

## Quality Assurance System of DEC Wind and its Certification

### 1. Quality Management System Breif

Dongfang Electric Wind Power Co.,Ltd. adheres to the quality policy of “quality-based enterprise, complete system, problem-oriented, continuous improvement” and the cultural concept of “integrity and transparency, craftsmanship, doing the job well once, and pursuing excellence”. Continuously improve customer satisfaction during the whole process activities on research and design, manufacturing, sales and O&M of product and service, and provide customers with valuable and creative services.

**Company vision:** to become an international first-class provider of overall wind energy solutions;

**Company mission:** natural power, promoting the future;

**Company positioning:** focus on the clean energy industry, internationalization of technology and services;

**Quality policy:** quality-based enterprise, complete system, problem-oriented, continuous improvement;

**Environmental and occupational health and safety policy:** people-oriented, prevention-oriented, governance according to regulations, green manufacturing;

"Quality-based enterprise": Strengthen the construction of quality culture, in-depth promotion of lean quality management, clarify quality responsibilities at all levels, improve quality assessment, improve the quality awareness and capacity of all employees, and implement the quality concept of "do the job well once", To catch the market with quality, and promote the sustainable development of the company with a good quality image.

"Complete system": Establish an assessment mechanism centered on quality-based enterprise, optimize the management system, integrate the management system and the quality system organically, and ensure that the regulation is effectively implemented.

"Problem-oriented": lead with problem, encourage employees to fully proactively expose quality problems in the work process, analyze the root causes in depth, and take effective corrective measures to avoid recurring problems.

"Continuous improvement": lead with problem, make full use of quality management tools and advanced methods, take practical and effective corrective measures, strengthen the consolidation of improvement results, establish a prevention-oriented risk control system, and continuously improve customers' satisfaction.

Facing the future, DEC adheres to the tenet of "natural power, promoting the future", continues to promote technological innovation, improve product quality, strengthen supply chain management, realize full-cycle management and service of product life, and strive to create maximum value for users and become an international first-class provider of overall wind energy solutions.

## **2. Quality Assurance System**

### **2.1 Quality system improvement**

With the aim of improving customer satisfaction, DEC has established three-in-one management system comply with the requirements of ISO9001:2015 "Quality Management System Requirements", ISO14001:2015 "Environmental Management System Requirements and Guidelines for Use", and OHSAS18001:2007 "Occupational Health and Safety Management System Requirements", and taking practical measures to continuously improve the management system. Zero product defects is the company's goal of continuous product improvement and service quality improvement.

### **2.2 Management and control for supply chain**

#### **(1) Optimize supplier management to create the best supply chain**

Establish supplier access and elimination mechanisms and integrity evaluation systems, and continue to sort out and optimize the existing supply chain.

#### **(2) Establish a strategic partnership**

Gradually establish a good strategic partnership with high-quality suppliers, collaborative research and development, collaborative quality management and quality improvement, and promote the transformation of suppliers from passive supervision management to self-management, so that both parties can jointly improve quality management efficiency and achieve win-win on quality management.

#### **(3) Establish experience feedback and promotion mechanism**

Cooperation with suppliers, check the quality problems according to the principle of "three rules cannot pass", investigate hidden dangers, determine the "root cause", effectively prevent the recurrence of problems, and carry out experience sharing on the same platform-type problems in a timely manner based on the supply situation. Carry out experience promotion among suppliers.

#### **(4) Deepen technical cooperation and promote quality improvement**

Pay attention to and track cutting-edge technology, work closely with suppliers, adopt reliability technology applications, determine quality benchmarks, and strive to make significant progress in the technical and quality levels of parts and components, and achieve the product operation goal of "zero errors on site and zero failures in operation".

### **2.3 Quality control system**

#### **(1) Strengthen component research and extend to supplier process control**

Strengthen component research, continuously improve the technical level of component research, and strengthen the training and control of new suppliers' quality control capabilities, process control capabilities, and mass production capabilities;

Through the pre-production meeting, we can fully explain the technology and process to the supplier, solidify the production process of the supplier, and stabilize the product quality from the source of technology.

Fully review and pay attention to factors affecting product quality such as the supplier's equipment, processes, procedures, personnel qualifications, production environment, management mode, quality control methods, and measurement and testing instruments/capabilities.

Strengthen the review, random inspection and testing verification of the production process and process control of parts and components, and fundamentally help suppliers improve the ability and level of quality control and improve product quality.

