

# INTERNATIONAL STANDARD

# NORME INTERNATIONALE



Wind energy generation systems –  
Part 24: Lightning protection

ITIH STANDARD PREVIEW  
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Systemes de generation d'energie eolienne –  
Partie 24: Protection contre la foudre

IEC 61400-24:2019  
<https://standards.iteh.ai/catalog/standards/sist/6aac4b87-f0f6-474c-a3ce-da2b91697249/iec-61400-24-2019>





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INTERNATIONAL  
ELECTROTECHNICAL  
COMMISSION

COMMISSION  
ELECTROTECHNIQUE  
INTERNATIONALE

ICS 27.180

ISBN 978-2-8322-8688-3

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## CONTENTS

FOREWORD.....	11
1 Scope.....	13
2 Normative references .....	13
3 Terms and definitions .....	15
4 Symbols and units .....	21
5 Abbreviated terms .....	24
6 Lightning environment for wind turbine .....	25
6.1 General.....	25
6.2 Lightning current parameters and lightning protection levels (LPL).....	25
7 Lightning exposure assessment.....	26
7.1 General.....	26
7.2 Assessing the frequency of lightning affecting a single wind turbine or a group of wind turbines.....	28
7.2.1 Categorization of lightning events .....	28
7.2.2 Estimation of average number of lightning flashes to a single or a group of wind turbines .....	28
7.2.3 Estimation of average annual number of lightning flashes near the wind turbine ( $N_M$ ) .....	31
7.2.4 Estimation of average annual number of lightning flashes to the service lines connecting the wind turbines ( $N_L$ ) .....	31
7.2.5 Estimation of average annual number of lightning flashes near the service lines connecting the wind turbine ( $N_I$ ) .....	32
7.3 Assessing the risk of damage.....	33
7.3.1 Basic equation .....	33
7.3.2 Assessment of risk components due to flashes to the wind turbine (S1).....	34
7.3.3 Assessment of the risk component due to flashes near the wind turbine (S2) .....	34
7.3.4 Assessment of risk components due to flashes to a service line connected to the wind turbine (S3) .....	35
7.3.5 Assessment of risk component due to flashes near a service line connected to the wind turbine (S4) .....	35
8 Lightning protection of subcomponents.....	36
8.1 General.....	36
8.1.1 Lightning protection level (LPL) .....	36
8.1.2 Lightning protection zones (LPZ) .....	37
8.2 Blades .....	37
8.2.1 General .....	37
8.2.2 Requirements .....	37
8.2.3 Verification .....	38
8.2.4 Protection design considerations .....	38
8.2.5 Test methods.....	41
8.3 Nacelle and other structural components .....	42
8.3.1 General .....	42
8.3.2 Hub .....	42
8.3.3 Spinner.....	42
8.3.4 Nacelle .....	43
8.3.5 Tower .....	43
8.3.6 Verification methods .....	44

