

Evaluasi Performansi Sistem Pembangkit Listrik Tenaga Surya (PLTS) On-Grid di Ash Disposal PT Paiton Operation & Maintenance Indonesia. (*Performance Evaluation of On-Grid Solar Power Generation Systems (PLTS) at Ash Disposal PT Paiton Operation & Maintenance Indonesia*) Pembimbing: Dedy Eko Rahmanto, S.T.P., M.Si.

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ABSTRACT

Electrical energy is a major requirement for life. The supply of electrical energy still depends on dwindling fossil fuels. The government encourages companies to install solar power plants. PT POMI supports the government's move by installing a 689 kWp PLTS in the Ash Disposal area. Since PLTS was built, a performance ratio analysis has never been carried out to find out the performance and constraints in PLTS operation. In this study, the performance evaluation of PT POMI's Ash Disposal PLTS was carried out based on the Guideline for Feasibility Study of Centralized PLTS and IEC 61724. Tests were carried out for 7 days from 09.00 – 15.00 with intervals of 30 minutes of data collection. Based on research that has been done, Performance Ratio is 61.9%, solar panel efficiency is 10.38%, inverter efficiency is 99.18%. During the observation, there were problems with inverter 10 which was having problems, solar panel cracks, dust (dirt) and lots of shading in the PLTS area. Ways that can be done to improve performance include pruning trees, repairing cracked solar panels, carrying out routine maintenance, repairing inverter 10 which is experiencing data display problems.

Keywords: PLTS, solar panels, performance