

**GENERAL:**

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The scope of this document is to provide requirements for a low voltage (600 volts and below) overcurrent protective device coordination studies and documentation.

**DESIGN GUIDELINES:**

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1. A low voltage coordination study shall be provided for projects installing electrical overcurrent protective devices. The study shall include maximum short circuit calculations, coordination analysis, and settings for all protective devices with adjustable set points. The protective device settings must address the need to minimize arc flash hazards while maintaining proper coordination. The coordination study shall be based on the specific devices installed and include (but not be limited to) the following:
  - 1.1. Service Entrance Equipment.
    - 1.1.1. All overcurrent protective devices installed in service entrance panels.
  - 1.2. Feeder Circuits.
    - 1.2.1. All three (3) phase Feeder circuit overcurrent protective devices installed with a rating equal to or greater than 30 amps.
  - 1.3. Branch Circuits.
    - 1.3.1. All three (3) phase Branch circuit overcurrent protective devices installed with a rating equal to or greater than 30 amps.
    - 1.3.2. All motor circuit overcurrent protective devices for motors with a rating equal to or greater than 10 horse power.
  - 1.4. Motor Control Centers
    - 1.4.1 All motor circuit overcurrent protective devices for motors with a rating equal to or greater than 10 horse power.
2. Format
  - 2.1. The preliminary coordination study should be submitted to the Owner's Representative no later than six (6) weeks after overcurrent protective device shop drawings have been approved.
  - 2.2. The coordination study shall be reviewed and updated to reflect any changes within one week of the final electrical walk through for punchlist. The low voltage coordination study shall include the stamp or seal and signature of the preparing engineer, and shall be reviewed and approved by the Engineer of Record.
  - 2.3. A complete set of manufacturers' descriptive literature and detailed instructions for adjusting overcurrent protective devices shall be provided to the Owner's Representative within six (6) weeks after overcurrent protective device shop drawings have been approved.

- 2.4. The low voltage coordination study shall be provided using the SKM Systems Analysis, Inc SKM Power Tools Electrical Engineering Software (PTW 32).
- 2.5. Prior to project completion, the low voltage coordination study shall be provided in both hard copy and on computer disk. The hard copy shall include time current curves (for phase and ground fault settings) for each panel and the corresponding TCC report clearly showing each device set point (see attached example TCC and TCC report). The computer disk shall include the complete coordination file including all device curves (use the SKM "Project - Backup" command).