8.4	Mechanical drive train and yaw system .....	44
8.4.1	General .....	44
8.4.2	Bearings .....	44
8.4.3	Hydraulic systems .....	45
8.4.4	Spark gaps and sliding contacts .....	46
8.4.5	Verification .....	46
8.5	Electrical low-voltage systems and electronic systems and installations .....	47
8.5.1	General .....	47
8.5.2	Equipotential bonding within the wind turbine .....	51
8.5.3	LEMP protection and immunity levels .....	52
8.5.4	Shielding and line routing .....	53
8.5.5	SPD protection .....	54
8.5.6	Testing methods for system immunity tests .....	58
8.6	Electrical high-voltage (HV) power systems .....	58
9	Earthing of wind turbines .....	60
9.1	General .....	60
9.1.1	Purpose and scope .....	60
9.1.2	Basic requirements .....	60
9.1.3	Earth electrode arrangements .....	60
9.1.4	Earthing system impedance .....	61
9.2	Equipotential bonding .....	61
9.2.1	General .....	61
9.2.2	Lightning equipotential bonding for metal installations .....	61
9.3	Structural components .....	62
9.3.1	General .....	62
9.3.2	Metal tubular type tower .....	62
9.3.3	Metal reinforced concrete towers .....	62
9.3.4	Lattice tower .....	62
9.3.5	Systems inside the tower .....	63
9.3.6	Concrete foundation .....	63
9.3.7	Rocky area foundation .....	63
9.3.8	Metal mono-pile foundation .....	64
9.3.9	Offshore foundation .....	64
9.4	Electrode shape dimensions .....	64
9.5	Execution and maintenance of the earthing system .....	65
10	Personal safety .....	65
11	Documentation of lightning protection system .....	67
11.1	General .....	67
11.2	Documentation necessary during assessment for design evaluation .....	67
11.2.1	General .....	67
11.2.2	General documentation .....	67
11.2.3	Documentation for rotor blades .....	68
11.2.4	Documentation of mechanical systems .....	68
11.2.5	Documentation of electrical and electronic systems .....	68
11.2.6	Documentation of earthing and bonding systems .....	68
11.2.7	Documentation of nacelle cover, hub and tower lightning protection systems .....	68
11.3	Site-specific information .....	69
11.4	Documentation to be provided in the manuals for LPS inspections .....	69

11.5	Manuals .....	69
12	Inspection of lightning protection system .....	69
12.1	Scope of inspection .....	69
12.2	Order of inspections .....	70
12.2.1	General .....	70
12.2.2	Inspection during production of the wind turbine .....	70
12.2.3	Inspection during installation of the wind turbine .....	70
12.2.4	Inspection during commissioning of the wind turbine and periodic inspection .....	70
12.2.5	Inspection after dismantling or repair of main parts .....	71
12.3	Maintenance .....	72
Annex A	(informative) The lightning phenomenon in relation to wind turbines .....	73
A.1	Lightning environment for wind turbines .....	73
A.1.1	General .....	73
A.1.2	The properties of lightning .....	73
A.1.3	Lightning discharge formation and electrical parameters .....	73
A.1.4	Cloud-to-ground flashes .....	74
A.1.5	Upward initiated flashes .....	80
A.2	Lightning current parameters relevant to the point of strike .....	83
A.3	Leader current without return stroke .....	84
A.4	Lightning electromagnetic impulse, LEMP, effects .....	84
Annex B	(informative) Lightning exposure assessment .....	85
B.1	General .....	85
B.2	Methodology to estimate the average annual flashes or strokes to the wind turbines of a wind farm and upward lightning activity in wind turbines .....	85
B.2.1	General .....	85
B.2.2	Methodology to determine average annual flashes to turbines of a wind farm estimation by increase of the location factor to consider upward lightning from wind turbines .....	85
B.2.3	Upward lightning percentage in wind farms .....	89
B.3	Explanation of terms .....	89
B.3.1	Damage and loss .....	89
B.3.2	Composition of risk .....	91
B.3.3	Assessment of risk components .....	91
B.3.4	Frequency of damage .....	92
B.3.5	Assessment of probability, $P_X$ , of damage .....	93
B.4	Assessing the probability of damage to the wind turbine .....	94
B.4.1	Probability, $P_{AT}$ , that a lightning flash to a wind turbine will cause dangerous touch and step voltage .....	94
B.4.2	Probability, $P_{AD}$ , that a lightning flash to the wind turbine will cause injury to an exposed person on the structure .....	95
B.4.3	Probability, $P_B$ , that a lightning flash to the wind turbine will cause physical damage .....	96
B.4.4	Probability, $P_C$ , that a lightning flash to the wind turbine will cause failure of internal systems .....	97
B.4.5	Probability, $P_M$ , that a lightning flash near the wind turbine will cause failure of internal systems .....	97
B.4.6	Probability, $P_U$ , that a lightning flash to a service line will cause injury to human beings owing to touch voltage .....	97
B.4.7	Probability, $P_V$ , that a lightning flash to a service line will cause physical damage .....	98

