



## **ATCO Gas and Pipelines Ltd. (South)**

**Sarcee Trail S.W. Pipeline Replacement**

**Southwest Calgary**

**November 14, 2014**

**The Alberta Utilities Commission**

Decision 2014-313: ATCO Gas and Pipelines Ltd. (South)

Sarcee Trail S.W. Pipeline Replacement

Southwest Calgary

Application No. 1610560

Proceeding No. 3222

November 14, 2014

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## Contents

<b>1</b>	<b>Introduction</b> .....	<b>1</b>
<b>2</b>	<b>Background</b> .....	<b>2</b>
<b>3</b>	<b>Location and routing of pipeline</b> .....	<b>3</b>
	3.1 Views of ATCO .....	3
	3.2 Views of interveners .....	4
	3.3 Findings of the Commission .....	5
<b>4</b>	<b>Pipeline safety</b> .....	<b>6</b>
	4.1 Views of ATCO .....	6
	4.2 Views of interveners .....	8
	4.3 Findings of the Commission .....	9
<b>5</b>	<b>Environmental impacts</b> .....	<b>11</b>
	5.1 Views of ATCO .....	11
	5.2 Views of interveners .....	12
	5.3 Findings of the Commission .....	13
<b>6</b>	<b>Consultation</b> .....	<b>13</b>
	6.1 Findings of the Commission .....	13
<b>7</b>	<b>Decision</b> .....	<b>13</b>
	<b>Appendix A – Oral hearing – registered appearances</b> .....	<b>15</b>



## **1 Introduction**

1. ATCO Gas and Pipelines Ltd. (South) (ATCO) filed an application with the Alberta Utilities Commission (AUC or the Commission), on May 13, 2014, seeking approval for an amendment to Licence No. 1951 pursuant to Section 4.1 of the *Gas Utilities Act* and Section 11 of the *Pipeline Act* for the following:

- addition of proposed pipeline (Line 15 – 0.75 kilometres of 406.4-millimetre (mm) outside-diameter (OD) pipeline)
- addition of proposed pipeline (Line 16 – 2.23 kilometres of 406.4-mm OD pipeline)
- addition of proposed pipeline (Line 17 – 0.08 kilometres of 219.1-mm OD pipeline)
- installation of an above-ground mainline valve assembly at the south tie-in point in LSD 01-02-24-02-W5M
- mapping amendment of Line 1 (the Sarcee Trail S.W. Pipeline Replacement)

2. This application was registered as Application No. 1610560 and Proceeding No. 3222.

3. ATCO requested an approval to construct 2.98 kilometres of 406.4-mm steel pipeline from LSD 01-02-24-02-W5M to LSD 09-11-24-02-W5M to supply high-pressure, sweet natural gas to the city of Calgary. Due to pipe availability, ATCO would construct the proposed 406.4 mm pipeline with two different wall thicknesses. The part of the proposed pipeline referred to as Line 15, 0.75 kilometres in length, would have a wall thickness of 7.10 mm and that referred to as Line 16, 2.23 kilometres in length, would have a wall thickness of 7.90 mm.

4. ATCO stated that an existing pressure regulating station is located on the Calgary North Branch line in LSD 16-02-24-02-W5M. Due to the alignment of the proposed replacement pipeline, ATCO requested an approval to construct 0.08 kilometres of 219.1-mm sweet, natural gas lateral pipeline to maintain gas supply to the station. This proposed line is referred to as Line 17. No upgrades would be required at the station.

5. ATCO explained that there had been one previous pipeline replacement on the Calgary North Branch line in 2010 to accommodate the construction of light rail transit along 17th Avenue S.W., Calgary. In this case, a section of the existing 273.1-mm pipeline was replaced with a section of 406.4-mm pipeline to allow for future growth. In 2012, a section of the 273.1-mm Calgary North Branch line north of 17th Avenue S.W. was replaced with a section of 406.4-mm pipeline due to increased demand on the system.<sup>1</sup>

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<sup>1</sup> Transcript, Volume 1, page 26, lines 22-25 and page 27, lines 1-15.

6. The majority of the proposed pipeline route is within the current road allowance along Sarcee Trail S.W. The proposed Line 15 would connect to the existing Jumping Pound transmission line in LSD 01-02-24-02-W5M, while the proposed Line 17 would connect to the existing Calgary North Branch line in LSD 16-02-24-02-W5M. Approximately 2.9 kilometres of existing 273.1-mm pipeline (Line 1) would be abandoned in place, under a subsequent application, once construction is complete.

7. ATCO stated that the project is necessary to meet the forecast demands for the 2014-2015 winter heating season.<sup>2</sup>

## 2 Background

8. The Commission issued information requests on the application to ATCO on May 26, 2014. ATCO responded to the information requests on June 2, 2014. No further information requests were issued by the Commission.

9. On May 28, 2014, the Commission issued a notice of application and indicated a deadline of June 20, 2014, for interested persons to file submissions with the Commission. The notice was advertised in the Calgary Sun and Calgary Herald on June 2, 2014.

