Transportation Safety Board of Canada

Bureau de la sécurité des transports du Canada

STATISTICAL SUMMARY

Pipeline transportation occurrences in 2024

Canada

Transportation Safety Board of Canada
Place du Centre
200 Promenade du Portage, 4th floor
Gatineau QC K1A 1K8
819-994-3741
1-800-387-3557
tsb.gc.ca
communications@tsb.gc.ca

Statistical summary: pipeline transportation occurrences in 2024

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Please note that the tables and figures in the HTML version are fully accessible.

This document covers federally regulated pipelines only. Any non-federally regulated pipeline data reported to the Transportation Safety Board of Canada (TSB) are not included in this report.

The TSB gathers and uses transportation occurrence data (for both accidents and incidents)[1] during the course of its investigations to analyze safety deficiencies and identify risks in the Canadian pipeline transportation system.

This statistical summary serves to describe the accident, incident, and injury counts that are presented in the included tables. It provides limited discussion and some context but is not intended to be an in-depth analysis of the data. It should be noted that certain characteristics of the data constrain statistical analysis and identification of emerging trends. These include the small totals of accidents and incidents, the large variability in the data from year to year, and changes to regulations and definitions over time. The reader is cautioned to keep these limitations in mind when viewing this summary to avoid drawing conclusions that cannot be supported by statistical analysis.

The 2024 data were collected according to the reporting requirements described in the *Transportation Safety Board Regulations* in force during that calendar year.[2]

The statistics presented here reflect the TSB Pipeline Occurrence Database System (PODS) on 18 February 2025. Since the occurrence data are constantly being updated in the live database as additional information becomes available, the statistics may change slightly over time.

Also, as many occurrences are not formally investigated, information regarding some of the reported occurrences recorded in the database may not have been verified by the TSB.

The pipeline system

In the federally regulated pipeline system in 2024, 100 companies transported either oil or gas, or both, through approximately 20 300 km of oil pipelines and approximately 48 000 km of gas pipelines. A further

1 See Definitions section.

2 On 12 December 2018, amendments to the *Transportation Safety Board Regulations* were published in the *Canada Gazette*, Part II. The amendments were made to reorganize and update some of the pipeline occurrence reporting provisions to ensure consistency and clarity. In addition, minor discrepancies between the English and French texts were addressed.

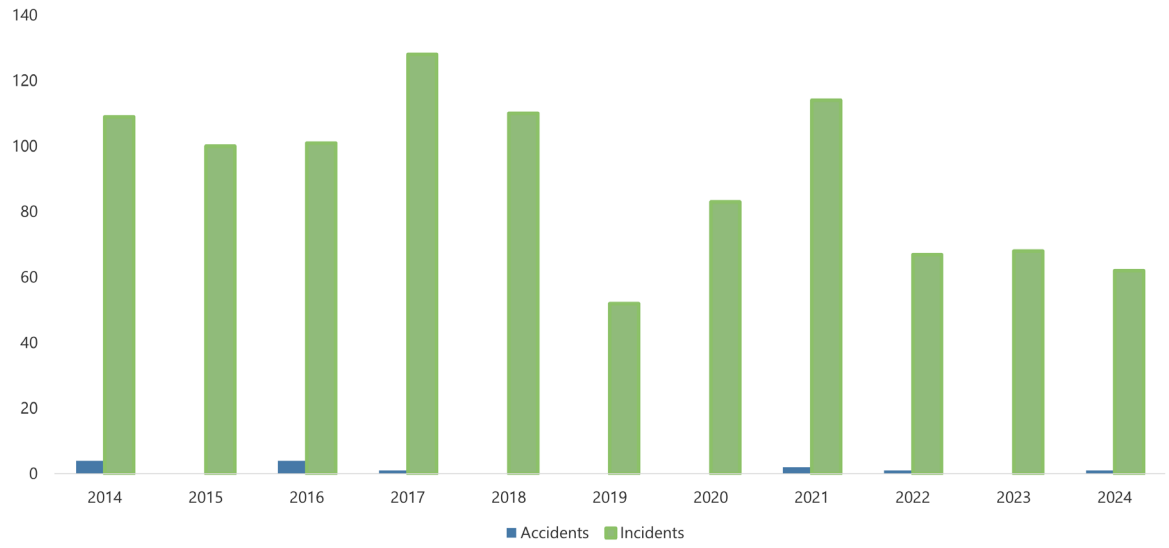
100 km of pipelines carried other commodities and substances. Altogether, this represents approximately 19.6 exajoules (EJ) of energy content transported.[3]

Pipeline transportation occurrences

In 2024, 63 pipeline transportation occurrences were reported to the TSB (Table 1 and Figure 1); one of the occurrences was classified as an accident, while 62 were incidents.[4] This total is less than the 68 occurrences recorded in 2022 and 2023; it is also well below the average number of occurrences for the previous 10 years (94.5 occurrences per year). Fluctuations to the reported numbers over this period may have resulted from various factors, including changes to regulations and definitions. The one accident reported in 2024 is close to the average for the previous 10 years (1.3 accidents per year).

In 2024, there were no serious injuries or fatalities arising directly from the operation of a federally regulated pipeline, as has been the case each year since 2017. Indeed, there have been no fatal accidents on a federally regulated pipeline system directly resulting from the operation of a pipeline since the inception of the TSB in 1990.

