Perhitungan Keandalan Pembangkit Listrik Menggunakan Aplikasi Visual Studio 2019
(Studi Kasus Perum Jasa Tirta II Unit PLTA Ir. H. Djuanda)

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ABSTRACT

Reliability can be interpreted as the probability of operating equipment following its function for a certain period. The power plant can be said to have good reliability if the power plant can provide electricity at any time or does not often go out. Meanwhile, the power plant knows how to be said to have poor reliability if the energy availability level is low or the power plant does not operate frequently. In obtaining reliability by the standard, it is necessary to evaluate the power plant. The power plant's reliability can be seen based on the index of the LOLP (Loss Of Load Probability) or the load loss probability of the power plant. The standard set by PLN for LOLP is three days/year for the Java and Bali regions. The research was conducted using generator operating data for one year in 2018 and 2019, and the LOLP calculation uses two calculation methods, namely Ms Excel and the program in Visual Studio 2019. In 2018, LOLP from PLTA (Hydro Power Plant) Ir. H. Djuanda was 0.150474074192051 days/year based on calculations using Ms. Excel and calculations using the visual studio application is 0.15363674551468676 days/year. Meanwhile, for the year 2019 to produce LOLP from PLTA (Hydro Power Plant) Ir. H. Djuanda is 0.0274674812890814 days/year based on calculations using Ms. Excel and 0.027467481288726225 days/year based on calculations using the visual studio application. The results obtained do not exceed the PLN standard, namely three days/year, in other words in 2018 and 2019 PLTA Ir. H. Djuanda has an adequate level of reliability.

Keywords: Reliability, LOLP (Loss Of Load Probability), Hydro Power Plant, visual studio