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<b>OQ Guidance Document</b>			

## **PURPOSE**

In an effort to take a proactive approach to complying with the DOT Pipeline Operator Qualification Rule located in 49 CFR Parts 192 & 195, the Company has provided this guidance document which will identify our covered tasks, describe our qualification method, and identify our recordkeeping procedures.

The objective of this document is to provide our Customers with a clear understanding of the approach and process the Company uses to train and assess our personnel. We understand that this document is not required under the DOT Rule but believe strongly that in order for our Customers to meet the requirements of the rule, we must have a plan in place that will outline our intent to provide operators with a qualified workforce.

Through this OQ Guidance Document, we continue our commitment to our Customers to provide a high quality, qualified workforce and to comply with all appropriate safety regulations.

## **SCOPE**

All LLC Companies including, Blanchard Industrial, LLC, GIS Engineering, LLC, Grand Isle Shipyard, Inc., and GWIS, Mack Steel, NuWave, Sun Industries, Valvemax, Discovery Industries, Inc.; hereafter identified as “Company”.

## **TASK ANALYSIS**

The Company has performed our task identification and analysis using the following methods:

- Reviewing API Guidance Document 1161
- Reviewing API covered task list, OQSG covered task list and various Customers’ task lists
- Reviewing operations, maintenance, and safety manuals
- Implementing 4-Part Test to determine task applicability
  - Is the task performed on a pipeline facility?
  - Is the task an operations or maintenance task?
  - Is the task performed as a requirement of 49 CFR Part 192 or 195?
  - Does the task affect the operation or integrity of the pipeline facility?
- Meeting with project managers and team leaders

## **EVALUATION METHODS AND CRITERIA**

To be qualified to perform covered tasks, a Company employee will have exhibited the ability to properly perform an assigned covered task and be able to recognize and react to an abnormal operating condition associated with the task.

We will evaluate all personnel performing covered tasks via CBT assessment that is proctored by an authorized Proctor within our Corporate Training Center. The Company is also prepared to qualify individuals using a performance-based assessment should our Customers request this option. Our Corporate Industrial Training Education Center (ITEC) is an Accredited Assessment Center for the National Center for Construction Education and Research (NCCER). ITEC also has approved Assessment Proctors through OQSG.

The Company has incorporated the industry standard of three years for our qualification interval for each covered task. Customers with more stringent qualification intervals should contact the Corporate HSE department to discuss other options.

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Much of our Company's workforce will have transitional qualifications, which means that most employees have been performing tasks prior to August 27, 1999. All employees needing qualifications will qualify using either written, CBT and/or performance-based assessments found on the National Center for Construction Education and Research (NCCER) website and Operator Qualification Solutions Group (OQSG).

### **ONGOING EVALUATION**

The Company will re-evaluate personnel when any of the following conditions apply:

- When the qualification interval has expired
- If there is reason to believe the individual's performance of a covered task contributed to an incident or accident
- If there is reason to believe an employee is no longer able to perform a covered task.

### **Subsequent Requalification**

The Company has established a default interval of three (3) years for re-qualifying our personnel on all covered tasks. The default interval is the maximum interval between subsequent qualifications. The interval may be shortened if any of the above conditions occur or if other reasons necessitate the modification of the interval.

### **Response to an Incident or Accident**

The Company will review the qualifications of any individual when the individual's performance of a covered task may have contributed to an incident or accident as defined in the regulations. We will re-evaluate the individual using written, CBT and performance-based methods to determine if the individual is still knowledgeable and has the skills required to perform the covered task and to react to abnormal operating conditions.

### **Perception of Lost Qualification**

If we believe that an individual may no longer be qualified to properly perform a covered task, the individual will be reassessed using a written assessment, CBT or performance-based evaluation. Certain reasons for re-evaluating personnel are below.

- The individual has not performed the covered task for an extended period of time (more than 2 years).
- The individual has not been able to perform his/her job functions due to extended sickness, disability, travel, etc.
- Complaints from a third party
- There are significant changes to equipment or procedures.