Figure 1. Pipeline accidents and incidents reported to the TSB (according to reporting requirements in effect at the time), 2014 to 2024



Release of product

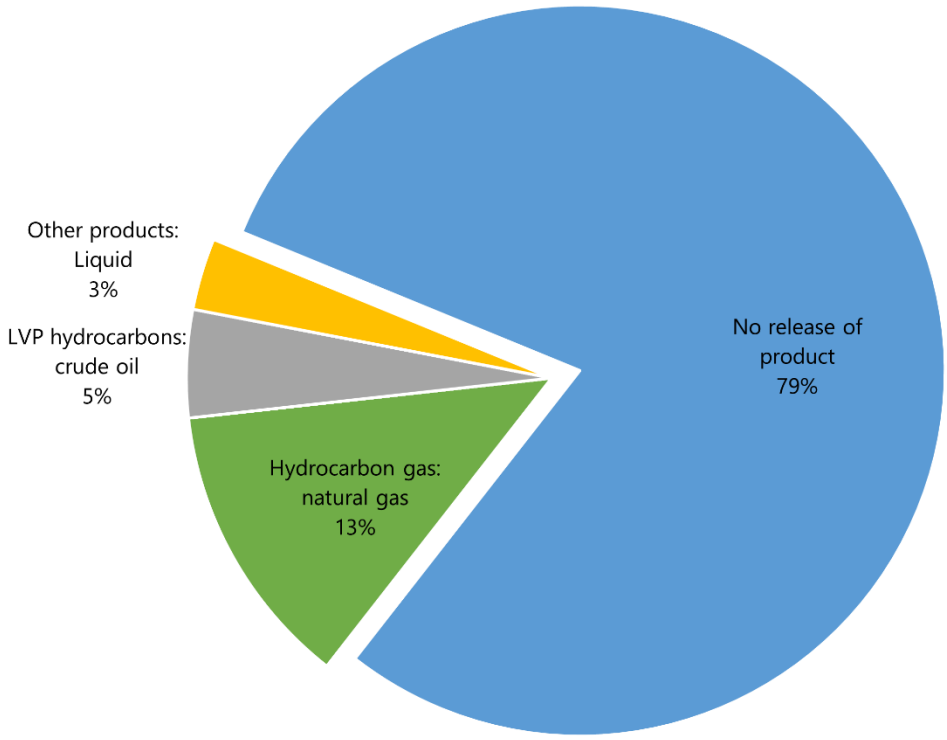
Of the 63 occurrences in 2024, 13 involved a release of product (Table 5). This was the lowest number of such occurrences ever reported to the TSB, below the 17 occurrences reported in 2023, which was the

3 The size of the federally regulated pipeline system, the number of companies, and the volumes of product transported were provided by the Canada Energy Regulator (CER). Until 2019, the CER was known as the "National Energy Board," and the TSB Regulations still refer to the agency by its former name.

4 See the Definitions section.

previous low. Figure 2 shows the products released in these occurrences. In 8 occurrences, hydrocarbon gas was released: natural gas (rather than sour gas) in each case. Low vapour pressure (LVP) hydrocarbons were released in 3 occurrences: crude oil in each case. The remaining 2 occurrences resulted in the release of a liquid other than hydrocarbons, namely pulp process water (in all cases); no such occurrences had been reported in 2023, but similar occurrences were reported each year in 2020-2022. In 2024, 50 occurrences did *not* involve a release of product, slightly below the average number of occurrences without release over the previous 10 years (52).

Figure 2. Percentages of occurrences with and without release of product, by type of product released, 2024



Events other than product release

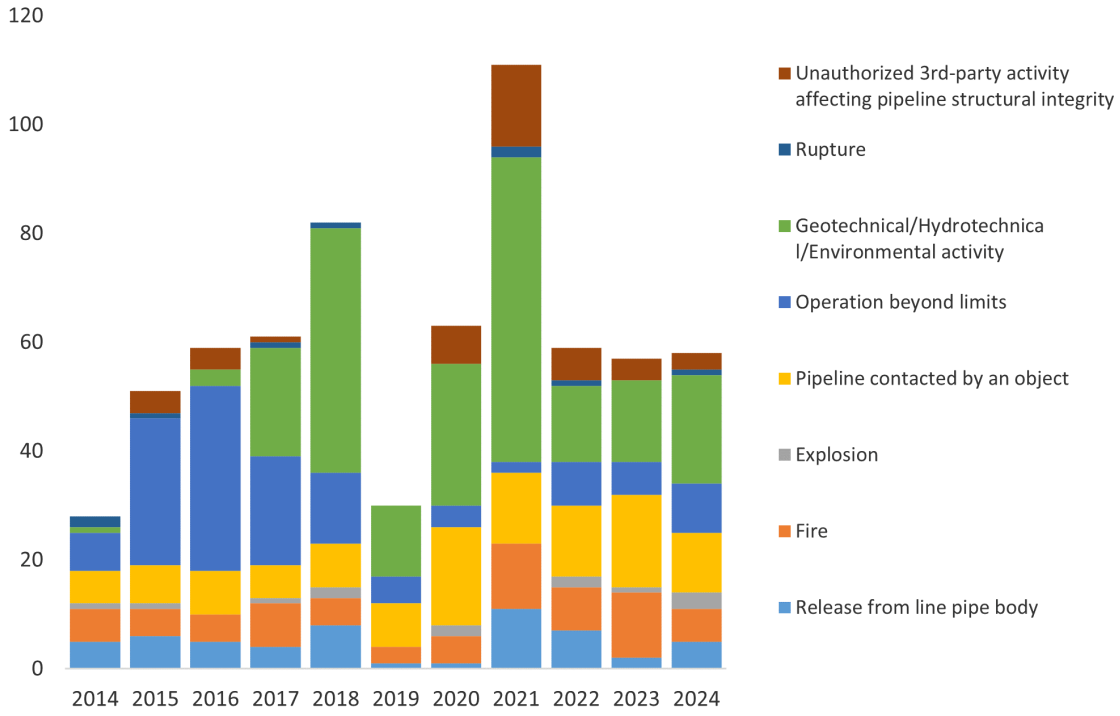
In 2024, 20 occurrences (all of them incidents) involved "geotechnical, hydrotechnical or environmental activity," for example, slope movements or river erosion that exposed a length of pipe (Table 1 and Figure 3). This was above the 15 such incidents reported in 2023 and slightly above the average of 19 incidents reported per year between 2014 and 2023.

