STUDY OF OCEAN WIND POWER PLANT FOR LIGHTING LOAD ON SURAMADU BRIDGE

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Abstract

In the conventional power, the use of fossil fuels as the main fuel is a significant contrast to the issues of running out backup sources of fuel is. As a consequence the demand on human about electricity, then the solution must be sought on the utilization of electricity with alternative renewable energy. One of the alternative renewable energy that currently receive adequate attention be entrepreneurs and scientists in the field of energy, is wind energy utilization to move the wind turbine to meet the needs of human about electricity. At the end of this final project will be carried out studies on the utilization of ocean wind to running the type of vertical wind turbine H-Darrieus is intended to meet the needs of lighting load on the Suramadu bridge. Wind speed data from the average lowest is 8.63 m / s obtained power of 3.72 kW for each turbine that is used to serve the lighting load of 79 kW, so the total installed turbine is 26 turbine. To anticipate the assumption of lack of wind for two hours, use a 27 of charged batteries by a turbine at 6583.33 Ah. As a final result later on, be the making of the wiring diagram in accordance with the planning of design.  

Keywords: wind energy, vertical wind turbine, Suramadu bridge