Level One

MODULE 66101-02 – INTRODUCTION TO THE PIPELINE INDUSTRY
1. Explain the basic functions and purposes of pipelines and facilities and identify the characteristics and hazards of common pipeline products.
2. Identify maps and drawings used to depict pipelines and facilities.
3. Explain the roles of control personnel and equipment in the overall operation of a pipeline.
4. Explain liquid pipeline hydraulics and gas pipeline pneumatics.
5. Explain the types and purposes of pipeline equipment.
6. Explain pipeline electrical power systems and corrosion control.
7. Review operations, maintenance, and emergency procedures and perform documentation required for pipeline operations.

MODULE 66102-02 – LIQUID PIPELINE GENERAL ABNORMAL OPERATING CONDITIONS
1. Recognize and react to abnormal facility conditions.
2. Recognize and react to activation of a safety device.
3. Recognize and react to communications failures.
4. Recognize and react to power interruptions.
5. Respond appropriately to fire, explosions, and natural disasters.
6. Recognize and react to pipeline system damage.
7. Recognize and react to unexpected hazardous liquid or carbon dioxide (CO2) leaks.
8. Recognize and react to unexplained pressure deviations.

MODULE 61103-02 – LOCATING PIPELINE AND CABLE (CT 14.1 AND 17.1)
1. Explain the One-Call notification system.
2. Identify and explain the types of pipe and cable found underground.
3. Identify and explain the types of equipment used to locate underground pipe and cable (CT 14.1 and 17.1).
4. Perform approved procedures to accurately locate underground pipe and cable (CT 14.1 and 17.1).

MODULE 61104-02 – MEASURE PIT DEPTH AND WALL THICKNESS (CT 8.1, 8.2, AND 8.3)
1. Using a pit gauge, measure pitting or other metal loss features to pipeline structures and identify conditions requiring corrective action (CT 8.1).
2. Use a D-Scan Ultrasonic Thickness (UT) Meter to accurately collect and record nominal wall thickness readings on a pipeline or other coated structure (CT 8.2).
3. Obtain accurate measurements of localized corrosion to be used for calculating remaining pipe strength per B31G or RSTRENG (CT 8.3).
MODULE 61105-02 – INSPECT BURIED AND SUBMERGED PIPE WHEN EXPOSED (CT 5.1, 5.2, AND 5.3)

1. Perform inspection of the pipe and coating for evidence of damage and/or abnormalities (CT 5.1).
2. Examine exposed pipe to identify any areas of corrosion (CT 5.2).
3. Perform inspection of the pipe coating, noting its condition whenever the pipe is exposed (CT 5.3).
4. Document the location of corrosion and damage to a buried pipeline.

MODULE 61106-02 – ABOVEGROUND PIPE COATING AND INSPECTION (CT 7.1, 7.2, 7.3, 7.5, 13.1, AND 13.2)

1. Describe the requirements for surface preparation for aboveground pipe (CT 7.1 and 7.2).
3. Visually inspect the quality of the surface preparation (CT 7.2, 7.3, and 13.2).
4. Inspect the quality of the surface preparation by checking the surface profile (CT 7.2).
5. Properly select a coating to be used.
6. Properly apply a coating to aboveground pipe (CT 7.5).

MODULE 61107-02 – APPLY/REPAIR EXTERNAL COATINGS ON BURIED/SUBMERGED PIPE (CT 13.4)

1. Select a coating for buried or submerged piping.
2. Remove coating from buried or submerged pipe using chemical strippers or blasting systems. (CT 13.4).
3. Apply coatings with a brush and roller.
4. Apply coatings with a conventional spray system.

MODULE 61108-02 – CATHODIC PROTECTION MEASUREMENT (CT 1.1, 1.5, 3.1, AND 3.2)

1. Explain the basic theory of cathodic protection (CP).
2. Define galvanic and impressed current CP and explain the advantages and limitations of each system.
3. Demonstrate how to use instrumentation and meters to monitor CP systems (CT 1.1).
4. Measure structure-to-soil potentials (CT 1.1).
5. Inspect and perform electrical tests of bonds.
6. Obtain voltage and current output readings from a rectifier (CT 3.1).
7. Check proper operation of a rectifier (CT 3.2).
8. Interpret and test isolation devices (CT 1.5).