10. Three statements of intent to participate were received in response to the notice of application. Mr. Bao Qiang Nian, registered a statement of intent to participate on June 16, 2014. Mr. Nian expressed safety concerns arising from the proximity of the proposed pipeline to the Nian residence and environmental issues that may arise during construction, including dust and noise.

11. Neal, Mary and Samantha Coulter (the Coulters), registered a statement of intent to participate on June 20, 2014. The Coulters had concerns about the proximity of the proposed pipeline to their residence, the geotechnical stability of the area and the extent to which the proposed pipeline may interfere with the City of Calgary's landscaping plan for the area.

12. Mr. Jin Ping Wen, registered a statement of intent to participate on June 24, 2014. Mr. Wen expressed safety concerns in relation to the close proximity of the proposed pipeline to the Wen residence.

13. On July 8, 2014, the Commission issued a letter that afforded ATCO the opportunity to file comments on the standing of Mr. Nian, the Coulters and Mr. Wen. The letter indicated a deadline of July 10, 2014, for ATCO to respond. In response, ATCO provided copies of email correspondence with the Coulters and Mr. Wen. Furthermore, Mr. Nian, the Coulters and Mr. Wen were provided with an opportunity to reply to the comments from ATCO by July 15, 2014. No reply comments were received from these persons.

14. The Commission issued a notice of hearing on August 20, 2014. The notice of hearing stated that an information session would be held on September 4, 2014, and a hearing would commence on October 10, 2014.

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<sup>2</sup> Exhibit No. 0050.010.ATCO-3222, ATCO letter explaining the critical need for the project.

15. On August 22, 2014, the Commission asked the Coulters to clarify whether they intended to participate in the hearing because, in the email exchange filed by ATCO, the Coulters seemed to state that their concerns had been addressed. The Coulters replied that they did not intend to participate in the hearing.

16. Based on the locations of their respective residences identified in their respective statements of intent to participate, and their respective concerns respecting the potential direct and adverse impact of the Commission's decision on the application, the Commission granted standing to Mr. Nian and Mr. Wen.

17. An information session was held on September 4, 2014.

18. On October 10, 2014, the Commission held a hearing presided by Mr. Tudor Beattie, QC, Commission Member, and Ms. Gwen Day, Acting Commission Member, at the Four Points by Sheraton Calgary West, 8220 Bowridge Crescent N.W. Calgary.

19. In reaching the determinations set out within this decision, the Commission has considered all relevant materials comprising the record of this proceeding. Accordingly, references in this decision to specific parts of the record are intended to assist the reader in understanding the Commission's reasoning relating to a particular matter and should not be taken as an indication that the Commission did not consider all relevant portions of the record with respect to that matter.

### **3 Location and routing of pipeline**

#### **3.1 Views of ATCO**

20. In its application, ATCO stated that the proposed pipeline would run for three kilometres in a new alignment further west along the Sarcee Trail S.W. road allowance. It pointed out that the existing pipeline currently runs between Glemore Trail to a point just south of 17th Avenue S.W., further east of the proposed pipeline along Sarcee Trail S.W. It added that due to the new alignment, a small lateral section would also be required to supply the existing regulating station. This lateral section would be approximately 80 metres in length and located about 500 metres north of Richmond Road. However, the 80-metre offset in the proposed route is not an 80-metre offset throughout the length of the proposed pipeline.

21. ATCO acknowledged that the proposed pipeline route is closer to residences in the area than the existing pipeline route. ATCO explained that, although there is currently room to build the proposed pipeline further east of its proposed route, it had chosen the new alignment as a result of its consultation with Alberta Infrastructure, Alberta Transportation and the City of Calgary, which had informed ATCO of potential road upgrade and expansion plans in the future for Sarcee Trail S.W. in this area. It submitted that the proposed route was chosen to avoid conflict with future road upgrading and avoid the need to relocate the pipeline in the future.<sup>3</sup> ATCO also stated that moving the proposed pipeline to the east side of Sarcee Trail S.W. was

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<sup>3</sup> Transcript, Volume 1, page 28, lines 5-25 and page 29, lines 1-18.

not feasible as there was not enough space to facilitate the installation of the proposed pipeline and it would conflict with potential future roadway plans.<sup>4</sup>

22. ATCO stated that the proposed pipeline is not located within the existing Calgary Transportation Utility Corridor; therefore, Ministerial Consent from Alberta Infrastructure was not required for the pipeline construction.

