

Internship/Co-op Program

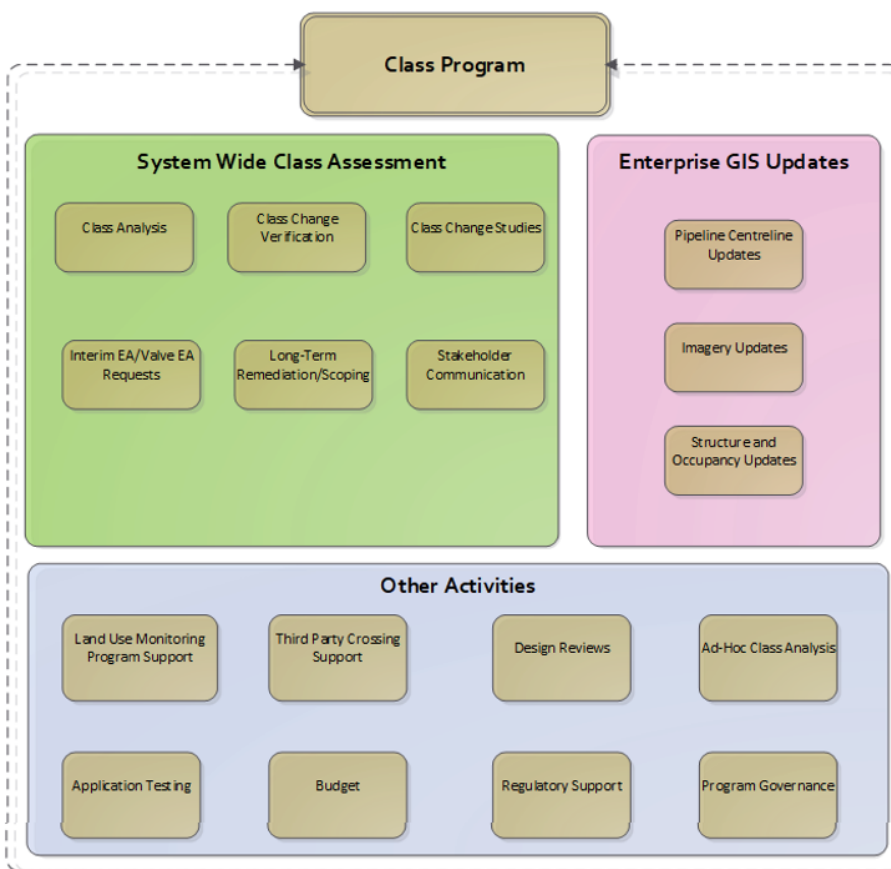
Intern	Vyom Kaushik
Team	Canadian Class
Group	Right of Way Management
Division	Canada Natural Gas Pipelines
Work Term	Jun 2020 – Aug 2021 (15 Months)
Date Created	Aug 9, 2021

Contractual Role Description

Employed within the Right-of-Way (ROW) Management & Project support group; duties included:

- 1) Working with project engineers to support the integration of greenfield and brownfield projects, acquisitions, and/or divestures into CGO (Canada Gas Operations), coordinating design reviews with various CGO stakeholders and, determining and evaluating operational change requests.
- 2) Providing scoping for class and crossing projects driven by Regulatory compliance.

Program Visualization



Work Role Description

- 1) Provided Class checks and ensured safe operations for internal Threat Management and external Urban Development stakeholders.
- 2) Executed Pipeline Class calculations and performed Class verification through GDOT (ArcMap plugin).
- 3) Ensured that pipelines could operate safely within a higher-class location following a class change.



- 4) Composed and analyzed technical documentation confirming pipeline compliance with respect to CSA Z662-19, following a Class change. CSA Z662-19 is a design standard referenced by Onshore Pipeline Regulations for CER for CER (Canada Energy Regulator) regulated pipelines. Meanwhile, Alberta Pipeline Act is the provincial regulation for AER regulated pipelines which references CSA Z662-19.
- 5) Contributed towards development and continuous improvement of ongoing Class programs and processes.
- 6) Upholding mandated regulatory standards and regulations (provincial & federal) applicable to Canada Natural Gas Pipelines as outlined by the CER and AER.

