

About This Online Training

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001	Operator Qualification Summary
	<p>After completing this module, the learner will:</p> <ol style="list-style-type: none"> 1. Be familiar with the Department of Transportation Operator Qualification Rule which requires pipeline operators to develop and maintain a written qualification program for individuals performing covered tasks on pipeline facilities. 2. Be familiar with DOT requirements for pipeline operators to qualify their work force on covered tasks. 3. Be familiar with Subpart N in 49 CFR Part 192 and Subpart G in 49 CFR Part 195.
100	Prevention of Accidental Ignition & Potential Ignition Sources
	<p>Upon completion of this module, the learner will be able to explain the DOT rules governing Accidental Ignition Sources of Natural Gas and describe the steps necessary to eliminate or minimize these dangers.</p> <p>Enabling Objectives:</p> <ol style="list-style-type: none"> 1. Define the fire triangle elements 2. Explain the requirements of DOT regulation 192.751 "Prevention of Accidental Ignition of Natural Gas." 3. List four common ignition sources for escaping natural gas: <ol style="list-style-type: none"> a. Hot work (welding/cutting) b. Open flames (smoking) c. Static electricity d. Internal combustion engines 4. Describe actions that can be taken to reduce the buildup and/or discharge of static electricity on natural gas piping. 5. Define hot cutting and welding as it applies to natural gas piping. 6. Define cold cutting and welding as it applies to natural gas piping. 7. Explain the safety precautions to be taken when hot welding or cutting. 8. Explain the safety precautions to be taken when cold welding or cutting. 9. Describe how to isolate pipeline segments to minimize the potential of accidental ignition of natural gas.
101	Recognize & React to Abnormal Operating Conditions & Safety Related Conditions
	<p>After completing this module:</p> <ol style="list-style-type: none"> 1. The learner will become familiar with the Department of Transportation definition of Abnormal Operating Conditions. 2. The learner will be able to recognize Abnormal Operating Conditions on a pipeline facility. 3. The learner will be able to take safe corrective action(s) regarding Abnormal Operating

	<p>Conditions to ensure the safety of people first, property and the environment.</p> <ol style="list-style-type: none"> 4. The learner will be able to explain the difference between "Abnormal Operating Conditions" as defined in the Operator Qualification Rule 192.803 and 195.503 and "Abnormal Operations" as defined in 192.605[c] and 195.402[d]. 5. The learner will be able to describe potential "Safety Related Conditions." 6. The learner will have knowledge of the special consideration that should be given to the development of written procedures for the timely analysis of, and follow through on, information obtained through the use of an instrumented (smart) pig. 7. The learner will be able to list typical Abnormal Operating Conditions on a pipeline facility. 8. The learner will be able to rate the level of hazard associated with identified Abnormal Operating Conditions.
102	<p>Emergency Plans & Public/Contractor Education</p> <p>This OQ module will aid Team members understanding of compliance issues with DOT Office of Pipeline Safety regulations and model company procedures development and review of emergency plans, public and contractor education and Damage Prevention - One call systems.</p> <p>Enabling Objectives:</p> <ol style="list-style-type: none"> 1. Define emergency plans and review intervals. 2. Define damage prevention programs including the One call system. 3. Define public and contractor education regarding natural gas and products pipelines. 4. Reactions Team members should prepare the appropriate procedures concerning damage to a pipeline from an outside force. 5. Develop action plans to safely respond to an accidental release of natural gas. 6. Review the contents of Emergency Plans and actions required pre and post release.
103	<p>Characteristics & Properties of Natural Gas</p> <p>Upon completion of this module:</p> <ol style="list-style-type: none"> 1. The user will learn about the history of the use of natural gas. 2. The user will learn about the composition and properties of natural gas. 3. The user will learn about the flammable characteristics of natural gas. 4. The user will learn about monitoring for natural gas leaks and for carbon monoxide. 5. The user will learn about methods used to increase the safety of natural gas pipelines.
105	<p>CGIs & Flame Ionization Units</p> <p>Upon completion of this course the learner will to describe:</p> <ol style="list-style-type: none"> 1. The different categories of combustible gas instruments (Whetstone bridge circuits and electro-chemical sensors). 2. The basic characteristics and properties of natural gas. 3. The fire triangle and flammable range of natural gas – lower explosive limit (LEL) and upper explosive limit (UEL). 4. OSHA safe working levels for natural gas – 20% of the lower explosive limit. 5. The use, operation, and inspection of combustible gas indicators. 6. The use, operation, and inspection of flame ionization units. 7. The hazards of carbon monoxide and techniques used to detect its presence. 8. The principles of Wheatstone bridge circuits.
106	<p>OSHA/DOT – Excavation Safety</p> <p>Upon completion of this module:</p> <ol style="list-style-type: none"> 1. The learner will have a general understanding of the regulations governing excavation safety. 2. The learner will understand many of the specific terms and their definitions relating to excavations. 3. The learner will understand the conditions and forces that can act upon soil to create the potential for dangerous cave-ins. 4. The learner will become familiar with the four basics soil types, including visual and manual tests to determine them, and how they relate to excavation safety.

	5. The learner will become familiar with methods used to protect an excavation, including shoring, shielding, and sloping.
107	Pipeline Pigging
	<p>Upon completion of this course the learner will understand:</p> <ol style="list-style-type: none"> 1. The reasons for pigging a pipeline, and the types of pigs used for different situations. 2. How pigging is used during different phases over the life of a pipeline, from construction to decommissioning. 3. Techniques common to pipeline pigging. 4. The steps involved in safely launching or receiving pigs. 5. Techniques used during smart pigging operations.
200	Leak Survey & Leak Classification
	<p>Upon completion of this module, the learner will be able to:</p> <ol style="list-style-type: none"> 1. Define the DOT class locations as defined in DOT's 192.5. 2. Describe how to perform a house count using a "class location unit" map. 3. Define the different class locations and the "sliding mile" used to determine class locations. 4. Define the frequency of surveys for transmission, jurisdictional gathering and distribution facilities. 5. Define the different types of natural gas facilities that are patrolled. 6. Describe the difference between leak surveys and pipeline patrols. 7. Describe the survey procedure for transmission, jurisdictional gathering and distribution facilities including defining a "Business District." 8. Describe the requirements for installing pipeline marker signs. 9. Formulate a leak survey and patrol plan. 10. Describe natural gas detection instruments used during surveys. 11. Describe bar hole testing procedures. 12. Describe natural gas migration patterns. 13. Explain the importance of maintaining leak survey records. 14. Describe four leak classes based on model industry procedures.
201	Population Density Change & Pipeline Patrol
	<p>Upon completion of this module the learner will be able to:</p> <ol style="list-style-type: none"> 1. Define the DOT class locations as defined in DOT's 192.5 2. Define the frequency of surveys for transmission, jurisdictional gathering and distribution facilities 3. Define the different types of natural gas facilities that are patrolled 4. Describe the difference between leak surveys and pipeline patrols 5. Describe the patrol procedure for transmission, jurisdictional gathering and distribution facilities 6. Describe the requirements for installing pipeline marker signs 7. Formulate a pipeline patrol plan 8. Describe how to perform a house count using a "class location unit" map 9. Describe natural gas detection instruments used during patrols 10. Describe typical gas migration patterns 11. Explain the importance of maintaining pipeline patrol records 12. Describe four leak classes based on model industry procedures 13. Recognize procedures to follow when exposed pipe is located including marking exposed pipe and scheduling exposed pipe maintenance 14. Successfully complete the certification exam
202	Odorization: Concentration Testing
	<p>Upon completion of the course the user will understand the purpose of odorizing natural gas, usage of odorants, and their applications.</p> <p>Enabling Objectives:</p> <ol style="list-style-type: none"> 1. Understanding odorization regulation compliance:

