall be withdrawn. In case of cancellation and withdrawn, the original certificate is requested to be returned to TRCHN in timely manner.
在 TRCHN 签证官允许恢复认证状态和使用认证标志前，证书持有者必须报告并完成纠正行动。签证官依照中国标志认证流程规定，将证书恢复为有效状态。对于暂停超过 6 个月，将注销或撤销相应证书；未完成纠正的，视为自愿放弃，对相应证书予以撤销。如果注销和撤销，需要及时将原证书退回给 TRCHN。
In case of suspension, cancellation or withdrawn, the license holder shall be informed accordingly by written stating the reasons for suspension, cancellation and withdrawn, and remark the certificate in its register as invalid. The license holder stop to use the certification mark on the products manufactured since the date of suspension , cancellation or withdrawn and will not place certified products on the market during the stated period. Potentially defective certified products are subject to corrective action including recall where appropriate.
当证书暂停，注销和撤销时，相关证书持有者将得到书面通知，说明暂停，注销和撤销的原因，并在记录中标记该证书无效。自暂停，注销和撤销日期起，不得将认证标志用于所制造的产品上，且在所述期限内，不得继续销售认证产品。对可能存在缺陷的认证产品应立即采取纠正行为，包括召回（如果适用）。

13 Certification mark 认证标志

The China Mark is the exclusively used by TÜV Rheinland (China) Ltd. such as: TÜV莱茵中国标志由是莱茵检测认证服务（中国）有限公司获证客户独家所有。例如：

A、Generic Certipedia ID can be assigned for each Chin mark license holder.可以为每个中国标志认证证书持有人编制Certipedia唯一性号码。

B、The China Mark can be displayed on the rating label, package or user manual.中国标志可以显示在等级标签、包装或用户手册上。

C、 There are no specific dimensional requirement of the mark, it should be visible and identified the information of test mark by naked eye as long as the proportions are kept.只要保持一定比例，没有具体的标志尺寸要求，标志可以由肉眼看见并识别试验标志信息。

D、There is no color scheme requirement for mark as long as the outline and artwork of the test mark is kept.只要保持试验标志的轮廓和原图，没有标志配色方案要求。

The mark shall be used as stipulated in Testing and Certification regulations as well as the attachment to this document TR China Mark Certification Scheme.标志应与测试和认证规则以及本文件附件德国莱茵中国标志认证方案中规定的标志相同。

14 Cost 收费

The certification cost follow the relevant rules of TRCHN. 认证费用按TRCHN有关规定收取。

15 Reference参考文件

The implementation of scheme refers to the instruction for rotor blade certification；
本方案的执行参考风电叶片认证的作业指导书WEWI_RB_Work Instruction for Rotor Blade Certification_V01。

16 Reference参考文件

The implementation of scheme refers to the instruction for components certification:
本方案的执行参考各专业的作业指导书：
WEWI_BC_Work Instruction for Rotor Blade Certification_V01