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1. Network Theory

- a) Why in the network protector used in the system?
- b) Purpose of the protector fuse
- c) Purpose of cable limiters
- d) Basic function of the protector relay
- e) What causes reverse current
- f) What created differential voltage across the protector so it will close

2. Print Reading

- a) Review Trip and Close sequence for all type protectors.
- b) Identify the parts shown on the diagrams on the protector.
- c) Learn the differences between the GE and WH wiring.

3. Relays

- a) ETI MNPR® -- Learn how to program all parameters.
- b) Learn what happens when any parameter is changed.
- c) Learn how to use the MNPR® to help troubleshoot a protector.

4. Network Protectors

- a) General Electric MG8/9
 - i. Identify all components on the protector
 - ii. Break the protector down and reassemble.
 - iii. Use the wiring diagrams, schematics and MNPR® to find a problem created by the instructors.
- b) Richards 313NP
 - i. Identify all components on the protector
 - ii. Break the protector down and reassemble.
 - iii. Use the wiring diagrams, schematics and MNPR® to find a problem created by the instructors.

Schedule

Day 1

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|---------------|---|
| 8:00 – 8:30 | Registration, Coffee & Doughnuts |
| 8:30 – 9:00 | Introductions, Network history & background information |
| 9:00 – 10:00 | Print reading – 137NP (GE MG8/9 protector) |
| 10:00 – 10:15 | Break |
| 10:15 – 11:30 | Protector overview – start taking apart the protector. Identify the items on the wiring diagrams on the protector. |
| 11:30 – 12:30 | Lunch |
| 12:30 – 1:15 | Protector overview continued. |
| 1:15 – 1:30 | Break |
| 1:30 – 3:00 | “Final Exam”. Use all available tools (schematics, MNPR®, multi-meters and anything else available) to find some instructor created problems. |

Day 2

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|---------------|---|
| 8:00 – 8:30 | Brief review. |
| 8:30 – 9:00 | Print reading – 313NP (Westinghouse CM22 style protector) |
| 9:00 – 10:00 | MNPR® class room training. |
| 10:00 – 10:15 | Break |
| 10:15 – 11:30 | Protector overview – start taking apart the protector. Identify the items on the wiring diagrams on the protector. |
| 11:30 – 12:30 | Lunch |
| 12:30 – 1:15 | Protector overview continued with MNPR® hands on training. |
| 1:15 – 1:30 | Break |
| 1:30 – 3:00 | “Final Exam”. Use all available tools (schematics, MNPR®, multi-meters and anything else available) to find some instructor created problems. |