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1 Review of Previous Projects

The design and optimization of rotor blades for wind turbines have evolved significantly over the years, driven by advancements in materials, computational tools, and an increasing focus on sustainable and high-efficiency designs. Previous projects, such as **Optimus 92** and **Optimus 295**, provide valuable insights into the aerodynamic and structural design challenges that come with both smaller and larger-scale turbines.

1.1 Optimus 92 Project

Optimus 92 focused on creating a 2 MW wind turbine with a 92-meter rotor diameter. The primary goal was to develop a low-emission, sustainable design, with particular attention to the use of recyclable materials. The rotor blades were designed using airfoils from the DU series, known for their suitability in moderate wind conditions and optimized for performance through careful adjustments of chord and twist distribution. The project used tools such as QBlade for aerodynamic simulations.