

Project 6: Probabilistic Design Tool Development

Student Project Proposal

Background

Probabilistic design is an increasingly important method in the design of wind turbines. As probabilistic methods are applied to the design of individual components and structures, and more components become designed to the limit, the challenge of calculating the overall reliability becomes harder. The overall structural reliability is an important factor contributing to the cost of energy.

Scope

The focus is on facilitating making probabilistic assessments of failure modes in wind turbine design through development of a framework. The framework will define the relationships between components, design loads, failure models and failure consequences.

The goal is to develop a tool to combine failure rates and consequences from a variety of different failure modes to provide an overall failure rate and a ranking of the most critical failure modes to be used in the wind turbine design process.

Keywords

Structural Reliability, probabilistic design,

[1] *Safety Factors – IEC 61400-1 ed. 4 - background document, John Dalsgaard Sørensen, Henrik Stensgaard Toft*

APPLY

Contact person:

Sune Baun Christensen

E-mail:

subch@vestas.com

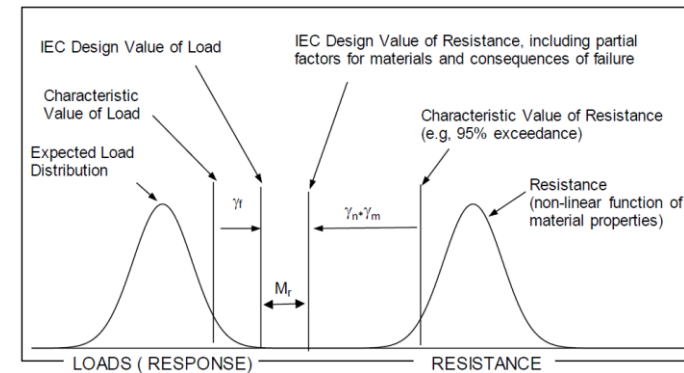


Image: IEC 61400