23. In response to Mr. Wen's submission that ATCO relocate the proposed pipeline away from Sarcee Trail S.W. and the residences in this area, ATCO explained that the existing pipeline in Sarcee Trail S.W. feeds a very wide network of lower pressure pipelines throughout Calgary including much of the downtown core. If ATCO were to relocate the proposed pipeline outside of the Sarcee Trail S.W. roadway, the entire low-pressure ATCO Gas network would need to be adjusted and changed as well. So, in that particular case, those supply stations along the way would need to be rebuilt at other locations. The network, that ties into those supply stations, which feeds all the homes would need to be adjusted to tie into those new supply stations. Additionally, ATCO stated that there is no other way to extend a pipeline into Calgary that has as much space or has the existing infrastructure that Sarcee Trail has at this location.<sup>5</sup> In this particular case, the source of gas comes from the 323.9-mm Jumping Pound line located to the south. There is no other gas source nearby that could provide the required volume of gas into the system.<sup>6</sup>

24. ATCO stated that there are approximately four homes where the property lines lie approximately 30 metres from the proposed route. The proposed route would be approximately 75 metres away from the respective property lines of Mr. Wen and Mr. Nian.<sup>7</sup>

25. In response to Mr. Wen's and Mr. Nian's concern that road plans for Sarcee Trail S.W. were not finalized, ATCO testified that due to the preliminary nature of the design of the future roadway and the fact that the City of Calgary is the administrator of the roadway, it was necessary to locate the proposed pipeline further west to give the City of Calgary the flexibility to put the roadway there in the future. ATCO acknowledged that it was not uncommon to relocate pipelines because of changes to a roadway. However, such relocations are of older pipelines which have been constructed for many years and the roadway plans could not have been predicted. In this particular case, the plans for changes to the roadway are known and it is important to work with the people that will be designing the roadway to minimize future conflicts and avoid having to relocate the proposed pipeline.<sup>8</sup>

### 3.2 Views of interveners

26. Mr. Nian and Mr. Wen each had concerns that the proposed route placed the pipeline too close to residences.<sup>9</sup> They questioned the need to move the pipeline west, closer to their community.<sup>10</sup> Mr. Wen and Mr. Nian asked for the proposed pipeline to be kept in the alignment of the existing pipeline which is further away from residences, or that it be moved to the east side

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<sup>4</sup> Exhibit No. 46.01, page 5.

<sup>5</sup> Transcript, Volume 1, page 76, lines 20-25 and page 77, lines 1-15.

<sup>6</sup> Transcript, Volume 1, page 80, lines 9-14.

<sup>7</sup> Transcript, Volume 1, page 34, lines 10-21 and page 35, lines 8-12.

<sup>8</sup> Transcript, Volume 1, page 87, lines 1-14.

<sup>9</sup> Exhibit No. 31.01 and Exhibit No. 34.01.

<sup>10</sup> Transcript, Volume 1, page 61, lines 1 to 4.



of Sarcee Trail S.W.<sup>11</sup> Also, Mr. Wen noted that ATCO in its planning process should have taken into account that traffic on Sarcee Trail S.W. would increase in the future and that the proposed pipeline will be in place for 30 to 50 years. For these reasons, he suggested that the proposed pipeline should be moved away from Sarcee Trail S.W.<sup>12</sup> He asked whether the proposed pipeline could be moved north since the gas was coming from the north.<sup>13</sup> Mr. Nian expressed concerns that ATCO was selecting the proposed route based on a preliminary road plan which has not been finalized and the changes to the road may not happen.<sup>14</sup> Also, the proposed route was closer to residences than to the proposed expanded Sarcee Trail S.W.

### 3.3 Findings of the Commission

27. The Commission observes that the proposed pipeline route is within the Sarcee Trail S.W. road allowance, albeit closer to residences than the existing pipeline. As the proposed pipeline is to be located in the road allowance, ATCO had to consult with the City of Calgary, who is the administrator of Sarcee Trail S.W. regarding the location of the proposed pipeline route. The uncontroverted evidence is that locating the proposed pipeline to the east side of Sarcee Trail S.W. was not feasible as there was not enough space to facilitate the installation of the proposed pipeline and would conflict with the changes to the road. Also, existing power lines might present additional hazards. Further, ATCO testified that the City of Calgary had informed it that it had preliminary design for changes to Sarcee Trail S.W. and that placing the proposed pipeline in the existing pipeline route would conflict with the proposed changes to Sarcee Trail S.W. and would result in the proposed pipeline having to be relocated to accommodate future changes to the road. This testimony is supported by the City of Calgary's letter of non-objection in which the city indicated that functional plans for Sarcee Trail S.W. and Richmond Road are available, and ATCO had to ensure that the pipeline grades in the interchange are compatible with a future interchange in this location.<sup>15</sup> Based on the testimony of ATCO and supporting information on the record, the Commission finds that the proposed routing is aimed at avoiding the relocation of the proposed pipeline in the future as the City of Calgary has preliminary plans regarding the changes to Sarcee Trail S.W.

28. In addition, the Commission finds that the proposed pipeline could not be routed in an area other than the Sarcee Trail S.W. roadway, as suggested by Mr. Wen, based on the following facts. The existing pipeline in Sarcee Trail S.W. feeds a network of lower pressure pipelines throughout Calgary including much of the downtown core. This network would have to be relocated if the proposed pipeline were to be routed in another area. The supply stations, which now feed the network of lower pressure pipelines, would need to be rebuilt at other locations if the proposed pipeline was built in another area. Also, the source of gas for the existing pipeline and the proposed pipeline comes from the Jumping Pound line located to the south, and not from the north as suggested by Mr. Wen, and there appears to be no other gas source nearby that could provide the required volume of gas for residences and the businesses currently on the existing pipeline system.

