

PHOTOVOLTAIC MODULE FAILURE ANALYSIS ON 400 kWp SOLAR ELECTRIC POWER GENERATION IN GILI TRAWANGAN

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ABSTRACT

By using alternative energy sources on solar electric power generation resulting in its capability to improve, especially on the East side of Indonesia, due to its renewable and environmental friendly properties. Photovoltaic modules become the main part in this type of generation due to its conversion of solar energy to electrical energy. Additionally, some failures may occur such as the unstable temperature, packaging material failure, and the faulty absorbent layers. This thesis will discuss the analysis of photovoltaic modules' performance on 400 kWp solar electric power generation in Gili Trawangan area, which suffers from decreasing output power and operation inefficiency due to those failures. According to the study, comparing the faulty 7.13 string and the new 5.1 string, showed that the 5.1 string has much better photovoltaic module efficiency compared to the 7.13 string.

Keywords : *Solar Electric Power Generation, Photovoltaic Modules, Energy, String*