There were 11 incidents of pipelines being contacted by an object in 2024. This was fewer than the number reported in 2023 (17), but slightly above the average of 10 such incidents per year during the previous 10 years. The "operation beyond limits" was reported in 9 occurrences, above the number of

such occurrences reported the previous year (6), but well below the average of 13 occurrences of this type per year, between 2014 and 2023.

In 2024, 6 occurrences were reported involving fire, of which one was an accident. The total number of occurrences involving fire was the lowest since 2020 (5), and was somewhat less than the average of the previous 10 years (7). Meanwhile the number of incidents where "unauthorized third-party activity affects pipeline structural integrity" decreased to 3, below the number reported in 2023 and the average over the previous 10 years (both 4).

Figure 3. Pipeline occurrences other than those solely categorized as "product released," by type of event, 2014 to 2024[5]



Geography

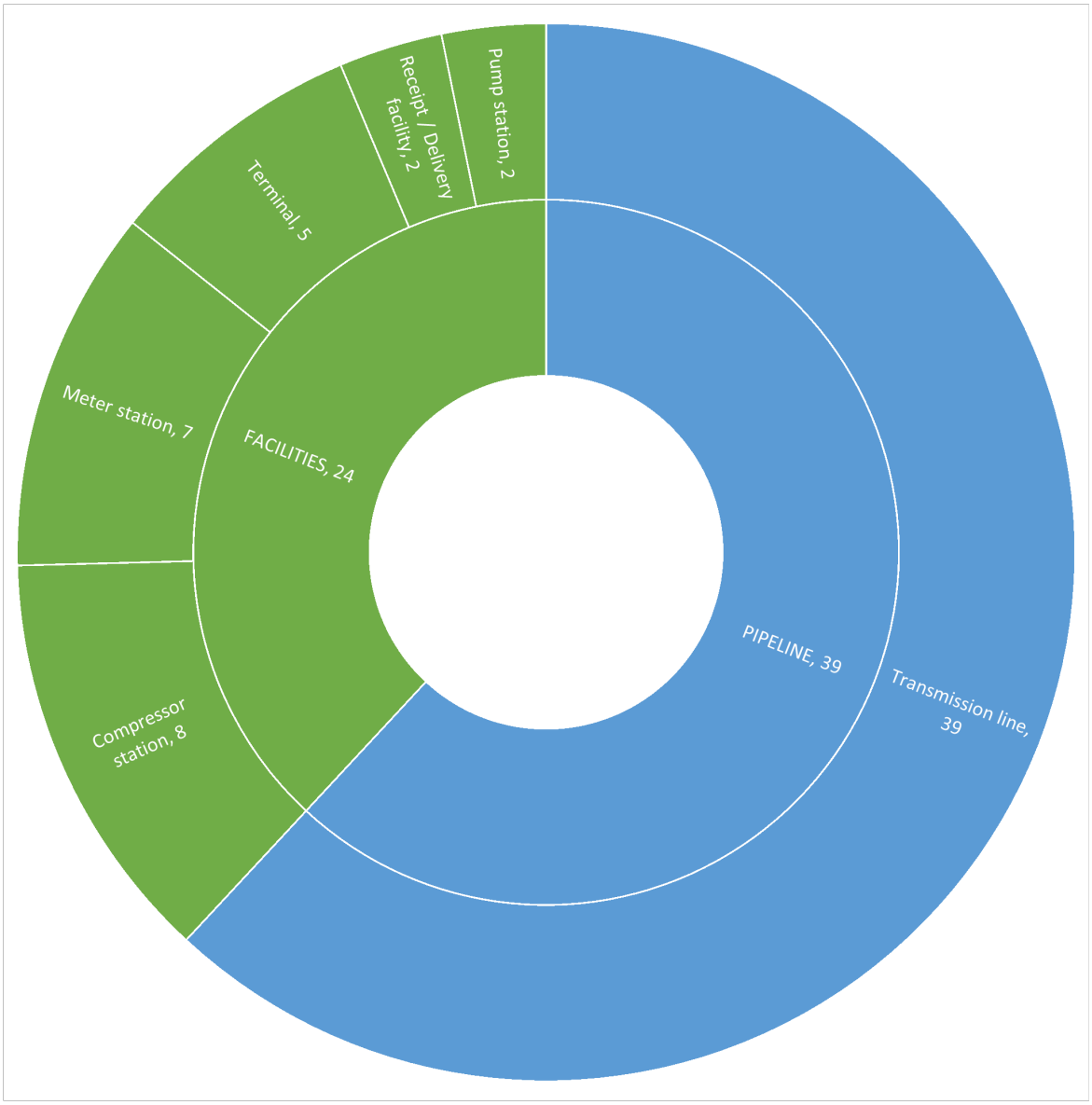
The largest number of occurrences in 2024 (32 out of 63) took place in Alberta (Table 2); this is below the number reported in 2023 (36) and slightly above the average between 2014 and 2023 (31). Decreases were also reported in British Columbia (from 12 to 8 occurrences, year over year), in Saskatchewan (from 6 to 2 occurrences) and in the Northwest Territories (from 3 to 1 occurrences). Quebec had the largest increase in occurrences, from 1 in 2023 to 5 in 2024. Ontario increased from 9 to 12 occurrences between 2023 and 2024, and New Brunswick increased from 0 occurrences in 2023 to 3 in 2024.

