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ODORANT: A substance giving a readily perceptible odor at low concentrations in the material into which it is mixed, and used as a warning sign of the presence of the gas. See MERCAPTAN.

ODORIZER: A piece of equipment such as wicks, drips, and injector used to odorize gas. See WICK, DRIP and INJECTOR TYPE ODORIZERS.

OPERATING STRESS: The stress in a pipe or structural member under operating conditions.

OPERATOR: A person who engages in the transportation of gas.

OVERPRESSURE PROTECTION: The use of a device or equipment installed for the purpose of preventing pressure in a pipe system or other facility from exceeding a predetermined limit. See PRESSURE LIMITING STATION, PRESSURE REGULATING STATION, PRESSURE RELIEF STATION, and SERVICE REGULATOR.

P

PARALLEL ENCROACHMENT: That portion of the route of a transmission line or main which lies within, runs in a generally parallel direction, and does not necessarily cross, the rights-of-way of a road, street, highway or railroad.

PARTS PER MILLION (PPM): Parts of the chemical in each one million (1,000,000) parts of the air chemical mixture. A unit to express exposure limits.

PEAK SHAVING: The use of fuels and equipment to generate additional gas to supplement the normal supply of pipeline gas during periods of extremely high demand. The use of LNG, underground storage and pipeline holders are good examples.

PERFORMANCE LANGUAGE: Prescribes a level of safety. It leaves the method or “how to” to the operator’s discretion. For example, periodic sampling is required to assure the proper concentration levels.

PERSON: Any individual, firm, joint venture, partnership, corporation, association, State, municipality, cooperative association, or joint stock association, and including any trustee, receiver, assignee, or personal representative thereof.

PERSONAL PROTECTIVE EQUIPMENT: Equipment that protects the individual who wears it by placing a barrier between that individual and a hazard; includes protective eye wear, face shields and masks, gloves, boots, hats, clothing, and respirators.

PETROLEUM GAS: Propane, propylene, butane, (normal butane or isobutanes), and butylene (including isomers), or mixtures composed predominantly of these gases, having a vapor pressure not exceeding 1434 kPa (208 psig) at 38° C (100° F).

pH: Acidic or basic corrosives are measured to one another by their ability to dissociate in solution. Those that form the greatest number of hydrogen ions are the strongest acids. Those that form the hydroxide ion are the most potent bases. The measurement of hydrogen ion concentration in solution is called the pH; strong acids have low pH values and strong bases have high pH values.

PIG: A device used to clean the internal surface of a pipeline. Pigs are usually barrel shaped, made of metal, and covered with metal brushes. They may also have rubber or plastic cups and be made entirely of plastic. They are inserted into the pipeline by means of a device called a pig-trap and pushed through the line by pressure of flowing fluid or gas. The forward movement of the pig, together with its rotation, cleans the rust, liquids and other undesired substances from the pipeline; also called a go-devil. See SMART PIG.

PINPOINTING: The process of locating the exact source of leakage with a minimum of excavation.

PIPE: See DOUBLE-SUBMERGED-ARC-WELD PIPE, ELECTRIC-FLASH-WELD PIPE, ELECTRIC-FUSION WELDED PIPE, ELECTRIC-RESISTANCE-WELDED PIPE, FURNACE-LAP-WELDED PIPE, INSTRUMENT PIPING, LENGTH, PIPE CONTAINER, PIPE MANUFACTURING PROCESS, PIPE-TYPE HOLDER, SAMPLE PIPING, and SEAMLESS PIPE.

PIPE-CONTAINER: A gas-tight structure assembled from pipe and end closures. See also Pipe-type holder.

PIPE MANUFACTURING PROCESS: Types and names of welded joints are used herein as defined in the American Welding Society (AWS) Publication A3.0 "Standard Welding Terms and Definitions" except for the following terms which are defined in this glossary:

- Double-submerged-arc-welded pipe
- Electric-flash-welded pipe
- Electric-fusion-welded pipe
- Electric-resistance-welded pipe
- Furnace-lap-welded pipe
- Seamless pipe

PIPE-TYPE HOLDER: Any pipe container or group of interconnected pipe containers installed at one location and used for the sole purpose of storing gas. (per ASME Guide)

PIPELINE: All parts of those physical facilities through which gas moves in transportation, including pipe, valves, and other appurtenance attached to pipe, compressor units, metering stations, regulator stations, delivery stations, holders, and fabricated assemblies.

PIPELINE FACILITY: New and existing pipeline, rights-of-way, and any equipment, facility, or building used in the transportation of gas or in the treatment of gas during the course of transportation.

