nawrocki alpin

PHOTO DOCUMENTATION OF ROTOR BLADES WHILE WIND TURBINES IN OPERATION

Worldwide technical innovation Made in Germany

The documentation of damages of wind turbines is an important basis for the assessment of the condition, maintenance, and development of the wind turbines. The ability to measure such technical datas out of the distance, not dependent on the running wind turbines, provides more technical knowledge and also a considerable potential of cost reduction.
Working in a research program, in cooperation with Fraunhofer Institute of optronic, system technics and image evaluation, our company was able to invent a technical unit to realize the necessary photo documentations without stopping the operation of the wind turbines.

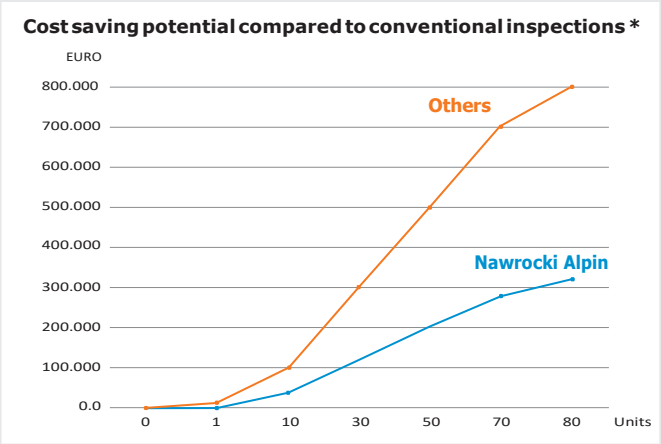
FDS 20 - Distance inspection and photo documentation of rotor blades while wind turbines are in operation

Wind turbines have to be monitored and maintained on a regular basis. Wind turbines use a condition monitoring system (CMS) in order to process one part of monitoring and maintaining parameters of the condition of the wind turbines. The datas are send to the control centre.
Damages and repairs at the structure of the wind turbines (especially at the surface of the rotor blades) cannot be checked with this CMS. For this kind of inspection wind energy turbines have to be visited and watched by personnel in short rotation.

For this inspection and photographic documentation of the blades all wind turbines have to be stopped and practicably brought into a suitable park position. Looking at available inspection systems offered in the market it is not possible that additional work and costly downtimes of turbines can be avoided. Due to the high speeds of the rotating blades and the necessary tele optics needed for high resolution pictures, it is not possible to take pictures of the rotor blades using static or hand-held cameras.

Our new technical invention offers a unique solution to create the necessary photo documentation with a camera that follows the rotating blades from a free eligible position.

The included software supplies detailed pictures and comparative datas. Damages can be assigned precisely.



* our determined results are based on inspections of 79 wind turbines within 12 month

Advantages of distant inspection

- inspection while wind turbines are operating
- no loss of providing power to the generators
- no additional work for coordination of stoppage of turbines
- no costs for shutting down the wind turbines
- high resolution pictures
- no loss of quality of pictures of moving objects
- cost savings of approx. 60%

CONTACT

Marc Mühlenbeck
mm@mate-at-sea.services / +49 (0) 170 4403588
Representative of NAWROCKI-ALPIN

NAWROCKI-ALPIN Gesellschaft für Höhenarbeiten mbH
Marienburger Strasse 16 · 10405 Berlin · Germany
Phone: +49 (0)30 - 44 31 81-6 · Fax: +49 (0)30 - 44 31 81-89
Email: office@nawrockialpin.com · Internet: www.nawrockialpin.com