

Aligned specification for internal environment

The Wind Partnership

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Introduction

This is an aligned specification for the internal environment of offshore wind turbines. The document can be used in a sales contract or as an extension to a complete recommended practice.

The purpose of the aligned specification is to ensure identical requirements and continued alignment for the internal environment of the turbine.

Background

The need for this alignment was first identified by the Wind Partnership, a working group facilitated by Energy Innovation Cluster. The partners in the Wind Partnership included MHI Vestas Offshore Wind Siemens Gamesa Renewable Energy and Vestas wind Systems, who all participated in the alignment of the above-mentioned specification. The facilitation of the alignment was funded by The Ministry of Higher Education and Science.

Definition of internal environment with dehumidifier system

The internal corrosion climate level can be stated as an C2 environment according to ISO 12944 in case:

- 1) Dehumidifiers are positioned in the tower and in the nacelle on locations suited for dehumidification.
- 2) During normal operation: The dehumidifiers settings is so, that the relative humidity in the tower and nacelle can be kept below 60% ReH and internal salt buildup must be limited. For the specific set point for ReH please consult ISO9223 in order to ensure first year corrosion less than 25 μm .

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- 3) During storage: The tower, nacelle, hub etc. must be stored and protected in a manner so no build-up of salinity inside the components take place - in case of salt inside the component it must be washed using fresh water.