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ENERGY INDUSTRY STANDARD OF THE PEOPLE'S REPUBLIC OF CHINA

NB/T 10208-2019

Technical Code for Construction Safety of Onshore Wind Power Projects

陆上风电场工程施工安全技术规范

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Foreword

This document was issued on 4 June 2019 by the National Energy Administration of the PRC and takes effect on 1 October 2019.

It is a NB/T standard: recommended rather than compulsory, but it is the text a Chinese reviewer applies when assessing a submission.

It is classified under ICS 27.180, Chinese classification P61.

This code was formulated in accordance with the requirements of the Notice of the National Energy Administration on Issuing the 2015 Plan for the Formulation (Revision) of Energy Sector Industry Standards (Guoneng Keji [2015] No. 283). The drafting group carried out extensive investigation and research, carefully summarized practical experience and widely solicited opinions before formulating this code.

The main technical contents of this code are: overall management, construction of civil works, installation and testing of wind turbines, installation and testing of electric equipment, and commissioning.

The National Energy Administration is in charge of the administration of this code. It was proposed by, and is under the routine management of, China Renewable Energy Engineering Institute, and the Wind Farm Construction and Installation Subcommittee of the Energy Industry Wind Power Standardization Technical Committee is responsible for the explanation of its specific technical contents.

Any comments or suggestions arising during the implementation of this code should be sent to China Renewable Energy Engineering Institute (address: No. 2 Liupukang North Alley, Xicheng District, Beijing; postcode: 100120).

Chief development organizations: China Three Gorges Corporation; China Three Gorges New Energy Co., Ltd.

Participating development organizations: China Longyuan Power Group Corporation Limited; Shanghai Investigation, Design and Research Institute Co., Ltd.; PowerChina Beijing Engineering Corporation Limited.

Chief drafting staff: Chen Xiaoqun, Li Ming, Xiao Lijia, Yan Jingjing, Wang Miao, Wang Shuai, Fan Xiaoxu, Jiang Bo, Hu Yixin.

Chief reviewers: Yi Yuechun, Chang Zuowei, Wang Yi, Shen Kuanyu, Niu Wenbin, Zhang Yunjie, Hu Jiming, Tang Qunyi, Yu Zhengjian, Lian Songtao, Zou Zhenzhong, Chen Yongxing, Cao Shaohua, Wei Yufeng, Zhou Ena, Piao Ling, Li Xiang, Li Shisheng.

1 Scope

NB/T 10208-2019 is the Chinese technical code for construction safety on onshore wind power projects. Building a wind farm concentrates several high-risk activities on remote, exposed sites: moving blades and tower sections longer than a hundred metres along mountain roads, lifting nacelles of a hundred tonnes or more with the largest mobile cranes, working at height inside towers and on hubs, and doing all of it where the wind that makes the site valuable also makes lifting dangerous. The code sets the general provisions and defined terms, then the basic requirements on safety organisation, training, protective equipment and the conditions under which work must stop. It covers the site trade by trade: temporary camps and their layout, temporary electrical supply and its protection, transport of oversized components with route survey and escort, fire prevention, excavation and foundation work, reinforcement and concrete, work at height with anchorage and fall arrest, welding and cutting, scaffolding and working platforms, erection of tower sections, lifting of nacelle, hub and blades with wind speed limits for each lift, electrical installation and commissioning of turbines and the collection system, and work on the substation. Emergency preparedness and the handling of incidents close the code. It applies to the construction of onshore wind farms in China.

1.0.1 This code is formulated to regulate construction safety work for onshore wind farm projects and to prevent and reduce personal injury and property loss during construction.

1.0.2 This code is applicable to the construction of new, reconstructed and expanded onshore wind farm projects.

1.0.3 In addition to complying with this code, construction safety of onshore wind farm projects shall also comply with the provisions of the relevant current national standards.

2 Terms

2.0.1 construction site: The construction area occupied with approval by the construction organizations and personnel of a wind farm project for carrying out construction activities in accordance with contracts, laws and regulations. It mainly includes the areas and places designated by the project legal entity, the areas or places leased or purchased by construction organizations and personnel to complete the engineering product, and the public areas and places temporarily occupied during production activities.

2.0.2 construction safety: The field of work, and the corresponding measures taken in terms of law, technology, equipment, organizational systems, education and so on, aimed at preventing casualty accidents of all kinds to personnel during construction operations.

2.0.3 work at heights: Work carried out at a height of 2 m or more above the datum plane of the possible fall height, at a place from which a fall may occur.

2.0.4 temporary facilities: Non-permanent facilities of all kinds built at the construction site to serve the construction of the project, mainly including construction water supply and power supply equipment, general processing plants, mixing plants, material warehouses, construction camps and temporary roads.

2.0.5 construction electric power supply: Temporary construction power provided for project construction and installation, including power supply lines and electrical facilities.

2.0.6 seasonal construction: Engineering construction carried out during the rainy season, in summer and in winter.

2.0.7 personal protective equipment: The general term for all kinds of protective articles worn, equipped and used by workers to protect against injury from external factors such as physical, chemical and biological agents. Labor protection articles worn, equipped and used in production workplaces are also called personal protective equipment.

2.0.8 safety protection facilities: All kinds of facilities, equipment, appliances, etc. set up at the construction site to prevent casualty accidents to personnel during construction.

2.0.9 scaffold: A temporary structural frame erected for building construction and used for hoisting materials, stacking materials and construction operations.

2.0.10 crossing structure: A temporary frame erected during stringing construction so that conductors and ground wires can pass safely over the objects being crossed.

2.0.11 large equipment: Large equipment components of an onshore wind farm project that are longer than 14.0 m, wider than 3.5 m or higher than 3.0 m and cannot be disassembled, or that weigh 20 t or more.

2.0.12 feathering: The state in which the geometric angle of attack of the rotor blades is changed until the blades approach zero lift.

3 Basic Requirements

3.0.1 The project owner shall establish a sound safety management body, set up a work safety committee, establish a work safety management system, define safety management responsibilities, establish sound work safety rules and regulations, and promote work safety standardization so as to ensure safe production.

3.0.2 The project owner shall establish a sound mechanism for work safety supervision and inspection and for the identification and remediation of hidden hazards, and shall implement work safety management over the whole construction process at the site.

3.0.3 The project owner shall establish an emergency management system for the project