

Review of WES-2025_101_revised

The authors have undertaken a thorough revision and addressed most of the points raised in the previous review. I have few more thoughts on a couple of them:

Point 4: related to the need to compare MPC performance against a contemporary baseline controller. The authors responded by citing numerous studies over the past decade that show MPC can improve on baseline controllers. Indeed my own research on modern state-space based controller design methods for reducing turbine fatigue loads was able to show considerable improvement on a PID-based baseline controller (Jonkmann 2009).

However, the DEL improvements, relative to baseline, that my group of researchers were able to obtain reduced considerably when we switched to comparing against ROSCO. Indeed, NREL's motivation for developing ROSCO and putting it in the public domain was to provide a well-designed contemporary baseline controller for more conceptually and computationally expensive alternative control methodologies to be compared against.

Hence I find the cited studies (on MPC improvements relative to baseline) unconvincing as they did not compare against ROSCO; these studies must be regarded as out-of-date.

The authors point to many limitations of baseline controllers compared to more sophisticated architectures and argue that these enhancements 'should' enable economic and DEL performance improvements to be obtained with MPC and other architectures. But I expect that if the authors are willing to attempt comparisons against ROSCO, the improvements they observe will be smaller than they might anticipate.

Point 17: I agree that blade pitch actuation should be subject to a constraint. My point was that I couldn't see where this constraint was included in the discussion.