1.0 PROTECTIVE RELAY COORDINATION STUDIES

1.1 OBJECTIVES

A protective coordination studies for industrial systems have the objective of defining the behavior of the electrical protection system for:

1. Allow startup and full load operation of protected elements.
2. Disconnect in the "minimum" time possible a circuit or element in which a short circuit fault has developed and thus prevent the fault from spreading to other elements.

The studies are developed by engineers with proven experience in the field of industrial systems protection.

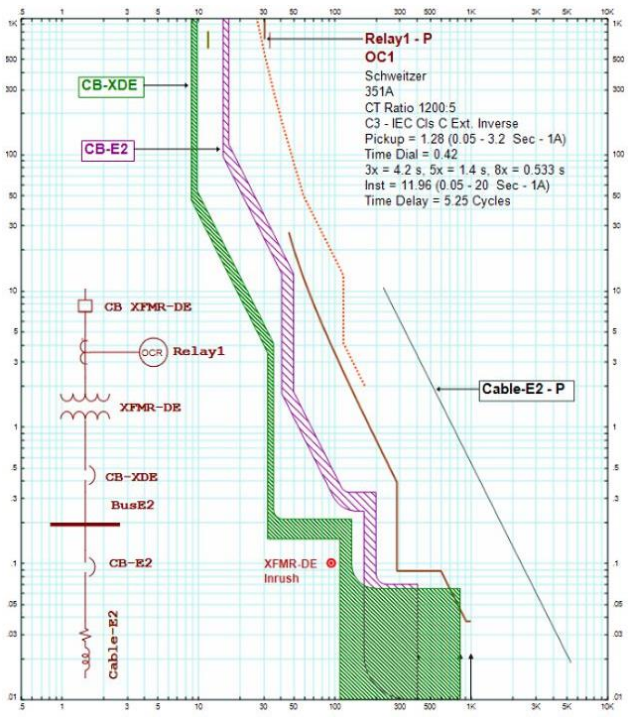

Fig.1 Coordination sheet

1.2 ELEMENTS SUPERVISED BY THE PROTECTIONS

Power transformers, feeder cables, motors, variable frequency drives, capacitors, medium and low voltage distribution switchboards, medium and low voltage motor control centers.

1.3 ELEMENTS OF THE PROTECTION AND INTERRUPTION SYSTEM

- Overcurrent relays.
- Transformer differential protection relays.
- Bus differential protection relays.
- Arc Flash Protection Relays.
- Motor protection relays.
- Transformer fuses.
- Fuses in medium voltage starters.
- Low voltage circuit breakers with trip unit.
- Thermal magnetic circuit breakers.

2.0 DEVELOPMENT OF THE STUDY

The report of the protection coordination study is integrated as follows:

- Cover page
- Index
- Thecnical memory
- Protection element settings table.
- Short circuit study.
- Coordination sheets.
- Conclusions and recommendations.

3.0 COORDINATION SHEETS

It is the graphic representation of the behavior of the protection and interruption elements and the protected elements, which are within a protection zone.

4.0 ANALYSIS SOFTWARE

- **ETAP Ver 19.5**
- **Reference Standards IEEE, ANSI, IEC.**

etap Powering Success
SOLUTION PROVIDER
SP-16-02 REGISTERED

5.0 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 offer electrical engineering solutions using ETAP analysis software.