MODULE 61109-02 – TEST STATION REPAIR (CT 2.1, 2.2, 2.3, AND 2.4)

1. Identify test lead damage (CT 2.1 and 2.2).
2. Repair a test lead and verify that the repair was performed effectively (CT 2.2).
3. Install test leads by non-exothermic welding methods (CT 2.3).
4. Install test leads by exothermic welding methods (CT 2.4).
MODULE 61110-02 – INSPECT INTERNAL PIPE SURFACES (CT 12)

1. Properly orient the pipe to be removed by identifying the top, bottom, left side, right side, upstream direction, and downstream direction (CT 12).
2. Recognize internal corrosion (CT 12).
3. Properly operate wall thickness and pit depth measurement equipment (CT 12).

MODULE 61111-02 – INTERNAL CORROSION CONTROL (CT 10.1, 10.2, AND 11)

1. Safely insert and retract corrosion coupons and document vital information (CT 10.1).
2. Accurately record readings of probes with corrosion measurement tools (CT 10.2).
3. Adjust inhibitor injection rates to achieve an acceptable company standard (CT 11).
Level Two

MODULE 61201-02 – INSTALL CATHODIC PROTECTION SYSTEMS (CT 9.2, 9.3, AND 9.4)
1. Describe the information that must be gathered when planning a cathodic protection system.
2. Explain how to select the system components.
3. Describe installation techniques for galvanic and impressed current systems (CT 9.2 and 9.4).
4. Perform rectifier installation (CT 9.3).

MODULE 61202-02 – MAINTAIN AND REPAIR RECTIFIERS (CT 4)
1. Describe the characteristics of cathodic protection rectifiers.
2. Describe the functions of typical rectifier components.
3. Describe troubleshooting techniques for rectifier and bond connections (CT 4.1).
4. Describe the common repair process for a rectifier (CT 4.2).
5. Describe the adjustment procedures for a rectifier (CT 4.3).

MODULE 61203-02 – MITIGATE INTERFERENCE (CT 1.3 AND 9.1)
1. Identify the sources of interference current in a cathodic protection system (CT 1.3).
2. Describe the techniques used to test for mitigation in a cathodic protection system (CT 9.1).

MODULE 61204-02 – TEST AND REPAIR SHORTED CASINGS (CT 9.5)
1. Identify causes of shorted casings.
2. Identify a shorted casing.
3. Test for shorted casings.
4. Identify methods for repairing shorted casings.
5. Describe the use of insulated fittings.

MODULE 61205-02 – CONDUCT CLOSE INTERVAL SURVEY (CT 1.2 AND 1.4)
1. Identify common close interval survey equipment (CT 1.2).
2. Describe the common methods to perform a close interval survey (CT 1.2).
3. Describe the major steps in performing a close interval survey (CT 1.2).
4. Describe inspecting and testing bonds and protective devices (CT 1.4).

MODULE 61206-02 – PERFORM COATING INSPECTION (CT 7.7)
1. Describe the required pre-inspection activities.
2. Perform quality inspections (CT 7.7).
3. Identify and explain causes of coating failures (CT 7.7).

MODULE 61207-02 – PERFORM HIGH-PRESSURE BLASTING/SURFACE PREPARATION (CT 7.4 AND 13.3)
1. Identify and explain basic abrasive blast system equipment.
2. Effectively and safely operate basic abrasive blast system equipment (CT 7.4 and CT 13.3).
3. Describe the characteristics of blast cleaning media (CT 7.4 and CT 13.3).
4. Explain preparation standards, profiling, and inspection techniques (CT 7.4 and CT 13.3).
5. Prepare the surface according to manufacturer’s specifications and in accordance to company safety and environmental guidelines (CT 7.4 and CT 13.3).
1. Identify and explain different coating types (CT 13.5).
2. Determine whether or not the coating is compatible with environmental conditions, the substrate to be coated, any related job-site conditions, or any other requirements of the job (CT 7.6).
3. Prepare the surface for coating application according to manufacturer specification (CT 7.6 and CT 13.5).
4. Identify and explain the different spray application systems used for coating.
5. Apply coating according to manufacturer specifications (CT 7.6 and CT 13.5).