### **NON-QUALIFIED INDIVIDUALS**

Our Company is committed to providing a high quality workforce to our Customers. In some cases and in accordance with the regulations, there may be instances when non-qualified individuals are utilized to perform covered tasks (on-the-job training, temporary employees assisting full-time employees, sub-contractor personnel, et cetera). The Company has determined that, in these situations, a non-qualified employee will be able to perform the covered task provided the following conditions apply:

- The non-qualified individual is under the direct observation of a qualified individual.
- The qualified individual is close enough to each non-qualified individual to take immediate corrective action.

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- The ratio of qualified to unqualified individuals is low. (1 to 3)
- The qualified individual understands that he/she is directly responsible for the covered task being performed.

### **RECORDKEEPING**

The Company will utilize a national registry for storing and maintaining database records. In addition to this, we also have an internal electronic database used for recordkeeping however ISN was requested by several Customers.

ISN will store the following information in accordance with the applicable regulations.

- The qualified individual's name and/or employee/contractor number
- The covered tasks that the individual is qualified to perform
- The date(s) of current qualification
- The qualification method

We will retain material that will support the evaluation procedure such as sample examinations, checklists and other evaluation methods and will make that information available at the request of our Customers.

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### TASK IDENTIFICATION

The Company used the OQSG and NCCER Covered Task List to identify covered tasks that our organization performs for our Customers. Below is the list from OQSG.

<b><u>OQ Verify Covered Task List (Topside)</u></b>	
Task #	Task Name
<b>CT0031</b>	
<b>Inspect and Monitor Galvanic Ground Beds/Anodes</b>	
0031.1	Define the requirements and equipment used for inspecting and monitoring galvanic ground beds and anodes
0031.2	Inspect and monitor galvanic ground beds and anodes
0031.3	Abnormal operating conditions
<b>CT01</b>	
<b>Conducting Annual Cathodic Protection Surveys</b>	
1.1	Define and understand the function of conducting annual cathodic protection surveys
1.2	Determine the measurement of structure-to-electrolyte potential
1.3	Perform close interval survey
1.4	Perform testing to detect interference
1.5	Ensure electrical isolation from foreign structures
1.6	Perform an inspection and electrical test of bonds
1.7	Complete a visual atmospheric inspection
1.8	Recognize and react to abnormal operating conditions when conducting annual cathodic protection surveys
<b>CT02</b>	
<b>Maintain Test Leads</b>	
2.1	Define and understand the function of a test lead and the equipment used to maintain it
2.2	Correctly inspect and verify test lead continuity
2.3	Repair or replace damaged test leads
2.4	Explain how to recognize and react to abnormal conditions
<b>CT03</b>	
<b>Inspect Cathodic Protection Rectifiers</b>	
3.1	Obtain voltage and current output readings from rectifier and check for proper rectifier operations
3.2	Perform cathodic protection rectifiers on/off test
3.3	Recognize and react to abnormal operating conditions when inspecting cathodic protection rectifiers
<b>CT04</b>	
<b>Cathodic Protection Rectifier Maintenance and Repair</b>	
4.1	Troubleshoot and repair rectifiers
4.2	Adjust a rectifier
4.3	Recognize and react to abnormal operating conditions when troubleshooting and repairing rectifiers
<b>CT05</b>	
<b>Electrically Inspect Bare Pipe</b>	
5.1	Understand the definitions and functions of electrical inspection of bare pipe
5.2	Conduct soil resistivity measurements
5.3	Perform soil-to-soil potential surveys
5.4	Recognize and react to abnormal operating conditions when electrically inspecting bare pipe
<b>CT06</b>	
<b>Prevention of Atmospheric Corrosion</b>	
6.1	Understand the function of preventing atmospheric corrosion
6.2	Perform an inspection of coatings
6.3	Perform surface preparation

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- 6.4 Perform an application of coatings
- 6.5 Recognize and properly react to abnormal operating conditions

<b>CT06J</b>	<b>Electrical Inspection of Coatings</b>
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- 6J.1 Perform electrical inspection of coatings
- 6J.2 Recognize and react to abnormal operating conditions

