

## **ABSTRACT**

Electrical energy is a very important thing for Telkom Polytechnic in implementing all activities. The use of electrical energy at the Telkom Polytechnic is not efficient yet, therefore, Telkom Polytechnic applies the technology of Energy Management System (EMS) to save the electricity. By using this EMS technology, the cost of electricity usage could drop until 10%. However, the control of electricity can not be changed as needed, and there are no process like remote monitoring and controlling the use of electricity. Therefore, in this study will be designed a flexible application system. In this case, the electrical energy usage is limited to AC (Air Conditioner). The title of this research is the “Design of Supervisory Control And Data Acquisition (SCADA) System Equipped With SMS Gateway System For Monitoring and Controlling The Use of Air Conditioner (AC) In Telkom Polytechnic Building 1<sup>st</sup> Floor”.

The design of the system that created is equipped with SMS gateway system for monitoring and controlling the use of 43 AC (Air Conditioner) from a distance in real time condition, and more flexible, since the usage time of AC (Air Conditioner) can be modified as desired, and there are alarms and databases as a conduit of information and a place to store all the events that occurred in the system.

Based on the result of the design and analysis of research that has been done, then the conclusion that the Supervisory Control And Data Acquisition (SCADA) system has been successfully accessed by the SMS gateway to do the controlling, and monitoring the use of AC (Air Conditioner) from a distance in real time condition.

Key words: Automation, SMS Gateway, SCADA, HMI, PLC