“D” Summary of Capabilities of Gas Endorsement

Gas endorsement work involves the operation, design, construction, and maintenance for the collection, transmission, or distribution of gas or the storage of gas on a municipal or independent system.

Gas pipeline work is guided by federal safety regulations for operators of natural gas systems to deliver gas safely and reliably to customers by providing training and written instruction for gas workers. CUSPs with a gas endorsement shall be able to establish written procedures to minimize or eliminate the hazards resulting from natural gas, pipeline emergencies and ensure compliance with the federal gas pipeline safety regulations; Title 49 of the Code of Federal Regulations (CFR), Parts 190, 191, 192, and 199.

All endorsement summaries represent safety related capabilities which a CUSP may be expected or responsible for within the scope of the endorsement. They are intended to give a snapshot of knowledge, skills and attitudes a CUSP uses to identify and address safety, and compliance related strategies for protecting workers and avoiding unintended outcomes.

Capability Name	Relevance to the CUSP	Example of a Supporting Ability
D1 - Operator Qualifications Department of Transportation Pipeline and Hazardous Materials Safety Administration (PHMSA), Operator Qualification Guide for Small Distribution Systems, Chapter 1, Guidelines For Developing An Operator Qualification Program PHMSA Guidance Manual for Operators of Small Natural Gas Systems, Chapter 8, Page 21	Prepare a Written Operator Qualification Plan to ensure that individuals who operate, maintain and inspect these systems are qualified for the work they perform.	Ensure that each worker is evaluated to have the necessary knowledge, skills, and abilities to perform each task, including recognizing and reacting to abnormal operating conditions. Qualification plan shall include: ● Identify workers performing cover tasks. ● Identify tasks affecting the integrity of the pipeline. ● Qualify by evaluating workers' demonstrated performance. ● Allow workers lacking qualification to perform certain tasks under training by qualified observers. Exceptions: ○ Heavy equipment operations ○ Welding ○ Plastic fusion. ● Communicate changes that affect covered tasks. ● Re-evaluate for cause or performance ● Description of training types for: ○ New Hire ○ Refresher ○ Transfers to new position ● Reevaluation after failure

D2 - Emergency Response Plan PHMSA Guidance Manual for Operators of Small Natural Gas Systems, Chapter 8, Page 9.	Maintain a written plan of procedures to cope with gas emergencies.	Familiar with the requirement for responding to a gas emergency: ● Emergency notification list, ● Key valve locations ● Description and location of emergency equipment ● How to respond to gas leak reports and interruptions of gas service ● Checklist for use in emergency situations ● Reporting requirements (Immediate Report) ● How to restore gas service after an outage ● Incident investigation procedures ● Education and training plan. ● Define the explosive atmosphere conditions - gas envelope
D3 - Excavating, Trenching and Shoring 29 CFR, 19926 Subpart P - Excavations American National Standards Institute (ANSI) A10.12, Safety Requirements For Excavation PHMSA Guidance Manual for Operators of Small Natural Gas Systems, Chapter 6, Page 2	A general awareness of hazards and risk associated with basic types of subsurface disturbances to ensure workers are conducting excavations safely.	Familiar with the following work practices: ● 811 procedures & identifications ● Soil assessment and classification ● Sheeting, shoring & trench boxes ● Sloping & benching ● Crossings, Beams & Cribbing ● Access and egress ● Fall protection for excavation ● Excavations with confined spaces ● Contaminated trenches and structures ○ Dewatering accumulated water ○ Contaminated soils ● Hydro- Vacuum excavation ● Mechanical excavation vs. hand digging practices ● Spotter/operator communication
D4 - Regulators And Relief Devices PHMSA Guidance Manual for Operators of Small Natural Gas Systems, Chapter 2.	An understanding of the need to regulate the pressure of natural gas and other related gas pipelines.	Familiar with the theory and application: ● Pressure ● Levels ● Regulation ● Relief ● Monitoring Requirements ● Automated Shut Off and valving related equipment

D5 - Corrosion Control PHMSA Guidance Manual for Operators of Small Natural Gas Systems, Chapter 3.	An understanding of the design, operation, and inspection of a corrosion control system.	Understand different types of inspection for identifying corrosion: ● Below grade ○ External ○ Intern ● Above grade ● Maintenance of inspection records
D6 - Leak Detection PHMSA Guidance Manual for Operators of Small Natural Gas Systems, Chapter 4.	Have a leak management program to find and fix leaks on gas piping that are or could become hazardous to persons or property.	A Leak Management Program which includes: ● Methods Of Detecting A Leak ● Familiar with use, application and calibration of Leak Detection Equipment ● Awareness odorization ● Priority response levels ● Local requirements for leak response ● Follow up inspections
D7 - Specialized Construction ANSI / ASSP A10 The Construction and Demolition Operations Compendium of Standards	Become familiar with hazards & work practices of various areas of specialized construction as work requires.	Able to research, select & apply relevant standards & requirements to ensure worker safety & correct operational procedures on: ● Directional boring ● Tapping and Drilling ● Pressure testing ● Welding safety on steel pipe ● PE fusion safety

D8 - Repairs And New Construction PHMSA Guidance Manual for Operators of Small Natural Gas Systems, Chapter 6.	Understand the qualified person's responsibilities for construction and repair requirements set by pipeline safety regulations. Ensure components meet requirements for qualified gas service and marked with the "approved" markings.	During construction or repair of abnormal conditions, the CUSP shall have the ability to identify correct procedures such as: ● Site specific conditions ● Emergency Excavation ● Joining procedures written plan ● Manufacturer specifications ● Pressure testing ○ Maximum allowable operating pressure (MAOP) ○ Test mediums ● Identify correct installation ○ Support pipe along its length ○ Observe backfill depth and compaction requirements ○ Angle of repose ● Cathodically protect steel pipe ● Electrically insulate dissimilar metals ● Tracer wire where required
D9 - Lock Out / Tag Out for General Industry 29 CFR, 1910.147 Control of Hazardous Energy (lockout/tagout).	Protection of workers from unexpected energization or startup of machinery and equipment, or the release of hazardous energy during service or maintenance activities.	Able to apply a performance based program for controlling different types hazardous energy which may include mechanical, hydraulic, pneumatic, chemical, thermal, or other energy. CUSP's must be familiar with energy control program requirements such as: ● Isolate the energy supply and put appropriate lockout or tag out devices on the energy-isolating devices to prevent unexpected re-energization. ● Train workers on the energy-control program. ● Audit these procedures periodically to ensure that they are being followed and that they remain effective.
D10- Fire Protection 29 CFR 1910, Subpart L, Fire Protection 29 CFR, 1926 Subpart F, Fire Protection and Prevention.	A general awareness of types of fire protection systems that may be encountered in a gas environment.	Should be familiar with the following fire protection systems and practices: ● Rated extinguisher ● Availability ● Recommended testing and certification ● Training Requirements