Design of an Electrical Supply System for a Military Machinery Factory

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***Abstract*—This thesis presents the design of an electrical supply system for a military machinery factory. The design includes load calculations, high and low voltage network design, lighting design, and equipment selection. The author used standard Vietnamese and international standards to ensure the system meets technical, safety, aesthetic, and economic requirements. The design process involved detailed calculations and the use of software tools such as Visio for power network design, Excel for lighting calculations, and AutoCAD Electrical for electrical cabinet design. The author successfully completed the design of the electrical supply system, ensuring it adhered to the required standards and specifications.**

***Index Terms*—electrical supply system, military machinery factory, load calculation, high voltage network, low voltage network**

I. Introduction

The thesis focuses on the design of an electrical supply system for a military machinery factory. The author conducted load calculations, designed high and low voltage networks, and selected appropriate equipment. The project was completed in 2021 and adhered to Vietnamese and international standards. The design process involved detailed calculations and the use of software tools such as Visio for power network design, Excel for lighting calculations, and AutoCAD Electrical for electrical cabinet design. The author used standard Vietnamese and international standards to ensure the system's reliability and safety. The design process was successful in meeting the technical requirements of the factory [1].

II. Methods

The author used load calculations, high and low voltage network design, lighting design, and equipment selection based on Vietnamese and international standards. The design process involved detailed calculations and the use of software tools such as Visio for power network design, Excel for lighting calculations, and AutoCAD Electrical for electrical cabinet design. The author conducted load calculations to determine the power requirements of the factory. High and low voltage networks were designed to ensure the system's reliability and safety. Lighting design was performed using Excel to calculate the necessary lighting levels. Equipment selection was based on the calculated load and the standards provided by the manufacturer. The design process was successful in meeting the technical requirements of the factory [1].

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III. Results

The design process resulted in the selection of appropriate equipment and the creation of detailed electrical diagrams for the factory. The author ensured that the system met technical, safety, aesthetic, and economic requirements. The design included the selection of appropriate high and low voltage cables, lighting fixtures, and electrical cabinets. The author used standard Vietnamese and international standards to ensure the system's reliability and safety. The design process was successful in meeting the technical requirements of the factory [1].

IV. Discussion

The design process was successful in meeting the technical requirements of the factory. The author used standard Vietnamese and international standards to ensure the system's reliability and safety. The use of software tools improved the accuracy and efficiency of the design process. The design process provided valuable experience and knowledge for the author in the field of electrical supply system design. The author successfully completed the design of the electrical supply system, ensuring it adhered to the required standards and specifications [1].

V. Conclusion

The thesis successfully designed an electrical supply system for a military machinery factory. The author completed the project within the specified time frame and adhered to the required standards. The design process provided valuable experience and knowledge for the author in the field of electrical supply system design. The author successfully completed the design of the electrical supply system, ensuring it adhered to the required standards and specifications [1].

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