B.4.8	Probability, $P_W$ , that a lightning flash to a service line will cause failure of internal systems .....	99
B.4.9	Probability, $P_Z$ , that a lightning flash near an incoming service line will cause failure of internal systems.....	99
B.4.10	Probability $P_P$ that a person will be in a dangerous place .....	100
B.4.11	Probability $P_e$ that equipment will be exposed to damaging event.....	100
B.5	Assessing the amount of loss $L_X$ in a wind turbine .....	100
B.5.1	General .....	100
B.5.2	Mean relative loss per dangerous event.....	100
Annex C (informative)	Protection methods for blades.....	102
C.1	General.....	102
C.1.1	Types of blades and types of protection methods for blades .....	102
C.1.2	Blade damage mechanism .....	103
C.2	Protection methods .....	104
C.2.1	General .....	104
C.2.2	Lightning air-termination systems on the blade surface or embedded in the surface .....	105
C.2.3	Adhesive metallic tapes and segmented diverter strips .....	105
C.2.4	Internal down conductor systems.....	106
C.2.5	Conducting surface materials.....	106
C.3	CFRP structural components .....	107
C.4	Particular concerns with conducting components .....	108
C.5	Interception efficiency .....	109
C.6	Dimensioning of lightning protection systems .....	110
C.7	Blade-to-hub connection .....	112
C.8	WTG blade field exposure .....	113
C.8.1	General .....	113
C.8.2	Application.....	113
C.8.3	Field exposure.....	113
Annex D (normative)	Test specifications .....	114
D.1	General.....	114
D.2	High-voltage strike attachment tests .....	114
D.2.1	Verification of air termination system effectiveness.....	114
D.2.2	Initial leader attachment test.....	114
D.2.3	Subsequent stroke attachment test.....	124
D.3	High-current physical damage tests .....	128
D.3.1	General .....	128
D.3.2	Arc entry test.....	128
D.3.3	Conducted current test .....	133
Annex E (informative)	Application of lightning environment and lightning protection zones (LPZ).....	138
E.1	Lightning environment for blades .....	138
E.1.1	Application.....	138
E.1.2	Examples of simplified lightning environment areas .....	138
E.1.3	Area transitions .....	140
E.2	Definition of lightning protection zones for turbines (not blades).....	140
E.2.1	General .....	140
E.2.2	LPZ 0 .....	141
E.2.3	Other zones.....	142



E.2.4	Zone boundaries.....	143
E.2.5	Zone protection requirements .....	144
Annex F (informative)	Selection and installation of a coordinated SPD protection in wind turbines .....	147
F.1	Location of SPDs .....	147
F.2	Selection of SPDs .....	147
F.3	Installation of SPDs .....	147
F.4	Environmental stresses of SPDs .....	148
F.5	SPD status indication and SPD monitoring in case of an SPD failure .....	149
F.6	Selection of SPDs with regard to protection level ( $U_p$ ) and system level immunity .....	149
F.7	Selection of SPDs with regard to overvoltages created within wind turbines.....	149
F.8	Selection of SPDs with regard to discharge current ( $I_n$ ) and impulse current ( $I_{imp}$ ).....	149
Annex G (informative)	Information on bonding and shielding and installation technique .....	151
G.1	Additional information on bonding .....	151
G.2	Additional information on shielding and installation technique .....	152
Annex H (informative)	Testing methods for system level immunity tests .....	155
Annex I (informative)	Earth termination system .....	160
I.1	General.....	160
I.1.1	Types of earthing systems .....	160
I.1.2	Construction .....	160
I.2	Electrode shape dimensions .....	162
I.2.1	Type of arrangement .....	162
I.2.2	Frequency dependence on earthing impedance .....	164
I.3	Earthing resistance expressions for different electrode configurations .....	165
Annex J (informative)	Example of defined measuring points.....	168
Annex K (informative)	Classification of lightning damage based on risk management .....	170
K.1	General.....	170
K.2	Lightning damage in blade .....	170
K.2.1	Classification of blade damage due to lightning .....	170
K.2.2	Possible cause of blade damage due to lightning.....	171
K.2.3	Countermeasures against blade damage due to lightning .....	172
K.3	Lightning damage to other components.....	174
K.3.1	Classification of damage in other components due to lightning .....	174
K.3.2	Countermeasures against lightning damage to other components .....	174
K.4	Typical lightning damage questionnaire .....	174
K.4.1	General .....	174
K.4.2	Sample of questionnaire .....	174
Annex L (informative)	Monitoring systems.....	178
Annex M (informative)	Guidelines for small wind turbines .....	180
Annex N (informative)	Guidelines for verification of blade similarity .....	181
N.1	General.....	181
N.2	Similarity constraints.....	181
Annex O (informative)	Guidelines for validation of numerical analysis methods.....	184
O.1	General.....	184
O.2	Blade voltage and current distribution .....	184
O.3	Indirect effects analysis .....	185



