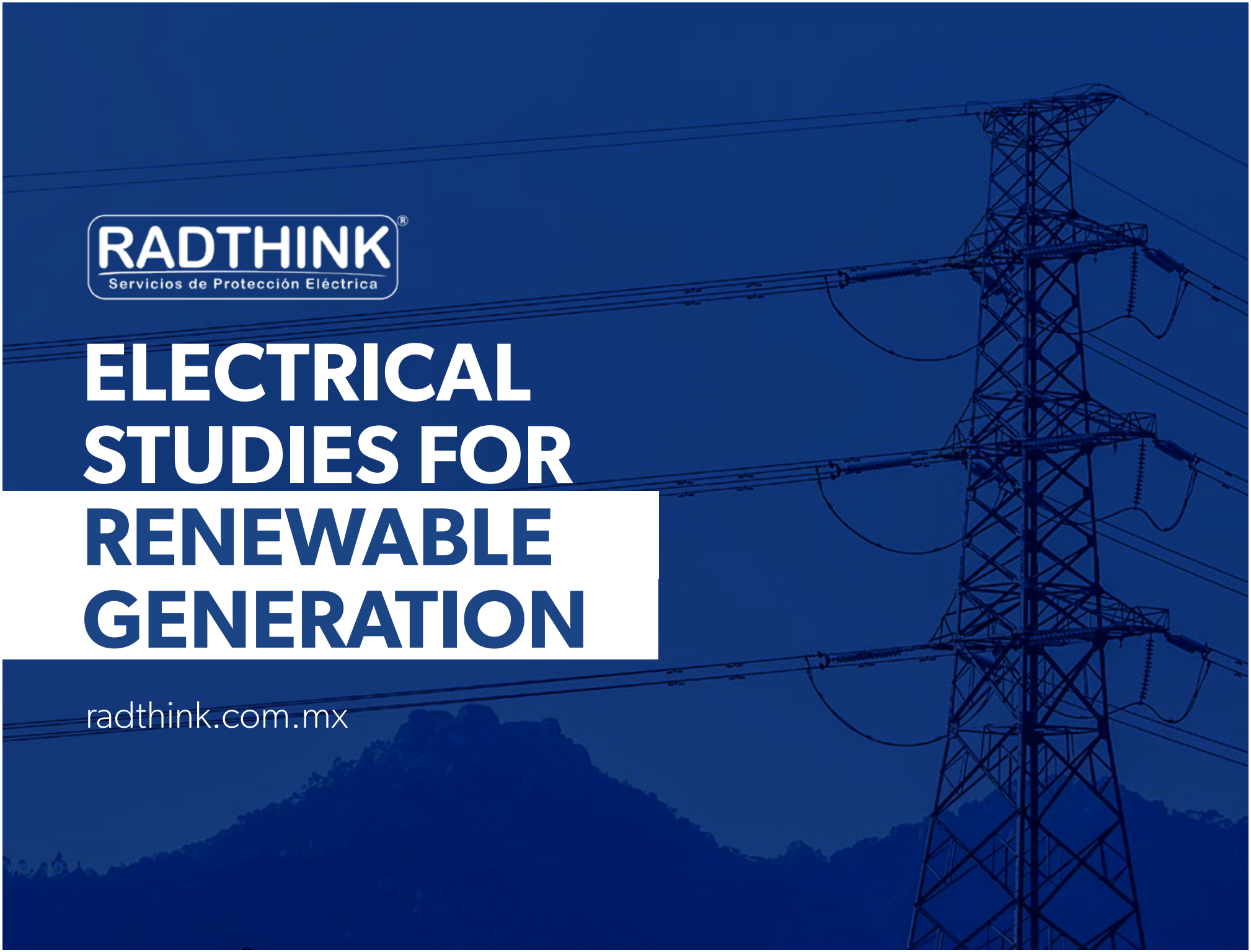

ELECTRICAL STUDIES FOR RENEWABLE GENERATION

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ELECTRICAL STUDIES FOR RENEWABLE GENERATION PLANTS

To start operations, a renewable generation system that is connected to the National Electric System, it is necessary to carry out evaluation studies of compliance with the Grid Code.

Fig. 1 Renewable Generation Plant

THEORETICAL STUDIES

Load flow and power factor, IEEE-399 standard.

- Specification of the equipment required to comply with the power factor requirement.

Power quality, IEEE-519 standard.

- Specification of the equipment required to comply with the power quality requirement.

Short circuit, ANSI and IEC standards.

- Calculation of short-circuit fault levels and evaluation of interrupting capacities of circuit breakers.

Coordination of protections, IEEE-242 standard.

- Evaluation of protection schemes and overcurrent protections coordination study.

High voltage and transmission lines protection.

- Calculation of settings for transformer differential protections, voltage and frequency.
- Calculation of settings for directional overcurrent, distance and line differential protections.

STUDIES OF COMPLIANCE WITH THE GRID CODE

Evaluation of the Grid Code from electrical measurements with class A meters for the following variables:

- Voltage.
- Frequency.
- Power Factor.
- Power quality.

ETAP SOLUTION PROVIDER

RADTHINK is recognized as an **ETAP Solution Provider**. It is awarded by the ETAP brand to engineering firms that have staff with the skills, knowledge, and resources to develop electrical engineering solutions using ETAP analysis software.

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POWER QUALITY METERS

We use **DRANETZ** brand Class A power quality meters. Class A meters record all electrical variables cycle by cycle and can graph in 5-minute format, where the maximum, average and minimum value of the variable is shown every five minutes of the measured period.


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