Solidifying supplier's corresponding technical process documents, key personnel, main (key) equipment, measuring instruments, etc.;

Verify on the spot whether the supplier's production process is capable of manufacturing products that meet the quality and quantity requirements according to the predetermined production capacity, so as to reduce the risk of defects during formal production and accelerated production.

#### **(2) Inspection and test control system**

Establish a complete standardized inspection and test control system, set up dedicated quality control points in key production processes that have an impact on the quality of the final product, increase reliability test verification for important components, strictly prepare original records and data statistics, and monitor process quality.

#### **(3) Unqualified quality control system**

Establish a management and disposal mechanism for defective products in the whole process from supplier chain, production debugging chain, and wind farm O&M chain to ensure that defective products are effectively controlled, and through collaborative review of technology, quality, and services, to complete data analysis and build up correction method, to share the abnormal data and information among suppliers, design, procurement, and quality, to ensure that products are effectively and continuously improved.

## **2.4 Project risk management system**

### **(1) Advanced product quality planning (APQP)**

Fully investigate the needs of the owners, identify the risk points in each link of the project, formulate preventive measures to implement management and control, and ensure that users' requirements are met.

### **(2) Standardize personnel behavior and strengthen quality awareness**

Establish a standardized document system, standardize the standardized production, inspection, and test operations of personnel, strengthen process supervision, and everyone is responsible for quality, all employees are quality, all employees are quality control, all employees participate, and accountability is strengthened.


### **(3) Continuous improvement**

Through the statistical analysis of component production and operational reliability data, the prevention-oriented management and control measures are formulated and implemented in all aspects of project execution to continuously improve quality stability.

### 3. Certificat of Quality, Enviornmental & OHSAS System

#### Part-1 The Quality Management System of Dongfang Electric Wind Power Co.,Ltd.

##### 1-1 QMS Certificate of Dongfang Electric Wind Power Co.,Ltd (headquarter)



**华信技术检验有限公司**  
VOUCHING TECHNICAL INSPECTION LTD



**质量管理体系认证证书**  
QMS CERTIFICATE OF REGISTRATION

我公司认定下列组织的质量管理体系  
VTI Certifies herewith that  
**东方电气风电有限公司**  
**Dongfang Electric Wind Power Co., Ltd.**


统一社会信用代码/组织机构代码 (91510600337702040G)  
注册地址: 四川省德阳市旌阳区珠江东路 99 号; 生产地址: 四川省德阳市旌阳区华山南路二段 2 号  
Reg. address: No. 99 Eastern Zhujiang Road, Jingyang District, Deyang city, Sichuan, P.R. China; Produce address: No. 2  
Southen Huashan Road, Jingyang District, Deyang city, Sichuan, P.R. China  
邮政编码 (ZIP): 618000

符合以下标准的要求, 特发此证  
demonstrated a Quality Management Systems  
that complies with the requirements of  
**GB/T19001-2016 idt ISO9001:2015**  
管理体系认证范围 (详见证书附件、子证书见子证书 1):  
Scope:  
**风力发电设备及零部件 (含风机叶片、罩壳) 设计、制造、服务。**  
**Design, manufacture and service of wind turbines and components (including wind blades and covers).**


|                  |               |            |            |                 |            |
|------------------|---------------|------------|------------|-----------------|------------|
| 注册号:             | 0419Q10081R1L | 颁发日期:      | 2019-01-31 | 有效终止日期:         | 2022-02-03 |
| Registration No. |               | Issue Date |            | Expiration Date |            |



中国认可  
国际互认  
管理体系  
MANAGEMENT SYSTEM  
CNAS C004-M



总经理 President



本证书信息可在国家认证认可监督管理委员会官方网站 (www.cnca.gov.cn) 上查询。  
The certificate information can be inquired in the CNCA official website (www.cnca.gov.cn).

通讯地址: 北京市海淀区北三环西路48号2号楼2层2B  
2B, Building 2, Floor 2, No. 48 Beisanhuan Xilu, Haidian District, Beijing, China

邮编 (Zip Code): 100086  
www.vti-china.org

本证书有效性须由每年例行监督审核维持  
The effectiveness of this certificate is maintained by annual regular surveillance audit.



