

# ***ELECTRICAL INSTALLATION DESIGN OF AGRICULTURE PARK BUILDING***

**Andi Pandedi**

*Electrical Engineering Study Program, Faculty of Science & Technology  
University of Technology Yogyakarta  
Jl. Ringroad Utara Jombor Sleman Yogyakarta  
E-mail : [fachrikatee@gmail.com](mailto:fachrikatee@gmail.com)*

## **ABSTRACT**

*The Agriculture Park building is a building that functions as an agricultural park office. To meet the distribution of electricity in the building, electrical installations are designed such as lighting installations, sockets, air conditioners, hydrant pumps, water pumps, and lifts. In order to meet the standards of security, comfort and tranquility for the residents of the Agriculture Park building, it is necessary to design effectively in accordance with the Indonesian National Standard (SNI) and General Electrical Installation Requirements (PUIL) 2011. The design of electrical installations aims to determine the total installed load, capacitor bank capacity, calculate the basic electricity tariff, determine the capacity of the transformer and generator used. After designing electrical installations, as well as calculating the total active power requirement in the Agriculture Park building, the results of the calculations designed show the total installed active power of 205.91 kW and apparent power of 258.87 kVA with an initial power factor of 0.8. In an effort to improve the power factor to 0.9, the capacitor bank is installed with a capacity of 57.31 kVAR so that the total power after repair is 228.74 kVA. Based on the calculation of the total load after improving the power factor, the capacity of the generator and transformer to be installed is 400 kVA.*

**Keywords:** *Electrical installation, Power Factor Improvement, Active Power, Apparent Power, Electrical Distribution*