HIGHER TECHNICAL INSTITUTE
NICOSIA - CYPRUS

ELECTRICAL ENGINEERING COURSE

DIPLOMA PROJECT

TRANSIENT STABILITY ANALYSIS OF A POWER SYSTEM

E / 800

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JUNE 1992

ACKNOWLEDGEMENTS

First I would like to express my thanks to the Electricity Authority of Cyprus who gave me the opportunity to work in their Computer Center.

I would like to express my sincere thanks and appreciation to my project external assessors for their quidance, assistance and great help given to me throughout the project period

Mr. TH. HADJICOSTAS

Mr. S. S. PAPHITES

I also would like to express my appreciation for the valuable advice afforded to me by my supervisor, lecturer in Electrical Engineering Department in H.T.I.

Mr. Ch. CHRYSAFIADES

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JUNE 1992

S U M M A R Y

Planning the operation, improvement and expansion of power system requires studies of the stability of the system and protection against lightning and switching surges and against short circuits.

Interconnection of systems increases the amount of current which flows when a short circuit occurs on a system and breakers are required, able to interrupt large current. The disturbance caused by a short circuit on one system may spread to interconnected systems and instability results to all of the system unless proper relays and circuit breakers are provided at the point of interconnection.

The main purpose of this work is to conduct transient stability studies on VAX computer to determine the appropriate minimum relay operation times under fault conditions on the E.A.C. transmission system. By controlling the switching operation and the sequence of fault, swing curves of machines were plotted on common axis and conclusions were drawn, on the stability of E.A.C. transmission system. The examination was carried out under 1.00 sec time period study and during this time it was obvious when the system was stable or unstable.

C O N T E N T S