

Middle East Technical University

Electrical & Electronics Engineering Department

EE463 – Static Power Conversion I

Hardware Project

Complete Simulation Report

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Başak Koca

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# **Introduction**

# **Problem Definition**

# **Possible Topologies for Solution**

## **Single Phase Thyristor Rectifier**

## **Three Phase Thyristor Rectifier**

## **Three Phase Diode Rectifier and Buck Converter**

# **Topology Selection and Reasoning**

# **Simulations of Selected Topology**

## **Three Phase Diode Rectifier Simulation**

## **Buck Converter Simulation**

## **Three Phase Diode Rectifier and Buck Converter Simulation**

# **Simulation of Controller**

# **Component Selection**

# **Thermal Analysis**

# **Conclusion**

# **References**