	<ol style="list-style-type: none"> a. Federal standard definition b. Odorant distribution systems c. Odorant class determination <ol style="list-style-type: none"> 2. Understanding basic natural gas odorant usage: <ol style="list-style-type: none"> a. Component selection b. Odorizer equipment usage 3. Understanding the testing of odorants <ol style="list-style-type: none"> a. Types of testing b. Record keeping of odorant usage 4. Performing odorometer operation and maintenance 5. Understanding safe handling and storage of odorants
205	Pipeline Crossings
	<p>Upon completion of this module the learner will be able to:</p> <ol style="list-style-type: none"> 1. Recognize construction procedures and conditions present at bridges, stream crossings, ravines, levees, highways and railroad crossings. 2. Recognize special considerations at highway and railroad crossings including permits requirements, cased crossings, boring crossings, depth or cover, angle of crossings, pipe size, surface repairs and pre-tested pipe. 3. Recognize considerations at creek and stream crossings, ravines and levee to prevent pipe movement. 4. Understand DOT Pipeline Safety regulations regarding external corrosion control of buried or submerged pipelines. 5. Understand how the use of electrical surveys, review of corrosion history and records of exposed pipe examinations can assist in locating corrosion areas on the pipeline. 6. Know the protective measures and methods used to control atmospheric corrosion.
206	Leak & Pipeline Failure Investigation
	<p>Upon completion of the course, the user will understand the importance of the control of pipeline leakage and proper steps to leak investigation necessary for the safe operation of any pipeline system.</p> <ol style="list-style-type: none"> 1. Define the regulations to leak investigations. 2. Define the scope of trained personnel. 3. Define the scope or level of a leak in progress. 4. Define special precautions for types of leaks. 5. Aspects of gas leak detection. 6. Describe how to conduct a leak survey.
207	Investigating Pipeline Failure
	<p>Upon completion of the course, the user will understand the importance of the control of pipeline leakage and proper steps to leak investigation necessary for the safe operation of any pipeline system.</p> <p>Enabling Objectives</p> <ol style="list-style-type: none"> 1. Will review DOT's Continuing Surveillance regulation 192.613. 2. Will review DOT's Investigation of Failure regulation 192.617.
300	Damage Prevention: Locating and Marking Pipeline
	<p>Upon completion of this module, the learner will be able to:</p> <ol style="list-style-type: none"> 1. List requirements for a damage prevention written program. 2. State excavator/contractor, one-call center, and facility owner responsibilities for damage prevention. 3. State the two locating methods and the procedures for performing each type. 4. List the marker colors and their associated utilities. 5. State the types of media used for public education of damage prevention.
301	Vault Inspection and Confined Space Entry

	<p>Upon completion of this module, the learner will be able to:</p> <ol style="list-style-type: none"> 1. Summarize DOT Regulation 192.749 Vault Maintenance. 2. Explain the purpose of DOT vault maintenance and inspection procedures. 3. State the frequency of DOT vault inspections. 4. Recognize and explain the potential causes of hazardous atmospheres in vaults. 5. Demonstrate the vault entry monitoring requirements. 6. Identify the necessary safety equipment required for vault entry. 7. Demonstrate the vault inspection procedures. 8. Explain OSHA's confined space requirements (29 CFR 1910.146) for permit-required confined spaces. 9. State OSHA's definition of a <i>confined space</i>. 10. Identify the four classes of hazards that may be present in a confined space. 11. State the confined space entry planning steps. 12. List the pre-entry training requirements for confined space entry. 13. Summarize DOT Regulation 192.751 regarding Prevention of Accidental Ignition.
305	Dehydration of Natural Gas – Part 1
	<p>Upon completion of this course, the learner will be able to:</p> <ol style="list-style-type: none"> 1. Describe the purpose for dehydrating gas. 2. Describe the flow of material and equipment used in the Triethylene Glycol Dehydration process. 3. List maintenance tips and operating checks to ensure proper and efficient operation of the Triethylene Glycol Dehydration unit.
306	Dehydration of Natural Gas – Part 2
	<p>Upon completion of this course, the learner will be able to:</p> <ol style="list-style-type: none"> 1. Show knowledge of the triethylene glycol analysis process. 2. Give examples of regular maintenance procedures for the triethylene glycol gas dehydration process and equipment. 3. Show knowledge of the steps involved in startup and basic trouble shooting of a triethylene glycol gas dehydration unit.
400	Valve Operators
	<p>Upon completion of this module, the learner will be able to:</p> <ol style="list-style-type: none"> 1. Demonstrate an understanding of valve operations and perform basic valve operator maintenance in accordance with the original equipment manufacturers procedures. 2. Identify and explain the operation/application of the following types of valve operators: <ul style="list-style-type: none"> o Rotary o Linear o Pneumatic 3. Demonstrate preventive maintenance for a valve operator. 4. Demonstrate basic operation of lubrication equipment. 5. Demonstrate safety precautions while performing valve operator maintenance.
401	Valve Maintenance
	<p>Upon completion of this module, the learner will be able to:</p> <ol style="list-style-type: none"> 1. Demonstrate an understanding of valve operations. 2. Perform basic valve maintenance in accordance with the Department of Transportation regulation 49 CFR 192.745, 192.747, and 192.749. 3. Identify and explain the operation/application of the following types of valves: <ul style="list-style-type: none"> o Gate o Ball o Plug 4. Demonstrate preventive maintenance for a valve operator. 5. Demonstrate basic operation of lubrication equipment. 6. Demonstrate safety precautions for vault entry.

402	Inspecting & Testing Relief Valves, Regulators, & Control Valves
	<p>Upon completion of this module, the learner will:</p> <ol style="list-style-type: none"> 1. Have a general understanding of the background and necessity for the Operator Qualification training modules. 2. Have a basic understanding of pressure as it relates to natural gas. 3. Recognize the importance of safety devices and design criteria used in pressure regulating stations. 4. Be able to describe Spring-Loaded and Pilot-Loaded regulators and relief valves. 5. Be able to describe a Monitor Regulator System. 6. Identify, recognize and react to abnormal conditions. 7. Know how to perform Regulator and Relief Valve inspections in accordance with Department of Transportation regulations 49 CFR 192.731, 192.739 & 192.743.
403	Pressure Testing Steel & Plastic Pipelines
	<p>Upon completion of this module, the learner will:</p> <ol style="list-style-type: none"> 1. Have a general understanding of the background and necessity for the Operator Qualification training modules. 2. Have a basic understanding of pressure as it relates to natural gas. 3. Recognize the importance of safety devices and design criteria used in pressure regulating stations. 4. Be able to describe Spring-Loaded and Pilot-Loaded regulators and relief valves. 5. Be able to describe a Monitor Regulator System. 6. Identify, recognize and react to abnormal conditions. 7. Know how to perform Regulator and Relief Valve inspections in accordance with Department of Transportation regulations 49 CFR 192.731, 192.739 & 192.743.
404	Plastic Pipe Fusion
	<p>Upon completion of this module:</p> <ol style="list-style-type: none"> 1. The learner will have a general understanding of the background and necessity for the Operator Qualification training modules. 2. The learner will have a basic understanding of the different kinds of plastic pipe used in the heat fusion process. 3. The learner will understand the basic principles of heat fusion. 4. The learner will be able to perform the steps involved in the heat fusion process. 5. The learner will be familiar with the qualification procedures used to inspect and test the fused joints. 6. The learner will be familiar with the common safety precautions to take when handling polyethylene pipe. 7. The learner will understand the hazards of static electricity, as well as steps to take to prevent sparks.
404S	Plastic Pipe Fusion – Spanish Version
	<p>Al completar este módulo:</p> <ol style="list-style-type: none"> 1. El aprendiz tendrá conocimiento general del fondo de los módulos de entrenamiento y su necesidad para la Calificación de Operador. 2. El aprendiz tendrá conocimiento básico de los diferentes tubos de plástico que se usan durante el proceso de fusión por calor. 3. El aprendiz entenderá los principios básicos de fusión por calor. 4. El aprendiz podrá desempeñar los pasos implicados en el proceso de fusión por calor. 5. El aprendiz se familiarizará con los procedimientos de calificación que se usan para inspeccionar y probar las conexiones fusionadas. 6. El aprendiz se familiarizará con las precauciones comunes de seguridad que deben tomarse al manipular tubería de polietileno. 7. El aprendiz comprenderá los riesgos de la electricidad estática, así como cuales pasos tomar para evitar chispas.