PITOT TUBE: A small device that can be inserted into a pipe to measure the flow of liquid or gas. This device is composed of two tubes arranged in such a manner that will allow the measurement of both the velocity and static pressures of the flowing liquid or gas. The difference in these pressures is a function of the flow within the pipe.

PLASTIC: A material which contains, as an essential ingredient, an organic substance of high molecular weight. It is solid in its finished state and, at some stage of its manufacture or processing, can be shaped by flow. The two general types of plastic referred to in this Guide are thermoplastic and thermosetting. See THERMOPLASTIC PIPE, and THERMOSETTING PLASTIC PIPE.

PLASTIC PIPE JOINTS: See ADHESIVE JOINT, HEAT FUSION JOINT and SOLVENT CEMENT JOINT.

PLUG VALVE: Metal valve in which a pierced plug rotates in a tapered or cylindrical body to control flow through the valve.

PLUNGER BAR: A device used to bar holes along the route of a gas pipe when searching for gas for leaks.

PE: Polyethylene plastic pipe.

PSI: Pounds Per Square Inch.

PSIA: Pounds Per Square Inch Absolute

PSIG: Pounds Per Square Inch Gauge.

PRESSURE: Expressed in pounds per square inch above atmospheric pressure, i.e., gauge, pressure (abbreviation-p.s.i.g, unless otherwise stated). See MAXIMUM ALLOWABLE TEST PRESSURE, OVERPRESSURE PROTECTION, PRESSURE LIMITING STATION, PRESSURE REGULATING STATION, PRESSURE RELIEF STATION, and STANDUP PRESSURE TEST.

PRESSURE LIMITING STATION: Consists of apparatus which, under abnormal conditions, will act to reduce, restrict or shut off the supply of gas flowing into a transmission line, main, holder, pressure vessel or compressor station piping in order to prevent the gas pressure from exceeding a predetermined limit. While normal pressure conditions prevail, the pressure limiting station may exercise some degree of control of the flow of gas or may remain in the wide open position. Included in the station are any enclosures and ventilating equipment, and any piping and auxiliary equipment (such as valves, control instruments or control lines).

PRESSURE REGULATING STATION: Consists of apparatus installed for the purpose of automatically reducing and regulating the gas pressure in the downstream transmission line, main, holder, pressure vessel or compressor station piping to which it is connected. Included in the station are any enclosures and ventilating equipment, and any piping and auxiliary equipment (such as valves, control instruments or control lines).

PRESSURE RELIEF STATION: Consists of apparatus installed to vent gas from a transmission line, main, holder, pressure vessel, or compressor station piping in order to prevent the gas pressure from exceeding a predetermined limit. The gas may be vented into the atmosphere or into a lower pressure gas system capable of safely receiving the gas being discharged. Included in the station are any enclosures and ventilating equipment, and any piping and auxiliary equipment (such as valves, control instruments or control lines).

PRIVATE RIGHT-OF-WAY: Those that are not located on roads, streets or highways used by the public, nor on railroad rights-of-way.

PROPRIETARY ITEMS: Items made by a company having the exclusive right of manufacture.

PURGING: The act of replacing the atmosphere within a container by an inert substance in such a manner as to prevent the formation of explosive mixtures. Commonly used inert substance includes Nitrogen (N) or Carbon Dioxide (CO₂). Also, the act of replacing the inert substance with gas before putting the line into service.

Q

QUALIFIED WELDER: A welder who has demonstrated the ability to produce welds meeting the requirements of an appropriate standard.

QUALIFIED WELDING PROCEDURE: A tested and detailed method by which sound welds can be produced.

R

RECTIFIER: A device for converting alternating current to direct current, used in the gas industry for external corrosion control of pipe and other metals.

REGULATOR STATION/DISTRICT: Equipment installed for the purpose of automatically reducing and regulating the pressure in the downstream pipeline or main to which it is connected. Included are piping and auxiliary devices such as valves, control instruments, control lines, the enclosure, and ventilation equipment.

REGULATORS: See PRESSURE LIMITING STATION, PRESSURE REGULATING STATION, PRESSURE RELIEF STATION, and SERVICE REGULATOR.

RELIEF VALVE: A automatic valve designed to discharge when a preset pressure and/or temperature condition is reached.

RISER : A general term for vertical runs of gas piping. See ANODELESS RAISER.

RUPTURE: A violent, rapid bursting open of a container, such as a pipelines.

S

SAMPLE PIPING: Pipe, valves and fittings used for the collection of samples of gas or other fluids.