<b>CT07</b>	<b>Measure Wall Thickness of Pipe</b>
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- 7.1 Understand the requirements for measuring the wall thickness of pipe
- 7.2 Use a pit depth gauge
- 7.3 Use an ultrasonic thickness meter (UST)
- 7.4 Collect RSTRENG data
- 7.5 Recognize and react to abnormal operating conditions when measuring wall thickness

<b>CT0721</b>	<b>Joining of Pipe: Threaded Joints</b>
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- 0721.1 Properly connect and tighten threaded joints
- 0721.2 Abnormal operating conditions

<b>CT08</b>	<b>Conducting Cathodic Protection Remediation</b>
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- 8.1 Install electrical bonds
- 8.2 Install galvanic and impressed current anodes
- 8.3 Perform transformer/rectifier installations
- 8.4 Perform test station installations
- 8.5 Perform thermite welding procedures
- 8.6 Locate, monitor, and clear shorted casings
- 8.7 Recognize and properly react to abnormal conditions for conducting cathodic protection remediation

<b>CT09</b>	<b>Monitoring for Internal Corrosion</b>
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- 9.1 Safely extract or insert corrosion coupons
- 9.2 Safely extract and insert corrosion probes
- 9.3 Properly collect composite or spot samples for analysis of corrosive properties
- 9.4 Explain how to recognize and react to abnormal conditions

<b>CT10</b>	<b>Inspect Buried Pipe When Exposed</b>
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- 10.1 Inspect for physical damage
- 10.2 Inspect the condition of the pipe coating
- 10.3 Inspect for corrosion
- 10.4 Explain how to recognize and react to abnormal conditions for inspecting and examining buried pipe when exposed

<b>CT1081</b>	<b>Tapping a Pipeline (Tap Diameter 2 Inches or Less)</b>
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- 1081.1 Perform hot tapping
- 1081.1 Abnormal operating conditions

<b>CT11</b>	<b>Inspect, Test, and Calibrate Overfill Protective Devices</b>
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- 11.1 Define overfill protective devices and their purpose
- 11.2 Inspect and calibrate overfill protective devices
- 11.3 Explain how to recognize and react to abnormal conditions for inspecting and calibrating overfill protective devices

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<b>CT12</b>	<b>Internal Corrosion Remediation</b>
12.1	Adjust inhibitor injection rates to achieve an acceptable industry and company standard to prevent internal corrosion
12.2	Explain how to recognize and react to abnormal conditions for internal corrosion remediation
<b>CT1291</b>	<b>Locate Underground Pipelines</b>
1291.1	Locate a Pipeline
1291.2	Abnormal operating conditions
<b>CT13</b>	<b>Inspect Internal Pipe Surfaces</b>
13.1	Recognize different types of internal corrosion and their mechanisms
13.2	Possess a working knowledge of tools used for internal corrosion evaluation
13.3	Recognize and react to abnormal operating conditions when inspecting internal pipe surfaces
<b>CT1301</b>	<b>Install and Maintain Pipeline Markers</b>
1301.1	Install a line marker
1301.2	Inspect and maintain line markers and aerial line markers
1301.3	Abnormal operating conditions
<b>CT14</b>	<b>Application and Repair of External Coatings</b>
14.1	Identify and describe the different types of external coatings and how they are applied
14.2	Identify and describe the actions that must be taken in order to apply and repair external coatings
14.3	Recognize and react to abnormal operating conditions when applying and repairing external coatings
<b>CT15</b>	<b>Place and Maintain Line Markers</b>
15.1	Define and understand the placing and maintaining of line markers
15.2	Locate a pipeline
15.3	Install a line marker
15.4	Inspect and maintain line markers and aerial line markers
15.5	Recognize and react to abnormal operating conditions when placing and maintaining line markers
<b>CT16</b>	<b>Inspect Surface Conditions of Right-of-Way and Perform Leak Surveys for Liquid Pipelines</b>
16.1	Inspect surface conditions of right-of-way
16.2	Follow the company's reporting protocols
16.3	Recognize and react to abnormal operating conditions when inspecting surface conditions of right-of-way and performing leak surveys
<b>CT16</b>	<b>Inspect Surface Conditions of Right-of-Way and Perform Leak Surveys for Gas Pipelines</b>
16.1	Inspect surface conditions of right-of-way
16.2	Perform gas leakage surveys
16.3	Follow the company's reporting protocols
16.4	Recognize and react to abnormal operating conditions when inspecting surface conditions of right-of-way and performing leak surveys
<b>CT17</b>	<b>Inspect Navigable Waterway Crossings</b>
17.1	Define and demonstrate a working knowledge of inspecting navigable waterway crossings
17.2	Use probes, sonar and other methods to verify the location of a pipeline and determine depth of cover
17.3	Recognize and properly react to abnormal operating conditions
<b>CT18</b>	<b>Inspection of Breakout Tanks</b>

