

## ABSTRACT

Along with the increasing of population and communication's necessity in East Indonesia, so it is important to develop microwave digital radio system in this area. But based on the long term plan of PT. TELKOM, there is no expansion of microwave digital network. Because of that reason, it is necessary to increase the canal capacity and performance of microwave digital radio in Nusa Tenggara.

In this final project, it will be analyzed the rehabilitation's advisability of microwave digital link Pagal-Kupang to increase capacity and performance after changed from PDH to SDH. The parameters counted are power link budget and performance radio signal such as C/N, Eb/No, BER and availability system.

From this analysis it can be known that there is increasing of capacity from 63 E1 to 189 E1. Beside that, the performance of radio GMD in Nusa Tenggara is better than before. This is pointed by the value of BER from  $2 \times 10^{-3}$  to  $1,9 \times 10^{-4}$ . So, it can be concluded that the rehabilitation's advisability of microwave digital link Pagal-Kupang from PDH to SDH can increase the capacity and performance with availability propagation 99.9875 %.