

Interactive comment on “Numerical and Experimental Simulation of Extreme Operational Conditions for Horizontal Axis Wind Turbines Based on the IEC Standard” by Kamran Shirzadeh et al.

Anonymous Referee #1

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This manuscript presents both numerical and physical investigations aimed at reproducing the IEC Standards for extreme operational conditions of wind turbines. Extreme Operational Gust (EOG), positive and negative Extreme Vertical Shear (EVS), and Extreme Horizontal Shear (EHS) cases are attempted synergistically with commercial CFD software and at the unique WindEEE Dome wind tunnel at Western University. The topic is novel and extremely timely and, in my opinion, this would be of interest to the community. Despite the preliminary nature of this work, the most significant findings are related to enhancing the capability of a unique facility, whilst building a

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theoretical framework via CFD for future use - hopefully for the benefit of the community. The manuscript, however, suffers from some serious limitations, that prevent me to recommend it for publication at this stage. Detailed comments that must be addressed before I can endorse this work for dissemination are included in the attached marked-up version of the manuscript, together with some of my technical questions for the authors. Alongside my comments in the pdf, I would highly recommend the authors to dedicate some time to the abstract, conclusions, and results sections and to improve the manuscript throughout with a thorough proofread.

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