ABSTRACT

Forward with technological advances that are very instrumental in carrying out activities in various domains. Advances in technology such as cellular communication are used by users to communicate. PT. PLN (Persero) UP3 Bandung conducts metering which is one of the important components to measure the amount of power used by customers in kWh units, which is done based on Automatic Meter Reading (AMR) using cellular communication. This research will analyze the design of communication optimization on GPRS (General Packet Radio Service) networks for customers based on Automatic Meter Reading (AMR) at PT. PLN (Persero) UP3 Bandung with the type of problems in the communication system, namely Init Modem / Fail, Connect, and Login Time Out.

PT. PLN (Persero) UP3 Bandung needs a stable network in any condition in conducting metering using AMICON website. The design of AMR system communication network optimization in this Final Project research focuses on the aspect of coverage planning, by proposing physical tuning scenarios on the three types of communication problems.

In the design that is done using software that helps in the design and optimization of the network at the outdoor location of customers that support the optimization of the cellular communication network. The optimization results obtained for the RxLev parameter on the Init Modem / Fail problem of -74.91 dBm, which in the existing conditions obtained -91.69 dBm. Furthermore, the problem Connect obtained optimization result of-73.72 dBm, which before the optimization obtained value -89.44 dBm. And for the problem of Login Time Out, get an optimization value of-74.72 dBm, whereas before the optimization obtained value-94.14 dBm. For the RxQual parameter for each AMR communication system problem, a value of 1 is obtained in the existing conditions, as well as the GPRS network optimization results. Furthermore, the Throughput parameter increases in value after GPRS network optimization is done with the Init Modem / Fail problem, worth 21 kbps with 19 kbps before optimization is performed. In the Connect and Login Time Out problems, the Throughput value remains at 20 kbps in conditions after and before optimization.

Keywords: AMR System, GPRS Network, Coverage Planning.