Annex P (informative) Testing of rotating components .....	186
P.1 General.....	186
P.2 Test specimen .....	186
P.2.1 Test specimen representing a stationary / quasi stationary bearing .....	186
P.2.2 Test specimen representing a rotating bearing .....	186
P.3 Test setup.....	186
P.3.1 Test set-up representing a stationary/quasi-stationary bearing .....	186
P.3.2 Test set-up representing a rotating bearing.....	187
P.4 Test procedure.....	188
P.5 Pass/fail criteria .....	189
Annex Q (informative) Earthing systems for wind farms .....	190
Bibliography.....	191
Figure 1 – Collection area of the wind turbine .....	30
Figure 2 – Example of collection area for a complete wind farm ( $A_{DWF}$ ) with 10 wind turbines (black points) considering overlapping.....	30
Figure 3 – Collection area of wind turbine of height $H_a$ and another structure of height $H_b$ connected by underground cable of length $L_c$ .....	33
Figure 4 – Examples of possible SPM (surge protection measures) .....	50
Figure 5 – Interconnecting two LPZ 1 using SPDs.....	51
Figure 6 – Interconnecting two LPZ 1 using shielded cables or shielded cable ducts.....	51
Figure 7 –Magnetic field inside an enclosure due to a long connection cable from enclosure entrance to the SPD .....	54
Figure 8 –Additional protective measures.....	55
Figure 9 – Examples of placement of HV arresters in two typical main electrical circuits of wind turbines .....	59
Figure A.1 – Processes involved in the formation of a downward initiated cloud-to-ground flash.....	75
Figure A.2 – Typical profile of a negative cloud-to-ground flash .....	76
Figure A.3 – Definitions of short stroke parameters (typically $T_2 < 2$ ms) .....	76
Figure A.4 – Definitions of long stroke parameters (typically $2$ ms $< T_{long} < 1$ s).....	77
Figure A.5 – Possible components of downward flashes (typical in flat territory and to lower structures).....	79
Figure A.6 – Typical profile of a positive cloud-to-ground flash.....	80
Figure A.7 – Processes involved in the formation of an upward initiated cloud-to-ground flash during summer and winter conditions.....	80
Figure A.8 – Typical profile of a negative upward initiated flash .....	81
Figure A.9 – Possible components of upward flashes (typical to exposed and/or higher structures) .....	82
Figure B.1 – Winter lightning world map based on LLS data and weather conditions.....	87
Figure B.2 – Detailed winter lightning maps based on LLS data and weather conditions .....	88
Figure B.3 – Ratio $h/d$ description .....	88
Figure C.1 – Types of wind turbine blades .....	102
Figure C.2 – Lightning protection concepts for large modern wind turbine blades.....	105
Figure C.3 – Voltages between lightning current path and sensor wiring due to the mutual coupling and the impedance of the current path .....	108
Figure D.1 – Example of initial leader attachment test setup A.....	116

