

Analisis Kinerja Sistem Pembangkit Listrik Tenaga Surya *On-Grid* 234 kWp pada Atap Gedung *Recreation Hall* POH 1 PT POMI. (*Performance Analysis of 234 kWp Solar Pwer Plant System On-Grid in the Rooftop Recreation Hall Building POH 1 PT POMI*). Supervised by: Mochammad Nuruddin, ST., M.Si

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ABSTRACT

One of the sources of Renewable Energy (EBT) that can be developed in the territory of Indonesia is the availability of abundant sunlight. PLTS is a system that is able to convert solar radiation energy into electricity using photovoltaic semiconductor modules. PT POMI is currently implementing and developing a PLTS system to meet internal electrical energy needs in the Recreation Hall Building located in POH 1. The system used is On-Grid PLTS with the installation location on the roof of the Recreation Hall Building (rooftop). In this study, a performance analysis was carried out on the On-Grid PLTS with a capacity of 234 kWp on the roof of the Recreation Hall Building POH 1 PT POMI. Testing was carried out for 7 days starting at 09.00 - 15.00 WIB with a data collection time interval of 30 minutes. Based on the research that has been done, PLTS has a Performance Ratio value of 66.6%, PV efficiency of 67.36% and inverter efficiency of 97.64%. The obstacles that occur in the PLTS Recreation Hall Building are not so fatal, it's just that the surface condition of the solar panels is covered with thick dust and there are also some cracked solar panels. Efforts that can be made are to make a routine cleaning schedule to clean the surface of solar panels and make repairs (maintenance) on cracked solar panels by disconnecting the flow with other solar panels or replacing them with new ones so as not to affect system performance.

Keywords : PLTS On-Grid, PT POMI, performance analysis.