

## ABSTRACT

*This research discusses the value of the power link budget and rise time budget on the fiber optic transport network using technology Dense Wavelength Division Multiplexing on the Tanjung Priok - Bekasi section which often experiences transmission problems. The research process begins with determining the location for analysis. The author chose North Jakarta WITEL as the research location, precisely on the Tanjung Priok – Bekasi section. After determining the research location, then collecting data on the DWDM backbone Tanjung Priok – Bekasi. The data collected in the form of the main network topology, distance between STOs, cables used, specifications interface, and parameters power link budget and rise time budget. Next, make 2 alternative routes and calculate the power link budget and rise time budget by referring to the ITU-T recommendation. The results of the calculation Power Link Budget show the value receiver the power of alternative line 1 is*

*-14.92dBm and -13.28dBm and alternative line 2 is -17.6dBm and -13.23dBm. So the two alternative paths have met the standard link budget set by SFP-LX with a minimum receiver power of -20dBm and a maximum receiver power of -3dBm. For value rise time alternative line system 1 is 57.25ps and 56.059ps and for alternative line 2 is 59.808ps and 56.059ps the value does not exceed the value rise time device of 70ps. Then the signal of the two paths to the optical detector can be received properly. So the two routes are feasible and can be used as alternative routes on the Tanjung Priok - Bekasi section because of the power link budget and rise time the budget is up to standard.*

*Keywords: DWDM (Dense Wavelength Division Multiplexing), Power Link Budget, Rise Time Budget*