HoloOptics

Notes no: 1
from HoloOptics
Report from the season 2009-2010

550.2010.001.En

The first year of full operation

The season 2009-2010[1] is the first year with the T40 series Icing Rate Sensors in full operation. The new design and manufacturing procedures seems to manage the rough environment out there.

A total of ten sensors were delivered to Swedish and Norwegian operators. Of these three were T41 and seven T44. Furthermore three older sensors of the T20 series are still in use.

One T41 failed after being exposed to extreme icing and wind conditions for more than three weeks. Maximum icing is estimated to more than 10 kg/m and maximum wind was over 35 m/s. Several other instruments and sensors were made unserviceable on the same mast.
The T41 was replaced at the same time as the other instruments was repaired or replaced.

Two scientific reports sponsored by Vindforsk (the Swedish research agency) V-153 “Capacity losses at wind power plants due to icing” and V-303 “Calibration of icing sensor” is available at http://www.vindenergi.org. Both reports are in Swedish only. An English version of V-153 will be published eventually.

The first units of the Carburettors Icing Detector system for aircrafts where tested in April. A more sophisticated design is necessary to obtain the objectives. Testing will start by late summer.

A control unit for equipment used to keep drainpipes free of ice is under development. Energy saving of some 200 GWh per year is possible in Sweden alone. That is approx. 10 % of one nuclear power plant.

[1] 1 June 2009 -31 May 2010