

**APPLICATION TO THE  
NATIONAL ENERGY BOARD FOR APPROVAL  
OF THE MACKENZIE VALLEY PIPELINE      GLOSSARY  
VOLUME 4: CONSTRUCTION AND OPERATIONS**

---

<b>%</b>	The symbol for percent.
<b>°</b>	The symbol for degree.
<b>°C</b>	The symbol for degree Celsius.
<b>&lt;</b>	The symbol for less than.
<b>a</b>	The metric symbol for year.
<b>abandonment</b>	The act of permanently stopping operations, discontinuing service, removing facilities and restoring land to a productive state.
<b>Aboriginal person</b>	Any Indian, Inuit or Métis person who was born in the Northwest Territories or who is descended from an Aboriginal person born in the Northwest Territories.
<b>access road</b>	A temporary, permanent, or winter road that provides access to a facility, camp site, borrow site, barge landing site or a pipeline right-of-way and that is not open to the public.
<b>adfreezing</b>	The process by which one object adheres to another by the binding action of ice.
<b>airstrip</b>	A strip of ground suitable for the takeoff and landing of aircraft.
<b>all-weather road</b>	A paved or unpaved, i.e., gravel, road that is open to traffic all year.
<b>anchor fields</b>	The three natural gas fields, Taglu, Niglintgak and Parsons Lake, whose production will provide the initial volume of gas shipped in the Mackenzie Valley pipeline.
<b>APG</b>	The abbreviation for Aboriginal Pipeline Group.
<b>API</b>	The abbreviation for American Petroleum Institute.
<b>as-built records</b>	The records that detail the actual construction according to the original design specifications.
<b>aspect</b>	The compass orientation towards which a slope faces.
<b>availability</b>	A unit of measure for the actual time a facility, pipeline, or other equipment is capable of providing service, if called upon.

## GLOSSARY

---

<b>backfill</b>	The fill material used to cover a completed pipeline. Adequate fill material is provided above and below the pipe to prevent damage caused by loose rock, abrasion, shifting or washouts.
<b>baseline</b>	A surveyed condition that serves as a reference point to which later surveys are coordinated or correlated.
<b>bedrock</b>	The solid rock underlying soil or any other unconsolidated surficial cover.
<b>berm</b>	A mound or wall of earth.
<b>block valve</b>	A device, positioned at intervals along a pipeline, that controls the rate of flow in the pipeline, opens or shuts off the pipeline completely, or serves as an automatic or semi-automatic safety device.
<b>borrow material</b>	Earth material, such as gravel or sand, that is taken from one location to be used as fill at another location.
<b>borrow site</b>	An area that could be excavated to provide material, such as gravel or sand, to be used, where required, by the project.
<b>cathodic protection</b>	A method of protecting a metal structure from corrosion by making its surfaces cathodic and controlling the location of anodic areas so that corrosion damage can be reduced to tolerable levels.
<b>coating, pipe</b>	A material that forms a continuous film over the surface of a pipe, and that may be used internally or externally to prevent corrosion damage.
<b>commissioning</b>	The act of charging a system and conducting tests to ensure that the system functions safely before start-up.
<b>compression, gas</b>	The process of increasing the pressure on gas to reduce its volume or cause it to flow. Natural gas is usually compressed for pipeline transportation.
<b>compressor station</b>	A facility containing equipment that is used to increase pressure to compress natural gas for transportation in a pipeline.
<b>ConocoPhillips</b>	The abbreviation for ConocoPhillips Canada (North) Limited.
<b>continuous permafrost</b>	A category of permafrost where more than 90% of all ground is frozen. Permafrost distribution along the Mackenzie Valley varies from extensive and continuous in the north to discontinuous and sporadic in the south.
<b>Cooperation Plan</b>	The abbreviation for the <i>Cooperation Plan for the Environmental Impact Assessment and Regulatory Review of a Northern Gas Pipeline Project through the Northwest Territories</i> .
<b>CSA</b>	The abbreviation for Canadian Standards Association.

