ABSTRAK

Penelitian ini berfokus pada Perencanaan *Fiber and Microwave Backup Link* untuk Komunikasi *Point-to-Point*, perencanaan pada jaringan *microwave* yaitu mulai dari pengumpulan data, *survey* lokasi, pengecekan sarana penunjang, penentuan *coverage*, pencarian penempatan lokasi antena, penentuan *Line Of Sight* (LOS), alokasi penggunaan frekuensi, sampai proses simulasi, dan perencanaan untuk jaringan *fiber link* yaitu mulai dari pengecekan sarana penunjang, penentuan lokasi jointing terdekat, dan penentuan jalur kabel serta menganalisis hasil pengukuran *power link budget fiber* dan *microwave* yang akan dibandingkan dengan hasil perhitungan. Hasil keseluruhan yang didapat dari perencanaan *fiber and microwave link* yaitu memiliki nilai *power link budget microwave* yang bagus (dan untuk nilai *power link budget fiber* sudah sesuai dengan standar *link* (. Berdasarkan hasil perencanaan didapatkan bahwa link utamanya yaitu menggunakan *fiber* dan *microwave* hanya berfungsi sebagai *backup* jaringan jika sewaktu-waktu jaringan *fiber* mengalami gangguan. Jaringan *microwave* digunakan hanya sebagai *backup* jaringan karena jaringan *fiber* memiliki redaman lebih kecil sehingga daya yang diterima di *receiver* menjadi lebih besar, jaringan *fiber* dapat mengirimkan informasi data dengan cepat dibandingkan dengan *microwave*, jaringan *fiber* memiliki *bandwith* yang lebih besar, dan bebas interferensi gelombang radio. Dari hasil keseluruhan, perencanaan *fiber and microwave backup link* untuk komunikasi *point-to-point* sudah memenuhi standar dan dapat di implementasikan.

Kata kunci: *Backup Link, Fiber Optic*, *Microwave, Line Of Sight*, *Power Link Budget.*

ABSTRACT

This study focusing on Planning Fiber And Microwave Backup Link to communication Poin-to-Point. Planning microwave the start of the data collection, the survey of the location, checking the means supporting, determining coverage, the search placement of the location antennas, determining Line of Sight (LOS), allocation rhe use of the frequency until the process of simulation and to fiber link is the star of the checking the means supporting, determining the location jointing nearby,and the determination of a cable as welll as to analyse the results of a measurement power link budget fiber and microwave that will be compared with the results of calculation. The overall results obtained from the planning of the fiber and microwave links that have a value of power link budget a microwave good (and for the value of the power link budget of fiber are in accordance with standard link (. Based on the results obtained planning that link the main use of fiber and microwave only serves as a backup network if at any time the fiber network is experiencing interference. The network microwave is only used as a backup network because the network is fiber has the attenuation is small so that the received power at the receiver becomes larger, the fiber network can transmit information and data quickly compared with the microwave network, fiber has greater bandwidth, and interference free radio waves. From the overall results, the planning of the fiber and microwave backup link for communication point-to-point to meet the standard and can be implemented.

Key word: Backup Link, Fiber Optic, Microwave, Line Of Sight, Power Link Budget.