[5] The figure includes all types of events for pipeline transportation occurrences reported to the TSB under the *Transportation Safety Board Regulations*, aside from those solely categorized as "product released." Product release is defined as an occurrence "resulting directly from the operation of a pipeline where an unintended or uncontrolled release of commodity resulted in a significant adverse effect on people or the environment." Some occurrences may be coded to multiple event types.

Facilities

As in 2023, a majority of occurrences in 2024 (62%; 39 of 63) occurred at locations along a pipeline, while 38% (24 of 63) occurred at facilities (Figure 4). For comparison, across the 10-year period from 2014 to 2023, there were 434 occurrences (46%) at facilities and 501 (54%) at locations along a pipeline (Table 3). Of the 24 occurrences at facilities in 2024 (all of them incidents), 8 occurred at compressor stations, 7 at meter stations, 5 at terminals, 2 at pump stations, and 2 at receipt/delivery facilities.

Figure 4. Location of occurrences in 2024



Pipeline occurrence rate

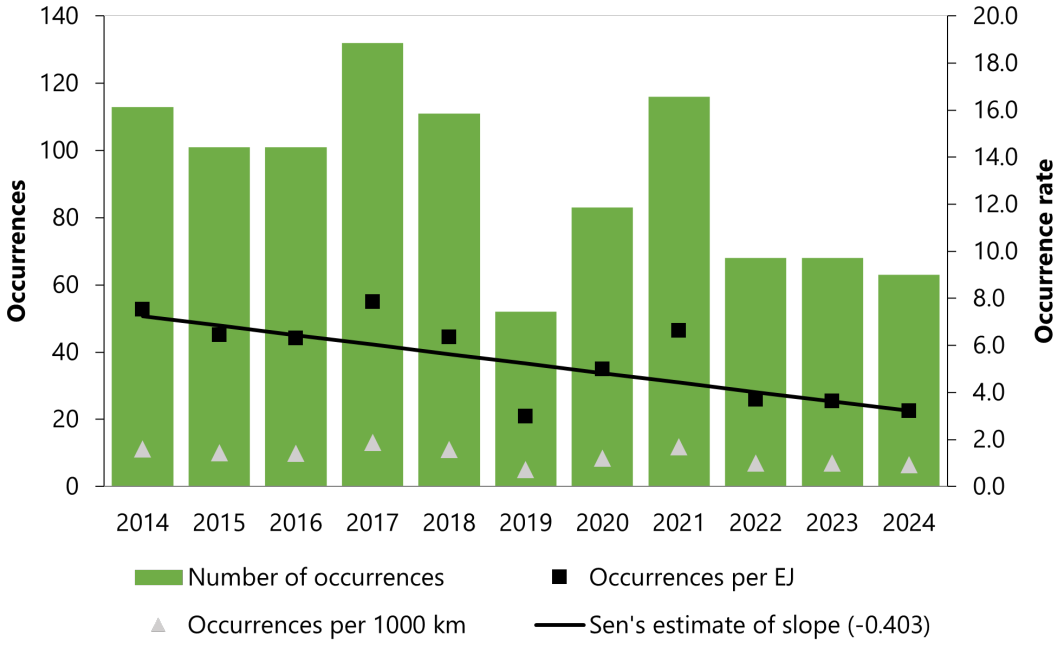
An occurrence rate of 0.9 occurrences per 1000 km of operating pipeline was calculated for 2024 based on the 64 occurrences reported and the 68 400 km of federally regulated pipelines that were operational

in Canada according to the Canada Energy Regulator (CER) during the same year (Table 4 and Figure 5). This occurrence rate is similar to that reported in 2023, and below the average of 1.4 in the 10-year period from 2014 to 2023.

The occurrence rate has generally fallen from a peak of 1.9 occurrences per 1000 km of operating pipeline in 2017 to 0.9 in 2023. To test whether the change in rate was statistically significant, Kendall's tau-b (τ_b) correlation and Sen's estimate of slope were used to quantify the trend in accident rate. Kendall's τ_b correlation coefficient is a nonparametric measure of the strength and direction of association that exists between two variables. Kendall's τ_b was calculated on the 11-year series of accident rate values by year from 2014 to 2024. The downward change in accident rate by pipeline length was not statistically significant over the period ($\tau_b = -0.2049$, $p = 0.1923$).

An occurrence rate can also be calculated using exajoules (EJ) of energy as a denominator (Table 4 and Figure 5). In 2024, the equivalent of 19.6 EJ of energy were transported in federally regulated pipelines. This translates to a rate of 3.2 occurrences per EJ in 2024, a figure slightly lower than the 2023 rate of 3.6 and well below the 2014 to 2023 average of 5.6 occurrences per EJ. In this case, the change in occurrence rate per EJ did show a statistically significant downward trend over the period ($\tau_b = -0.5274$, $p = 0.0010$). Sen's estimate of slope, the amount of downward rate change per year, was -0.403 occurrences per EJ per year. A graphical illustration is presented in Figure 5.

