

# LIGHTNING PROTECTION OF POWER SYSTEMS

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## SUMMARY

The efforts of this project is directed solely at understanding and enhancing the protection of power systems against lightning surges. Though the problem of overvoltage surges on power systems come from various sources, lightning surges form the main topic in this text, but a few references to switching surges were made because of some technical similarities and even overlap in some cases.

The approach followed in this project is one of first understanding the phenomenon of lightning, investigating existing solutions and then examination and analysis of a practical case to which references and improvements were suggested. The practical case under investigation is the lightning protection policy currently followed by the Electricity Authority of Cyprus.

Bear in mind however that solutions to the problem is not easy to come by, because given the mysterious nature of the phenomenon, guaranteed solutions can only be obtained after the proposed solution is put into practice. With this in mind, some of the proposed improvements and suggestions were drawn from the EAC engineers who with their vast experience are best placed to make suggestions.

It is therefore hoped that this project will not only provide useful reference to the EAC but will also contribute to the quest for protection of power systems against this mysterious phenomenon.

## OBJECTIVES

1. To study the various problems produced by lightning strokes.
2. To study the various methods of dealing with problems

produced by lightning.

3. To evaluate the extent of damage caused in the grid system.
4. To make recommendations for improved protection methods.

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