405	Electrofusion
	<p>Upon completion of this module:</p> <ol style="list-style-type: none"> 1. The learner will have an understanding of the necessity for Operator Qualification. 2. The learner will have a basic understanding of the different kinds of plastic pipe used in the electrofusion process. 3. The learner will understand the basic principles of electrofusion. 4. The learner will be able to perform the steps involved in the electrofusion process. 5. The learner will be familiar with the qualification procedures used to inspect and test the fused joints. 6. The learner will be familiar with the common safety precautions to take when handling polyethylene pipe. 7. The learner will understand the hazards of static electricity, as well as steps to take to prevent sparks.
406	Mechanical Fittings
	<p>Upon completion of this module:</p> <ol style="list-style-type: none"> 1. The learner will be able to list the benefits of Lycofit® fittings. 2. The learner will be able to state how an employee can become qualified in joining plastic pipe with mechanical fittings. 3. The learner will be able to state the procedures for installing various types of couplings.
407	Joining Steel Pipe Other Than by Welding
	<p>Upon completion of this course, the learner will be able to:</p> <ol style="list-style-type: none"> 1. Describe safety and environmental issues associated with joining equipment and pipe including, but not limited to, pressurization, hot work permitting, area monitoring for flammable concentrations, potential asbestos, and lead exposures. 2. Given a pipe diameter on a threaded connection, determine the correct length of threads for that pipe. 3. Describe different types and appropriate application of pipe thread sealing compound and tape. 4. Discuss the precautions that are necessary when dealing with slip type fittings (i.e., Dresser type couplings). 5. State the specifications that should be met when choosing bolts and nuts. 6. State the tightening sequence and numbering system for all size flange connections. 7. Describe the appropriate length of a bolt for a particular job. 8. Given a used threaded fastener, explain what you are looking for and determine whether the fastener can be re-used. 9. Given a torque wrench from your location: <ol style="list-style-type: none"> o State how often a torque wrench must be calibrated. o Locate the calibration records for the torque wrench. o Locate the calibration specifications for the torque wrench. o Demonstrate the proper care and maintenance of the torque wrench. 10. Define Abnormal Operating Conditions (AOC) and describe AOCs that may be encountered while performing pipe connections and the appropriate response to each.
409	Pipeline Leak Repair
	<p>Upon completion of this course:</p> <ol style="list-style-type: none"> 1. The learner will know the DOT requirements for repairs on existing pipelines. 2. The learner will understand the special requirements for repairing Dresser coupled pipelines. 3. The learner will know the basic steps involved in reinforcement and repair of pipes using Clock Springs® and Armor Plate®. 4. The learner will understand special considerations for repairs on new pipelines. 5. The learner will understand the precautions to be followed during hot and cold cutting and welding.

411	Pipeline Purging
	<p>Upon completion of this module:</p> <ol style="list-style-type: none"> 1. The learner will understand the mechanical nature of purging through displacement or dilution. 2. The learner will understand the use of valves, blanks, and physical disconnects for isolating equipment. 3. The learner will understand the process of purging a pipeline with air. 4. The learner will understand the process of purging a pipeline with natural gas. 5. The learner will understand safety precautions to be considered when purging a pipeline.
412	Hot Tapping and Stopping
	<p>Upon completion of this course, the employee will be able to:</p> <ol style="list-style-type: none"> 1. Understand the mechanical procedures, safety precautions, and limitations of pressurized pipeline tapping. 2. Understand the use of procedures and precautions on preparing a pipeline for a hot tap operation. 3. Understand the mechanical procedures for pressurized pipeline stopping. 4. Be able to perform the mechanical procedures and precautions for the completion of pressurized pipeline stopping.
413	Up-Rating Pipeline Systems
	<p>Upon completion of this module, the learner will be able to:</p> <ol style="list-style-type: none"> 1. Determine present system and facilities condition. 2. Review the proposed up-rate pressure. 3. Understand the up-rate plan elements. 4. Write an up-rate plan. 5. Determine system conditions before pressure increases. 6. Maintain the required up-rate records.
414	Abandonment of Facilities
	<p>Upon completion of this module, the learner will:</p> <ol style="list-style-type: none"> 1. Understand the need for deactivation and abandonment of pipeline facilities. 2. Understand the procedures required for deactivating and abandoning steel and plastic pipeline facilities, including mains, services, regulators, meters, and odorizers. 3. Understand the importance of documenting deactivated and abandoned facilities.
415	Installation of Anodes
	<p>Upon completion of this module, the learner will be able to:</p> <ol style="list-style-type: none"> 1. Define terms needed for installing anodes and for leak repair. 2. State the basic concept of the galvanic anode theory. 3. List the different types of anodes and their uses. 4. State the basic concept of installing anodes. 5. List the steps needed for using the cable bonding technique and for exothermic welding. 6. State the steps used for a soldering procedure.
416	Pipeline Shutdown and Startup Planning
	<p>Upon completion of this course:</p> <ol style="list-style-type: none"> 1. The learner will know the steps involved and factors to be considered during a planned shutdown. 2. The learner will know the steps involved in returning a shutdown section to operation and in starting up a new line. 3. The learner will know the basic procedures involved in planning for an emergency shutdown. 4. The learner will know how to prevent accidental ignition during startup and shutdown.
417	Installation of Plastic Mains and Services – Part 1