Figure D.2 – Possible orientations for the initial leader attachment test setup A.....	117
Figure D.3 – Definition of the blade length axis during strike attachment tests .....	118
Figure D.4 – Example of the application of angles during the HV test.....	118
Figure D.5 – Example of leader connection point away from test specimen.....	119
Figure D.6 – Initial leader attachment test setup B .....	120
Figure D.7 – Typical switching impulse voltage rise to flashover (100 μs per division).....	122
Figure D.8 – Subsequent stroke attachment test arrangement .....	125
Figure D.9 – Lightning impulse voltage waveform .....	126
Figure D.10 – Lightning impulse voltage chopped on the front .....	126
Figure D.11 – HV electrode positions for the subsequent stroke attachment test.....	128
Figure D.12 – High-current test arrangement for the arc entry test.....	130
Figure D.13 – Typical jet diverting test electrodes .....	131
Figure D.14 – Example of an arrangement for conducted current tests.....	135
Figure E.1 – Examples of generic blade lightning environment definition.....	139
Figure E.2 – Rolling sphere method applied on wind turbine .....	142
Figure E.3 – Mesh with large mesh dimension for nacelle with GFRP cover .....	143
Figure E.4 – Mesh with small mesh dimension for nacelle with GFRP cover.....	143
Figure E.5 – Two cabinets both defined as LPZ 2 connected via the shield of a shielded cable.....	144
Figure E.6 – Example: division of wind turbine into different lightning protection zones.....	145
Figure E.7 – Example of how to document a surge protection measures (SPM) system by division of the electrical system into protection zones with indication of where circuits cross LPZ boundaries and showing the long cables running between tower base and nacelle.....	146
Figure F.1 – Point-to-point installation scheme .....	148
Figure F.2 – Earthing connection installation scheme.....	148
Figure G.1 – Two control cabinets located on different metallic planes inside a nacelle .....	151
Figure G.2 – Magnetic coupling mechanism.....	152
Figure G.3 – Measuring of transfer impedance.....	154
Figure H.1 – Example circuit of a SPD discharge current test under service conditions.....	156
Figure H.2 – Typical test set-up for injection of test current.....	158
Figure H.3 – Example circuit of an induction test for lightning currents.....	159
Figure I.1 – Minimum length ( $l_1$ ) of each earth electrode according to the class of LPS .....	163
Figure I.2 – Frequency dependence on the impedance to earth .....	164
Figure J.1 – Example of measuring points.....	168
Figure K.1 – Recommended countermeasures schemes according to the incident classification.....	172
Figure K.2 – Blade outlines for marking locations of damage .....	177
Figure N.1 – Definitions of blade aerofoil nomenclature .....	183
Figure O.1 – Example geometry for blade voltage and current distribution simulations.....	184
Figure O.2 – Example geometry for nacelle indirect effects simulations .....	185
Figure P.1 – Possible test setup for a pitch bearing .....	186
Figure P.2 – Possible injection of test current into a pitch bearing.....	187
Figure P.3 – Possible test setup for a main bearing .....	188
Figure P.4 – Example measurement of the series resistance of the test sample.....	189