子证书 (本证书的有效性取决于主证书的有效性)



华信技术检验有限公司  
VOUCHING TECHNICAL INSPECTION LTD  
质量管理体系认证证书

QMS CERTIFICATE OF REGISTRATION

我公司认定下列组织的质量管理体系

VTI Certifies herewith that

东方电气(天津)风电叶片工程有限公司  
Dongfang Electric (Tianjin) Wind Blade Engineering Co., Ltd.

统一社会信用代码/组织机构代码 (91120116797265363K)

注册地址: 天津经济技术开发区汉沽现代产业区黄山路以东、彩云街以南、衡山路以西、长虹街以北; 生产地址: 天津市  
经济技术开发区汉沽现代产业区黄山路 29 号

Reg. address: North of Chuanghong street, West of Hengshan road, South of caiyun street, East of Huangshan road,  
Hangu Modern industrial Park, Economic Technology Development Zone, Tianjin ; Produce address: No. 29, Huangshan  
Road, Hangu Modern Industrial Park, Economic Technology Development Zone, Tianjin

邮政编码 (ZIP): 300480

符合以下标准的要求, 特发此证

demonstrated a Quality Management Systems

that complies with the requirements of

GB/T19001-2016 idt ISO9001:2015

管理体系认证范围:

Scope:

风电叶片、罩壳制造和服务  
Manufacture and service of wind turbine blades, covers

|                  |                 |            |            |                 |            |
|------------------|-----------------|------------|------------|-----------------|------------|
| 注册号:             | 0419Q10081R1L-1 | 颁发日期:      | 2019-01-31 | 有效终止日期:         | 2022-02-03 |
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通讯地址: 北京市海淀区北三环西路48号2号楼2层2B  
2B, Building 2, Floor 2, No.48 Beisanhuan Xilu, Haidian District, Beijing, China

邮编 (Zip Code): 100086  
www.vti-china.org

本证书有效性须由每年例行监督审核维持  
The effectiveness of this certificate is maintained by annual regular surveillance audit.

1-3 Attachment to QMS Certificate of DEC Wind



华信技术检验有限公司  
VOUCHING TECHNICAL INSPECTION LTD  
**质量管理体系认证证书附件**  
AFFIX OF CERTIFICATE OF REGISTRATION

企业名称: 东方电气风电有限公司

证书编号(Registration No.): 0419Q10081R1L

| 产 品 类 别       | 系列名称        | 型号 |
|---------------|-------------|----|
| 风力发电设备        | 海上、陆上风力发电机组 |    |
| 零部件(含风电叶片、罩壳) |             |    |
| 服务            | 机组技术支持、运行维护 |    |

分场所:

| 场所名称                    | 地址                        | 覆盖范围               |
|-------------------------|---------------------------|--------------------|
| 东方电气(天津)风电科技有限公司        | 天津开发区西区新兴路 79 号           | 风力发电设备制造           |
| 东方电气(天津)风电叶片工程有限公司      | 天津市经济技术开发区汉沽现代产业区黄山路 29 号 | 风机叶片、罩壳制造和服务       |
| 东方电气(天津)风电叶片工程有限公司剑阁分公司 | 四川省广元市剑阁县下寺镇剑门工业园区        | 风机叶片、罩壳制造          |
| 东方电气风电(凉山)有限公司          | 四川省德昌县银厂工业集中区             | 风力发电设备(含风机叶片、罩壳)制造 |



|                         |                         |
|-------------------------|-------------------------|
| 附件颁发日期: 2019 年 1 月 31 日 | 证书颁发日期: 2019 年 1 月 31 日 |
|-------------------------|-------------------------|

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Translation of the attachment of QMS Certificate:

| 产品类别 Type of Product   | 系列名称 Series   | 型号 Type No. |
|--|---|-------------|
| 风力发电设备<br>Wind Turbine Equipment                                 | 海上、陆上风力发电机组<br>Offshore and Onshore Wind Turbine                        |             |
| 零部件（含风电叶片、罩壳）<br>Component (including Wind blade, nacelle cover) |   |             |
| 服务 Service   | 机组技术支持、运行维护<br>Technical support for turbine, operation and maintenance |             |

