Agenda – 3 Day

STI/SPFA Cathodic Protection Tester Certification Course

DAY 1

1. **INTRODUCTION** **8:00 AM**
    a. Introduce speakers, review class book, review agenda
    b. Exam pass/fail
    c. Expectations for certification

2. **FUNDAMENTALS OF CORROSION**
    a. Define corrosion terms
    b. Corrosion examples
    c. Galvanic and electrolytic corrosion
    d. Galvanic series of metals
    e. Equipment: reference cells, voltmeters, etc
    f. Equipment calibration

3. **LAB A – Metal to Electrolyte potentials**

4. **CATHODIC PROTECTION TESTING**
    a. Reference Cell Placement
    b. Making electrical connection to tanks and other equipment
    c. Structure to soil potential readings

5. **SACRAFICIAL CATHODIC PROTECTION SYSTEMS**
    a. Fundamental corrosion cell
    b. Sti-P3 system

6. **LAB B – Sacrificial Anode CP**

7. **LOCAL AND REMOTE READINGS**
    a. What do they mean
    b. Why are they important
    c. Minimum number of readings per structure
    d. Stainless steel

8. **LUNCH (on your own)** **NOON**

9. **RETURN TO CLASSROOM** **1:00 PM**

DAY 1 AFTERNOON

10. **CONTINUITY/ISOLATION TESTING**
    a. Fixed Cell Moving Ground

11. **LAB C – Fixed Cell Moving Ground Continuity Test**

12. **CRITERIA**
    a. -850 mV ON criteria

13. **MEET AT GALVANIC SYSTEM SITE** **2:30 PM**
    a. Safety
    b. Galvanic site testing
    c. Fixed/Cell Moving Ground and True Remote
    d. Discuss supplemental anodes/soil resistivity/current requirement test

DAY 2

1. **REVIEW WHAT WE LEARNED AT GALVANIC SITE** **8:00 AM**

2. **SPECIAL CASES OF GALVANIC – FLEX CONNECTORS**
    a. Isolation from other structures
    b. Sumps
    c. Using 100 mV polarization criterion when testing galvanic systems

3. **REVIEW OF GALVANIC SYSTEMS**

4. **IMPRESSED CURRENT CP**
    a. Rectifiers
    b. Comparison of design vs galvanic systems
    c. Anode materials

5. **TESTING IMPRESSED CURRENT SYSTEMS**
    a. Measuring rectifier outputs
    b. Shunts

6. **LAB D – Rectifier Outputs**

7. **IMPRESSED CURRENT CATHODIC PROTECTION TESTING**
    a. Instant off readings
    b. Reference cell placement
    c. Number of readings

8. **LAB E – Impressed Current CP Testing**

9. **IMPRESSED CURRENT CP CRITERIA**
    a. -850 mV polarization
    b. 100 mV polarization, criteria graph

10. **LUNCH (on your own)** **NOON**

11. **BACK IN CLASSROOM** **1:00 PM**

12. **CONTINUITY TESTING**
    a. Point to Point for Impressed Current

13. **LAB F – Continuity Testing**
    a. Point to Point

14. **MEET AT IMPRESSED CURRENT SITE** **2:30 PM**
    a. Safety
    b. Structure to soil setup
    c. Rectifier review small groups
    d. Anode junction box review (if installed)
    e. Point to Point from rectifier negative

DAY 3

1. **REVIEW WHAT WE LEARNED AT IMPRESSED CURRENT SITE** **8:00 AM**

2. **ADDITIONAL FIELD TESTS**
    a. Temporary bond connections
    b. Amperage operating percentage of design criteria
3. **PAPERWORK AND CP FORMS**

4. **FIELD TROUBLESHOOTING METHODS**
    a. Soil resistivity
    b. Current requirement
    c. Coupons
    d. R972 Supplemental Anodes

5. **SUMMARY AND REVIEW**

6. **LUNCH (TAKEOUT on your own)** **11:00 AM**

7. **RETURN TO CLASS** **11:30 AM**

8. **QUESTIONS ABOUT ANY SUBJECT COVERED DURING CLASS**

9. **EXPLANATION OF EXAM AND GRADING**

10. **START EXAM** **12:30 AM**