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<sup>11</sup> Exhibit No. 34.01 and Exhibit No. 46.01, page 5.

<sup>12</sup> Transcript, Volume 1, page 74, lines 12-19.

<sup>13</sup> Transcript, Volume 1, page 79.

<sup>14</sup> Transcript, Volume 1, page 61, line 25 to page 62 lines 1-4, and page 68, lines 5-15.

<sup>15</sup> Exhibit No. 7.00, page 2.

29. The Commission finds that based on these facts, the proposed pipeline routing, which is to the west of the existing pipeline, is reasonable depending on the Commission's findings regarding pipeline safety set out below.

## 4 Pipeline safety

### 4.1 Views of ATCO

30. ATCO stated that it had taken into account public safety in the design of, construction of and the pipe to be used because the proposed pipeline was being moved closer to residences. ATCO explained that it had designed the proposed pipeline in accordance with the design requirements for a Class 4 location even though the area falls within a Class 3 location.<sup>16</sup> A Class 4 location is assigned to the highest population density, which results in the most stringent requirements, as detailed in CSA Z662.<sup>17</sup> The proposed pipeline would be made of high quality steel, consistent with modern pipe manufacturing processes. High quality coating would be utilized, such as fusion bonded epoxy. Also, an entire cathodic protection system would be installed on the proposed pipeline which means that there is a current that is impressed upon the pipeline through a rectifier that basically inhibits the corrosion and works with the coating to limit any corrosion on the pipeline. Also, 100 per cent of all pipeline welds would be non-destructively inspected, meaning that X-rays are taken of each weld, to ensure weld integrity even though this is not a requirement. In contrast, older pipelines such as the existing pipeline that would be replaced, would likely not have been non-destructively inspected. The steel in older pipelines would be of a lower grade and contain more defects than that of newer pipelines. Pipelines constructed before 1980 would not have the capability of being in-line inspected to show metal loss due to corrosion before a leak could start.<sup>18</sup>

31. Additionally, ATCO testified that the proposed pipeline would be able to be fully in-line inspected (ILI). The inside of the pipeline would be inspected with an ILI tool soon after construction to ensure that no damage was done to the pipeline during installation. Assuming that no problems were revealed by this inspection, a new pipeline would be next inspected 10 years later because it would be very rare that corrosion concerns would arise in the first 10 years. As a pipeline ages, inspections are conducted at shorter intervals to gather information on the integrity of the pipeline. Also, during ILI inspections, ATCO would use a magnetic flux leakage tool to look for metal loss on the pipeline due to corrosion, as well as a caliper tool to look for denting and deformations to the pipeline. There are other tools that could be used later on if issues with the pipeline were found.<sup>19</sup> ATCO stated that it conducts a yearly cathodic protection check. Also, for Class 3 pipelines and higher, ATCO carries out a biannual leak inspection. As is the case for the proposed pipeline, ATCO is required to have block valve isolation at intervals of eight kilometres for Class 4 pipelines. However, in the case of the proposed pipeline, the spacing between block valves is about five kilometres.

32. ATCO added that the proposed route protected the proposed pipeline because third-party activity is limited in the Sarcee Trail S.W. road allowance.<sup>20</sup> It explained that excavation activity

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<sup>16</sup> Transcript, Volume 1, page 102, lines 12-18; Exhibit 46.01, AP Response to interested persons.

<sup>17</sup> Transcript, Volume 1, page 18, lines 14-25 and page 19, lines 1-10.

<sup>18</sup> Transcript, Volume 1, page 37, lines 20-25, page 38, lines 17-25 and page 39, lines 1-5.

<sup>19</sup> Transcript, Volume 1, page 69, lines 19-25 and page 70, lines 1-7.

<sup>20</sup> Transcript, Volume 1, page 40, lines 8 to 25.

in the road allowance was only done with a permit and there was less excavation activity, which could potentially damage the proposed pipeline, in the road allowance compared to pipelines installed on private land. Also, any excavation activity would be visible from the roadway.

33. ATCO stated that the new pipeline would first be hydrostatically tested in accordance with the *Pipeline Act*. The new pipeline would then be tied into the existing pipeline and commissioned, under the supervision of ATCO's contractors, while the existing pipeline is active, in order to maintain service to the community. The existing pipeline would then be isolated from the new pipeline and the gas in the existing pipeline would be burned in an incinerator instead of vented.<sup>21</sup>

34. ATCO testified that it has a corporate emergency response plan for its pipelines and the response level would vary depending on the incident. If a leak was found by ATCO's staff, someone would be sent to investigate. Local authorities, the landowner and the Alberta Energy Regulator would be notified. ATCO's control centre which operates 24 hours a day, 365 days a year, would also be involved. If a leak or potential gas odour was noticed by the public, they would likely call the fire department who would in turn notify ATCO.<sup>22</sup>

