

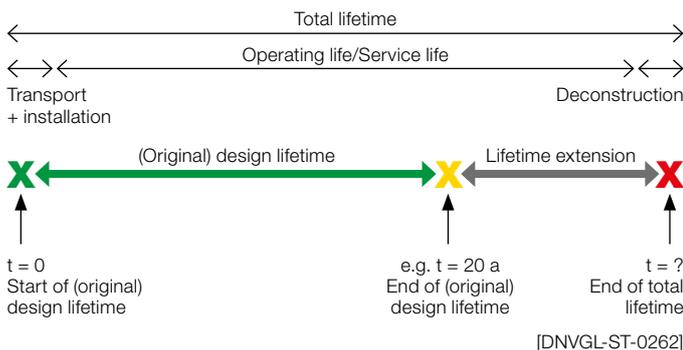
# Certification of Lifetime Extension

## DNVGL-SE-0263, DNVGL-ST-0262

TÜV NORD is accredited for the guideline DNVGL-SE-0263 considering the Lifetime Extension of Wind Turbines.

Wind Turbines are usually designed for 20 years of operation. For many Wind Turbines it's technically possible to continue operating beyond the design lifetime.

TÜV NORD supports operators, turbine manufacturers and all interested parties of Wind Turbines regarding a possible lifetime extension. According to DNVGL-SE-0263 the assessment for a Lifetime Extension consists of a practical and an analytical part. Both parts take into account all parts of the Wind Turbine, focusing on fatigue limit states and fatigue damage.



inspections and a site or turbine specific scope. The site/ turbine specific scope is defined or example by results from the analytical part and field experience with the evaluated Wind Turbine type.

### Analytical Part

The analytical part identifies the possible lifetime extension potential by means of new or additional calculations. In this part, the site specific environmental conditions are considered. Depending of the scope and various circumstances (e.g. number of evaluated Turbines, knowledge about the turbines) different approaches can be taken into account:

- Simplified approach
- Detailed approach
- Probabilistic approach

### Practical Part

The Practical Part contains an evaluation of the actual state of the turbine in the field by means of inspections in the field. The scope of the inspections is defined by a general scope, comparable to the scope of periodic

### Result

The results from the analytical and practical part are used for the overall assessment regarding a possible lifetime extension of the wind energy converter.

The final evaluation contains all important specifications and background information of the consideration and provides a lifetime extension period. In addition individual measures can be developed and documented to ensure safe operation during lifetime extension period.

Whenever it is mentioned in the scheme that something has to be agreed or aligned with DNV GL, it means to agree it with TÜV NORD, because we act as the Certification Body in this case.

Please contact us, if you need more information about the Lifetime Extension of Wind Turbines.