ABSTRAK

The most crucial energy in life is electrical energy, because electricity has become a major requirement for the people in the world especially the Indonesian people. It requires the scientists to develop other energy sources that do not depend on fossil energy but also very kind for our environment. As long as it is known that vibration is one of the most energy sources are not exploited and disappear just like that all around us. Based on it, it appeared the idea to harvest energy from the vibration that occurs in vibration equipments.

In this final project, do the testing of vibration energy harvesting mechanism and theoretical calculations about the magnitude of voltage generation by varying the coil length and diameter of the wire on the specimen and the amplitude variations in the power generating mechanism. The quantity of electricity generated voltage is measured using a digital oscilloscope and the results were compared with the voltage that can be raised from the calculation.

From this final project, generation voltage data obtained from the vibration energy harvesting mechanism. The largest voltage generation in theory and testing occurs at the time of the harvesting using the power generating mechanism with a long coil of 12 mm, wire diameter 0.08 mm, 14 mm amplitude that is equal to 16.56 volts for theory of the test and 15.31 volts. Where
as the lowest results in length of coil 24 mm, diameter of coil 0.15 mm and amplitude 10 mm that is equal to 5.26 volts for theory and 2.57 volts for the test.

**Keywords:** Mechanism of vibration energy harvesting, electromagnetic method, harmonic translation, coil length, coil diameter, amplitude, energy, renewable energy.