35. In response to intervener concerns about a pipeline explosion, ATCO testified that the likelihood of an explosion of the proposed pipeline was extremely low for the following reasons:

Really, the key being that the pipeline is in a corridor that is visible and protected. The stress level to which its designed to is the most stringent required by code. And the in-line inspection tool really assists us to perform proactive maintenance as opposed to reactive maintenance on the pipeline by monitoring any concerns with it.<sup>23</sup>

36. ATCO added that the manner in which the residences in the vicinity of the proposed pipeline might be impacted by an explosion of the proposed pipeline would depend on the severity of the explosion, the location of the pipeline and the weather at the time of an explosion. In the worst case, which is extremely rare, the potential impact of an explosion of the proposed pipeline would typically be thermal radiation from the initial fire. An industry calculation is commonly used to determine the pipeline impact radius. The impact radius for natural gas pipelines is dependent on the size and pressure of the pipeline. This is the radius for which there would be a 99 percent survival rate. For the proposed pipeline the impact radius would be 90 metres.<sup>24</sup>

37. When questioned whether the educational campaign for the community recommended by the City of Calgary,<sup>25</sup> had taken place or did it plan to undertake such a campaign, ATCO testified that it will undertake an education program; however, it did not know the form or content of such a program. It added that the City of Calgary's emergency response department had requested a meeting with ATCO to discuss overall emergency response in the entire city including this location. From this meeting, ATCO would gain a better understanding of what the city would like to see from an educational standpoint and whether that would be through the city's emergency response department or in combination with ATCO. Additionally, ATCO

<sup>21</sup> Transcript, Volume 1, page 88, lines 11-25 and page 89, lines 1-8.

<sup>22</sup> Transcript, Volume 1, pages 43-44.

<sup>23</sup> Transcript, Volume 1, page 42, lines 15-23.

<sup>24</sup> Transcript, Volume 1, page 44, lines 14-25 and page 45, lines 1-5.

<sup>25</sup> Exhibit No. 7, page 2.

wanted to await the outcome of its application before conducting the education campaign because there had been a lot of notifications to the public about the application and it wanted to avoid any confusion by adding to the number of mail outs to the public.<sup>26</sup>

38. In response to questions from the interveners regarding the controlled area of a pipeline, ATCO explained that the 30-metre controlled area is not a required pipeline setback, but pertains to ground disturbance within 30 metres of a pipeline.<sup>27</sup> ATCO reiterated that despite locating the proposed pipeline closer to the residences to the west, but still within the roadway, the pipeline is designed to meet the requirements of the *Pipeline Act* and *Pipeline Rules* as well as CSA Z662, and is an improvement over other locations which may not have the protection of that corridor with isolated development.<sup>28</sup>

39. It added that it was also prudent to avoid installing a pipeline close to the area of excavation which is one of the largest threats to a pipeline. Therefore, according to ATCO, it is in fact safer to install the pipeline in the proposed location to the west.<sup>29</sup>

40. ATCO disagreed with Mr. Nian's suggestion that locating the proposed pipeline further west to avoid future road construction puts more risk on the residents west of Sarcee Trail. ATCO further stated that risk surrounding a pipeline of this nature is shared by everyone in the area. In this particular case, moving it west would reduce the risk for everyone in the area because it would reduce any potential damage that could be done to the pipeline. In addition, the way that ATCO has designed it and would be able to inspect it, could ensure that its long-term health and integrity is maintained.<sup>30</sup>

## 4.2 Views of interveners

41. Both Mr. Nian and Mr. Wen expressed safety concerns with the installation of the proposed pipeline in an alignment closer to the residences west of Sarcee Trail than the existing pipeline.<sup>31</sup> Also, they submitted that the proposed pipeline would be located within the 30-metre controlled area according to the pipeline regulations, which in their view, would be contrary to the *Pipeline Rules* and the *Pipeline Act*.<sup>32</sup> They questioned whether ATCO had prepared and published a third-party risk assessment or public safety assessment of the proposed pipeline.

42. Mr. Nian suggested that the alignment of the existing pipeline could be used for the proposed pipeline since there would be only a small amount of overlap with the changes to Sarcee Trail S.W. and that plans for the new Sarcee Trail S.W. were not finalized.<sup>33</sup> Mr. Nian submitted that installing the proposed pipeline further west to avoid future road construction puts more risk on the residents west of Sarcee Trail.<sup>34</sup>

43. Mr. Nian raised questions regarding the protective measures for the proposed pipeline to ensure public safety. He asked about corrosion protection on the proposed pipeline, pipeline

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<sup>26</sup> Transcript, Volume 1, page 87, lines 21-25 and page 88, lines 1-12.

<sup>27</sup> Transcript, Volume 1, page 85, lines 20-25 and page 86, lines 1-5.

<sup>28</sup> Transcript, Volume 1, page 86, lines 8-14.

<sup>29</sup> Transcript, Volume 1, page 62, lines 5-25 and page 638, lines 1-2.

