

PIPELINE CONSTRUCTION INSPECTION: WORKFORCE FACTS

SERIES 1 | REPORT 1

A GROWING DEMAND

Pipeline operators and service providers are looking for a larger pool of candidates for potential employment as pipeline construction inspectors. Employers are seeking new applicants with a high school diploma and relevant experience. These applicants will be best positioned to learn from current workers and to replenish the aging workforce in the future.

"The greatest risk we face is experienced inspectors leaving the industry faster than new inspectors are hired; essential knowledge will be lost, creating a rapid brain drain."

REFERENCES

¹ Canadian Energy Regulator (2023). *Interactive Pipeline Map*. <https://www.cer-rec.gc.ca/en/safety-environment/industry-performance/interactive-pipeline/index.html>

² Statistics Canada (2016). *Population and Dwelling Count Highlight Tables, 2016 Census*. <https://www12.statcan.gc.ca/census-recensement/2016/dp-pd/hlt-fst/pd-pl/Table.cfm?lang=Eng&T=301&S=3&O=D>

³ Employment Canada (2018). *Government of Canada launches new Apprenticeship Incentive Grant for Women to help them get certified in Red Seal trades*. <https://www.canada.ca/en/employment-social-development/news/2018/12/government-of-canada-launches-new-apprenticeship-incentive-grant-for-women-to-help-them-get-certified-in-red-seal-trades-apply-today.html>

⁴ Employment Canada (2019). *Canada Pension Plan*. <https://www.canada.ca/en/services/benefits/pu/blicpensions/cpp/cpp-benefit/amount.html>

Who are today's pipeline construction inspectors?

EXPOSING A HIDDEN CAREER

Pipeline construction inspection is part of a hidden oil and gas job market. As such, little is known about the demographics of the current labour pool. A benchmarking survey of 100 inspectors, has provided some insight into today's workforce.

WHERE DO INSPECTORS LIVE?

The majority of inspectors surveyed are concentrated in the Western provinces, with 86% of respondents residing in British Columbia, Alberta, Saskatchewan, and Manitoba. Over half of all inspectors reside in Alberta where most Canadian oil and gas transmission pipelines are located (Figure 1).

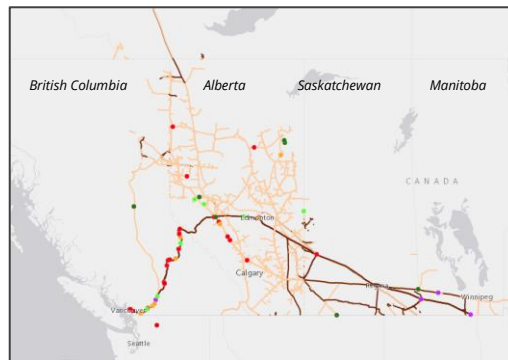


Figure 1. CER regulated pipelines in Western Canada¹.

Like most Albertans, 70% of inspectors live within 30 minutes of an urban centre (a city with a population greater than 50,000). In Alberta, these urban centres are Calgary, Edmonton, Red Deer, Lethbridge, Medicine Hat, and Grande Prairie. This proportion of urbanites is comparable to Alberta's average population of 68%².

HOW ARE GENDERS REPRESENTED?

Historically, field-based oil and gas work has been male dominated. Despite an increase in the number of women entering the industry, 96% of inspectors identify as male, which agrees with recent job site observations and on-the-job training programs.

The portion of female workers in pipeline construction inspection, less than 4%, is similar to the ratio of women in trades across Canada, which has been estimated as 3.5% to 5%. To tackle disproportionate gender representation in trades, the Government of Canada has invested \$20 million to encourage women to consider trade apprenticeships.³ Before taking a similar approach to building gender balance in pipeline construction inspection, it would be informative to survey workers to better understand the reason for the observed gender gap.

HOW OLD ARE TODAY'S INSPECTORS?

The age of survey participants ranges from 25 to 78 years old; 68% of inspectors over the age of 50. The mean age of inspectors is 54 years old and the most common age (mode) of an inspector is 59 years old. This data indicates the population is asymmetrically skewed towards an aging workforce (Figure 2), nearing Canada's retirement age of 65⁴.

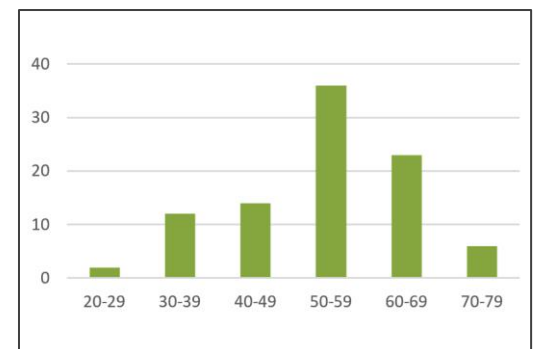


Figure 2. Age distribution of the current pipeline construction inspector workforce.

THE FUTURE OF INSPECTION

Employers have already indicated a need for more qualified candidates to enter the field. In the short term, a lack of available inspectors may impact project work. However, there are also risks to the longer-term health of the industry. Currently, the greatest risk we face is experienced inspectors leaving the industry faster than new inspectors are hired; essential knowledge will be lost, creating a rapid brain drain.