Table 1 – Maximum values of lightning parameters according to LPL (adapted from IEC 62305-1) .....	25
Table 2 – Minimum values of lightning parameters and related rolling sphere radius corresponding to LPL (adapted from IEC 62305-1).....	26
Table 3 – Collection areas $A_L$ and $A_I$ of service line depending on whether aerial or buried .....	33
Table 4 – Parameters relevant to the assessment of risk components for wind turbine (corresponds to IEC 62305-2).....	36
Table 5 – Verification of bearing and bearing protection design concepts.....	45
Table 6 – LPS General inspection intervals.....	71
Table A.1 – Cloud-to-ground lightning current parameters .....	78
Table A.2 – Upward initiated lightning current parameters .....	82
Table A.3 – Summary of the lightning threat parameters to be considered in the calculation of the test values for the different LPS components and for the different LPL.....	83
Table B.1 – Recommended values of individual location factors.....	86
Table B.2 – Range of upward lightning activity as a function of winter lightning activity for wind farm located in flat terrain.....	89
Table B.3 – Values of probability, $P_A$ , that a lightning flash to a wind turbine will cause shock to human beings owing to dangerous touch and step voltages (corresponds to IEC 62305-2).....	94
Table B.4 – Values of reduction factor $r_1$ as a function of the type of surface of soil or floor (corresponds to IEC 62305-2).....	94
Table B.5 – Values of factor $P_O$ according to the position of a person in the exposed area (corresponds to IEC 62305-2).....	95
Table B.6 – Values of probability, $P_{LPS}$ , depending on the protection measures to protect the exposed areas of the wind turbine against direct lightning flash and to reduce physical damage (corresponds to IEC 62305-2).....	95
Table B.7 – Values of probability $P_S$ that a flash to a wind turbine will cause dangerous sparking (corresponds to IEC 62305-2).....	96
Table B.8 – Values of reduction factor $r_D$ as a function of provisions taken to reduce the consequences of fire (corresponds to IEC 62305-2).....	96
Table B.9 – Values of reduction factor $r_f$ as a function of risk of fire of the wind turbine (corresponds to IEC 62305-2).....	96
Table B.10 – Values of probability $P_{LI}$ depending on the line type and the impulse withstand voltage $U_{WV}$ of the equipment (corresponds to IEC 62305-2).....	100
Table B.11 – Loss values for each zone (corresponds to IEC 62305-2).....	101
Table B.12 – Typical mean values of $L_T$ , $L_D$ , $L_F$ and $L_O$ (corresponds to IEC 62305-2).....	101
Table C.1 – Material, configuration and minimum nominal cross-sectional area of air-termination conductors, air-termination rods, earth lead-in rods and down conductors <sup>a</sup> (corresponds to IEC 62305-3).....	110
Table C.2 – Physical characteristics of typical materials used in lightning protection systems (corresponds to IEC 62305-1).....	111
Table C.3 – Temperature rise [K] for different conductors as a function of $W/R$ (corresponds to IEC 62305-1).....	112
Table C.4 – Range of distribution of direct strikes from field campaigns collecting data on attachment distribution vs. the distance from the tip of wind turbine blades, 39 m to 45 m blades with and without CFRP.....	113
Table D.1 – Test current parameters corresponding to LPL I.....	132
Table D.2 – Test current parameters for winter lightning exposure testing (duration maximum 1 s).....	132

Table D.3 – Test current parameters corresponding to LPL I.....	136
Table D.4 – Test current parameters corresponding to LPL I (for flexible paths).....	136
Table D.5 – Test current parameters for winter lightning exposure testing (duration maximum 1 s) .....	137
Table E.1 – Blade area definition for the example in concept A.....	140
Table E.2 – Blade area definition for the example in concept B .....	140
Table E.3 – Definition of lightning protection zones according to IEC 62305-1 .....	141
Table F.1 – Discharge and impulse current levels for TN systems given in IEC 60364-5-53	150
Table F.2 – Example of increased discharge and impulse current levels for TN systems.....	150
Table I.1 – Impulse efficiency of several ground rod arrangements relative to a 12 m vertical ground rod (100 %).....	165
Table I.2 – Symbols used in Tables I.3 to I.6.....	165
Table I.3 – Formulae for different earthing electrode configurations .....	166
Table I.4 – Formulae for buried ring electrode combined with vertical rods .....	166
Table I.5 – Formulae for buried ring electrode combined with radial electrodes.....	167
Table I.6 – Formulae for buried straight horizontal electrode combined with vertical rods....	167
Table J.1 – Measuring points and resistances to be recorded .....	169
Table K.1 – Classification of blade damage due to lightning.....	171
Table K.2 – Matrix of blade damages due to lightning, taking account of risk management.....	173
Table K.3 – Classification of damage to other components due to lightning.....	174
Table L.1 – Considerations relevant for wide area lightning detection systems.....	178
Table L.2 – Considerations relevant for local active lightning detection systems .....	179
Table L.3 – Considerations relevant for local passive lightning detection systems.....	179
Table N.1 – Items to be checked and verified when evaluating similarity.....	182
Table P.1 – Test sequence for high current testing of rotating components .....	189

