

## Press Information

### Insensys Receives GL Certification for Ice Detection and Measurement System

15 Sept. 2009 - The Insensys Rotor Monitoring System (RMS) has received GL certification for the detection and measurement of ice, under both static and dynamic conditions.

Germanischer Lloyd (GL) conducted tests on a fully operational 2.4 MW turbine to assess the performance of the RMS system. Different masses were added to the turbine blades and the algorithms were tested under a variety of operational and static conditions to determine their ability to accurately measure the accretion, and loss, of ice on blades.



The tests demonstrated that the system can reliably detect a 40 kg mass on a 10,000 kg blade (0.4% of blade mass), and that under most conditions the system can detect levels as low as 0.26% of rotor blade mass, despite the effects of turbulence, wind shear etc.

Ice build-up on blades can give rise to ice throw, which is a hazard near populated areas, and also causes additional drive train loads, which are often in excess of the design loads. For this reason, many turbines are shut down whenever there is a risk of ice build-up, leading to an un-necessarily high loss of revenue. The Insensys RMS system provides information to enable operators to shut down the turbine, automatically, only when the ice loads are in danger of exceeding the specification, or present a real risk of ice throw, which can increase operating revenue by at least €2,000 per month per turbine, during the icing season.

Germanischer Lloyd (GL) is the leading certification body in the wind-energy sector, offering project and type certifications. GL's certification for the Insensys system demonstrates to manufacturers and operators the integrity and capabilities of Insensys ice monitoring solutions.

Insensys uses fibre optic sensors to detect the increase and decrease of mass, such as ice, on a wind turbine blade. Using information sent by fibre optics patches to the Insensys interrogator and RMS, a series of customised algorithms are used to send data to the turbine's control system. If a wind turbine already has Insensys IPC (Individual Pitch Control) installed, the RMS is a simple bolt-on addition. RMS can also be retrofitted to existing wind turbines in the field.

Ice detection is the first of a series of RMS applications to be certified by GL.

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For more information please contact:

Julie Turner | [Julie.turner@insensys.com](mailto:Julie.turner@insensys.com) | Tel: +44 2380 450550 | Mob: +44 7971 989933