<sup>30</sup> Transcript, Volume 1, page 63, lines 4-12.

<sup>31</sup> Exhibit No. 0031.01.NIAN-3222; Exhibit No. 0034.01.WEN-3222.

<sup>32</sup> Transcript, Volume 1, pages 83-85.

<sup>33</sup> Transcript, Volume 1, page 60, lines 24-25 and page 61, lines 1-4.

<sup>34</sup> Transcript, Volume 1, page 63, line 3.

inspections, maintenance and monitoring.<sup>35</sup> Mr. Nian asked ATCO if it had emergency shutdown valves that would operate in the event of a large leak or explosion.<sup>36</sup>

44. Interveners suggested the proposed pipeline could be relocated further east towards the existing gate (pressure regulating) station in order to increase the separation between the proposed pipeline and the houses to the west.<sup>37</sup>

45. Mr. Wen asked ATCO how the community would be protected from a gas leak or explosion during the construction and tie-in of the proposed pipeline because there would be a high risk of a leak or explosion at this time.<sup>38</sup> He asked about the specific measures that ATCO would put in place.

### 4.3 Findings of the Commission

46. In evaluating the potential impacts of the proposed pipeline on public safety, the Commission has taken into account the following facts. The proposed pipeline must adhere to the requirements set out in the *Pipeline Act* and the *Pipeline Rules* enacted under the act. Section 9 of the *Pipeline Rules* states:

9(1) A reference in these Rules to a code or standard is to the latest published edition of the code or standard issued by the Canadian Standards Association (CSA).

(2) Except as otherwise specified by these Rules, the following standards are in force:

- (a) CSA Z245.11, *Steel Fittings*;
- (b) CSA Z245.12, *Steel Flanges*;
- (c) CSA Z245.15, *Steel Valves*;
- (d) CSA Z662, *Oil and Gas Pipeline Systems*.

(3) Except as otherwise specified by these Rules, the minimum requirements for the design, construction, testing, operation, maintenance, repair and leak detection of pipelines are set out in CSA Z662.

(4) The leak detection requirements contained in Annex E of CSA Z662 are mandatory for liquid hydrocarbon pipelines.

47. The CSA Z662 has requirements for pipelines based on population density of the area in which the pipeline is located. The most stringent requirements are for a Class 4 pipeline which is a pipeline in an area with the highest density. In this case, the proposed pipeline has been designed to meet Class 4 location requirements due to the proposed location in the vicinity of residential neighbourhoods in the City of Calgary even though the area falls within a Class 3 location. It is designed for the proposed location within a roadway. As a result, the proposed pipeline would be constructed with stronger steel, to meet a lower stress level requirement within the pipeline at its full licensed operating pressure. Also, ATCO testified that steel manufacturing processes have improved significantly resulting in stronger steel, which has less defects, since

<sup>35</sup> Transcript, Volume 1, pages 66, 67, 68 and 69.

<sup>36</sup> Transcript, Volume 1, page 70, lines 8-9.

<sup>37</sup> Transcript, Volume 1, page 27, lines 22-25 and page 1928, lines 1-4.

<sup>38</sup> Transcript, Volume 1, page 87, lines 15-25 and page 88, lines 1-6.

the existing pipeline was installed. All the welds of the proposed pipelines will be tested by way of X-ray to ensure that every weld location meets suitable quality. A fusion bond epoxy coating will be applied to the exterior of the pipe to inhibit corrosion which ensures pipeline safety. To further protect against corrosion in the proposed pipeline a cathodic protection system<sup>39</sup> will be installed. In addition, the proposed pipeline is designed to accept ILI tools to periodically monitor the pipeline for defects. This means that a tool can be placed in the pipeline during the gas flow and can inspect the pipeline from the inside and provide detailed imagery of the condition of the steel to find if there is corrosion in particular locations and address the corrosion prior to an incident or leak. An inspection with the in-line inspection tool will be carried out soon after the proposed pipeline is installed and if the pipeline is in good condition then the next in-line inspection would be in 10 years because, as stated by ATCO, corrosion concerns are extremely rare in the first 10 years. Inspections are conducted more often as a pipeline ages and depending on the results of an inspection. Also, yearly cathodic protection checks are conducted. Also, for Class 3 pipelines and higher, a biannual leak inspection is done as is the case for the proposed pipeline, ATCO is required to have block valve isolations at intervals of 13 kilometres. However, in the case of the proposed pipeline, the spacing between block valves is about five kilometres. Such valves can be used to shut down the flow of gas in the case of a leak or other emergency.

48. Further, the Commission considers that the placement of the proposed pipeline in the Sarcee Trail S.W. road allowance is a protective measure because ground disturbance activity which could potentially damage the pipeline is limited. Permits to excavate in roadways are needed and the activities permitted which may impact a pipeline are fewer in comparison to pipelines installed on private land. Regarding the 30-metre controlled area, subsection 1(3) of the *Pipeline Rules* states:

- (3) For the purposes of section 1(1)(e) of the Act, the controlled area is
- (a) a strip of land 30 metres wide on each side of the pipeline, measured from the pipe centreline, or
  - (b) the distance from the pipe centreline to the edge of the right of way whichever is wider.