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**WIND ENERGY GENERATION SYSTEMS –****Part 24: Lightning protection****FOREWORD**

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International Standard IEC 61400-24 has been prepared by IEC technical committee 88: Wind energy generation systems.

This second edition cancels and replaces the first edition, published in 2010. This edition constitutes a technical revision.

This edition includes the following significant technical changes with respect to the previous edition:

- a) it is restructured with a main normative part, while informative information is placed in annexes.

The text of this International Standard is based on the following documents:

FDIS	Report on voting
88/709/FDIS	88/713/RVD

Full information on the voting for the approval of this International Standard can be found in the report on voting indicated in the above table.

This document has been drafted in accordance with the ISO/IEC Directives, Part 2.

A list of all parts in the IEC 61400 series, published under the general title *Wind energy generation systems*, can be found on the IEC website.

The committee has decided that the contents of this document will remain unchanged until the stability date indicated on the IEC website under "<http://webstore.iec.ch>" in the data related to the specific document. At this date, the document will be

- reconfirmed,
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## WIND ENERGY GENERATION SYSTEMS –

### Part 24: Lightning protection

#### 1 Scope

This part of IEC 61400 applies to lightning protection of wind turbine generators and wind power systems. Refer to Annex M guidelines for small wind turbines.

This document defines the lightning environment for wind turbines and risk assessment for wind turbines in that environment. It defines requirements for protection of blades, other structural components and electrical and control systems against both direct and indirect effects of lightning. Test methods to validate compliance are included.

Guidance on the use of applicable lightning protection, industrial electrical and EMC standards including earthing is provided.

Guidance regarding personal safety is provided.

Guidelines for damage statistics and reporting are provided.

Normative references are made to generic standards for lightning protection, low-voltage systems and high-voltage systems for machinery and installations and electromagnetic compatibility (EMC).

[IEC 61400-24:2019](https://standards.iteh.ai/catalog/standards/sist/6aae4b87-f0f6-474c-a3ce-da2b91697249/iec-61400-24-2019)

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#### 2 Normative references

The following documents are referred to in the text in such a way that some or all of their content constitutes requirements of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

IEC 60364-4-44, *Low-voltage electrical installations – Part 4-44: Protection for safety – Protection against voltage disturbances and electromagnetic disturbances*

IEC 60364-5-53, *Electrical installations of buildings – Part 5-53: Selection and erection of electrical equipment – Isolation, switching and control*

IEC 60364-5-54, *Low-voltage electrical installations – Part 5-54: Selection and erection of electrical equipment – Earthing arrangements and protective conductors*

IEC 60364-6, *Low-voltage electrical installations – Part 6: Verification*

IEC TS 60479-1, *Effects of current on human beings and livestock – Part 1: General aspects*

IEC TR 60479-4, *Effects of current on human beings and livestock – Part 4: Effects of lightning strokes*

IEC 60664-1, *Insulation coordination for equipment within low-voltage systems – Part 1: Principles, requirements and tests*

IEC 61000 (all parts), *Electromagnetic compatibility (EMC)*