Interactive comment on "The Power Curve Working Group's Assessment of Wind Turbine Power Performance Prediction Methods" *by* Joseph C. Y. Lee et al.

Anonymous Referee #3

Received and published: 21 November 2019

The scope of this work is to assess the effectiveness of various trial methods to correct wind turbine power curves so that they more realistically represent real-world performance. A data gathering tool was developed for this work in order to anonymously aggregate contributor's data and test the trial methods. Rigorous data filtering and statistical assessment is also performed on the data.

Overall, the paper is well written. In general the authors use a high number of acronyms throughout the article, which may confuse the reader and should be avoided where possible. The definitions of "inner range" and "outer range" are clear, however the authors reference these definitions before a detailed explanation is provided. In addition,

to give more context and add background to the work, clarification of how the "inner range" power curve compares to the manufacturer's power curve, which is commonly known at all levels in industry, should be provided. In section 3.1 the authors propose three definitions of "inner range", without explaining why three definitions are given. In the conclusions, a more thorough discussion of how these methods can be improved in the future, to yield more statistically meaningful improvement should be included. In appendix A2, when describing the Den-Turb correction method, at point 2.2.3. the definition of a 0-TI power curve is ambiguous. In particular, the authors state that "each WS is expanded to a Gaussian distribution, where the standard deviation is the product of the WS and the reference TI", which is not clear since a 0-TI power curve is being calculated. In appendix A3, when discussing the Den-2DPDM trial correction methods, the authors state "One limitation of the 2DPDM is that the correction does not apply to the wind speed or TI bins with zero data counts (i.e., unpopulated bins)" without elaborating on the reasons this happens, or indicating if a correction of the method is possible. Based on the above, considering that the core of the article and of the work is solid and has been conducted rigorously, the reviewer recommends publication in the Wind Energy Science (WES) journal.

Interactive comment on Wind Energ. Sci. Discuss., https://doi.org/10.5194/wes-2019-69, 2019.