SYSTEM PROTECTION — ELLW 1175

A. Course Description

- Credits: 2.00
- Lecture Hours/Week: 2.00
- Lab Hours/Week: 0.00
- OJT Hours/Week: 0
- Prerequisites: None
- Corequisites: None
- MnTC Goals: None

Students will be given a general overview on the basic fundamentals of equipment used in Transmission and Distribution system protection. The objective of this course will be to help the student understand how protection systems function, and how they protect the general public and utility employees, reduce damage to electrical equipment, and reduce duration and number of sustained outages.

B. Course Effective Dates: 1/9/17 – Present

C. Outline of Major Content Areas

   As noted on course syllabus

D. Learning Outcomes

1. Explain the basic objectives of system protection
2. Apply use of surge protection
3. Explain use of Reclosers
4. Operate Reclosers
5. Explain use of Distribution Circuit Breakers
6. Explain use of Sectionalizes
7. Explain use of current transformers and potential transformers
8. Explain use of protective relays
9. Write up switching procedures
10. Perform switching procedures
11. Identify how system protection protects the general public
12. Identify equipment used in system protection
13. Identify how system protection protects utility workers
14. Demonstrate use of system protection for personal protection
15. 22. Explain how system protection reduces amount of outages
16. 23. Explain how system protection reduces duration of outages
17.  3. Identify transmission protective equipment
18.  4. Identify distribution protective equipment
19.  5. Explain function of system protection equipment
20.  6. Define the types of faults and shorts that typically occur in a line
21.  7. Define system coordination
22.  8. Demonstrate replacement of fuse in different types of disconnects
23.  9. Determine fuse sizing to verify coordination

E. Minnesota Transfer Curriculum Goal Area(s) and Competencies

F. Learner Outcomes Assessment

   As noted on course syllabus

G. Special Information

   None noted