

# PJM Philosophy Document

- This document supplements M07
  - M07 contains minimum design standards and requirements for protection systems within PJM
- This document provides recommendations, background and philosophy on relay protection that is not available in M07
- M07 was developed from this document in 2012

# Latest Revision

- Identical text present in M07 was removed from latest Philosophy revision.
  - Only providing the supplemental information (background, philosophy, recommendations)
- Requirements are listed in M07

# Section 1 - Introduction

## Previously

- ...this document presents the minimum design guidelines and recommended design philosophy for the protection systems associated with bulk power facilities within PJM

## This Revision

- This document provides recommendations, background and philosophy on relay protection that is not available in M07

# Section 2 - Philosophy

This section presents:

- Philosophy on design objectives and criteria
- Equipment and recording considerations
  
- Section not in M07
- Minor changes

# Refer to M07

## These Sections had text identical to M07

- Sections 4 & 5 - Unit Power & Aux Transformer & Leads
- Section 6 – Start-up Station Service Trans & Leads
- Section 11 – Shunt Capacitor Protection
- Section 13 – Phase Angle Regulator Protection
- Section 17 – Special Protection Schemes
- Appendix I (E in M07) - Accepted PJM Bulk Power 3 Terminal Line Applications

**Text in these Sections removed and the following statement added:**

**Refer to M07. No supplementary information available**

# Sections nearly Identical

## These Sections had text nearly identical to M07

- Section 9 – Bus Protection
- Section 16 – Underfrequency Load Shed
- Appendix A – Use of Dual Trip Coils

**Only a sentence or two of additional text**

# Sections only in Philosophy Doc

- Appendix B – Disturbance Monitoring Equip
- Appendix D - Tapping of Bulk Power Transmission Circuits for Distribution Loads
- Appendix F - Calculation of Relay Transient Loading Limits
- Appendix G - Voltage Transformers
- Appendix J – Triggered Current Limiters

**"must" & "required" changed where applicable**

# Sections with Supplemental Info

- Section 3 - Generator Protection
- Section 7 - Line Protection
- Section 8 - Substation Transformer Protection
- Section 10 – Shunt Reactor Protection
- Section 12 – Breaker Failure Protection
- Section 14 – Transmission Line Reclosing
- Section 15 – Supervising and Alarming
- Appendix C (B in M07) - Direct Transfer Trip Channels
- Appendix E (C in M07) – Dual Pilot Channel
- Appendix H (D in M07) – Small Generator Protection
- Appendix I (E in M07) - Accepted PJM Bulk Power 3 Terminal Line Applications



# Questions

