## **Abstract**

The needs of the electrical energy that increase continuously every year in Indonesia and many of the development of industrial development in order to improve the economy of Indonesia. Therefore the government should be better in the electricity distribution system to consumers both the public and the industry in SUTT 150kV.

In the distribution of electricity transmission network is in the pipe from the power plants to customers have lost power caused some disorders that occur on the transmission channels. With more length conductor make power compensation be greater. So the purpose of this research is to calculate the power is lost in the transmission channel SUTT 150kV. The counting done the highest power compensation and compensation transmission power. The highest voltage fall is Saguling Baloi path to Saguling great stone of 0.175 % and add with existing transmission on the moon february 2016 of 303,380.33 KWh so that if in rupiah Rp 390,450,484.71. So from the final conclusion that Add with existing happens in Batam continued to fall to 1 % in vulnerable time 1 years.

**Key Words**: power compensation