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- 18.1 Define and demonstrate a working knowledge of regulatory compliance and inspection requirements for breakout tanks
- 18.2 Inspect breakout tanks in accordance with API Standard 653
- 18.3 Inspect breakout tanks in accordance with API Standard 510
- 18.4 Inspect other breakout tanks
- 18.5 Recognize and react to abnormal operating conditions when inspecting breakout tanks

**CT19 Provide Temporary Marking of Buried Pipeline Prior to Excavation**

- 19.1 Define and understand the function of providing temporary marking of buried pipeline prior to excavation and the equipment used to mark it
- 19.2 Locate a pipeline
- 19.3 Install appropriate temporary markers identifying the line
- 19.4 Inspect and maintain temporary line markers
- 19.5 Explain how to recognize and react to abnormal conditions

**CT20 Inspection Following Excavation Activities and Leak Survey After Blasting**

- 20.1 Define and demonstrate knowledge of inspection procedures performed following excavation activities and leak survey performed after blasting
- 20.2 Utilize leak survey techniques
- 20.3 Monitor for pressure loss
- 20.4 Explain how to recognize and react to abnormal conditions for inspection following excavation activities and leak survey after blasting

**CT21 Provide Security for Pipeline Facilities**

- 21.1 Provide protection to the pipeline facilities
- 21.2 Recognize and react to abnormal operating conditions when providing security for pipeline facilities

**CT22 Inspect Valves**

- 22.1 Inspect valves
- 22.2 Conduct a routine walk around inspection
- 22.3 Conduct an external integrity inspection of the valve
- 22.4 Perform a function test of the valve
- 22.5 Recognize and react to abnormal operating conditions when inspecting valves

**CT23 Repair Valves**

- 23.1 Understand valve types and components
- 23.2 Repair valves
- 23.3 Repair actuators/operators
- 23.4 Recognize and react to abnormal operating conditions when repairing valves

**CT24 Inspect, Test and Calibrate Relief Valves**

- 24.1 Recognize the purpose and function of relief valves
- 24.2 Understand terminology associated with inspecting, testing and calibrating relief valves
- 24.3 Identify procedures for inspection, testing and calibration of relief valves
- 24.4 Recognize and react to abnormal operating conditions when inspecting, testing, and calibrating relief valves

**CT25 Maintain/Repair Relief Valves**

- 25.1 Identify critical parts associated with a relief valve
- 25.2 Disassemble, clean, inspect, repair, and replace internal components of a relief valve

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- 25.3 Repair and calibrate the sensing device and re-assemble and reinstall the valve
- 25.4 Recognize and react to abnormal operating conditions when maintaining and repairing relief valves

**CT26 Inspect, Test and Calibrate Pressure Limiting Devices**

- 26.1 Recognize and locate pressure limiting devices
- 26.2 Identify procedures for isolation or removal of a pressure limiting device
- 26.3 Inspect, test, and calibrate pressure limiting devices
- 26.4 Repair and reinstall pressure limiting devices
- 26.5 Recognize and react to abnormal operating conditions when inspecting and testing and calibrating pressure limiting devices

**CT27 Inspect, Test and Calibrate Pressure Switches and Transmitters**

- 27.1 Identify types of testing methods and when they are used
- 27.2 Inspect, test, and calibrate pressure switches and transmitters
- 27.3 Recognize and react to abnormal operating conditions when inspecting, testing, and calibrating pressure switches and transmitters