## GLOSSARY

---

<b>custody transfer meter</b>	A flowmeter that measures the minimum and maximum flow rates, operating pressures and temperatures of a pipeline's contents at the point of custody transfer. Any losses or gains resulting from inaccurate measurement of a custody transfer meter are the responsibility of the pipeline company.
<b>decommissioning</b>	The act of taking a processing plant or facility out of service and isolating equipment, to prepare for routine maintenance work, suspending or abandoning.
<b>delta</b>	An alluvial deposit, usually triangular, at the mouth of a river, stream, or tidal inlet.
<b>demobilization</b>	The process of moving people, supplies and equipment from the work site to another location.
<b>discontinuous permafrost</b>	A category of permafrost where some of the underlying ground is unfrozen. Permafrost distribution along the Mackenzie Valley varies from extensive and continuous in the north to discontinuous and sporadic in the south.
<b>ditch</b>	A long, narrow excavation dug in the earth in which a pipeline is buried. Also known as a <i>trench</i> .
<b>dock</b>	A berth or wharf, or an artificially enclosed body of water, for loading and unloading ships and barges.
<b>EIS</b>	The abbreviation for Environmental Impact Statement.
<b>emissions</b>	Substances discharged into the air, e.g., by a smokestack or an automobile engine.
<b>Enbridge</b>	The abbreviation for Enbridge Pipelines (NW) Inc.
<b>environmental impact assessment</b>	The process of evaluating the biophysical, social and economic effects of a proposed project.
<b>environmental impact statement</b>	A report containing the environmental impact assessment.
<b>erosion</b>	The wearing away of the land surface by running water, wind, ice or other geological agents, including such processes as gravitational creep.
<b>ExxonMobil</b>	The abbreviation for ExxonMobil Canada Properties.
<b>FCAW</b>	The abbreviation for flux core arc welding.
<b>footprint</b>	The amount and shape of the area disturbed.

## GLOSSARY

---

<b>freeze depressant</b>	A material, usually a liquid such as methanol or glycol, added to a fluid to lower its freezing point.
<b>frost heave</b>	The raising of a surface caused by ice in the underlying soil. This movement results from alternate thawing and freezing. Frost heaving generates stress on vertical support members of pipelines in the Arctic and, as a result, also on the pipeline itself.
<b>gas pipeline</b>	The proposed gas pipeline that would extend from the Inuvik area facility, parallel to the NGL pipeline along the Mackenzie River to Norman Wells, and continue south to connect to an extension of the TransCanada PipeLines Alberta system south of the Northwest Territories–Alberta boundary. Also known as the <i>Mackenzie Valley pipeline</i> .
<b>gathering pipelines</b>	Four pipelines, also known as laterals, that transport natural gas and NGLs from the anchor fields to the Inuvik area facility. These include the Niglintgak lateral, Taglu lateral, Parsons Lake lateral and Storm Hills lateral.
<b>gathering system</b>	A system of pipelines and related facilities that include four gathering pipelines, the Inuvik area facility, the NGL pipeline and related facilities, such as valves, pig launchers and receivers.
<b>geographic information system</b>	An information system that uses computers to manage information concerning geographical locations, plant assets, engineering, maintenance and operational performance.
<b>geotechnical</b>	Pertaining to the application of scientific methods and engineering principles to civil engineering problems by acquiring, interpreting and using knowledge of materials of the crust of the earth.
<b>GIS</b>	The abbreviation for geographic information system.
<b>glacial till</b>	The unsorted sedimentary material deposited directly by, and underneath, a glacier, consisting of a mixture of clay, silt, sand, gravel and boulders. Also known as <i>till</i> .
<b>GMAW</b>	The abbreviation for gas metal arc welding.
<b>GNWT</b>	The abbreviation for Government of the Northwest Territories.
<b>grading</b>	The process of constructing a work area to facilitate moving personnel, equipment and material onto and along a right-of-way. The process includes levelling, cutting and filling. The travel surface is similar to a winter road.
<b>granular resources</b>	The material deposits that have a granulated surface or structure, such as gravel.
<b>GTC</b>	The abbreviation for Gwich'in Tribal Council.