### 分场所 Sub-site:

| 场所名称 Name of Site   | 地址 Address   | 覆盖范围 Coverage area  |
|---|--|---|
| 东方电气（天津）风电科技有限公司<br>Dongfang Electric (Tianjin) Wind Power Technology Co., Ltd.                               | 天津开发区西区新兴路 79 号<br>No. 79, Xinxing Road, Tianjin Development West Zone   | 风力发电设备制造<br>Wind turbine manufacture  |
| 东方电气（天津）风电叶片工程有限公司<br>Dongfang Electric (Tianjin) Wind Blade Engineering Co., Ltd.                            | 天津市经济技术开发区汉沽现代产业区黄山路 29 号<br>No. 29, Huangshan Road, Hangu Modern Industrial zone of Tianjin Economic and Technological Development Area | 风机叶片、罩壳制造和服务<br>Manufacture and Service of wind blade and nacelle cover                           |
| 东方电气（天津）风电叶片工程有限公司剑阁分公司<br>Dongfang Electric (Tianjin) Wind Blade Engineering Co., Ltd. Jiange branch company | 四川省广元市剑阁县下寺镇剑门工业园区<br>Jianmen Industrial Park, Xiasi Town, Jiange County, Guangyuan City, Sichuan Province                               | 风机叶片、罩壳制造<br>Wind blade and nacelle cover manufacture   |
| 东方电气风电（凉山）有限公司<br>Dongfang Electric Wind Power (Liangshan) Co., Ltd.  | 四川省德昌县银厂工业集中区<br>Yinchang Industrial concentration Zone, Dechang County, Sichuan Province.   | 风力发电设备（含风机叶片、罩壳）制造<br>Wind turbine equipment (including wind blade and nacelle cover) manufacture |



## Part-2 The Environmental Management System of Dongfang Electric Wind Power Co.,Ltd.

### 2-1 EMS Certificate of Dongfang Electric Wind Power Co.,Ltd (headquarter)



**华信技术检验有限公司**  
VOUCHING TECHNICAL INSPECTION LTD

**环境管理体系认证证书**  
EMS CERTIFICATE OF REGISTRATION

我公司认定下列组织的环境管理体系

VTI Certifies herewith that  
**东方电气风电有限公司**  
**Dongfang Electric Wind Power Co., Ltd.**

统一社会信用代码/组织机构代码 (91510600337702040G)

注册地址: 四川省德阳市旌阳区珠江东路 99 号; 生产地址: 四川省德阳市旌阳区华山南路二段 2 号  
Reg. address: No. 99 Eastern Zhujiang Road, Jingyang District, Deyang city, Sichuan, P.R. China; Produce address: No. 2  
Southen Huashan Road, Jingyang District, Deyang city, Sichuan, P.R. China

邮政编码 (ZIP): 618000

符合以下标准的要求, 特发此证

has demonstrated an Environmental Management System  
that complies with the requirements of

**GB/T24001-2016 idt ISO14001:2015**

环境管理体系覆盖范围 (详见证书附件, 子证书见子证书 1):

Scope:  
风力发电设备及零部件 (含风机叶片、罩壳) 设计、制造、服务。  
Design, manufacture and service of wind turbines and components (including  
wind blades and covers).

|                  |               |            |            |                 |            |
|------------------|---------------|------------|------------|-----------------|------------|
| 注册号:             | 0419E10082R1L | 颁发日期:      | 2019-01-31 | 有效终止日期:         | 2022-02-03 |
| Registration No. |               | Issue Date |            | Expiration Date |            |



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MANAGEMENT SYSTEM  
CNAS C004-M



总经理 President



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The certificate information can be inquired in the CNCA official website (www.cnca.gov.cn).

通讯地址: 北京市海淀区北三环西路48号2号楼2层2B  
2B, Building 2, Floor 2, No.48 Beisanhuan Xilu, Haidian District, Beijing, China

邮编 (Zip Code): 100086  
www.vti-china.org

本证书有效性须由每年例行监督审核维持  
The effectiveness of this certificate is maintained by annual regular surveillance audit.

### 2-2 EMS Certificate of DEC (Tianjin) Wind Blade Base



华信技术检验有限公司

VOUCHING TECHNICAL INSPECTION LTD

## 职业健康安全管理体系认证证书

OHSMS CERTIFICATE OF REGISTRATION

我公司认定下列组织的职业健康安全管理体系

VTI Certifies herewith that

东方电气风电有限公司

**Dongfang Electric Wind Power Co., Ltd.**

统一社会信用代码/组织机构代码 (91510600337702040G)

注册地址: 四川省德阳市旌阳区珠江东路 99 号; 生产地址: 四川省德阳市旌阳区华山南路二段 2 号

Reg. address: No. 99 Eastern Zhujiang Road, Jingyang District, Deyang city, Sichuan, P.R. China; Produce address: No. 2

