Response to Reviewer 3

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First, we would like the express our thanks for reviewing our manuscript and providing comments and suggestions. We have structured this response to be clear and easy to follow. Each of the reviewer comments will be shown in blue, immediately followed by our response in black. Please note that if the comments refer to specific pages, sections, or line numbers, they refer to the original submission. These references may be different in the revised manuscript.

Line 22: 'models' to be substituted by 'experiments' (models can be also numerical, like yours)

This change was included in the revised manuscript.

Line 71: written that FLORIS has been used for wind plant layout optimization research. Add references.

Several references were added in the revision in which FLORIS was used in wind plant layout optimization research.

Lines 129 to 131: I think the sentence "For all of the results in this section, the freestream wind speed was set at 10 m/s, which is below the rated wind speed of the wind turbine we used. Past studies have shown wake steering to be most effective below the rated wind speed." belongs to ch. 2, so I would move it to the end of this chapter.

This statement was added to the end of chapter 2 as suggested.

Two comments on the same sentence: 1. Explicit that the freestream wind is assumed uniform; 2. 'Past studies', give the references.

This comment was fully incorporated into the revised manuscript.

Line 142: the performances decrease after a pick. Please comment why, in the text.

The following has been added to the revised manuscript.

"For Boolean angles that are too small, the power of the yawed turbine does not decrease very much, but the wake does not deflect very much. At the other extreme, for the larger Boolean yaw angles can achieve a large wake deflection which minimizes wake interactions, but which comes at the cost of greatly decreasing the

power production of the yawed turbine. The crossover point at which a higher Boolean yaw angle actually starts to be detrimental in performance depends on the number and spacing of the turbines."

Two general comments on the multiple figures: 1. I think it would be better to add a), b), c)...on the subfigures, making it easier to refer to them in the text (instead of 'top left subfigure' it becomes 'Fig. 3a'). That might not be needed for all the multiple figures, but only those subfigures you need to refer to in the text (e.g. Fig. 5 is ok as it is). 2. I think the title at the top of the figure is distracting (ex. Fig. 4 '50 turbines in-line: varied turbine spacing'); if needed move it to the caption.

With the exception of the gridded wakes figure, we went ahead and added a, b, c... for all of the figures with multiple panels and changed the associated text. Although it is slightly distracting, we have decided to leave the title in some of the figures because there are multiple similar figures throughout the paper that refer to different cases.

Overall, good job!

Thank you!