SEAMLESS PIPE: A wrought tubular product made without a welded seam. It is manufactured by hot working steel or, if necessary, by subsequently cold finishing the hot-worked tubular product to produce the desired shape, dimensions and properties. See PIPE MANUFACTURING PROCESS.

SECONDARY STRESS: Stress created in the pipe wall by loads other than internal fluid pressure. Examples are backfill loads, traffic loads, beam action in a span and loads at supports and at connections to the pipe.

SERVICE LINE: A distribution line that transports gas from a common source of supply to (a) a customer meter or the connection to a customer's piping, whichever is farther downstream, or (b) the connection to a customer's piping if there is no customer meter. A customer meter is the meter that measures the transfer of gas from an operator to a consumer.

SERVICE REGULATOR: A device installed on a gas service line to control the pressure of the gas delivered to the customer.

SERVICE TEE: A tee in a customer's service piping with one leg closed and used for access to the service pipe in case of plugging with solids. Also, a tee used for making a hot tap on a main to supply a service.

SHADING: The placing of sand-like material free of any hard objects (rocks, etc.) below, around, and above the pipe.

SHUT IN TEST: After assembly, the piping industry practice is to admit full container pressure to the system and check all connections for leaks with a soap or leak-testing solution.

SMART PIG: An instrumented inspection device or internal inspection pig. These pigs can detect certain irregularities or anomalies in the pipe wall. This type of pig records the existence, location, and relative severity of the anomalies through use of recording equipment carried on board the pig. The pig can later be recovered and any external anomalies can be examined visually to verify their existence and severity.

SOLVENT CEMENT JOINT: A joint made in thermoplastic piping by the use of a solvent or solvent cement which forms a continuous bond between the mating surfaces.

SPECIFIC ACTION LANGUAGE: A detailed and exact statement prescribing materials, dimensions, and workmanship for something being built, installed or manufactured. For example, plastic pipe used for distribution systems must meet ASTM D 2513.

SPECIFIC GRAVITY: Physical data that describes whether a liquid is lighter or heavier than water. For natural gas, whether it is lighter or heavier than air.

SPECIFIED MINIMUM YIELD STRENGTH (SMYS):

(a) For steel pipe manufactured in accordance with a listed specification, the yield strength specified as a minimum in that specification; or

(b) For steel pipe manufactured in accordance with an unknown or unlisted specification, the yield strength determined in accordance with §192.107(b).

SQUEEZE OFF TOOL: Consists of curved surfaces with minimum radii that come together against the pipe wall. Stops, used to prevent the pipe being squeezed beyond a minimum allowable distance specified by the pipe manufacture, are normally an integral part of the tool.

STANDARD CUBIC FEET PER HOUR: SCFH.

STANDUP PRESSURE TEST: A test to demonstrate that a pipe or piping system does not leak as evidenced by the lack of a drop in pressure over a specified period of time after the source of pressure has been isolated.

STEEL: An iron-base alloy, malleable in some temperature range as initially cast, containing manganese, carbon and often other alloying elements. See CARBON STEEL.

STOPCOCK (ALSO CALLED A SERVICE LINE VALVE): A valve located in the service line ahead of the service regulator, or ahead of the meter when there is no regulator.

STREET ELL: An L-shaped pipe fitting with external threads on one end and internal threads on the other end. Compare ELL.

STREET TEE: A tee with external threads on one of the run connections and with internal threads on the opposite run connection and the side outlet.

STRESS: The resultant internal force that resists change in the size or shape of a body acted on by external forces. See HOOP STRESS, MAXIMUM ALLOWABLE HOOP STRESS, OPERATING STRESS, SECONDARY STRESS, TENSILE STRENGTH, and YIELD STRENGTH.

T

TAPPING TEE: A tee used to connect a service line to a main. Includes a cutter to tap main.

TEMPERATURE: The degree of “hotness” or “coldness” as measured on a definite scale. Is expressed in degrees Fahrenheit (F) unless otherwise stated. See AMBIENT TEMPERATURE and GROUND TEMPERATURE.

TENSILE STRENGTH: The highest unit tensile stress (referred to the original cross section) that a material can sustain before failure.

THERM: 100,000 Btu’s - a common unit for the sale of natural gas.

THERMOPLASTIC PIPE: A plastic pipe which is capable of being repeatedly softened by increase of temperature and hardened by decrease of temperature. These would include Polybutylene (PB), Polyethylene (PE), and Polyvinylchloride (PVC).

