

Rotor System Design in an Industrial Context at Envision Energy

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Abstract

The rotor is the most influential component in the turbine system in terms of overall performance, cost and ultimately LCOE. A clear understanding of rotor tradeoffs and how these interact with and influence other turbine components is critical to the success of a product.

The rotor system design problem is summarized in the context of the needs of a fast-moving Chinese OEM. The impact on methodology and model development choices is explored by examining the tradeoff between fidelity and computational/implementation effort. The chosen design philosophy must be matched to a given market climate and its influence on internal expectations and targets. Increased pressure for reduced time to market combined with reduced cost as a market entry threshold forces a different and in some ways more focused approach to innovation and technology development.