Figure 5. TSB reportable occurrences (according to reporting requirements in effect at the time) and occurrence rates, 2014 to 2024



Data tables

Table 1. Pipeline transportation occurrences, by accident/incident type and casualties, 2014 to 2024

	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024
Occurrences	**113**	**101**	**101**	**132**	**111**	**52**	**83**	**116**	**68**	**68**	**63**
Occurrences with product release	**94**	**60**	**41**	**76**	**41**	**23**	**19**	**23**	**26**	**17**	**13**
Persons fatally injured	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
Persons seriously injured	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
Accidents	**4**	**1**	**0**	**4**	**1**	**0**	**0**	**2**	**1**	**0**	**1**
Product released	**2**	**1**	**0**	**4**	**1**	**0**	**0**	**2**	**1**	**0**	**1**
Release of hydrocarbon gas	2	1	0	0	1	0	0	1	1	0	1
Release of HVP hydrocarbons[1]	0	0	0	1	0	0	0	0	0	0	0
Release of LVP hydrocarbons[2, 3]	0	0	0	2	0	0	0	0	0	0	0
Release of other product[4]	0	0	0	1	0	0	0	1	0	0	0
Release from line pipe body	2	1	0	1	1	0	0	2	1	0	1
Fire	3	0	0	0	1	0	0	0	1	0	1
Explosion	1	0	0	0	1	0	0	0	1	0	1
Rupture	2	1	0	1	1	0	0	2	1	0	1
Pipeline contacted by an object	0	0	0	2	0	0	0	1	0	0	0
Operation beyond limits	0	0	0	0	0	0	0	0	0	0	0
Geotechnical/hydrotechnical/environmental activity	0	0	0	0	0	0	0	0	0	0	0
Incidents	**109**	**100**	**101**	**128**	**110**	**52**	**83**	**114**	**67**	**68**	**62**
Product released	**92**	**59**	**41**	**72**	**40**	**23**	**19**	**21**	**25**	**17**	**12**
Release of hydrocarbon gas	31	30	35	47	35	18	13	12	15	15	7
Release of HVP hydrocarbons[1]	7	8	4	10	1	0	1	0	0	0	0
Release of LVP hydrocarbons[2, 3]	36	4	1	3	4	5	4	3	7	2	3
Release of other product[4]	18	17	1	12	0	0	1	6	3	0	2
Release from line pipe body	3	5	5	3	7	1	1	9	6	2	4
Fire	3	5	5	8	4	3	5	12	7	12	5
Explosion	0	1	0	1	1	0	2	0	1	1	2
Pipeline contacted by an object	6	7	8	4	8	8	18	12	13	17	11
Operation beyond limits	7	27	34	20	13	5	4	2	8	6	9
Geotechnical/hydrotechnical/environmental activity	1	0	3	20	45	13	26	56	14	15	20
Unauthorized third-party activity affecting pipeline structural integrity	0	4	4	1	0	0	7	15	6	4	3

Data extracted 18 February 2025

[1] HVP: high vapour pressure, as defined in Canadian Standards Association Standard Z662.

[2] LVP: low vapour pressure, as defined in Canadian Standards Association Standard Z662.

[3] In July 2014, the minimum reporting threshold for releases of low vapour pressure hydrocarbons was established at 1.5 m^3.

[4] As of January 2017, "other products" are specified to be either liquid or gas.

Table 2. Pipeline transportation occurrences, by province and territory, 2014 to 2024

	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024
Accidents	**4**	**1**	**0**	**4**	**1**	**0**	**0**	**2**	**1**	**0**	**1**
Newfoundland and Labrador	0	0	0	0	0	0	0	0	0	0	0
Prince Edward Island	0	0	0	0	0	0	0	0	0	0	0
Nova Scotia	0	0	0	0	0	0	0	0	0	0	0
New Brunswick	0	0	0	0	0	0	0	1	0	0	0
Quebec	0	0	0	0	0	0	0	0	0	0	0
Ontario	0	0	0	0	0	0	0	0	0	0	0
Manitoba	1	0	0	0	0	0	0	1	0	0	0
Saskatchewan	0	0	0	1	0	0	0	0	0	0	0
Alberta	1	1	0	2	0	0	0	0	1	0	1
British Columbia	1	0	0	1	1	0	0	0	0	0	0
Yukon	0	0	0	0	0	0	0	0	0	0	0
Northwest Territories	1	0	0	0	0	0	0	0	0	0	0
Nunavut	0	0	0	0	0	0	0	0	0	0	0
Incidents	**109**	**100**	**101**	**128**	**110**	**52**	**83**	**114**	**67**	**68**	**62**
Newfoundland and Labrador	0	0	0	0	0	0	0	0	0	0	0
Prince Edward Island	0	0	0	0	0	0	0	0	0	0	0
Nova Scotia	1	2	3	0	2	0	1	0	0	0	0
New Brunswick	9	3	5	5	2	0	1	7	3	0	3
Quebec	1	8	7	6	1	5	7	10	1	1	5
Ontario	14	14	18	15	19	6	20	16	14	9	12
Manitoba	8	9	2	3	3	2	4	1	4	1	0
Saskatchewan	17	5	6	11	4	2	5	4	3	6	2
Alberta	32	27	37	36	32	22	29	28	24	36	31
British Columbia	27	30	22	52	47	12	15	47	16	12	8
Yukon	0	0	0	0	0	0	0	0	0	0	0
Northwest Territories	0	2	1	0	0	3	1	1	1	3	1
Nunavut	0	0	0	0	0	0	0	0	1	0	0
Occurrences	**113**	**101**	**101**	**132**	**111**	**52**	**83**	**116**	**68**	**68**	**63**