## GLOSSARY

---

<b>ha</b>	The metric symbol for hectare.
<b>heater station</b>	A facility where natural gas is heated to prevent the formation of hydrates.
<b>helipad</b>	A cleared landing area for helicopters, located at camps and facilities.
<b>horizontal directional drilling</b>	A river crossing technique used in pipeline construction in which the pipe is buried under the riverbed at depths much greater than conventional crossings. An inverted arc-shaped hole is drilled beneath the river and the assembled pipeline is pulled through it.
<b>hydrocarbons</b>	The organic compounds of hydrogen and carbon whose densities, boiling points, and freezing points increase as their molecular weights increase. Petroleum is a mixture of many different hydrocarbons.
<b>hydrostatic testing</b>	The final quality control check of the structural soundness of a pipeline or facility. In this test, the line is filled with water or a glycol–water mixture and pressurized to a designated point. This pressure is maintained for a specific period of time. Any ruptures or leaks revealed by the test are repaired. The test is repeated until no problems are noted. Also known as <i>pressure testing</i> .
<b>ice road</b>	A secondary road made of compact snow or ice, often ploughed over a frozen lake or ground, and that is impassable in the summer. Also known as a <i>winter road</i> .
<b>INAC</b>	The abbreviation for Indian and Northern Affairs Canada.
<b>infrastructure</b>	The basic facilities, such as transportation, communications, electrical power supplies and buildings, that enable an organization, project or community to function.
<b>Inuvik area facility</b>	The facility near Inuvik that processes and separates gas and NGLs delivered from the gathering pipelines and that directs the processed streams to the NGL and gas pipelines.
<b>joule</b>	The unit of energy or work in the metre-kilogram-second system of units, equal to the work done by a force of 1 newton. Also known as a <i>newton-metre of energy</i> .
<b>kilometre post</b>	A marker for each kilometre along the centreline of the right-of-way used for reference points.
<b>km</b>	The metric symbol for kilometre.
<b>KP</b>	The abbreviation for kilometre post.
<b>L</b>	The metric symbol for litre.

## GLOSSARY

---

<b>lateral</b>	A gathering pipeline that connects the production area facilities to the Inuvik area facility.
<b>limit state</b>	A condition where the pipeline no longer meets one or more design requirements. Serviceability limit states restrict normal operations or reduce durability. Ultimate limit states are thresholds beyond which pressure containment, safety or the environment are threatened.
<b>line pipe</b>	Sections of pipe that can be welded together to form a pipeline.
<b>logistics</b>	The activities associated with procuring, maintaining and transporting materials, equipment and personnel.
<b>m</b>	The metric symbol for metre.
<b>m<sup>3</sup></b>	The metric symbol for cubic metre.
<b>Mackenzie Valley pipeline</b>	The proposed gas pipeline that would extend from the Inuvik area facility, parallel to the NGL pipeline along the Mackenzie River to Norman Wells, and continue south to connect to an extension of the TransCanada PipeLines Alberta system south of the Northwest Territories–Alberta boundary. Also known as the <i>gas pipeline</i> .
<b>meter station</b>	A facility where the flow of gas or natural gas liquids is recorded. Meter stations are located at key transfer points, such as the Inuvik area facility, where natural gas flows from the gathering system to the Mackenzie Valley pipeline and NGLs to the NGL pipeline.
<b>mitigate</b>	To cause to become less harsh or hostile.
<b>mitigation</b>	The elimination, reduction or control of the adverse environmental effects of the project, including restitution for any damage to the environment caused by such effects through replacement, restoration, compensation or any other means.
<b>Mm<sup>3</sup></b>	The metric symbol for million cubic metres.
<b>mobilize</b>	To move people or equipment to the work site.
<b>module</b>	A standardized part or an independent self-contained unit of facilities or structures, such as buildings, used in construction. The modules are generally prefabricated and packaged in manageable sizes and weights for ease of transportation and assembly on site.
<b>N/A</b>	The abbreviation for not applicable.
<b>natural gas liquids</b>	Hydrocarbons that are gaseous in the reservoir, but that will separate out in liquid form at the pressures and temperatures at which separators normally operate. The liquids consist of varying proportions of butane, propane, pentane and heavier fractions, with little or no methane or ethane.

