PG&E Electrical Specifications Manual

Section 1: General Requirements

All electrical installations shall comply with:
- GO 95 (General Order 95) - Rules for overhead electric line construction
- GO 128 - Rules for underground electric supply
- CPUC regulations for utility infrastructure
- ANSI C37.60 for high-voltage equipment
- IEEE 1547 for interconnection standards
- NEC Article 250 for grounding requirements
- NESC standards for clearances

Section 2: Equipment Standards

2.1 Insulators
- 12kV insulators must meet ANSI C29.1 standards
- Minimum creepage distance: 10 inches
- Material: Porcelain or polymer composite

2.2 Conductors
- 336.4 MCM AAC for primary distribution
- 4/0 ACSR for secondary lines
- Minimum clearance: 8 feet from structures

2.3 Transformers
- Single-phase units: 10kVA to 167kVA
- Three-phase units: 30kVA to 750kVA
- Must comply with IEEE C57.12.00

Section 3: Installation Requirements

3.1 Pole Installation
- Grade B construction required for highway crossings
- Minimum pole depth: 10% of pole length plus 2 feet
- Crossarm height: minimum 25 feet from ground

3.2 Underground Installation
- Trench depth: 48 inches for primary conduit
- 36 inches for secondary conduit
- Warning tape at 12 inches below grade

3.3 Clearances (per GO 95)
- Vertical clearance over roads: 18 feet minimum

- Horizontal clearance from buildings: 7.5 feet
- Phase-to-phase spacing: 12 inches at 12kV

Section 4: Testing Requirements

4.1 Insulation Testing
- Megger test at 5000V for cable insulation
- Minimum resistance: 100 megohms

4.2 Grounding Tests
- Ground resistance not to exceed 25 ohms
- Annual testing required