Design of an Electrical Supply System for a Mechanical Workshop and the Entire Factory Z.128

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***Abstract*—This thesis presents the design of an electrical supply system for a mechanical workshop and the entire factory Z.128. The author conducted load calculations for the mechanical workshop and the entire company, designed high and low voltage power networks, selected electrical equipment, and calculated the improvement of power factor. The design also included the implementation of lightning protection systems and lighting. The author used international and Vietnamese standards to ensure technical, safety, aesthetic, and economic requirements. The design process involved detailed calculations and the use of AutoCAD 2007 for the power supply network design. The author did not conduct any field tests or installations, and the design was based on theoretical calculations and standards.**

***Index Terms*—electrical supply system, load calculation, lightning protection, power factor, AutoCAD, mechanical workshop**

I. Introduction

The thesis focuses on the design of an electrical supply system for the mechanical workshop and the entire factory Z.128. The author conducted load calculations for the mechanical workshop and the entire company, designed the power supply network, selected appropriate equipment, and calculated the improvement of the power factor. The design also included the implementation of lightning protection systems and lighting design. The author used international and Vietnamese standards to ensure technical, safety, aesthetic, and economic requirements. The design process involved detailed calculations and the use of AutoCAD 2007 for the power supply network design. The author did not conduct any field tests or installations, and the design was based on theoretical calculations and standards [1].

II. Methods

The author used load calculations, design of high and low voltage power networks, selection of electrical equipment, and calculation of power factor improvement. The design was based on international and Vietnamese standards. The author also utilized AutoCAD 2007 for the design of the power supply network. The design process involved detailed calculations and the use of AutoCAD 2007 for the power supply network design. The author did not conduct any field tests or installations, and the design was based on theoretical calculations and standards [1].

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III. Results

The thesis includes the design of the electrical supply system for the mechanical workshop and the entire factory Z.128. The author calculated the load for the mechanical workshop and the entire company, designed the high and low voltage power networks, selected appropriate equipment, and calculated the improvement of the power factor. The design also included the implementation of lightning protection systems and lighting design. The author used AutoCAD 2007 for the design of the power supply network. The author did not conduct any field tests or installations, and the design was based on theoretical calculations and standards [1].

IV. Discussion

The design of the electrical supply system for the mechanical workshop and the entire factory Z.128 was based on the author's calculations and the use of international and Vietnamese standards. The author used AutoCAD 2007 for the design of the power supply network. The design ensures technical, safety, aesthetic, and economic requirements. The author did not conduct any field tests or installations, and the design was based on theoretical calculations and standards [1].

V. Conclusion

The thesis successfully designed an electrical supply system for the mechanical workshop and the entire factory Z.128. The author ensured that the design met the technical, safety, aesthetic, and economic requirements. The use of AutoCAD 2007 for the design of the power supply network provided the author with valuable experience and knowledge. The author did not conduct any field tests or installations, and the design was based on theoretical calculations and standards [1].

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