JIVA SCHOOL OF ENERGY | Centre for Pipeline Knowledge

PIPELINE CONSTRUCTION INSPECTION: WORKFORCE FACTS

SERIES 1 | REPORT 2

A CHANGING INDUSTRY

Employers are hoping that pipeline construction inspectors have a more standardized education. Ideally new entrants would start their careers by stepping into a structured work experience program to facilitate effective knowledge transfer from experienced workers to new entrants.

ENVIRONMENTAL
EARTHWORKS
PIPE HANDLING
WELDING
COATINGS
CROSSINGS
TRENCHLESS CROSSINGS
MAINTENANCE
PRESSURE TESTING
SAFETY

Figure 2. Pipeline construction inspection specializations[2]

REFERENCES

[1] API (2019). *Individual Certification Program Directory*. tinyurl.com/jiva2019-05 http://directorysearch.api.org/Search.aspx

[2] Jiva (2019). *Pipeline Construction Inspection Career Roadmap.* https://jivaconsulting.com/SOE/school-of-energy/construction-inspection-resources

[3] Jiva (2019). *Pipeline Construction Inspection Work Experience Program.* https://jivaconsulting.com/SOE/career-resources/apprenticeship (Inactive Link)

How are pipeline construction inspectors educated?

EXPOSING A HIDDEN CAREER

Pipeline construction inspection is part of a hidden oil and gas job market. Historically quantitative data about the education of the current workforce has not been available. A benchmarking survey of 100 inspectors has shown that there is a wide disparity in the education level of inspectors, a great variety in educational achievements, and that those who have postsecondary education have taken many different routes.

EDUCATION IN TODAY'S WORKFORCE

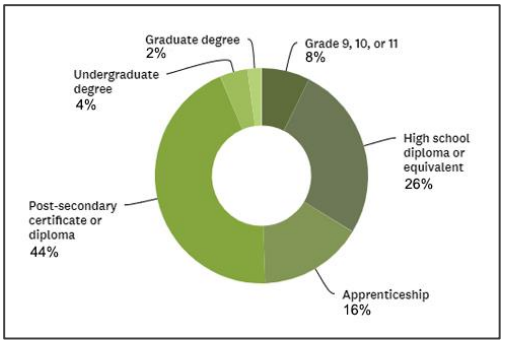

Figure 1. Highest level of education of inspectors

Of the survey respondents, 8% have not completed high school and 26% have stated that the highest level of education they have achieved is a high school diploma. The remaining 66% of respondents pursued further qualifications through different avenues, earning diplomas, degrees, apprenticeships, and certifications (Figure 1).

Pipeline construction inspection is not yet a designated trade; however, many inspectors have acquired vocational training in recognized trades that contribute to the construction of pipelines. For example, a significant portion have trained as welders and 32% have had specific training as welding inspectors (CWB with CSA or ASME code endorsement or AWS Certified Welding Inspector). Other career paths include training as a coating expert, safety specialist, or environmental professional.

A significant number of survey respondents (92%) have earned the API 1169 Pipeline Construction Inspection Certification. As of August 2019, API lists 1968 individuals that are qualified as certified inspectors in Canada[1]. An additional benefit of adopting a standardized criterion, such as a certification program, is the ability to quantify workforce statistics.

EDUCATION OF FUTURE PIPELINE CONSTRUCTION INSPECTORS

An industry advisory committee has recommended standard qualifications for new entrants to the industry, including a high school diploma or equivalent[2]. Stakeholders are also supporting the development of a structured work program such as an internship or apprenticeship for pipeline construction inspectors[3].

This program will facilitate effective knowledge transfer between experienced workers and junior workers. New entrants will begin work as General Pipeline Construction Inspectors, working alongside Certified Inspectors to gain valuable experience and learn new skills. This experience will help them prepare for the API 1169 Certification exam. After being certified, they may choose to continue as General Pipeline Construction Inspectors, train in one of 10 specializations (Figure 2), or eventually earn the position of Chief Inspector (Figure 3).

Figure 3. Proposed career progression for inspectors aided by a structured work experience program