Description
The CP I–Cathodic Protection Tester Course is an intensive 6-day course that presents CP technology to prepare students for the NACE Cathodic Protection Tester Certification Examination. Course topics include basic electricity, electrochemistry and corrosion concepts, CP theory, CP systems, and CP field measurement techniques. This course provides theoretical knowledge and practical fundamentals for testing on both galvanic and impressed current CP systems. The course involves lectures and intensive hands-on training with equipment and instruments used in CP testing. It also includes hands-on training at outdoor facilities (weather-permitting). The course concludes with both a 2-hour written and a 2-hour practical (hands-on) examination.

Who Should Attend
This program will benefit anyone who is responsible for supervising CP systems, measuring the effectiveness of CP systems and/or recording this data, including CP field personnel, technicians, and those desiring certification as a "NACE Cathodic Protection Tester."

Prerequisites
The following is strongly recommended, but not required:
• High school diploma or GED
• Six months CP work experience
• Ability to perform basic math calculations (simple algebra, fractions, and conversions)

What You Need to Know to Succeed in This Course
Students with little CP experience may be successful in this course if they can grasp scientific concepts, can perform math calculations, and possess an understanding of electrical measurements. Ideally, students should have six months of solid work experience in handling CP instruments under the supervision of an experienced CP Tester or Technician. They should also be comfortable with math concepts that include subtraction, division, fractions, algebra, balancing equations, conversions of units, percentages, and graphs. An understanding of Ohm's Law applied to series and parallel circuits is also an advantage.

Course Highlights (include but are not limited to)
• Basic Electricity
• Basic Chemistry and Corrosion Fundamentals
• CP Fundamentals
• Field Measurements
• Stray Current Identification
• Installing CP Components
• Monitoring CP Systems
• Recordkeeping
• Safety Specific to CP
• Troubleshooting

Skill Assessment
Upon successful completion of the CP Tester Examination, a Certified NACE Cathodic Protection Tester will have passed both an open-book, written exam and a closed-book, practical exam each with a 70% or greater. The exams cover the following skill and knowledge factors:
• Understand the basics of electricity, electrical laws, electrochemistry, corrosion and CP theory
• Develop an understanding of polarity related to current flow and metal corrosion activity
• Conduct tests to identify shorts and continuity tests in CP systems
• Use test instruments to perform a variety of field tests such as structure-to-soil potentials, voltage and current measurements, soil resistivity, pipe/cable locating and rectifier readings
• Understand CP components including impressed current systems, galvanic anodes and test stations
• Read shunts and understand their use in rectifiers, bonds, and anodes
• Perform periodic surveys to confirm the effectiveness of a CP system
• Gain knowledge of reference cells, their maintenance, use, and precautions
• Learn basic location mapping, report preparation, and recordkeeping
• Review safety issues specific to CP
• Understand code requirements related to CP
About the Instructor

JOHN CHASE
Electronics Graduate – Southern Alberta Institute of Technology Alberta, Canada

Professional Background

- Member – Association of Science and Engineering Technology Professionals of Alberta since 1968
- NACE Accredited – Corrosion Specialist (5929)
- NACE Accredited – Cathodic Protection Specialist (5929)
- NACE Approved Instructor for NACE Education courses CP1, CP2, CP 2 Marine, Basic Corrosion (see NACE International website for course details)
- Currently serving as a voting member on the NACE International Education Committee
- Currently serving as a voting member on the NACE IPQS (Instructor Peer Quality Sub-Committee) committee which is the approval board for new instructors

PROJECTS-ENGINEERING

- Design of well casing CP systems – various companies such as Aramco
- Design of plant CP systems including Above Ground Storage Tanks (AGST) (internal and External) as well as Underground Storage tanks (UST)
- Design of CP systems for Marine applications such as Steel Sheet pilings, docks & wharfs
- Design of CP systems for Reinforced concrete structures.
- Coating and corrosion damage surveys
- Design of AC mitigation systems as related to underground pipelines
- Design of shipboard and cooling water anti fouling systems.
- Design of Ship Hull and ballast tank CP systems
- As well as a broad and detailed experience related to CP system design, installation, commissioning and maintenance is also an integral part of my background.