49. A review of the *Pipeline Act* and the *Pipeline Rules* indicates that a controlled area is generally used to refer to matters that relate to ground disturbance in this area and activities and operations that may be conducted in this area. It is not a setback requirement.

50. A further measure protective of public safety is the requirement that an owner of a pipeline has to put in place a corporate emergency response plan. This is a comprehensive plan to protect the public that includes criteria for assessing an emergency and procedures for mobilizing response personnel and agencies, establishing communication and ensuring coordination for emergency response.<sup>40</sup> ATCO testified that it has a corporate emergency response plan and although the response level varies depending on the incident, the Commission observes that under the ATCO emergency response plan, the ATCO control centre is involved in an emergency and that the control centre operates 24 hours a day, 365 days a year. Also, the

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<sup>39</sup> A cathodic protection system is a system which runs a current on a pipeline through a rectifier which works with the fusion bond epoxy coating to limit corrosion on a pipeline.

<sup>40</sup> Paragraph 1(n) of the *Pipeline Rules*.

ATCO contact information is on all its pipeline signs and even if a member of the public noticed a leak or potential gas odour and called the fire department; the fire department would typically call ATCO or other natural gas providers in the area to investigate.

51. Based on the above, the Commission finds that the design materials and inspection of the proposed pipeline and other measures will be in place to ensure the safety of the public. However, to ensure that the public residing in the vicinity of the proposed pipeline are aware of the measures taken to ensure public safety; and to provide these residents with contact information in the case of a leak or other pipeline incident and information regarding emergency response if an incident occurs in relation to the proposed pipeline, this information should be included in the education campaign recommended by the City of Calgary and which ATCO has agreed it will undertake.

## **5 Environmental impacts**

### **5.1 Views of ATCO**

52. The proposed route is within the city of Calgary, with approximately 80 per cent of the route paralleling Sarcee Trail S.W., and the remaining 20 per cent is located northeast of Glenmore Trail. ATCO prepared a pre-construction site assessment and environmental protection plan (EPP)<sup>41</sup> for this project. This report describes the environmental setting along the proposed route. Soils, hydrology, historical resources, vegetation and wildlife were assessed. The EPP was developed using the information gathered from this assessment. The topography of the proposed route is flat to slightly undulating and no wetland or water crossings were identified. The primary environmental concerns regarding the pipeline installation include minimizing disturbance of residential development, topsoil management, maintenance of soil quality and capability, erosion control, and weed management. The EPP details the pre-construction activities, surveying, access and clearing measures, topsoil handling, stringing, trenching and lowering in of the proposed pipeline and backfilling the trench. Also, there are details of the hydrostatic testing to be conducted and cleanup and reclamation. ATCO testified that cleanup and reclamation would involve placing the material back into the ditch where the pipeline was excavated, restoring the topsoil, and seeding likely, depending on where it is, in this particular case to native grasses. It is likely that construction would proceed into the wintertime. Often in those cases, ATCO would need to come back after the spring when the snow is melted to complete further reclamation or inspect the work to ensure that it was in as good or better condition than when the construction began.<sup>42</sup>

53. ATCO testified that the Sarcee Operations Workplace Centre, used for roadway equipment and vehicles, is on the south end of the proposed pipeline route. The City of Calgary had told ATCO that there was soil contamination at various spots on the site and that ATCO would have to test the soil for contamination and deal with any contamination that may be around the pipeline.<sup>43</sup> Also, an environmental inspector would be present during construction to ensure compliance with the EPP.

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<sup>41</sup> Exhibit No. 0030.00.ATCO-3222, PSCA and EPP.

<sup>42</sup> Transcript, Volume 1, page 51, lines 19-25 and page 52, lines 1-5.

<sup>43</sup> Transcript, Volume 1, page 47, lines 5-17.

54. ATCO stated that the proposed pipelines are designated as Class II pipelines by the Alberta Environment and Sustainable Resource Development *Environmental Protection Guidelines*; therefore, a conservation and reclamation approval is not required.

55. The proposed pipeline traverses lands with a designated historical resource value of category 5a. This generally indicates that the land has a high potential of holding archaeological resources. ATCO applied for a *Historical Resources Act* clearance on May 22, 2014, and obtained it on May 30, 2014.

56. ATCO is also required to obtain a *Historical Resources Act* clearance for the proposed ground disturbance at the existing Calgary North Branch control station in LSD 16-35-23-02-W5M prior to undertaking ground disturbance at this location.

