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Sommario/riassunto	This paper describes a recent study to investigate the applicability of a horizontal-axis wind turbine (HAWT) structural dynamics and unsteady aerodynamics analysis program (FAST and AeroDyn respectively) to modeling the forces on marine hydrokinetic (MHK) turbines. This paper summarizes the added mass model that has been added to AeroDyn. The added mass model only includes flow acceleration perpendicular to the rotor disc, and ignores added mass forces caused by blade deflection. A model of the National Renewable Energy Laboratory's (NREL) Unsteady Aerodynamics Experiment (UAE) Phase VI wind turbine was analyzed using FAST and AeroDyn with sea water conditions and the new added mass model. The results of this analysis exhibited a 3.6% change in thrust for a rapid pitch case and a slight change in amplitude and phase of thrust for a case with 30 degrees of yaw.

