

HIGHER TECHNICAL INSTITUTE

ELECTRICAL ENGINEERING COURSE

DIPLOMA PROJECT

OPTIMISATION OF A POWER

DISTRIBUTION SYSTEM

E / 1042

DEMETRIS TSANGARIDES

JUNE 1996

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# **OPTIMISATION OF A POWER DISTRIBUTION SYSTEM**

by

**DEMETRIS TSANGARIDES**

E. 1042

## **Project Report**

submitted to the department  
of Electrical Engineering  
of the Higher Technical Institute  
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in partial fulfillment of the requirements  
for the Diploma of

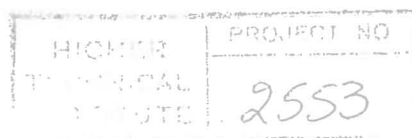
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Project Supervisor : Mr Ch. Chrysafiades



## TABLE OF CONTENTS

**\* Acknowledgements**

**\* Summary**

**\* Chapter A : THE POWER SYSTEM**

A.1	Introduction to Power Systems	1
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**\* Chapter B : DISTRIBUTION SYSTEMS**

B.1	Introduction to Distribution Systems	3
B.2	Overhead lines/Underground cables	4
B.3	Transformers	7
B.4	Switchgear/Protection	12
B.5	Voltage Regulation and Power Factor improvement	15
B.5.1	Switched Capacitors	17
B.5.2	Voltage Regulators	20
B.5.3	Combination of Capacitors and Voltage Regulators	23

**\* Chapter C : THE LOAD-FLOW THEORY**

C.1	Introduction to Load-flow	24
C.2	The Per-unit System	26
C.3	The use of digital computers	27
C.4	Parameter representation	28

**\* Chapter D : THE LARNACA DISTRIBUTION SYSTEM**

D.1	Configuration of the system	29
D.2	The actual Larnaca Distribution System	32

**\* Chapter E : CONCLUSIONS AND RECOMENDATIONS**

E.1      Summary of results,conclusions and recomendations      34

**\* Chapter F : APPENDICES**

Appendix A-Base case  
Appendix B-Optimum case  
Appendix C  
Appendix D-Base case  
Appendix E-Optimum case

**\* References**

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Demetris Tsangarides

## Summary

### Optimisation of a Power Distribution System

by

Demetris Tsangarides

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The main objective of this project is to get acquainted with a Power Distribution System in general and computer methods that are used in this field. In particular, the project examines Larnaca's Distribution System. This text studies the present system, brings it to its optimum operation state and locates the position(s) where capacitors and voltage regulators have to be installed in order to raise the voltages (of a completely different line), using load flow techniques and technoeconomical criteria. The system is analysed using the Power System Analysis program available at the Electricity Authority of Cyprus.

The realisation of this project necessitated grouping the Larnaca substations' and their individual loads, forming a file in the format demanded by the Power System Analysis program at the Authority and running this program on an IBM Compatible PC.