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**Field Test Results from a 10 kW Wind Turbine with Active Flow Control** THOMAS RICE, VERONIKA BYCHKOVA, KEITH TAYLOR, Rensselaer Polytechnic Institute, DAN CLINGMAN, The Boeing Company, MICHAEL AMITAY, Rensselaer Polytechnic Institute — Active flow control devices including synthetic jets and dynamic vortex generators were tested on a 10 kW wind turbine at RPI. Previous work has shown that load oscillations caused by dynamic stall could be modified through the use of active flow control by injecting momentum into the flow field near the leading edge of a dynamically pitching model. In this study, this work has been extended to its logical conclusion, field-testing active flow control on a real wind turbine. The blades in the current study have a 0.28m chord and 3.05m span, no twist or taper, and were retrofitted with six synthetic jets on one blade and ten dynamic vortex generators on a second blade. The third blade of this turbine was not modified, in order to serve as a control. Strain gauges were installed on each blade to measure blades' deflection. A simple closed loop control was demonstrated and preliminary results indicate reduced vibrational amplitude. Future testing will be conducted on a larger scale, 600kW machine at NREL, incorporating information collected during this study.

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