## GLOSSARY

---

<b>NDE</b>	The abbreviation for nondestructive examination.
<b>NEB</b>	The abbreviation for the National Energy Board.
<b>newton-metre of energy</b>	The unit of energy or work in the metre-kilogram-second system of units, equal to the work done by a force of 1 newton. Also known as a <i>joule</i> .
<b>NGL</b>	The abbreviation for natural gas liquid.
<b>NGTL</b>	The abbreviation for NOVA Gas Transmission Ltd.
<b>nominal pipe size</b>	The outside diameter of a pipe, expressed in inches.
<b>NPS</b>	The abbreviation for nominal pipe size.
<b>NTCL</b>	The abbreviation for Northern Transportation Company Limited.
<b>NWT</b>	The abbreviation for Northwest Territories.
<b>OPR</b>	The abbreviation for onshore pipeline regulation.
<b>overburden</b>	All material, including soil, sand, silt or clay, that lies on top of the pipeline.
<b>pad</b>	The surface parts of a multiwell drilling or production site, including wells, buildings, piping and electrical facilities.
<b>permafrost</b>	Perennially frozen ground, occurring wherever the temperature remains below 0°C for two or more consecutive years.
<b>pig</b>	An in-line scraper, i.e., brush, blade cutter or swab, that is forced through a pipeline by fluid pressure. The pig is used to remove scale, sand, water and other foreign matter from the interior surfaces of the pipe.
<b>pigging</b>	The act of pushing a pig through a pipeline in order to physically clean deposits from the inner surface of the pipeline, to remove liquids, or to conduct internal inspections of the pipeline.
<b>pigging facilities</b>	Facilities for launching and receiving pigs.
<b>pipeline</b>	A line of pipe connected to valves and other control devices, for conducting fluids, gases or finely divided solids.
<b>pipeline corridor</b>	The 1-km-wide area that centres on the combined right-of-way for the gas and NGL pipelines, from the Inuvik area facility south to the NGTL interconnect facility in Alberta.

## GLOSSARY

---

<b>pressure testing</b>	The final quality control check of the structural soundness of a pipeline or facility. In this test, the line is filled with water or a glycol–water mixture and pressurized to a designated point. This pressure is maintained for a specific period of time. Any ruptures or leaks revealed by the test are repaired. The test is repeated until no problems are noted. Also known as <i>hydrostatic testing</i> .
<b>procurement</b>	The activities that must take place to obtain, on schedule and at optimum price, materials or services needed to construct a project.
<b>project</b>	The abbreviation for the Mackenzie Gas Project.
<b>proponents, pipeline</b>	The five organizations (Imperial Oil Resources Ventures Limited, the APG, ConocoPhillips, Shell and ExxonMobil) that are undertaking the Mackenzie Valley pipeline.
<b>public consultation</b>	The process of involving all affected parties in the design, planning and operation of a project. The process requires that the proponents give the parties to be consulted notice of the matter in sufficient form and detail to allow them to prepare their views on the matter. They are also given a reasonable amount of time to prepare their views and an opportunity to present their views to the proponents, who consider the views presented, fully and impartially.
<b>pumping station</b>	A facility containing equipment that is used to increase the pressure of a liquid, such as NGL, for further transportation in a pipeline.
<b>Q4</b>	The abbreviation for the fourth quarter of the year (October 1 to December 31).
<b>reclamation</b>	The process of re-establishing a disturbed site to a former or other productive use, not necessarily to the same condition that existed before disturbance. The land capability may be at a level different, i.e., lower or higher, than that which existed before the disturbance, depending on the goal of the process. Reclamation includes the management of a contaminated site and revegetation, where necessary. Reclamation is not considered complete until the goals for reclamation have been achieved.
<b>revegetation</b>	The process of providing denuded land with a new cover of plants.
<b>right-of-way</b>	The right of passage or of crossing over someone else's land. Also, an easement in lands belonging to others that is obtained by agreement or lawful appropriation for public or private use.
<b>riprap</b>	A foundation or revetment in water or on soft ground made of irregularly placed stones or pieces of boulders, used chiefly for river or harbour work, for roadway filling and on embankments.
<b>risk assessment</b>	The process by which the results of a risk analysis are used to make decisions on the acceptability of the risk.