THERMOSETTING PLASTIC PIPE: A plastic pipe which is capable of being changed into a substantially infusible or insoluble product when cured under application of heat or chemical means. Reinforced fiberglass is a good example.

THICKNESS. See NOMINAL WALL THICKNESS .

TRACER WIRE: Wire that is buried along with the plastic pipe. The typical gage of wire that is used is 12. A pipe locator can then detect the buried metallic wire and the adjacent plastic pipe.

TRANSMISSION LINE: A pipeline, other than a gathering line, that:

- (a) Transports gas from a gathering line or storage facility to a distribution center, storage facility, or large volume customer that is not downstream from a distribution center;
- (b) Operates at a hoop stress of 20 percent or more of SMYS; or
- (c) Transports gas within a storage field.

A large volume customer may receive similar volumes of gas as a distribution center, and includes factories, power plants, and institutional users of gas.

TRANSPORTATION OF GAS: The gathering, transmission, or distribution of gas by pipeline or the storage of gas, in or affecting interstate or foreign commerce.

TRENCH: A long cut in the ground which is achieved by hand or by machine such as a trencher. Installation of transmission, mains, or service pipelines, regardless of the kind of pipe may be accomplished by trenching.

U

UNACCOUNTED FOR GAS: The difference between the total gas purchases available from all sources and the total gas accounted for as sales, net interchange, and company use. This difference includes leakage or other actual losses, discrepancies due to meter inaccuracies, variations of temperature and/or pressure, and other variants, particularly billing lag.

UNDERGROUND STORAGE: The utilization of subsurface facilities for storing gas which has been transferred from its original location for the primary purposes of conservation, fuller utilization of pipeline facilities. These are usually natural geological reservoirs such as depleted oil or gas fields or water-bearing sands sealed on the top by an impermeable cap rock. The facilities may be manmade or natural caverns.

UNION: A threaded fitting used to couple two runs of pipe together without having to turn or dismantle either run of pipe.

UPPER EXPLOSIVE LIMITS (UEL): Read from the CGI. UEL is the maximum amount of airborne chemical that can be present in an air-chemical mixture and still have it be explosive. See FLAMMABLE (EXPLOSIVE) RANGE.

V

VALVE: A mechanical device for controlling the flow of fluids; types such as gate, ball, globe, needle and plug valves are used.

VALVE BOX: A housing around an underground valve to allow access to the valve for operation and to protect the valve from mechanical damage or the effects of weather.

W

WELDING PROCESS: A grouping of methods by which metals are welded. Examples of processes are: submerged metal arc welding, oxyacetylene welding, resistance welding.

WET GAS: Natural gas containing liquefiable hydrocarbons. Natural gasoline, butane, pentane and other light hydrocarbons can be removed by chilling and pressure or by extraction. It also refers to gas that has water in excess of 7 lbs per million cubic feet (Mmcf).

WICK TYPE ODORIZER: A piece of equipment which odorizes the gas by having natural gas flow across a wick saturated with odorant. Generally used for individual odorized lines such as farm taps.

Y

YIELD STRENGTH: The stress at which a material exceeds its elastic limits and the material begins to deform permanently.

COMMONLY ABBREVIATED ORGANIZATIONS

AGA: American Gas Association

ANSI: American National Standards Institute, formerly the United States of America Standards Institute (USASI). All current standards issued by USASI and American Standards Association (ASA) have been re-designated as American National Standards and continue in effect.

API: American Petroleum Institute

ASME: American Society of Mechanical Engineers

ASTM: American Society for Testing and Materials

DOT: U.S. Department of Transportation

FERC: Federal Energy Regulatory Commission

GPTC: Gas Piping Technology Committee

INGA: Interstate Natural Gas Association

ISO: International Standard Organization

MSS: Manufacturers Standardization Society of the Valve and Fittings Industry

NACE: National Association of Corrosion Engineers

NAPSR: National Association Pipeline Safety Representatives

NARUC: National Association of Regulatory Utility Commissioners

NFPA: National Fire Protection Association

NPRM: Notice of Proposed Rule Making

NPGA: National Propane Gas Association

NRC: National Response Center. Serves as notification center for pollution incidents in US waters and gas incidents as defined in 49 CFR 191.3. Located at US Coast Guard Headquarters in Washington, DC. The NRC relays reports to appropriate regional authorities for response actions.

NTSB: National Transportation Safety Board

OPS: Office of Pipeline Safety, a federal agency under RSPA

OSHA: Occupational Safety and Health Administration

RSPA: Research and Special Programs Administration. This is the Federal agency in DOT which is responsible for development and enforcement of the pipeline safety code.