ABSTRACT

DWDM (Dense Wavelength Division Multiplexing) technology is the latest technology in telecommunication with the media of optical fiber cable. One that have been develop by PT. Telkom is optical fiber network with DWDM technology that is used as HPBB (High Performance Back Bone) in Sumatra. Basically DWDM is considered as a group of optical channel that each of it is using different light wavelength, but all of them using the same optical fiber. The solution of this technology is able to improve the capacity of existing network and improve the quality without needing any expenses for further cable cultivation, and significantly able to reduce the cost of network improvement.

This Final Project identify the implementation pattern of Siemens DWDM transport network as HPBB network in Sumatra with all its insufficiency and advantages compared to the previous technology and the next implementation of optical fiber technology.

Based on trouble data obtained, needed a solution to increase the system mainstay. One of the solution able to be given by changing or replacing repeater position by applying WL - System Or WLS - System, depend on requirement of each link. Based on the energy calculation (Power Link Budget) analyse result each link, in reality by applying WL - System Or WLS - System can less the loss that happened at optical fibre so that energy accepted can be better.