DAkkS
Deutsche
Akkreditierungsstelle

Deutsche Akkreditierungsstelle

Annex to the Accreditation Certificate D-PL-21488-01-00 according to DIN EN ISO/IEC 17025:2018

Valid from: **14.12.2022**

Date of issue: 14.12.2022

Holder of accreditation certificate:

Ramboll Deutschland GmbH

with the locations:

Elisabeth-Consbruch-Straße 3, 34131 Kassel
Lister Straße 9, 30163 Hannover

The testing laboratory meets the minimal requirements of DIN EN ISO/IEC 17025:2018 and, if applicable, additional legal and normative requirements, including those in relevant sectoral schemes, in order to carry out the conformity assessment activities listed below.
The management system requirements of DIN EN ISO/IEC 17025 are written in the language relevant to the operations of testing laboratories and confirm generally with the principles of DIN EN ISO 9001.

Determination of wind potential and energy yields of wind turbines including testing of wind climatological input data; Determination of reference yields; Determination of the site quality; Execution and evaluation of wind measurements for the determination of the wind potential; Verification of remote sensing devices (Lidar and Sodar); Preparation of noise impact prognoses of wind turbines; Preparation of shadow flicker impact of wind turbines; Preparation of expert opinions for the natural ambient turbulence of wind turbine sites based on the calculation of turbulence intensities

Within the test methods marked with *, the testing laboratory is permitted, without being required to inform and obtain prior approval from DAkkS, to use standards or equivalent testing methods listed here with different issue dates.

The testing laboratory maintains a current list of all testing methods within the flexible scope of accreditation.

This certificate annex is only valid together with the written accreditation certificate and reflects the status as indicated by the date of issue. The current status of any given scope of accreditation can be found in the directory of accredited bodies maintained by Deutsche Akkreditierungsstelle GmbH at https://www.dakks.de.

The test procedures are marked with the following abbreviations for the locations where they are performed:

KS = Kassel **H** = Hannover

1 Determination of wind potential and energy yields of wind turbines including testing of wind climatological input data; Determination of reference yields; Determination of the site quality **KS, H**

FGW TG 6, Rev. 11 * 2020-09	Determination of wind potential and energy yields
FGW TG 5, Rev. 7 * 2020-03	Determination and application of reference yields
FGW TG 10, Rev. 2 * 2021-03	Determination of site quality following commissioning
PB Windgutachten 2022-06	Preparation of wind assessment studies

with reference to:

EEG 2017/2021 Law for the expansion of renewable energies (Renewable Energy Sources Act)

2 Execution and evaluation of wind measurements and remote sensing devices, Verification of remote sensing devices (Lidar and Sodar) **KS**

IEC 61400-12-1 2. Ed * 2017	Wind turbines - Part 12-1: Power performance measurements of electricity producing wind turbines
FGW TG 6, Rev. 11 * 2020-09	Determination of wind potential and energy yields
PB Mast Measurement 2022-06	Execution and evaluation of measurements by means of a wind measurement mast
PB RSD-Measurement 2022-06	Execution of measurements by means of remote sensing devices (Lidar and Sodar)
PB RSD Verification 2022-06	Verification of remote sensing devices

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3 Preparation of noise impact prognoses of wind turbines KS

TA Lärm 1998-08	Sixth general administrative regulation of the Federal Immission Control Act (Technical Guidance for protection against noise - TA Lärm)
PB Schall 2022-06	Execution of noise impact calculations of wind turbines

4 Preparation of shadow flicker impact of wind turbines KS

PB Schatten 2021-06	Execution of shadow flicker impact calculations of wind turbines
LAI 2019 2020-01	Hinweise zur Ermittlung und Beurteilung der optischen Immissionen von Windkraftanlagen Aktualisierung 2019 (WKA-Schattenwurfhinweise)

5 Preparation of expert opinions for the natural ambient turbulence of wind turbine sites based on the calculation of turbulence intensities KS

IEC 61400-1 * 2005+A1:2010	Wind turbines-Part 1: Design requirements
PB Turbulenzgutachten 2019-12	Execution of turbulence calculations

Abbreviations used:

DIN	German Institute for Standardization
FGW	German Federation of Wind energy and other Decentralized Energies e.V.
LAI	Länderausschuss für Immissionsschutz
PB...	In House Test Procedure of Ramboll Deutschland GmbH
TG	Technical Guideline

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