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# INTERNATIONAL STANDARD



**Wind energy generation systems –  
Part 3-1: Design requirements for fixed offshore wind turbines**

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## INTERNATIONAL ELECTROTECHNICAL COMMISSION

### WIND ENERGY GENERATION SYSTEMS –

#### Part 3-1: Design requirements for fixed offshore wind turbines

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International Standard IEC 61400-3-1 has been prepared by IEC technical committee 88: Wind energy generation systems.

This edition cancels and replaces the first edition of IEC 61400-3 published in 2009. This edition constitutes a technical revision.

This edition includes the following significant technical changes with respect to the first edition of IEC 61400-3:

- a) Clause 12 has been merged with Clause 6 in order to acknowledge that the design of the wind turbine support structure is generally site specific for offshore projects;
- b) The design load table has been revised to simplify the approach to waves, both for several gust cases with the Normal Sea State, and for a number of cases with the Extreme Sea State. The guidance for load calculations has been altered accordingly;
- c) For load safety factors reference is now made directly to IEC 61400-1;
- d) Clause 8 on the control system has been aligned with the latest updates in IEC 61400-1;

- e) Annex B to edition one on wave spectra has been replaced by a reference to ISO 19901-1;
- f) The annex on ice loading has been revised and updated (now Annex D);
- g) Two informative annexes concerning tropical cyclones have been introduced: Annex H on wave height assessment and Annex I on safety level;
- h) Other parts of the text have been aligned with IEC 61400-1.

This part is to be read in conjunction with IEC 61400-1, *Wind turbines – Part 1: Design requirements*<sup>1</sup>.

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

FDIS	Report on voting
88/708/FDIS	88/712/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 publication has been drafted in accordance with the ISO/IEC Directives, Part 2.

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

Future standards in this series will carry the new general title as cited above. Titles of existing standards in this series will be updated at the time of the next edition.

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

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,
- withdrawn,
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<sup>1</sup> Under preparation. Stage at the time of publication: IEC/RFDIS 61400-1:2018.