**CT28 Verify or Set Protection Parameters for Programmable Controllers and/or other Instrumentation Control Loops**

- 28.1 Understand the functions of a PLC and elements that are involved
- 28.2 Know how to verify data set points, parameters and data location within PLC program
- 28.3 Perform calibration, testing, and documentation of system set points
- 28.4 Recognize and react to abnormal operating conditions when verifying or setting protection for programmable controllers and/or other instrumentation control loops

**CT29 Moving In-Service Pipe**

- 29.1 Determine allowable line pressure in section of pipe to be moved
- 29.2 Prepare for pipeline movement activities
- 29.3 Move in-service pipe
- 29.4 Recognize and respond to abnormal operating conditions

**CT30 Inspect Existing Pipe Following Movement**

- 30.1 Define and demonstrate working knowledge of inspecting an existing pipe following movement
- 30.2 Inspect the pipeline for secondary stresses, physical damage, corrosion and coating damage
- 30.3 Recognize and respond to abnormal operating conditions when inspecting existing pipe following movement

**CT31 Measure Clearance from Existing Pipe to Underground Structures Installed by Excavation, Boring, Directional Drilling**

- 31.1 Define and demonstrate working knowledge of inspecting clearances between existing pipes and underground structures as well as equipment used to perform the inspection
- 31.2 Assure minimum clearances are maintained and that interference and corrosion control testing are performed during the installation of foreign pipelines or structures
- 31.3 Recognize and react to abnormal operating conditions when measuring clearance from existing pipe to underground structures installed by excavation, boring, or directional drilling

**CT32 Abandoning, Safe Disconnect, Purging, and Sealing of Pipeline Facilities**



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- 32.1 Define and understand the function of and requirements for permanently or temporarily decommissioning or removing a pipeline facility from service
- 32.2 Safely disconnect pipeline facilities
- 32.3 Purge pipeline facilities
- 32.4 Seal a disconnected portion of pipeline
- 32.5 Recognize and respond to abnormal operating conditions when abandoning, safely disconnecting, purging, and sealing of pipeline facilities

**CT33 Installation, or Replacement/Repair of Support Structures On Existing or New Aboveground Components**

- 33.1 Define and demonstrate working knowledge of replacement or repair support structures on existing or new aboveground components and how to perform it
- 33.2 Explain activities required to install additional or revised support structure elements to existing aboveground structures
- 33.3 Recognize and respond to abnormal operating conditions when installing, replacing, or repairing support structures on existing or new aboveground components

**CT34 Inspection Activities for Tie-ins, Pipeline Replacements, or Other Components Connecting to an Existing Pipeline**

- 34.1 Define and demonstrate working knowledge of inspection activities for tie-ins, pipe replacements, or other components connecting to an existing pipeline
- 34.2 Visually inspect pipe and pipe components
- 34.3 Verify welder qualifications
- 34.4 Ensure proper installation
- 34.5 Recognize and respond to abnormal operating conditions when inspecting tie-ins, pipe replacements, or other components connecting to an existing pipeline

**CT35 Backfilling a Trench Following Maintenance**

- 35.1 Define and demonstrate working knowledge about the function of backfilling a trench following pipeline maintenance
- 35.2 Perform backfilling operations on the pipeline following maintenance
- 35.3 Determining if a tamping tool and backhoe are used properly
- 35.4 Determine amount of cover required
- 35.5 Explain how to recognize and react to abnormal conditions for backfilling a trench following maintenance

**CT36 Performing General Pipeline Repair Activities**

- 36.1 Identify and demonstrate knowledge of procedures used for general pipeline repair activities
- 36.2 Install tight fitting sleeves
- 36.3 Install oversleeves
- 36.4 Install composite wrap sleeves
- 36.5 Install mechanical split repair sleeves
- 36.6 Install mechanical couplings
- 36.7 Perform hot tapping
- 36.8 Install pipeline plugs

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- 36.9 Install completion plugs
- 36.10 Identify and properly respond to abnormal operating conditions for general pipeline repair activities