	<p>Upon completion of this module, the learner will be able to:</p> <ol style="list-style-type: none"> 1. Understand the precautions and practices to follow when handling and storing plastic pipe. 2. Understand the basic procedure for installing plastic pipe used for natural gas main and service line applications according to DOT Regulations Part 192 Subpart G. 3. Understand how to locate main and service line valves and verify feed to mains according to DOT Regulations Part 192 Subpart G. 4. Understand the basic procedure for installing transition fittings. 5. Understand the basic procedure for installing excess flow valves according to DOT Regulations 192.381 and 192.383. 6. Understand the basic procedure for abandoning and reinstating mains and services according to DOT Regulation 192.727. 7. Determine the correct procedure to be used and adhere to the procedure for installing tracer wire according to DOT Regulation 192.321.
418	Installation of Plastic Mains and Services – Part 2
	<p>Upon completion of this module, the learner will:</p> <ol style="list-style-type: none"> 1. Be familiar with the methods used for the direct burial of plastic pipe according to DOT Regulations 192.321 and 192.375. 2. Be familiar with the procedures used in direct burial of plastic pipe. 3. Understand the recommended procedures for tie-ins and tapping service punch tees according to DOT Regulations 192.367 and 192.627. 4. Be able to determine when squeezing plastic pipe is desirable, as well as be able to follow the squeeze-off procedure to complete the operation. 5. Determine when it is desirable to insert plastic pipe in an existing line, as well as be able to follow the plastic pipe insertion procedure. 6. Explain the procedure for pressure testing mains and services. 7. Understand and be able to perform the procedure for purging mains according to DOT Regulation 192.629. 8. Understand the procedures involved in repairing PVC pipe according to DOT Regulation 192.281.
419	Natural Gas Operations and Maintenance Safety
	<p>Upon completion of this module, the learner will:</p> <ol style="list-style-type: none"> 1. Be familiar with general safety precautions to follow during natural gas operations and maintenance. 2. Be aware of the importance of and procedure for testing for gaseous or oxygen-deficient atmosphere. 3. Be able to follow the procedure for lock-out and tag-out of gas valves. 4. Be familiar with trenching and excavation safety guidelines. 5. Understand and be able to avoid the hazards involved in directional boring. 6. Understand the basics of traffic management and be able to plan typical traffic control zones. 7. Know the hazards associated with static electricity, as well as how to minimize the possibility of ignition from static electricity. 8. Have a working knowledge of the Hazard Decision Tree Analysis.
420	Installation of Steel Mains and Services
	<p>Upon completion of this course, the learner will be able to:</p> <ol style="list-style-type: none"> 1. Describe and perform proper handling, storage and inspection of steel pipe. 2. Describe "Jeeping" techniques used to inspect pipe coating for damage. 3. Describe procedure to follow when making pipe coating repairs. 4. Explain the typical right-of-way and easement requirements. 5. Describe excavation requirements including pipeline depth and clearance requirement from other underground structures. 6. Describe pipe installation requirements for overhead and underground highway, railroad, streams, rivers and levee crossings.

	<ol style="list-style-type: none"> 7. Describe the procedures for installing pipelines, including joining pipe by welding or with fittings, lowering-in, pressure test and backfilling the excavation. 8. Describe the requirements for installing steel Distribution Service lines including meter installation, connection to curb valves and connection to the main by tapping.
421	Pipeline Tie-in Methods
	<p>Upon completion of this course, the learner will be able to:</p> <ol style="list-style-type: none"> 1. Describe tie-in considerations regarding job planning, safety, equipment, materials and manpower requirements. 2. Describe the tie-in procedure including line shutdown, purging, welding procedures, pressure testing pipe, required fittings and returning the pipeline to service. 3. Identify various tie-in configuration connections. 4. Describe the installation of one and two piece control fittings, steel-to-plastic transition fittings, curb and service valve tees, three way tees, tapping and drilling and stopping procedures for steel pipe.
500	Atmospheric Corrosion – Distribution Operations
	<p>The purpose of this course is to understand the requirements for atmospheric corrosion control as it relates to distribution operations. To comply with DOT standards on this subject you must:</p> <ol style="list-style-type: none"> 1. Understand the basics of the corrosion process 2. Know the basic methods of preparing a surface to be treated for protection against corrosion 3. Understand specific attributes of and risk factors for atmospheric corrosion 4. Know the protective measures and methods used to control atmospheric corrosion
501	Cathodic Protection Troubleshooting
	<p>Upon completion of this module:</p> <ol style="list-style-type: none"> 1. The user will gain a basic understanding of the equipment needed to locate and repair rectifier failures. 2. Precautions that should be followed while troubleshooting rectifiers is covered in this lesson. 3. In this lesson the user will cover the most common problems with rectifier failures. 4. Helpful troubleshooting tips are given in Lesson 4. 5. The user will cover the procedure guidelines for troubleshooting in Lesson 5. 6. The user will cover the most basic troubleshooting techniques used when locating contacts.
502	Cathodic Protection – Rectifier Inspections
	<p>Upon completion of this module, the learner will be able to:</p> <ol style="list-style-type: none"> 1. Define corrosion. 2. List the types of corrosion. 3. State the conditions that must be met for corrosion to exist. 4. List the three main methods for controlling corrosion on pipelines. 5. State the main principals of cathodic protection and how it works. 6. Explain the role of galvanic anodes in the cathodic protection of pipelines. 7. State the primary difference between impressed current systems and galvanic systems. 8. List the two types of rectifiers and state the different functions of each. 9. List the inspection guidelines. 10. Calculate efficiency using the efficiency formula.
503	Protective Coatings
	<p>Upon completion of this module:</p> <ol style="list-style-type: none"> 1. The user will understand the basics of the corrosion process. 2. The user will know the basic methods of preparing a surface to be treated for protection against corrosion. 3. The user will know specific methods for coating below-ground pipe sections and field

	<p>joints.</p> <p>4. The user will know methods for inspecting, repairing, and handling coated pipe.</p>
504	<p>Installation of Test Stations</p> <p>Upon completion of this module:</p> <ol style="list-style-type: none"> 1. The user will learn terms needed to discuss exothermic welding and its procedures. 2. The user will understand test stations and their functions. 3. The user will understand the different types of test stations used for pipe-to-soil surveys. 4. The user will learn about test station installation methods. 5. The learner will become familiar with cable bonding technique and exothermic welding methods used in the installation of test stations. 6. The learner will become familiar with soldering methods used in the installation of test stations. 7. The user will have an understanding of materials, spacing and location that is important to the installation of test stations.
505	<p>Cathodic Protection Criteria</p> <p>Upon completion of this module:</p> <ol style="list-style-type: none"> 1. The user will know the meaning of "criteria" in relation to cathodic protection. 2. The user will understand the specific cathodic protection criteria for different piping applications. 3. The user will know the different cathodic protection surveys that are conducted to assure the criteria are being met. 4. The user will understand the importance of the evaluation and reporting of data gathered on cathodic protection surveys.
506	<p>Electrical Insulator Inspections & Testing Casings</p> <p>Upon completion of this module:</p> <ol style="list-style-type: none"> 1. The learner will be able to state the purpose of pipe casings. 2. The learner will be able to list the three categories of casings. 3. The learner will be able to state the functions of protective coatings for casings. 4. The learner will be able to determine if a reading is indicative of a shorted casing.
507	<p>Internal Corrosion Monitoring</p> <p>Upon completion of this module, the learner will be able to:</p> <ol style="list-style-type: none"> 1. Demonstrate knowledge and understanding of causes of internal corrosion. 2. Demonstrate knowledge and understanding of methods of controlling internal corrosion. 3. Describe the types of internal corrosion and the major agents involved. 4. Describe the internal surface inspection requirements for pipelines and the requirements when internal corrosion is found. 5. Describe the importance of pipeline cleanliness and application methods of chemical inhibition of pipeline corrosion. 6. Install and maintain internal corrosion monitoring equipment. 7. Install and maintain chemical inhibitor injection equipment. 8. Perform gas quality tests for hydrogen, carbon dioxide, water, nitrogen, hydrocarbons, oxygen and temperature. 9. Perform an internal pipe inspection on pipe removed from the pipeline system.
508	<p>Interference (A/C and D/C)</p> <p>Upon completion of this module:</p> <ol style="list-style-type: none"> 1. The learner will be able to define foreign interference. 2. The learner will be able to list the three types/categories of stray current. 3. The learner will be able to describe static, dynamic, and AC induced stray current. 4. The learner will be able to calculate the total circuit resistance of a given bond. 5. The learner will be able to list the methods to eliminate stray current interference.
509	<p>Pipe-to-Soil Surveys</p>

