

## RELAY SUBCOMMITTEE – TEAM CHARTER

### MISSION

To ensure that all PJM bulk power facilities, 2030 kV and higher, are adequately protected. The Relay Subcommittee

(RS) is responsible to the Planning Committee (PC) in all matters related to the application, design, performance, periodic testing and operation of protective relays, relay systems and associated equipment as utilized on the 230 kV and higher, interconnected, bulk power system of PJM member companies.

To fulfill this mission, the RS must develop principles, procedures and standards for protective relaying and associated equipment, which are consistent with established planning and operating principles, procedures and standards relating to the adequacy and reliability of 230 kV and higher bulk power facilities, of members of the PJM

Interconnection and of its interconnections with neighboring systems.

### RESPONSIBILITIES

1. The RS shall maintain the "PJM Relay Subcommittee Protective Relaying Philosophy and Design Guide" and the "PJM ~~Relay Subcommittee Protective Relaying Requirements~~Protection" document, which establish the ~~Update the new document names~~minimum acceptable relay protection for generator units, interconnection lines and associated transmission facilities. These documents are to be reviewed at least once every four years and submitted to the PC for approval.-  
~~These documents are jointly owned with the Generation Control and Protection Subcommittee (GCPS) and any modifications, additions or deletions must be agreed to by both the RS and the GCPS.~~
2. Support the formation of ~~the a~~ Generation and Protection Subcommittee (GCPS) and interface with the GCPS as necessary.
3. Investigate new protective devices and philosophies. Arrange for, and attend, educational type seminars with vendors or consultants for updates on state-of-the-art equipment and methodologies.
4. Assign and oversee ~~see view~~ Relay Testing Task Force (RTTF) projects. Reports and recommendations submitted by the RTTF will be reviewed by the RS and where appropriate will be forwarded to the PC for approval.
5. Review established guidelines for determination of load limitations for protective relays and systems.
6. Interface with other PJM Committees and Subcommittees in joint studies or provide assistance to these other groups as required for their studies and investigations (Examples of these studies would be stability studies, TNA studies, etc.).
7. Periodically share system protection experiences and problems with other companies.
8. Review major disturbances, both internal and external to PJM and determine their relevance to PJM facilities.
9. Review all new 765kV and 500kV installations, as well as any Special Protection Systems that impact PJM bulk power facilities 2030 kV and higher, for compliance with the PJM Relay Subcommittee Protective Relaying Requirements document. .
10. Consult with manufacturers on specific equipment problems as required.
11. Carry out all ~~worthwhile~~ assignments delegated to the RS by the PC.  
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12. Maintain a record of all ~~bulk~~ protection system mis-operations and associated multiple facility trips on PJM ~~system~~ facilities, ~~except PJM South~~, operated at 2030 kV and above. Reports are produced as required

that describe each incident, detailing cause and listing any planned corrective action to prevent future occurrences. Reports are to be prepared in accordance with the PJM RS Reporting Requirements. Once a year in September a

summary report of the previous year's events is prepared and issued to the PC and the SOS which includes statistical comparisons and comments relating to trends or other items of interest.

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13. Develop and maintain a "Coordination of Shared Facilities" process, for facilities ~~230-100~~ kV and higher, to support PJM compliance activities associated with NERC standard PRC-001. This process defines milestones that must be agreed to by two or more transmission or generation owners when relay work (settings/design) is to be performed on either terminal of an inter-tie line or an interface with a generating company, and includes maintaining the Shared Facilities table and the tie line relay setting repository.

14. Interface with NERC, DOE, and regional reliability organizations, as necessary.

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~~reliability organizations, as necessary.~~

#### **ADMINISTRATIVE**

1. The RS is responsible to the PC in all matters related to the application, design, performance, periodic testing and operation of protective relays, relay systems and associated equipment as utilized on the PJM system, ~~20030~~ kV and higher.

2. The RS will be chaired by a representative from one of the PJM member companies on a two-year rotation basis.

3. A representative from one of the PJM member companies will be appointed at each meeting to record minutes. This responsibility will rotate each meeting based on a defined rotation of the member companies.

4. A representative from one of the PJM member companies will be appointed Mis-Operation Report Coordinator by the incoming RS Chairman. This position is responsible for the collection of all Mis-operation reports, updating of the Mis-operation Spreadsheet, and preparation of the year-end summary report.

5. The RS will develop an annual plan for the following year to be forwarded to the PC in November of each year.

#### **CORE COMPETENCIES**

Each member should have the authority to commit resources in order to support the requirements of the Relay Subcommittee.

1. Should be knowledgeable in basic relaying fundamentals with experience in the protection of high voltage transmission systems.

2. Must have the ability to participate in RS monthly meetings.