

Comment on wes-2021-120

Wilson Guachamin (Referee)

Referee comment on "Floating wind turbines: marine operations challenges and opportunities" by Rahul Chitteth Ramachandran et al., Wind Energ. Sci. Discuss., <https://doi.org/10.5194/wes-2021-120-RC2>, 2021

Dear authors, the article is interesting and relevant for the offshore wind industry. The English language is ok, but still need some polishing. I have some minor and major omments before it can be accepted.

Major comments:

1. Line 30. The authors recommend to combine all areas related to marine operations, but how these should be done? To analyze a project from the start to the end can be challenging and it seems to be the motivation for writing this paper. What I miss is a linkage between various sections written in the paper. Please comment.
2. It seems like semisubmersibles are the best choice so far. However I think that the construction costs should be briefly addressed as this is part of the life cycle as shown in figure 1. Please comment.
3. Figures 6 and 7. For novel concepts generally critical operations and parameters that limit an operation are identified and in some cases quntified. I think it is important to briefly mention and analyze them. Please discuss the challenges the authors found.
4. Line 235. Description of weather restricted and unrestricted marine operations does not fit in here. It should apper much earlier when you define a marine operation for the first time. Additionally, the literature review is incomplete. There are some papers dedicated to study operational limits of marine operations. It would be nice if the authors discuss further the relations between operational limits given in standards such as those from Table 3 and other derived in papers.

5. Line 315. There are papers and equipment available in industry for noise mitigation. Please refer and discuss these developments.

6. Line 320. ..floating-floating couple, which makes access and egress challenging. I believe that two floating structures can be moored together using fenders and soft lines. This will reduce relative motion and structures will move in unison. This has actually been experienced in the O & G industry. Please comment.

7. Line 380. Please comment about technical feasibility and if possible add facts, critical parameters, critical components, etc.

8. Line 390. What about weight of tendons. Please comment

9. Figures 15, 16 and 17. Please add technical facts or results and discuss about technical feasibility. The reader wants to know how feasible are the concepts either using simulation or experimentation.

Minor comments:

1. Spelling , commas, and grammatical errors. Please check that spelling and punctuation are correct. For example, Line 30.....new and maturing, there is. Line 70. Should you use season or period instead of window period?. Figures 4 and 5, Characteristic durations(,), Line 85. This incurs additional costs; Sentence is incomplete, use a semicolon instead (see also line 225). Same line, must also.. Line 140, pro-type, Musial et al. (2004) have,..etc.

2. Line 180. Do the authors mean dynamic motions?

3. Table 2. Title should read Operational limits instead of operability. Likewise, Max. sea state should read Max. significant wave height

4. Try to avoid referring twice as in line 265

5. Fixed wind industry?. Please rewrite

6. Line 345. ...savings in material and installation costs.

7. Figure 13 is not referred to. Show parts