57. In response to Mr. Nian's concerns with dust and noise, ATCO testified that construction would be limited to the hours specified by the noise bylaw of the City of Calgary, with the exception of a directional drill in an area south of the Westhills shopping centre, significantly removed from the residences along Sarcee Trail S.W. This directional drill under existing roadways at Richmond Road was requested by the City of Calgary. ATCO stated that it would apply for an exemption to the noise bylaws to operate the directional drill.<sup>44</sup>

58. ATCO testified that the particular case where dust may be of biggest concern is in windy conditions due to a storm or adverse weather. At that particular time, it would be the decision of the ATCO representatives on-site whether to halt construction or if there was anything they could do to cover the particular area.<sup>45</sup>

59. In response to Mr. Wen's inquiry regarding a third-party environmental assessment, ATCO stated that for larger projects, a conservation and reclamation report would be submitted to Alberta Environment and Sustainable Resource Development for approval. However, this proposed pipeline was not of sufficient size to require such a report. Additionally, the City of Calgary would likely do a post-construction assessment and identify any issues that they would like ATCO to remedy.<sup>46</sup>

## 5.2 Views of interveners

60. Mr. Nian had expressed concerns with dust and noise during construction and operation. During the hearing he asked if ATCO would adhere to installing the proposed pipeline between the hours of 6 a.m. and 10 p.m. He was also concerned about the directional drill which would take place during nighttime hours. He questioned ATCO about the environmental impacts of construction and operation of the proposed pipeline.<sup>47</sup>

61. Mr. Wen was concerned that ATCO's environmental assessment was not done by a third party.<sup>48</sup>

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<sup>44</sup> Transcript, Volume 1, page 49, lines 5-25, page 50, lines 1-2, and pages 71-73.

<sup>45</sup> Transcript, Volume 1, page 51, lines 1-7.

<sup>46</sup> Transcript, Volume 1, page 83, lines 1-14.

<sup>47</sup> Exhibit No. 0031.01.NIAN-3222; Transcript, Volume 1, pages 70-73.

<sup>48</sup> Transcript, Volume 1, page 80, lines 19-25.



### 5.3 Findings of the Commission

62. The Commission finds that the potential impact on the environment is low and is mitigated by the measures proposed by ATCO for the following reasons. The proposed route is 80 per cent within the road allowance of Sarcee Trail S.W. The main concerns relate to topsoil management, maintenance of soil quality and capability, erosion control, and weed management. The measures and mitigations set out in ATCO's EPP address these issues. The Commission considers that the noise concerns brought forward by Mr. Nian were addressed because ATCO explained that it will only construct during the hours permitted by the City of Calgary noise bylaw with the one exception described above. Also, concerns about dust were addressed by ATCO, which stated that in windy conditions due to a storm or adverse weather, the ATCO representatives on-site may halt construction or cover the particular area to prevent dust.

## 6 Consultation

63. ATCO stated that consultation with all affected and potentially affected landowners and occupants was completed in accordance with AUC Rule 020: *Rules Respecting Gas Utility Pipelines* (AUC Rule 20). ATCO stated that notification packages were sent to all residents within 200 metres, as well as public notice advertisements in the Calgary Herald and Calgary Sun on Tuesday, April 8, 2014.

64. ATCO stated that they consulted with AltaLink Management Ltd. and various departments within the City of Calgary to determine the route at the south end of the route. In addition, newspaper advertisements were run and mail-outs were sent out to all of the landowners in the area to determine whether anyone had questions or concerns regarding the proposed routing.<sup>49</sup>

65. ATCO received non-objections from AltaLink Management Ltd. and the City of Calgary. ATCO stated it received no objections during its consulting process prior to filing the application.

66. In its argument, ATCO stated that the requirements of the consultation and notification program were met.

67. No issues regarding consultation were brought forward by the interveners.

### 6.1 Findings of the Commission

68. The Commission finds that ATCO's participant involvement program was satisfactory and met the requirements set out in AUC Rule 020.

## 7 Decision

69. Having considered the potential impacts of the proposed pipeline route, the public safety considerations and the potential impacts of the proposed pipeline on the environment, the Commission finds that the proposed pipeline is in the public interest in accordance with Section 17 of the *Alberta Utilities Commission Act*.

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<sup>49</sup> Transcript, Volume 1, page 33, lines 9-24.

70. Pursuant to Section 4.1 of the *Gas Utilities Act* and Section 11 of the *Pipeline Act*, the Commission approves the amendment to Licence No. 1951 and grants ATCO the amended licence as set out in Appendix 1 – Gas Utility Pipeline – Licence No. 1951 – November 14, 2014 (Appendix 1 will be distributed separately).

Dated on November 14, 2014

**The Alberta Utilities Commission**

*(original signed by)*

Tudor Beattie, QC  
Panel Chair

*(original signed by)*

Gwen Day  
Acting Commission Member

**Appendix A – Oral hearing – registered appearances**

<b>Name of organization counsel or representative</b>	<b>Witnesses</b>
ATCO Gas and Pipelines Ltd. (South) S. Munro B. Williams	C. Johnson L. Radke
B. Nian	
J. Wen	

<p>The Alberta Utilities Commission</p> <p>Commission Panel T. Beattie, QC, Panel Chair G. Day, Acting Commission Member</p> <p>Commission Staff G. Bentivegna (Commission counsel) B. Yanchula N. Behal L. Charest</p>
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