**CT37 Conduct Pressure Test**

- 37.1 Define and understand the function of a pressure test and the equipment used to perform it
- 37.2 Conduct a pressure test and record the results
- 37.3 Recognize and react to abnormal operation conditions when conducting a pressure test

**CT38 Maintenance Welding on Pipelines**

- 38.1 Supervise, inspect and/or perform maintenance welding on pipelines
- 38.2 Repair arc burns
- 38.3 Repair defective welds other than welds containing cracks
- 38.4 Repair of cover pass on a weld containing a defect other than a crack
- 38.5 Repair butt welds containing cracks
- 38.6 Repair previously repaired areas
- 38.7 Replace welds or cylinders of pipe
- 38.8 Recognize and react to abnormal operation conditions when performing maintenance welding on pipelines

**CT39 Operations of a Pipeline System**

- 39.1 Identify the activities associated with the safe start-up of a pipeline
- 39.2 Identify the steps necessary for the safe shutdown of a pipeline
- 39.3 Demonstrate knowledge of monitoring and maintenance of pressures, flows, communications, and line integrity
- 39.4 Identify the necessary steps for the manual or remote opening and or closing of a valve or other equipment
- 39.5 Recognize abnormal operating conditions for the task and identify proper responses

**CT40 Computational Pipeline Monitoring (CPM) Leak Detection**

- 40.1 Understand functions of CPM equipment
- 40.2 Test, calibrate, repair, replace, and maintain CPM equipment
- 40.3 Verify that the leak detection system meets design specifications
- 40.4 Explain how to recognize and react to abnormal conditions to perform CPM leak detection techniques that assist in maintaining the integrity of a pipeline system

**CT41 Operate Pressure Relieving Devices for Launching and Receiving Facilities**

- 41.1 Identify the names and operation of the valves used on a launching facility
- 41.2 Explain the sequence of events needed to isolate, relieve pressure and drain fluids from the launcher barrel
- 41.3 Understand the procedures involved with launching a pig
- 41.4 Identify the names and operations of the valves used on a receiving facility
- 41.5 Understand the procedures involved with receiving a pig
- 41.6 Explain the sequence of events needed to isolate, relieve pressure and drain fluids from the receiver barrel
- 41.7 Recognize and react to abnormal operating conditions during launching and receiving activities

**CT42 Performing Maintenance on Valves**

- 42.1 Identify components and maintenance of valves
- 42.2 Perform valve maintenance
- 42.3 Perform actuator/operator maintenance
- 42.4 Recognize and react to abnormal operating conditions

**CT43 Perform Flange Bolting Procedures**

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- 43.1 Identify hazards and perform hot bolting
- 43.2 Perform general flange assembly procedures
- 43.3 Perform general flange disassembly procedures
- 43.4 Identify and respond to abnormal operating conditions

**CT44 Tubing and Tube Fitting Handling and Installation**

- 44.1 Demonstrate knowledge of instrumentation tubing, tube fittings and tubing components
- 44.2 Demonstrate the correct methods for handling tubing, tube fittings, and tubing components
- 44.3 Design or verify a correct layout of a tubing system
- 44.4 Correctly cut and de-burr metal tubing
- 44.5 Perform a correct 90 degree bend of metal tubing
- 44.6 Perform installation of small diameter compression tube fittings
- 44.7 Recognize and properly react to abnormal operating conditions

**CT45 Perform Leakage Survey**

- 45.1 Define and demonstrate a working knowledge of leakage surveys and the equipment used to perform them
- 45.2 Perform visual surveys
- 45.3 Perform a pipeline leakage survey using a combustible gas detector
- 45.4 Perform a pipeline leakage survey using a flame ionization detector
- 45.5 Recognize and react to abnormal operating conditions when performing leakage surveys

**CT46 Vault Maintenance**

- 46.1 Define and demonstrate a working knowledge of vault maintenance
- 46.2 Perform vault maintenance
- 46.3 Recognize and react to abnormal operating conditions when performing vault maintenance

