



Project Profile: Wing River, USA

Project name:	Wing River (60 Hz prototype)
Owner:	Plain States Energy
Contractors:	Plain States Energy
Power utility:	Minnesota Power
Installed capacity:	2,5 MW
Wind turbine type:	N90/2500 kW high speed version
Tower height and type:	80 m tubular tower
Number of wind turbines	1
Wind speed:	8,0 m/s
Site:	The site is located approximately 2 km north of Hewitt, Minnesota – about 200 km from Minneapolis.
Site description:	The site is used as farmland.
Building period:	June 2007
Grid connection:	June 2007
Extent of delivery:	Turnkey project
Calculated annual power output:	8.300 MWh
Maintenance:	Nordex Energy GmbH
Warranty period:	2 years

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Since beginning of June 2007 the first N90/2500 HS is on grid in North America. In Hewitt, Minnesota, one of the most powerful turbines in the USA has been producing clean energy since. In 2006 the average capacity of the 1,532 machines installed in the US amounted to around 1.6 MW. The capacity of the turbine now installed by Nordex stands at 2.5 MW. The operator, Wing River Wind LCC, is feeding the machine's annual yield of 8.828 MWh of electricity into the grid belonging to Minnesota Power.



Further, a personal hoist makes it possible to reach the nacelle in comfort, a Condition Monitoring System acts as an early warning system for all-round protection against unforeseen component wear. Ice sensors and an automatic fire-extinguishing system round off the turbine's safety package. The electrical features of the N90/2500 kW fulfil the local grid connection rules and the turbine is certified and supplied as a 60 Hz version.

With the installation of the N90/2500 wind turbine, the Nordex Group has completed its first project involving a multi-megawatt turbine in the USA on schedule. This turbine is equipped with state-of-the-art solutions: among others, the new control technique "Nordex AP" comes into operation. Two automatic controls – the torque control and the pitch control – are coupled for improving the control dynamics, for optimizing the hysteresis behaviour and for covering particular power optimized operational conditions. For this further development of the Nordex Control 2 and the converter technology several international patents have been applied.



The N90/2500 is a wind turbine that has proved itself in operation, and which, with a rotor diameter of 90 metres, achieves high yields across the entire wind spectrum thanks to its designed performance characteristics. The N90/2500 HS now installed is the basic "high speed" version for strong-wind locations. In Hewitt the average wind speed at 80 metres hub height is approx. 8 m/s.