	<p>Upon completion of this module:</p> <ol style="list-style-type: none"> 1. The user will have a general understanding of corrosion, the different types of corrosion, and what conditions must be met for it to exist. 2. The user will understand bacterial corrosion is and how it can cause corrosion on metals. 3. The user will learn how different factors cause corrosion to occur at different rates. 4. The user will become familiar with Rectifier Troubleshooting and the most common problems identified with rectifiers. 5. The user will become familiar with pipe-to-soil surveys and the maintenance and equipment needed to conduct the surveys. 6. The user will learn how electrode placement is an important issue when conducting pipe-to-soil surveys. 7. The user will understand the use of meters when used to read potentials while conducting pipe-to soil surveys. 8. The user will understand the procedures used to administer a Close Interval Survey. 9. The user will have a general understanding of the use of a data logger system and its advantages. 10. The user will be able to locate and bond dresser couplings.
510	Atmospheric Corrosion – Pipeline Operations
	<p>The purpose of this course is to understand the requirements for atmospheric corrosion control as it relates to pipeline operations. To comply with DOT standards on this subject you must:</p> <ol style="list-style-type: none"> 1. Know DOT Part 192 Section 192.481 and Part 195 Subpart H - Corrosion Control Sections 195.581 and 195.583(a)(b)(c) relating to atmospheric corrosion in pipeline operations. 2. Understand the basics of the corrosion process 3. Know the basic methods of preparing a surface to be treated for protection against corrosion 4. Understand specific attributes of and risk factors for atmospheric corrosion 5. Know the protective measures and methods used to control atmospheric corrosion
511	Rigging – Inspection and Safety
	<p>After completing this module, operating personnel will be able to:</p> <ol style="list-style-type: none"> 1. Describe the three basic components of rigging safety: job planning, inspection of tools and equipment, and the proper use of equipment. 2. State the five steps of planning a safe rigging job. 3. Perform basic calculations for the area of a square, the volume of a cube, the volume of a cylinder, and the radius of a circle to determine the weight of a load. 4. Calculate the weight and center of gravity of a load. 5. Determine sling tension by referencing the manufacturer's data sheets. 6. Inspect the rigging equipment including wire rope, slings, chains, eyebolts, shackles, turnbuckles, hoists, lifting beams, spreader bars, and snatch blocks in accordance with OSHA regulations. 7. State safe rigging practices and explain the proper use of rigging equipment. 8. Identify the standard hand signals used in rigging.
600	Electric Arc Welding
	<p>Upon completion of this module, the learner will be able to:</p> <ol style="list-style-type: none"> 1. List the types of electric arc welding. 2. Identify various types of joints and when they should be used. 3. Explain several common types of weld defects and how they can be prevented. 4. State how to preheat a weld area. 5. Explain electrode selection and storage. 6. List the welding sequence or order of weld metal application. 7. Explain pipe beveling and pipe lineup requirements. 8. Describe arc welding techniques and striking the arc. 9. Explain hot and cold welding and cutting. 10. Explain weld positions.

	<ol style="list-style-type: none"> 11. Explain field inspection of welds. 12. Identify safety precautions during electric arc welding.
601	Welder Qualification
	<p>Upon completion of this module, the learner will be able to:</p> <ol style="list-style-type: none"> 1. State and describe the positions of butt, fillet, and 90° branch welds. 2. List safety precautions for welders regarding various welding equipment. 3. Describe the three types of passes in shielded metal arc welding. 4. List the equipment needed for oxy-acetylene welding. 5. List the essential variables. 6. State the qualifications for single and multiple qualification tests. 7. Describe how to perform macro-section tests and face bend tests on branch and sleeve welds. 8. List the essential elements for the five typical welder qualification tests. 9. Explain the DOT 192 Appendix C - Basic Test.
602	Weld Repairs and Welding Procedures
	<p>Upon completion of this module, the learner will be able to:</p> <ol style="list-style-type: none"> 1. State the functions of a welding inspector. 2. List the percentages of each day's butt welds to be tested, depending upon class location, when nondestructive testing is required. 3. Explain the common welding defects and how to cure them. 4. List the information needed on welding inspection reports. 5. List the typical essential variables.
604	Oxygen/Acetylene Welding & Cutting
	<p>Upon completion of this module, the learner will be able to:</p> <ol style="list-style-type: none"> 1. List the types of gas welding. 2. Identify various types of joints and when they should be used. 3. List the equipment needed for oxy/acetylene welding and cutting. 4. Identify neutral, carburizing, and oxidizing flames. 5. List the equipment needed for gas welding and cutting. 6. State a method of purging hoses. 7. Explain field inspection of welds. 8. Explain weld positions. 9. Explain hot and cold welding and cutting. 10. Identify safety precautions while gas welding and cutting.
700	Compressor Station Operations & Safety
	<p>The purpose of this course is to show the learner various procedures and safety precautions of Compressor Station Operation.</p> <ol style="list-style-type: none"> 1. Upon completion of this course the learner should be able to describe the components of the compressor station. 2. The learner should understand the purpose and components of a written emergency plan. 3. The learner will know the various Compressor Station Safety Systems such as: <ul style="list-style-type: none"> ○ Building Design ○ Liquid Removal ○ The Storage of Combustible Materials ○ Ventilation ○ Hazardous Gas/Heat Detection ○ Inspection and Testing of Relief Valves 4. The learner will be able to define and demonstrate the Emergency Shutdown Procedures 5. The learner will be able to define various electrical hazards that can be found on site and the safety precautions that must be taken.
701	Reciprocating Compressor Units