## GLOSSARY

---

<b>ROW</b>	The abbreviation for right-of-way.
<b>RP</b>	The abbreviation for recommended practice.
<b>SAW</b>	The abbreviation for submerged arc welding.
<b>SCADA</b>	The abbreviation for supervisory control and data acquisition.
<b>SDL</b>	The abbreviation for Significant Discovery Licence.
<b>shale</b>	A fine-grained laminated or fissile sedimentary rock made up of silt or clay-size particles. It generally consists of about one-third quartz, one-third clay materials and one-third miscellaneous minerals, including carbonates, iron oxides, feldspars and organic matter.
<b>Shell</b>	The abbreviation for Shell Canada Limited.
<b>shielded metal arc welding</b>	Arc welding in which heating with an electric arc between the electrode and the work produces fusion of the electrode covering, which shields the work.
<b>shoofly</b>	A special access road constructed in remote areas to link a right of way with existing roads.
<b>shutdown</b>	The act of stopping work temporarily or stopping a machine or piece of equipment in operation.
<b>skid</b>	A plank or roller on which a heavy object may be placed to facilitate moving.
<b>slash</b>	Woody debris, e.g., limbs and branches, that is removed from large timber.
<b>SMAW</b>	The abbreviation for shielded metal arc welding.
<b>socio-economics</b>	The study of social and economic factors.
<b>spoil</b>	Subsoil material that is excavated, such as from a pipeline trench or areas subject to grading, and that is to be kept separate from surface soil.
<b>spread</b>	The equipment and crew needed to build a pipeline.
<b>staging site</b>	A location where equipment is stored, maintained or readied for work.
<b>start-up</b>	The act of recommencing work or starting up machinery or equipment after a temporary shutdown or decommissioning.
<b>stockpile</b>	A storage supply of something, such as line pipe or soil, to be used later.
<b>Storm Hills lateral</b>	The gathering pipeline connecting the Storm Hills pigging facility to a connection point at the inlet of the Inuvik area facility.

## GLOSSARY

---

<b>t</b>	The metric symbol for tonne.
<b>t/a</b>	The metric symbol for tonnes per year.
<b>TBD</b>	The abbreviation for <i>to be determined</i> .
<b>terrain</b>	The physical surface features of a tract of land.
<b>thaw settlement</b>	Settlement that results from ice melting in the soil. Settlement depends on thaw depth, ice content and soil gradation.
<b>tie-in</b>	A collective term for the construction tasks bypassed by regular crews on pipeline construction. Tie-in includes welding road and river crossings, valves, portions of the pipeline left disconnected for hydrostatic testing, and other fabrication assemblies, as well as taping and coating the welds.
<b>till</b>	The unsorted sedimentary material deposited directly by, and underneath, a glacier, consisting of a mixture of clay, silt, sand, gravel and boulders. Also known as <i>glacial till</i> .
<b>trench</b>	A long, narrow excavation dug in the earth in which a pipeline is buried. Also known as a <i>ditch</i> .
<b>tundra</b>	A vast treeless zone, lying between the ice cap and the timberline of North America and Eurasia, that has a permanently frozen subsoil.
<b>VHF</b>	The abbreviation for very high frequency.
<b>waste management plan</b>	The system developed to track and control emissions and waste, and evaluate pollution-prevention steps.
<b>water crossing</b>	A location where a pipeline crosses a stream or a river. Also known as a <i>watercourse crossing</i> .
<b>watercourse</b>	A natural or artificial channel with perennial or intermittent flow and definable bed and banks.
<b>winter road</b>	A secondary road made of compact snow or ice, often ploughed over a frozen lake or ground, and that is impassable in the summer. Also known as an <i>ice road</i> .