**CT48 Purge a Pipeline**

- 48.1 Define and understand how to safely purge hydrocarbons or air from a pipeline
- 48.2 Remove hydrocarbons from a pipeline
- 48.3 Remove air from the pipeline
- 48.4 Recognize and react to abnormal operating conditions when purging a pipeline

**CT50 Testing an Emergency Shutdown Device**

- 50.1 Define and understand the function of testing emergency shutdown systems
- 50.2 Test emergency shutdown systems
- 50.3 Explain how to recognize and react to abnormal conditions for testing an emergency shutdown system

**CT51 Perform Incremental Pressure Increases to Uprate MAOP**

- 51.1 Identify and demonstrate a working knowledge of performing incremental pressure increases to uprate maximum allowable operating pressure
- 51.2 Perform incremental pressure increases
- 51.3 Recognize and react to abnormal operating conditions when performing incremental pressure increases in order to uprate MAOP

**CT52 Operate Odorant Equipment**

- 52.1 Understand the characteristics of odorants and the requirements for odorants in natural gas pipelines
- 52.2 Determine odorization injection rates and test for odorant levels
- 52.3 Recognize the different types of odorant injection equipment
- 52.4 Operate and maintain an odorant injection system

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52.5 Explain how to recognize and react to abnormal conditions for operating odorant equipment

**CT54 Gas Detection and Alarm System Maintenance and Performance Testing**

54.1 Identify and describe gas detection devices and their alarm systems

54.2 Calibrate, test, and maintain gas detection systems

54.3 Recognize and react to abnormal operating conditions while calibrating, testing, and maintaining gas detection and alarm systems

**CT55 Isolation of a Gas Compressor Unit**

55.1 Isolate a gas compressor unit

55.2 Prepare an isolated compressor unit for start-up

55.3 Recognize and react to abnormal operating conditions when isolating a gas compressor unit

**CT56 Compressor Station Inspection and Testing of Remote Control Shutdown Devices**

56.1 Identify and describe remote control shutdown devices and associated terms

56.2 Test remote control shutdown devices

56.3 Recognize and properly respond to abnormal conditions that may be encountered

**CT57 Startup, Shutdown and Operation of a Turbine Driven Gas Compressor Unit**

57.1 Understand the operation of a turbine driven gas compressor unit

57.2 Start-up a turbine driven gas compressor unit

57.3 Shutdown a turbine driven gas compressor unit

57.4 Operation of a turbine driven gas compressor unit

57.5 Recognize and react to abnormal operating conditions when performing start-up, shutdown, and operation of a turbine driven gas compressor unit

**CT58 Startup, Shutdown and Operation of an Engine Driven Gas Compressor Unit**

58.1 Understand the operation of an engine driven gas compressor unit

58.2 Start-up an engine driven gas compressor unit

58.3 Shutdown of an engine driven gas compressor unit

58.4 Operation of an engine driven gas compressor unit

58.5 Recognize and react to abnormal operation conditions when performing the start-up, shutdown, and operation of an engine driven gas compressor unit

**CT60 General Abnormal Operating Conditions**

60.1 Define and understand an abnormal operating condition

60.2 Recognize and respond to the malfunction or failure of pipeline components

60.3 Recognize and respond to physical damage to the pipeline system

60.4 Recognize and respond to the unexpected activation of a safety device

60.5 Recognize and respond to abnormal facility conditions

60.6 Prevention of accidental Ignition

**CT61 Documentation, Reporting, & OQ Recordkeeping**

61.1 Identify and maintain required documentation

61.2 Identify safety related conditions that require reporting

61.3 Identify operator qualifications (OQ) record keeping requirements

**CT62 Inspecting and Remediating Pipeline Hazard Protection**

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- 62.1 Identify types of pipeline hazards
- 62.2 Identify and inspect protective physical barriers
- 62.3 Recognize and react to abnormal operating conditions

<b>CT65</b>	<b>Damage Prevention During Excavation of In-Service Pipe by or on Behalf of an Operator</b>
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- 65.1 Prepare for excavation activities
- 65.2 Perform inspection activities during excavation
- 65.3 Inspection activities following excavation
- 65.4 Recognize and react to abnormal operating conditions