	<p>Upon completion of this module:</p> <ol style="list-style-type: none"> 1. The learner should be able to explain the theory of operation of an internal combustion-reciprocating compressor. 2. The learner will know the start-up, loading, unloading and shutdown procedures for the compressor. 3. The learner will know a compressor's classification and combustion cycles. 4. The learner should be able to name the parts of the compressor. 5. The learner will be able to troubleshoot this type of compressor and do the maintenance that is required.
703	<p>Compressor Operation: Turbine Units</p>
	<p>The purpose of this course is to examine the operational process of the turbine compressor unit. Upon completion of this module, the learner will be able to:</p> <ol style="list-style-type: none"> 1. Explain the theory of operation for the turbine compressor unit. 2. Describe the major components of the turbine unit. 3. State the purpose of the fuel gas, lubrication, and air systems. 4. Identify key components of the wet and dry seal systems. 5. Explain the theory of operation of the centrifugal compressor unit. 6. Explain the startup, loading, unloading, and shutdown procedures for the turbine compressor unit. 7. State two disadvantages of the turbine unit regarding maintenance.
704	<p>Compressor Operation: Compressor Cylinders</p>
	<p>Upon completion of this course:</p> <ol style="list-style-type: none"> 1. The learner will become familiar with the major components of a compressor cylinder. 2. The user will learn about compressor valve operation and the classification of cylinders. 3. The user will learn how to troubleshoot and change compressor cylinders, including methods to ensure safety during the operation. 4. The learner will become familiar with methods used to increase the efficiency of the compressor by maximizing the use of available horsepower. 5. The user will learn about piston rings and packing materials used to prevent leakage within the compressor system.
705	<p>Compressor Operation: Gas Path Integrity</p>
	<p>Upon completion of this module:</p> <ol style="list-style-type: none"> 1. The user will learn about activities that can compromise the integrity of the gas path and recommended maintenance activities that will minimize potential compromises. 2. The user will learn the definition of alignment as it applies to compressors, as well as means for adjusting alignment. 3. The user will learn about horizontal and vertical rod runout, including the formula for calculating rod runout. 4. The user will learn five critical compressor clearances involved in gas path integrity. For each one, measurement, records, acceptable limits, and adjusting will be discussed. 5. The learner will become familiar with various leak testing methods, especially ultrasonic leak detection. Special attention is given to assigning priorities for repairing gas leaks. 6. The user will learn about run-time verification tests to be performed after the unit has been started. 7. The user will become familiar with the principles of proper torquing of threaded fasteners.
706	<p>Compressor Operation: Power Cylinder Balancing</p>
	<p>Upon completion of this course, you will:</p> <ol style="list-style-type: none"> 1. Understand the importance of balanced engine power cylinders for fuel efficiency. 2. Understand the importance of balanced engine power cylinders for emissions control. 3. Realize how repair costs are lowered when engine power cylinders are balanced. 4. Know the correct procedures and methods to use for balancing power cylinders. 5. Understand how engine performance-monitoring tools, such as the Beta-Trap, are used to

	balance power cylinders.
800	Gas Control
	<p>Upon completion of this module:</p> <ol style="list-style-type: none"> 1. The learner will know the definitions of the major terms associated with Gas Control. 2. The learner will understand how companies control gas in a pipeline through flow rate and pressure. 3. The learner will have a basic knowledge of SCADA systems. 4. The learner will know the basics of compressor operations. 5. The learner will know how to conduct a simple Emergency Response. 6. The learner will understand means of overpressure protection for pipelines carrying high-pressure gas.
900	Fundamentals of Electricity
	<p>Upon completion of this module:</p> <ol style="list-style-type: none"> 1. The learner will understand basic properties of electricity, circuits, and safety device components. 2. The learner will understand Ohm's Law and how to apply its principles to resistive circuits. 3. The learner will understand the processes used to measure voltage, current, and resistance. 4. The learner will understand different types of switches and relays. 5. The learner will recognize the common electrical symbols and how they are incorporated into wiring and line diagrams. 6. The learner will understand the principles of inductance and capacitance. 7. The learner will understand waveform properties and phase relationships. 8. The learner will understand the properties and uses of transformers.
901	Basic Electronics: PLCs
	<p>Upon completion of this module:</p> <ol style="list-style-type: none"> 1. The learner will understand basic information about PLCs, including their history. 2. The learner will understand the basic hardware components associated with PLCs. 3. The learner will understand principles of PLC operation. 4. The learner will understand applications of PLCs in the natural gas industry. 5. The learner will understand installation, calibration and checkout, documentation, and troubleshooting PLCs. 6. The learner will understand peripheral devices used with PLCs. 7. The learner will understand waveform properties and phase relationships. 8. The learner will gain a basic understanding of ladder logic and other skills associated with programming PLCs.
902	Basic Electronics: SCADA
	<p>Upon completion of this module:</p> <ol style="list-style-type: none"> 1. The learner will know the history of SCADA systems. 2. The learner will be aware of the basic office hardware components of a SCADA system. 3. The learner will understand the basic field hardware components of a SCADA system. 4. The learner will understand the protocols the parts of a SCADA system use to communicate with each other. 5. The learner will know the basics of installing, calibrating, and troubleshooting a SCADA system.
1200	Underground Storage of Natural Gas and Liquids
	<p>Upon completion of this course, operating personnel will be able to:</p> <ol style="list-style-type: none"> 1. Explain the need for underground storage in the energy industry. 2. Explain the similarities and differences of "gas" and "liquids" products. 3. Explain the definitions of basic storage functions and terms. 4. Identify three types of underground storage commonly used, including:

	<ul style="list-style-type: none"> ○ Salt domes (salt caverns) ○ Aquifers ○ Depleted oil or gas fields <p>5. Explain the purpose and function of underground storage equipment, including:</p> <ul style="list-style-type: none"> ○ Wellheads ○ Separation ○ Measurement ○ Compression
LQ100	LQ: Subpart H – Corrosion Control
	Upon completion of this course, operating personnel will be able to explain the revised Department of Transportation regulations in Subpart H - Corrosion Control.
LQ201	LQ: Pipeline Patrol
	<p>Upon completion of this course, operating personnel will be able to:</p> <ol style="list-style-type: none"> 1. Explain the Department of Transportation (DOT) Office of Pipeline Safety Subpart H Corrosion Control and other regulations including 195.248, 195.410, 195.432, 195.434, 195.569, and 195.573(c). 2. State the recommended frequency of pipeline patrols. 3. Describe population changes and encroachments on or near pipeline facilities. 4. Explain DOT Regulations 195.412 and 195.413 regarding the underwater inspection and reburial of pipelines in the Gulf of Mexico and its inlets. 5. State the procedure for exposed pipeline inspection and maintenance. 6. State the procedure for inspecting and replacing right-of-way marker signs. 7. Determine the loss of cover exposing the pipeline. 8. State the procedure for inspecting in-service breakout tanks and list the required signs. 9. State how to perform bi-monthly rectifier inspections.
LQ300	LQ: Marking Pipelines – Temporary and Permanent
	<p>Upon completion of this course, operating personnel will be able to:</p> <ol style="list-style-type: none"> 1. Describe and perform DOT Regulation 195.252 excavation backfilling requirements for liquid pipeline operations. 2. Describe and perform DOT Regulation 195.410 requiring liquid pipeline operators to locate, install, and maintain permanent pipeline marker signs. 3. Describe DOT Subpart H - Corrosion Control Regulation 195.569(e) that requires liquid pipeline operators to perform a pipe inspection for evidence of external corrosion any time a pipeline is uncovered. 4. Describe and perform DOT Regulation 195.440 that requires that liquid pipeline operators establish a continuing education program. 5. Describe DOT Regulation 195.442 that requires liquid pipeline operators to have a written damage prevention program. 6. Describe how one-call systems operate and state the responsibilities of the pipeline operator, excavator/contractor, and one-call center for successful facility locates. 7. Describe and perform temporary pipeline marking using flags and marking paints, including timing and expiration of temporary markings. 8. Describe symbols typically used to temporarily mark pipelines and typical pipeline location methods. 9. State the qualifications required to successfully and safely perform pipeline location and marking, including required skills and knowledge. 10. Describe the process used to safely excavate near a pressurized pipeline, including an explanation of the proper "safety buffer" zone around the pipeline. 11. Describe the Abnormal Operating Conditions, recognition, and reactions associated with temporarily and permanently marking pipelines.
LQ400	LQ: Below Ground Pipe Coatings & Exposed Pipe
	Upon completion of this module operating personnel will be able to:

	<ol style="list-style-type: none"> 1. Describe the Department of Transportation (DOT) Office of Pipeline Safety regulations regarding belowground pipe coating for hazardous liquids pipelines (195.559, 195.563[a] 195.579[d]). 2. Describe "Remedial Actions" to be taken by the operator when exposed pipe is located including remaining strength (RSTRENG or other methods). 3. Describe the process of removal of pipe coating in areas of defective coating. 4. Describe the pipeline operator's responsibilities under Subpart H - Corrosion Control when exposed pipe is located (195.569). 5. Identify methods to mark exposed pipeline sections when located. 6. Identify and discuss two basic types of belowground corrosion. 7. Identify and discuss pipe surface preparation methods for pipe and appurtenance. 8. Describe methods for applying coating to properly prepared pipe sections, welded pipe joints and risers. 9. Describe how to prepare coating materials to be applied. 10. Describe the methods for inspecting, repairing, and handling coated pipe. 11. Describe methods of cleaning and preparing a pipe surface to accept a coating repair. 12. Explain the importance of "jeeping" a coated pipeline and the range of jeep settings. 13. Identify Abnormal Operating Conditions and reactions to these events for protective coatings and exposed pipe.
LQ415	LQ: Installation of Anodes
	<p>Upon completion of this course, operating personnel will be able to:</p> <ol style="list-style-type: none"> 1. Describe DOT Subpart H - Corrosion Control regulations 195.567, 195.573, and 195.585 regarding cathodic protection and test lead installation on liquid pipeline systems. 2. Define the terms needed for installing galvanic anodes. 3. Describe the basic concept of the galvanic anode theory -- anodic versus cathodic areas of a pipeline. 4. List different types of anodes and state their uses. 5. Calculate the current output of a sacrificial anode and the expected life of the anode. 6. State the basic concept of installing anodes, including backfilling requirements. 7. List the steps needed for using the cable bonding technique and for exothermic welding. 8. State common abnormal operating conditions and the reactions required.
LQ416	LQ: Conduct Annual Surveys
	<p>After completing this module, operating personnel will be able to:</p> <ol style="list-style-type: none"> 1. Describe DOT regulation 192.465[a][c] regarding frequency of testing cathodically protected pipeline facilities including testing bonds. 2. Describe DOT Subpart H - Corrosion Control regulation 195.573[a] regarding the frequency of testing of cathodically protected buried or submerged pipeline facilities. 3. Explain DOT Subpart H - Corrosion Control 195.573(d) and 195.565 regarding measurement of tank bottom-to-soil potentials. 4. Identify the Abnormal Operating Conditions typically associated with the conducting of annual surveys and give examples of each. 5. Describe measurement of pipe-to-soil, tank bottom-to-soil and casing-to-soil potentials. 6. Discuss how to correctly take potentials readings at pipeline facilities and the electrical criteria used to determine adequate protection. 7. Describe and perform electrode (half-cell) maintenance. 8. Describe and perform placement of an electrode (half-cell) and use of a multi-meter while taking potential readings on a pipeline facility. 9. Define three types of foreign electrical interference: static stray current, dynamic stray current and AC induced current. 10. Describe and perform foreign line interference testing to detect interference and/or ensure electrical isolation from foreign structures in accordance with 192.473 and Subpart H - Corrosion Control regulations 195.575(e) and 195.577.
LQ501	LQ: Cathodic Protection Troubleshooting

	<p>Upon completion of this course, operating personnel will be able to:</p> <ol style="list-style-type: none"> 1. Describe DOT regulations regarding cathodic protection rectifiers, including 195.563 and 195.573. 2. Identify the types of instruments required to troubleshoot rectifiers and cathodic protection systems. 3. List safety precautions that should be followed while troubleshooting rectifiers. 4. Identify typical abnormal operating conditions and reactions to each. 5. Identify common operational problems that lead to rectifier failures. 6. State the rectifier repair techniques. 7. State the procedure guidelines for troubleshooting. 8. Explain basic troubleshooting techniques used when locating contacts.
LQ502	LQ: Rectifier Inspections
	<p>Upon completion of this course, operating personnel will be able to:</p> <ol style="list-style-type: none"> 1. Describe the four conditions that must exist before a corrosion cell can function. 2. State the five types of corrosion cells found on pipelines. 3. Describe the requirements for liquid pipeline systems contained in DOT Subpart H - Corrosion Control regulations 195.567, 195.573, and 195.585. 4. State the three main methods of controlling corrosion on pipelines and aboveground storage tanks. 5. Perform cathodic protection testing, at the appropriate intervals, using the electrical criteria and frequency. 6. State the DOT requirements for installation of test leads in a cathodic protection system. 7. State the DOT requirements for installation of anodes in a cathodic protection system. 8. Perform the bi-monthly inspection of a cathodic protection rectifier. 9. Recognize and react to abnormal operating conditions related to performing rectifier inspections.
LQ504	LQ: Installation of Test Stations
	<p>Upon completion of this course, operating personnel will be able to:</p> <ol style="list-style-type: none"> 1. Define the terms needed to discuss exothermic welding and its procedures. 2. State the purpose and function of test stations. 3. Explain the Department of Transportation Subpart H - Corrosion Control regulations 195.567 and 195.573 regarding cathodic protection and test stations. 4. List the different types of test stations used for pipe-to-soil surveys. 5. State the test station installation methods. 6. Explain the cable bonding techniques and exothermic welding methods used in the installation of test stations. 7. State how to perform the pull test to ensure the test lead is securely connected to the pipeline. 8. Identify the materials, spacing, and locations that are important to the installation of test stations. 9. State how to recognize common abnormal operating conditions and the reactions required.
LQ508	LQ: Interference (A/C and D/C)
	<p>Upon completion of this course, operating personnel will be able to:</p> <ol style="list-style-type: none"> 1. Define foreign interference. 2. Describe Department of Transportation Subpart H - Corrosion Control and other regulations relating to foreign pipeline interference including 192.465, 192.473, 195.250, 195.573(c), and 195.575(e). 3. List the three types or categories of stray current. 4. Describe static, dynamic, and AC-induced stray current. 5. Calculate the total circuit resistance of a given bond. 6. List the methods used to eliminate stray current interference.
LQ707	LQ: Introduction to Compressor and Pump Operations