Data extracted 18 February 2025

Table 3. Pipeline transportation occurrences by facility type or pipeline type, 2014 to 2024

	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024
Accidents	**4**	**1**	**0**	**4**	**1**	**0**	**0**	**2**	**1**	**0**	**1**
Facilities	**1**	**0**	**0**	**2**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
Compressor station	1	0	0	0	0	0	0	0	0	0	0
Gas processing plant	0	0	0	1	0	0	0	0	0	0	0
Meter station	0	0	0	0	0	0	0	0	0	0	0
Pump station	0	0	0	0	0	0	0	0	0	0	0
Storage facility	0	0	0	0	0	0	0	0	0	0	0
Terminal	0	0	0	1	0	0	0	0	0	0	0
Receipt/delivery facility	0	0	0	0	0	0	0	0	0	0	0
Other	0	0	0	0	0	0	0	0	0	0	0
Pipeline	**3**	**1**	**0**	**2**	**1**	**0**	**0**	**2**	**1**	**0**	**1**
Gathering line	0	0	0	0	0	0	0	0	0	0	0
Transmission line	3	1	0	2	1	0	0	2	1	0	1
Incidents	**109**	**100**	**101**	**128**	**110**	**52**	**83**	**114**	**67**	**68**	**62**
Facilities	**88**	**67**	**48**	**68**	**41**	**20**	**22**	**24**	**25**	**28**	**24**
Compressor station	14	11	12	23	18	6	8	14	10	21	8
Gas processing plant	21	21	3	20	7	3	0	0	0	0	0
Meter station	9	7	16	7	6	3	2	1	3	2	7
Pump station	22	17	9	10	4	4	8	1	5	0	2
Storage facility	0	0	0	1	0	0	0	0	0	0	0
Terminal	18	10	5	6	6	3	3	3	3	4	5
Receipt/delivery facility	1	0	0	0	0	0	0	0	0	0	2
Other	3	1	3	1	0	1	1	5	4	1	0
Pipeline	**21**	**33**	**53**	**60**	**69**	**32**	**61**	**90**	**42**	**40**	**38**
Gathering line	2	5	3	8	11	3	1	0	0	1	0
Transmission line	19	28	50	52	58	29	60	90	42	39	38
Occurrences	**113**	**101**	**101**	**132**	**111**	**52**	**83**	**116**	**68**	**68**	**63**

Data extracted 18 February 2025

Table 4. Pipeline transportation occurrence rates, 2014 to 2024

	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024
Accidents	4	1	0	4	1	0	0	2	1	0	1
Incidents	109	100	101	128	110	52	83	114	67	68	62
Occurrences	113	101	101	132	111	52	83	116	68	68	63
Total length of operating pipelines[1] (x1000 km)	70.7	70.8	71.0	70.7	70.6	71.1	69.1	68.9	68.7	68.2	68.4
Accidents per 1000 km of operating pipelines	0.1	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Incidents per 1000 km of operating pipelines	1.5	1.4	1.4	1.8	1.6	0.7	1.2	1.7	1.0	1.0	0.9
Occurrences per 1000 km of operating pipelines	1.6	1.4	1.4	1.9	1.6	0.7	1.2	1.7	1.0	1.0	0.9
Total exajoules of energy transported[1] (EJ)	15.0	15.7	16.0	16.8	17.5	17.4	16.6	17.5	18.4	18.8	19.6
Accidents per EJ	0.3	0.1	0.0	0.2	0.1	0.0	0.0	0.1	0.1	0.0	0.1
Incidents per EJ	7.3	6.4	6.3	7.6	6.3	3.0	5.0	6.5	3.6	3.6	3.2
Occurrences per EJ	7.5	6.4	6.3	7.9	6.3	3.0	5.0	6.6	3.7	3.6	3.2

Data extracted 18 February 2025

[1] Source: Canada Energy Regulator (CER; email communication 17 March 2025).

Table 5. Pipeline transportation occurrences with product release, by type of product, 2014 to 2024

	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024
Hydrocarbon gas	**33**	**31**	**35**	**47**	**36**	**18**	**13**	**13**	**16**	**15**	**8**
Gas - sour or acid	3	10	2	7	6	1	0	0	0	0	0
Natural gas	30	21	33	40	30	17	13	13	16	15	8
HVP hydrocarbons[1]	**7**	**8**	**4**	**11**	**1**	**0**	**1**	**0**	**0**	**0**	**0**
Natural gas liquids / Liquefied petroleum gas	7	8	4	11	1	0	1	0	0	0	0
LVP hydrocarbons[2,3]	**36**	**4**	**1**	**5**	**4**	**5**	**4**	**3**	**7**	**2**	**3**
Condensate	4	0	0	1	0	0	1	0	0	0	0
Condensate - sour	0	0	0	0	0	0	0	0	0	0	0
Crude oil	32	3	1	4	3	5	3	3	7	2	3
Crude oil - sour	0	1	0	0	0	0	0	0	0	0	0
Refined products	0	0	0	0	1	0	0	0	0	0	0
Other products[4]	**18**	**17**	**1**	**13**	**0**	**0**	**1**	**7**	**3**	**0**	**2**
Other - unspecified	18	16	1	0	0	0	0	0	0	0	0
Other - gas	0	1	0	1	0	0	0	0	0	0	0
Other - liquid	0	0	0	12	0	0	1	7	3	0	2
Occurrences	**94**	**60**	**41**	**76**	**41**	**23**	**19**	**23**	**26**	**17**	**13**

Data extracted 18 February 2025

[1] HVP: high vapour pressure, as defined in Canadian Standards Association Standard Z662.