Primary Individual Tasks

1) Design Reviews

These reviews were conducted to verify that the proposed Project design met Class location requirements as per CSA Z662-19. This included reviewing reports on ongoing and future development within the vicinity of the proposed pipelines. In addition, based on the results of the report, a separate review was conducted to verify that the pipe design, valve spacing, and pressure test requirements were met with the addition of providing Class program feedback

2) Verification of Class Location Results

As a part of the annual system-wide Class assessment; Class changes were identified based on population growth in the vicinity of the pipeline. As a part of the process the change drivers were verified to confirm driver validity. Such verification work required working with various stakeholders (internal and external) to get the necessary structure information including distance to the pipeline, spatial location, usage, and occupancy.

3) Safety Awareness

Participated in the safety culture at TC Energy by making a commitment to a positive safety culture and sharing on and off-the-job incidents/ safety moments, participating in safety training, and making safety commitments.

4) External Referrals

Communicated with consulting vendors based on regions: B&A for Western Canada pipelines, and CIMA+ for pipelines in Quebec in order to gain knowledge of development and interact with developers/ municipalities. Ultimately providing input on Class related aspects of the development within the vicinity of TC pipelines.

5) Class Change Summary & Primary Assessment

Class Change Summary's (CCSs) were written to document whether the change segments met the requirements of the higher-Class designations. This document required input from various internal stakeholders (including threat management, cathodic protection, and damage prevention teams) who provided operational and integrity information about the change segment that was integrated into the document generation process. Furthermore, requested Engineering Assessments, gathered information, and verified GIS data against the provided documents and records as needed. Utilized the reported findings to generate primary assessments for technical record retention.

6) Regulatory Reporting & Filing

For all CER (Canada Energy Regulator) regulated pipelines; once a Class change increase was verified and the Class change study written; submission was made to the CER for review. Such reporting highlighted the conformance/ non-conformances listed in Clause 10.7.2 of CSA Z662-19.

7) Engineering Justifications

Created and submitted engineering justifications that outlined project scope and drivers. This included information that were used within decision summaries required to access funds and commence project execution.

8) Population Density Program

Supported the Class team in reviewing the list of structure updates identified based on updated satellite imagery. The list of updates was reviewed to determine if the proposed occupancy/ dwelling unit values were acceptable with respect to the adhered standards and regulations. Furthermore, identified additional sites that required occupancy/ usage verification. Lastly, worked alongside external vendors including Quantum Spatial (QSI) to execute program deliverables.

9) Continuous Improvement and Initiatives

Coordinated internal and external team building activities in order to build team chemistry and trust. In addition, improved the training program and ongoing processes by testing new training modules, and updating training documents.

10) Program Training

Developed program training, onboarding strategies and task specific Quick Reference Guide's; thus, expediting workplace integration for new team members and interns. Additionally, conducted training, onboarding development sessions, and participated in testing the learning management system courses.

11) Document Review

Reviewed and edited program documents that were being updated based on regulatory and standard changes; furthermore, participated in quality control and technical feedback.


12) Software Update Testing

Vespa is a tool used to generate required Class team documents derived from TC Energy's technical databases. As user requirements and documentation required system revisions, worked alongside IS team to integrate software updates; while consistently testing program requirements for bugs and continuous improvements tasks.

13) Project Scoping - Class

Supported Class scoping projects driven by regulatory compliance. Duties included researching, analyzing and assisting towards individual task scoping, costs and assessing benefits of upcoming asset improvement projects.

Approvals

<p>Originator</p>	<p>Vyom Kaushik Class Intern Pipe Integrity, Right-of-Way Management</p>
<p>Reviewer</p>	<p>Daman Parmar, P.Eng Class Analyst Pipe Integrity, Right-of-Way Management</p> 
<p>Responsible Engineer & Supervisor</p>	<p>Usman Choudhary, P.Eng. Program Lead- Canada Class Pipe Integrity, Right-of-Way Management</p> 