	<p>Upon completion of this course, operating personnel will be able to:</p> <ol style="list-style-type: none"> 1. State the purpose, types, and basic functions of natural gas compressors. 2. State the starting, stopping, loading, and unloading procedures for a natural gas compressor. 3. State the purpose, types, and basic functions of pipeline pumps. 4. State the starting and stopping procedures for a products pump. 5. Describe the functions of the devices used to prevent pipeline overpressure, including relief valves, monitor regulators, regulators, pressure switches, and pressure transmitters. 6. Describe the requirements of Department of Transportation Regulations 192.195, 192.605, 192.619, 192.743, 195.402, 195.406, and 195.428.
LQ800	LQ: Pipeline System Control
	<p>Upon completion of this course, operating personnel will be able to:</p> <ol style="list-style-type: none"> 1. State the basic definitions of a liquid pipeline system. 2. State the duties and responsibilities of a pipeline controller. Define the types of pipeline control and their regulations. 3. Perform calculations on safe and timely product delivery. 4. Describe and define SCADA and SCADA monitoring systems. 5. State the procedure and follow-up actions for Emergency Response.
LQ901	LQ: Programmable Logic Controllers
	<p>Upon completion of this module, operating personnel will be able to:</p> <ol style="list-style-type: none"> 1. Specify the type of equipment the PLC replaces and some of the areas in which it might be used. 2. Discuss the history of why and when the PLC was developed. 3. Identify and discuss the basic function of the individual hardware components of a PLC. 4. Identify and discuss the different modes of operation of a PLC. 5. Discuss the function of the various types of PLC memory. 6. Install a PLC in various types of environments. 7. Calibrate and check out the analog loops in a PLC (make zero and span adjustments). 8. Verify proper operation of discrete I/O in a PLC. 9. Document the calibration and check out of a PLC. 10. Perform basic troubleshooting of a PLC. 11. Discuss PLC ladder logic concepts. 12. Discuss timers and counters and their function in a PLC. 13. Adjust pressure set points onsite in a PLC. 14. Make timer and counter changes onsite in a PLC. 15. Perform onsite changes to PLC logic. 16. Implement a new or revised PLC program onsite. 17. Properly document PLC program changes. 18. Discuss the Federal Regulation requirements for the use of PLCs in the pipeline industry.
LQ902	LQ: Pressure Switches
	<p>Upon completion of this course, the operating personnel will be able to:</p> <ol style="list-style-type: none"> 1. Define the functions of a pressure switch. 2. Define absolute and gauge pressure. 3. Discuss primary and secondary calibration standards. 4. Inspect, operationally test, and calibrate a pressure switch. 5. Document pressure switch calibration results. 6. Discuss the federal regulations that apply to the calibration and operational testing of pressure switches. 7. Define and recognize abnormal operating conditions in pressure switches.
LQ903	LQ: Pressure Transmitters
	<p>Upon completion of this course, the operating personnel will be able to:</p> <ol style="list-style-type: none"> 1. Define the functions of a pressure transmitter.

	<ol style="list-style-type: none"> 2. Define absolute and gauge pressure. 3. Discuss primary and secondary calibration standards. 4. Inspect, operationally test, and calibrate a pressure transmitter (both smart and non-smart). 5. Document pressure transmitter calibration results. 6. Discuss the federal regulations that apply to the calibration and operational testing of pressure transmitters. 7. Define and recognize abnormal operating conditions in pressure transmitters.
LQ1100	<p>LQ: Cathodic Protection - Aboveground Storage Tanks</p> <p>Upon completion of this course, the operating personnel will be able to:</p> <ol style="list-style-type: none"> 1. Identify DOT Subpart H - Corrosion Control regulations 195.563, 195.565, 195.567, 195.573, and 195.585 regarding liquid pipeline systems. 2. List the four conditions that must be met before a corrosion cell can function. 3. Describe why and where corrosion on metal structures occurs. 4. State the function of the anodic and cathodic areas and their roles in protecting aboveground steel tanks from metal loss. 5. Describe stray (interference) currents and direct current (DC). 6. Identify general corrosion, pitting corrosion, and various types of corrosion cells on steel storage tanks. 7. Describe the following two methods used to apply cathodic protection - galvanic (sacrificial) anodes and impressed current systems. 8. State the external corrosion control testing intervals for cathodic protection systems and breakout tank inspections. 9. Explain the role insulated (electrical isolation) joints and protective coatings play in cathodic protection efforts. 10. Describe the theory of anode operation and the procedure for anode installation. 11. Take measurements for tank bottom-to-soil potential readings while considering the IR drop. 12. Take measurements for tank bottom-to-soil potential readings at the center of the tank bottom. 13. Recognize abnormal operating conditions (AOC) related to the performance of rectifier inspections. 14. React to these abnormal operating conditions.
LQ1102	<p>LQ: Inspection - Aboveground Storage Tanks</p> <p>Upon completion of this course, the operating personnel will be able to:</p> <ol style="list-style-type: none"> 1. Identify DOT regulations 195.432, 195.434, 195.416, 195.242, and 195.244 regarding cathodic protection on liquid pipeline systems. 2. Perform tank shell inspections in accordance with API-575 Inspection of Atmospheric and Low-Pressure Storage Tanks. 3. List the four conditions that must be met before a corrosion cell can function. 4. State how corrosion occurs where electrical current leaves or flows from a metal structure. 5. State the function of the anodic and cathodic areas and their roles in protecting aboveground steel tanks from metal loss. 6. Describe stray (interference) currents and direct current (DC). 7. Identify general corrosion, pitting corrosion, and various types of corrosion cells on steel storage tanks. 8. List two methods used to apply cathodic protection; galvanic (sacrificial) anodes and impressed current systems. 9. State the external corrosion control testing intervals for cathodic protection systems, exposed pipe, and breakout tank inspection. 10. Recognize abnormal operating conditions related to the performance of rectifier inspections and state the reactions to these abnormal operating conditions.
LQ2350	<p>LQ: Aboveground Storage Tank Overfill Protection</p>

	<p>Upon completion of this course, the participant will be able to:</p> <ol style="list-style-type: none"> 1. Describe the goal of an effective aboveground storage tank overfill protection program as outlined in API 2350. 2. Describe the American Petroleum Institute (API 2350) and National Fire Protection Association (NFPA 30) scope for recommended practices for aboveground storage tank overfill protection. 3. Define common terms used to discuss aboveground storage tank overfill protection requirements. 4. Explain state regulatory agency impact regarding practices for aboveground storage tank overfill protection requirements. 5. Describe Class I liquids. 6. Describe the elements that should be incorporated into the Operator/Owners formal written procedures for aboveground storage tank overfill protection. 7. Describe elements that should be incorporated into written product transfer procedures. 8. Describe various tank alarm levels and equipment used for both attended and unattended tank facilities. 9. Describe typical Abnormal Operating Conditions.
HR1000	HR: Human Performance Systems
	<p>Upon completion of this course, the learner will be able to:</p> <ol style="list-style-type: none"> 1. Describe the trends and economic forces that are driving change in the pipeline industry. 2. Define the terms competence, performance, and productivity. 3. Explain the Human Performance Model. 4. Describe five human resource processes that make up the human performance system. 5. Describe some common interventions used to improve human performance.
HR1001	HR: The Mentoring Process
	<p>Upon completion of this course, the learner will be able to:</p> <ol style="list-style-type: none"> 1. Define mentoring and counseling. 2. Describe the similarities and differences between mentoring and counseling. 3. Describe the assumptions necessary for an effective mentoring system. 4. Describe some of the common barriers to an effective mentoring system. 5. Determine whether mentoring or counseling is necessary. 6. List and describe the basic systems for effective mentoring. 7. Describe the role and responsibilities of a mentor. 8. Describe proper ethical behaviors for a mentor. 9. Describe the four needs of adult learners. 10. Define values and describe the relationship between values and behaviors. 11. Explain how your own values and behavior style affect you as a mentor. 12. Define trust and rapport. 13. Describe the stages in building trust. 14. Apply basic communication techniques and facilitative listening to mentoring situations. 15. Clarify expectations and provide feedback. 16. Describe several different conflict resolution styles.
HR1002	HR: Job Performance Evaluations
	<p>Upon completion of this course, the learner will be able to:</p> <ol style="list-style-type: none"> 1. Describe the differences between mentoring and job performance evaluations. 2. Explain the evaluator's role in helping to meet the needs of the learner. 3. Describe how to develop an employee evaluation plan. 4. Define the elements of a competency profile. 5. Discuss methods for assessing knowledge, skills, attributes, and common barriers to accurate observation. 6. Describe how to teach job task knowledge. 7. Describe how to teach job skills. 8. Describe how to give and receive feedback.