[2] LVP: low vapour pressure, as defined in Canadian Standards Association Standard Z662.

[3] In July 2014, the minimum reporting threshold for releases of low vapour pressure hydrocarbons was established at 1.5 m^3.

[4] As of January 2017, "other products" are specified to be either liquid or gas.

Table 6. Pipeline transportation occurrences with product release, by quantity released, 2014 to 2024

	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024
Hydrocarbon gas	**33**	**31**	**35**	**47**	**36**	**18**	**13**	**13**	**16**	**15**	**8**
100 m^3 or less	26	20	24	20	15	11	8	5	5	3	2
101 to 30,000 m^3	5	7	10	25	17	4	3	3	7	10	3
30,001 to 100,000 m^3	0	3	1	1	1	1	0	2	1	1	1
100,001 to 1,000,000 m^3	1	0	0	1	2	2	1	3	1	1	0
1,000,001 to 10,000,000 m^3	1	1	0	0	1	0	0	0	2	0	2
Greater than 10,000,000 m^3	0	0	0	0	0	0	1	0	0	0	0
HVP hydrocarbons[1]	**7**	**8**	**4**	**11**	**1**	**0**	**1**	**0**	**0**	**0**	**0**
8 m^3 or less	7	8	4	10	1	0	1	0	0	0	0
9 to 25 m^3	0	0	0	1	0	0	0	0	0	0	0
26 to 100 m^3	0	0	0	0	0	0	0	0	0	0	0
101 to 1000 m^3	0	0	0	0	0	0	0	0	0	0	0
1001 to 10,000 m^3	0	0	0	0	0	0	0	0	0	0	0
Greater than 10,000 m^3	0	0	0	0	0	0	0	0	0	0	0
LVP hydrocarbons[2,3]	**36**	**4**	**1**	**5**	**4**	**5**	**4**	**3**	**7**	**2**	**3**
1.5 m^3 or less	29	0	0	0	2	0	0	1	2	1	0
1.6 to 8 m^3	4	2	1	1	2	4	0	1	3	1	2
9 to 25 m^3	2	1	0	2	0	0	0	0	0	0	1
26 to 100 m^3	0	1	0	1	0	1	3	0	1	0	0
101 to 1000 m^3	1	0	0	0	0	0	1	0	1	0	0
1001 to 10,000 m^3	0	0	0	1	0	0	0	0	0	0	0
Greater than 10,000 m^3	0	0	0	0	0	0	0	1	0	0	0
Other products[4]	**18**	**17**	**1**	**13**	**0**	**0**	**1**	**7**	**3**	**0**	**2**
8 m^3 or less	15	14	0	12	0	0	1	3	0	0	0
9 to 25 m^3	2	2	0	0	0	0	0	0	0	0	0
26 to 100 m^3	1	0	0	0	0	0	0	0	3	0	1
101 to 1000 m^3	0	1	1	1	0	0	0	4	0	0	1
1001 to 10,000 m^3	0	0	0	0	0	0	0	0	0	0	0
Greater than 10,000 m^3	0	0	0	0	0	0	0	0	0	0	0
Occurrences	**94**	**60**	**41**	**76**	**41**	**23**	**19**	**23**	**26**	**17**	**13**

Data extracted 18 February 2025

[1] HVP: high vapour pressure, as defined in Canadian Standards Association Standard Z662.

[2] LVP: low vapour pressure, as defined in Canadian Standards Association Standard Z662.

[3] In July 2014, the minimum reporting threshold for releases of low vapour pressure hydrocarbons was established at 1.5 m^3.

[4] As of January 2017, "other products" are specified to be either liquid or gas.

Table 7. Pipeline transportation occurrences, by province and territory and product released, 2014 to 2024

	No release of product		Release of hydrocarbon gas		Release of HVP hydrocarbons[1]		Release of LVP hydrocarbons[2,3]		Release of other product[4]	
Province or territory	**2014-2023 average**	**2024**	**2014-2023 average**	**2024**	**2014-2023 average**	**2024**	**2014-2023 average**	**2024**	**2014-2023 average**	**2024**
Newfoundland and Labrador	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
Prince Edward Island	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
Nova Scotia	0.1	0	0.8	0	0.0	0	0.0	0	0.0	0
New Brunswick	0.0	1	2.2	0	0.0	0	0.0	0	1.4	2
Quebec	4.3	5	0.4	0	0.0	0	0.0	0	0.0	0
Ontario	10.6	10	2.7	2	0.4	0	0.5	0	0.3	0
Manitoba	1.4	0	0.8	0	0.4	0	1.2	0	0.1	0
Saskatchewan	2.4	2	0.7	0	1.2	0	2.0	0	0.1	0
Alberta	17.7	25	9.4	4	0.6	0	3.0	3	0.1	0
British Columbia	15.2	6	8.6	2	0.4	0	0.2	0	3.9	0
Yukon	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
Northwest Territories	0.7	1	0.1	0	0.2	0	0.2	0	0.1	0
Nunavut	0.1	0	0.0	0	0.0	0	0.0	0	0.0	0
Occurrences	**52.5**	**50**	**25.7**	**8**	**3.2**	**0**	**7.1**	**3**	**6.0**	**2**

Data extracted 18 February 2025

[1] HVP: high vapour pressure, as defined in Canadian Standards Association Standard Z662.

[2] LVP: low vapour pressure, as defined in Canadian Standards Association Standard Z662.