Southern Huashan Road, Jingyang District, Deyang city, Sichuan, P.R. China

邮政编码 (ZIP): 618000

符合以下标准的要求, 特发此证

has demonstrated an Occupational Health and Safety Management System

that complies with the requirements of

**GB/T28001-2011 idt OHSAS 18001:2007**

职业健康安全管理体系覆盖范围 (详见证书附件, 子证书见子证书 1):

Scope:

风力发电设备及零部件 (含风机叶片、罩壳) 设计、制造、服务。

**Design, manufacture and service of wind turbines and components (including wind blades and covers).**

|                  |               |            |            |                 |            |
|------------------|---------------|------------|------------|-----------------|------------|
| 注册号:             | 0419S10083R1L | 颁发日期:      | 2019-01-31 | 有效终止日期:         | 2021-03-11 |
| Registration No. |               | Issue Date |            | Expiration Date |            |



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CNAS C004-M

总经理 President



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2B, Building 2, Floor 2, No. 48 Beisanhuan Xilu, Haidian District, Beijing, China

邮编 (Zip Code): 100086  
www.vti-china.org

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The effectiveness of this certificate is maintained by annual regular surveillance audit.



## Part-3 The OHSAS Management System of Dongfang Electric Wind Power Co.,Ltd.

### 3-1 OHSAS Certificate of Dongfang Electric Wind Power Co.,Ltd (headquarter)



华信技术检验有限公司

VOUCHING TECHNICAL INSPECTION LTD

### 职业健康安全管理体系认证证书

OHSMS CERTIFICATE OF REGISTRATION

我公司认定下列组织的职业健康安全管理体系

VTI Certifies herewith that

东方电气风电有限公司

**Dongfang Electric Wind Power Co., Ltd.**

统一社会信用代码/组织机构代码 (91510600337702040G)

注册地址: 四川省德阳市旌阳区珠江东路 99 号; 生产地址: 四川省德阳市旌阳区华山南路二段 2 号

Reg. address: No. 99 Eastern Zhujiang Road, Jingyang District, Deyang city, Sichuan, P.R. China; Produce address: No. 2

Southern Huashan Road, Jingyang District, Deyang city, Sichuan, P.R. China

邮政编码 (ZIP): 618000

符合以下标准的要求, 特发此证

has demonstrated an Occupational Health and Safety Management System

that complies with the requirements of

**GB/T28001-2011 idt OHSAS 18001:2007**

职业健康安全管理体系覆盖范围 (详见证书附件, 子证书见子证书 1):

Scope:

风力发电设备及零部件 (含风机叶片、罩壳) 设计、制造、服务。

**Design, manufacture and service of wind turbines and components (including wind blades and covers).**

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3-2 OHSAS Certificate of DEC(Tianjin) Wind Blade Base

子证书 (本证书的有效性取决于主证书的有效性)



华信技术检验有限公司

VOUCHING TECHNICAL INSPECTION LTD

职业健康安全管理体系认证证书

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东方电气(天津)风电叶片工程有限公司

Dongfang Electric (Tianjin) Wind Blade Engineering Co., Ltd.

统一社会信用代码/组织机构代码 (91120116797265363K)

注册地址: 天津经济技术开发区汉沽现代产业区黄山路以东、彩云街以南、衡山路以西、长虹街以北; 生产地址: 天津市  
经济技术开发区汉沽现代产业区黄山路 29 号

Reg. address: North of Chuanghong street, West of Hengshan road, South of caiyun street, East of Huangshan road, Hangu  
Modern industrial Park, Economic Technology Development Zone, Tianjin ; Produce address: No. 29, Huangshan Road,

Hangu Modern Industrial Park, Economic Technology Development Zone, Tianjin

邮政编码 (ZIP): 300480

符合以下标准的要求, 特发此证

has demonstrated an Occupational Health and Safety Management System

that complies with the requirements of

GB/T28001-2011 idt OHSAS 18001:2007

职业健康安全管理体系覆盖范围:

Scope:

风电叶片、罩壳制造和服务

Manufacture and service of wind turbine blades, covers

|                  |                 |            |            |                 |            |
|------------------|-----------------|------------|------------|-----------------|------------|
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管理体系  
MANAGEMENT SYSTEM  
CNAS C004-M

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