CFD Experiments for Wind-Turbine-Platform Seakeeping Models and Flow Physics ALEXANDER DUNBAR, Penn State University, ERIC PATERSON, Virginia Tech University, BRENT CRAVEN, JAMES BRASSEUR, Penn State University — As part of the Penn State "Cyber Wind Facility," we describe the development and application of a tightly-coupled CFD/6-DOF solver in OpenFOAM for the simulation of offshore floating wind turbine platforms. We highlight the tightly-coupled computational framework and validation of the solver via a comparison with benchmark experimental measurements. The validated CFD/6-DOF solver is then applied to the OC4 DeepCwind semisubmersible for the prediction of platform motion due to wind and wave loading. Supported by the US Department of Energy.

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