[3] In July 2014, the minimum reporting threshold for releases of low vapour pressure hydrocarbons was established at 1.5 m^3.

[4] As of January 2017, "other products" are specified to be either liquid or gas.

Definitions

Before 1 July 2014

Before 1 July 2014 (under the previous *Transportation Safety Board Regulations* [TSB Regulations]), pipeline transportation accidents and incidents were defined as follows:

Pipeline accidents

Reportable commodity pipeline accident means an accident resulting directly from the operation of a commodity pipeline, where

a) a person sustains a serious injury or is killed as a result of being exposed to
   i) a fire, ignition or explosion, or
   ii) a commodity released from the commodity pipeline, or
b) the commodity pipeline
   i) sustains damage affecting the safe operation of the commodity pipeline as a result of being contacted by another object or as a result of a disturbance of its supporting environment,
   ii) causes or sustains an explosion, or a fire or ignition that is not associated with normal operating circumstances, or
   iii) sustains damage resulting in the release of any commodity.

Pipeline incidents

Reportable commodity pipeline incident means an incident resulting directly from the operation of a commodity pipeline, where

a) an uncontained and uncontrolled release of a commodity occurs,
b) the commodity pipeline is operated beyond design limits,
c) the commodity pipeline causes an obstruction to a ship or to a surface vehicle owing to a disturbance of its supporting environment,
d) any abnormality reduces the structural integrity of the commodity pipeline below design limits,
e) any activity in the immediate vicinity of the commodity pipeline poses a threat to the structural integrity of the commodity pipeline, or
f) the commodity pipeline, or a portion thereof, sustains a precautionary or emergency shut-down for reasons that relate to or create a hazard to the safe transportation of a commodity;

Since 1 July 2014

On 1 July 2014, new reporting provisions of the TSB Regulations came into effect; these were subsequently revised effective 22 November 2018 and appeared in the *Canada Gazette* 12 December 2018. According to subsection **4(1)** of the TSB Regulations, the operator of a pipeline must report any of the following pipeline occurrences to the Board:

(a) the pipeline sustains damage that affects the safe operation of the pipeline as a result of another object coming into contact with it;

(b) an unauthorized third party activity affects the structural integrity of the pipeline;

(c) a geotechnical, hydrotechnical or environmental activity poses a threat to the safe operation of the pipeline.

Under subsection **4(1.1)**, the operator must report any of the following pipeline occurrences to the Board if they result directly from the operation of the pipeline:

(a) a person sustains a *serious injury* as defined in section 1 of the *National Energy Board*[6] *Onshore Pipeline Regulations* or is killed;

(b) there is a fire, ignition or explosion that

(i) affects the safe operation of the pipeline, or

(ii) poses a threat to the safety of any person, property or the environment;

(c) there is an occurrence that results in

(i) an unintended or uncontrolled release of hydrocarbon gas,

(ii) an unintended or uncontrolled release of HVP hydrocarbons,

(iii) an unintended or uncontrolled release of LVP hydrocarbons in excess of 1.5 m^3, or

(iv) an unintended or uncontrolled release of a commodity other than hydrocarbon gas, HVP hydrocarbons or LVP hydrocarbons;

(d) there is a release of a commodity from the line pipe body;

(e) the pipeline is operated beyond design limits or any operating restrictions imposed by the National Energy Board[6];

(f) the pipeline restricts the safe operation of any mode of transportation.

Since 1 May 2018

Since 1 May 2018, the TSB *Policy on Occurrence Classification* defines Pipeline accidents and Pipeline incidents as follows:

Pipeline accidents

A pipeline accident is an occurrence resulting directly from the operation of a pipeline that results in:

(a) serious injury or loss of human life;

(b) a rupture (an instantaneous release that immediately affects the operation of a pipeline segment such that the pressure of the segment cannot be maintained);

[6] On 28 August 2019, the National Energy Board became the Canada Energy Regulator.

(c) a fire, ignition or explosion that poses a threat to the safety of any person, property or the environment; or
(d) an unintended or uncontrolled release of commodity which results in a significant adverse effect on people or the environment (a release of any chemical or physical substance at a concentration or volume sufficient to cause an irreversible, long-term, or continuous change to the ambient environment in a manner that causes harm to human life, wildlife, or vegetation).

Pipeline incidents

A pipeline incident is

a. an occurrence in which
    i. the pipeline sustains damage that affects the safe operation of the pipeline as a result of another object coming into contact with it,
    ii. an unauthorized third party activity affects the structural integrity of the pipeline, or
    iii. a geotechnical, hydrotechnical or environmental activity poses a threat to the safe operation of the pipeline;
b. an occurrence resulting directly from the operation of a pipeline in which
    i. there is a fire, ignition or explosion that affects the safe operation of the pipeline,
    ii. there is an unintended or uncontrolled release of hydrocarbon gas,
    iii. there is an unintended or uncontrolled release of HVP (high vapour pressure as defined in CSA Z662. CSA Z662 means Canadian Standards Association Standard Z662, entitled Oil and Gas Pipeline Systems, as amended from time to time) hydrocarbons,
    iv. there is an unintended or uncontrolled release of LVP (low vapour pressure as defined in CSA Z662) hydrocarbons in excess of 1.5 m^3,
    v. there is an unintended or uncontrolled release of a commodity other than hydrocarbon gas, HVP hydrocarbons or LVP hydrocarbons,
    vi. there is a release of a commodity from the line pipe body,
    vii. the pipeline is operated beyond design limits or any operating restrictions imposed by the Canada Energy Regulator, or
    viii. the pipeline restricts the safe operation of any mode of transportation.