PERFORMANCE ANALYSIS OF 1.44 MWp ON-GRID PLTS PT INDORAMA TEKNOLOGIES IN OPERATION AND MAINTANCE ACTIVITIES BASED ON FUSION SOLAR SOFTWARE

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ABSTRACT

Electrical energy is an important requirement for human life which is used for household scale needs or company scale. According to the Director General of Renewable Energy and Energy Conversion (EBTKE) in 2018 data from the Ministry of Energy and Mineral Resources, fossil energy reserves are increasingly depleting. Therefore, it is important to emphasize or minimize the use of fossil energy resources. Thus, other alternative energy is needed, one of which is PLTS (Solar Power Plant). In a company-scale PLTS, it requires quite routine maintenance so that the system can operate properly and optimally. At PT Indorama Teknologies, there is a PLTS system operation which has been running since 2022 but an analysis of PLTS performance has never been carried out. For this reason, researchers carry out PLTS maintenance which is called Operation and Maintenance. This activity aims to determine the parameters of the success of the PLTS system and to find out the difference in system performance between before and after maintenance. The research method used is a quantitative approach, namely an approach that includes research proposals, processes, hypotheses, field work, data analysis, and conclusions. As a result, the Performance Ratio value is getting higher after cleaning the pv module during maintenance activities. To increase the efficiency of solar panels, you can add tools to dissipate heat on solar panels or do a cooling system and carry out Operation and Maintenance on a regular basis every two months.

Keyword: Energy, PLTS, solar panels, Operation and Maintenance, cooling systems.