**ALBERTA ENERGY AND UTILITIES BOARD**
**Calgary Alberta**

**ATCO PIPELINES**
**APPLICATION TO CONSTRUCT AND OPERATE**
**A NATURAL GAS PIPELINE** **Decision 2001-34**
**EDMONTON AREA** **Application No. 1055407**

## 1 DECISION

The Board approves ATCO's application for a natural gas pipeline to provide additional service to the EPCOR Rossdale site. The Board approved EPCOR's application for the RD 11 gas turbine project at its Rossdale site in *Decision 2001-33*. The Board believes that the proposed ATCO gas pipeline is needed to supply gas to the site, the route is acceptable, and the line can be constructed and operated in a safe and environmentally acceptable manner.

## 2 APPLICATION AND HEARING

ATCO Pipeline (ATCO) applied to the Alberta Energy and Utilities Board (EUB/Board), pursuant to Part 4 of the Pipeline Act, for approval to construct and operate approximately 9 kilometres (km) of 406.4 millimetre (mm) outside diameter (OD) pipeline. The pipeline would transport natural gas from the Edmonton Ethane Extraction Plant (EEEP) at 23rd Avenue and Calgary Trail to the Rossdale Power Plant (Rossdale) site, owned by EPCOR Power Development Corporation (EPCOR). ATCO also proposed to construct a new meter and regulation station at the Rossdale site. In 1999, EPCOR applied to the EUB to construct and operate a 170 megawatt natural-gas-fired turbine generator at its existing Rossdale site. EPCOR required 46 terajoules per day of natural gas to operate the new gas turbine, designated as RD 11. The attached figure shows the proposed route of the pipeline and other relevant features of the area.

The application and interventions were considered at a public hearing on January 22-24, 2001, in Edmonton, Alberta, with J. D. Dilay, P.Eng. (Presiding Member), T. M. McGee (Board Member), and C. A. Langlo, P.Geol. (Acting Board Member), sitting.

## 3 ISSUES

The Board believes that the issues relevant to the application are
- need for the pipeline,
- route selection and impacts during pipeline construction,
- public safety with respect to design, construction, and operation of the pipeline,
- horizontal drilling of river crossing,
- risk assessment,
- emergency response planning,
- noise, and
- archaeology and historical resources impact assessment.

## THOSE WHO APPEARED AT THE HEARING

| Principals and Representatives[1] (Abbreviations Used in Report) | Witnesses |
|---|---|
| ATCO Pipelines (ATCO)<br>S. H. T. Denstedt<br>K. L. Illsey | H. Allen, P.Eng.<br>F. G. Bercha, Ph.D., P.Eng., the Bercha Group<br>G. Fedirchuk, Ph.D., of Fedirchuk, McCullough and Associates Limited<br>G. Fraser-Steffler, P.Eng.<br>J. Henderson<br>N. Johnson, P.Eng.<br>D. Klatchuk, P.Eng.<br>B. Myles, P.Eng.<br>R. Nelubowich |
| EPCOR Power Development Corporation and EPCOR Generating Inc. (EPCOR)<br>D. R. Wright, Q.C.<br>J. M. Liteplo | |
| Alberta Community Development (ACD) | L. Hurt |
| Alberta Environment | Dr. J. Ives |
| Alberta Health and Wellness<br>R.K. Bodnarek<br>D. Stepaniuk<br>H. L. Veale | |
| First Peoples/First Settlers (FPFS)<br>D. Good Striker | D. Good Striker |
| Métis Nation of Alberta Association<br>P. Coutu | P. Coutu |
| Confederation of Treaty Six First Nations (Treaty Six)<br>J. Graves, P.Eng. | J. Graves, P.Eng. |
| Chief and Council of Papaschase First Nations<br>C. Desjarlais | C. Desjarlais |

**THOSE WHO APPEARED AT THE HEARING (continued)**

| Principals and Representatives (Abbreviations Used in Report) | Witnesses |
|---|---|
| Central Area Council of Community Leagues and the Edmonton Federation of Community Leagues (CACCL/EFCL)<br>G. S. Fitch | |
| ConCerv<br>R. C. Secord | |
| Dr. R. Charlton | Dr. R. Charlton |
| S. A. Ulfsten (on behalf of herself and T. Hill) | S. A. Ulfsten |
| Western Canada Wilderness Community<br>B. Toole | B. Toole |
| Alberta Energy and Utilities Board staff<br>D. A. Larder, Board Counsel<br>P. Hunt<br>S. Lee, P.Eng.<br>D. Morris<br>R. Powell, Ph.D., P.Biol.<br>J. Thompson<br>L. Wilson-Temple | |

[1] Although the Board has made every effort to ensure that the names of groups have been recorded correctly, in some cases there have been more than one spelling or version provided to the EUB.

# 4 VIEWS OF THE APPLICANT

## 4.1 Need for the Pipeline

ATCO stated that it was requested by EPCOR to supply additional natural gas to the Rossdale site for the proposed RD 11 project. It stated that the proposed pipeline would provide a new source of gas to the Rossdale site and that it would also be able to accommodate future growth in the area so as to avoid future disturbance and disruption along the route.

ATCO indicated that the existing 323 mm OD pipeline, which is currently supplying gas to the Rossdale site, the University of Alberta, and other ATCO gas customers along the pipeline route, is already operating at capacity at the licensed maximum operating pressure (MOP) of 2070 kilopascals (kPa). ATCO asserted that in order to meet the new gas requirements for the RD 11

project without a new pipeline, it would be necessary to upgrade the existing system to a higher MOP by installing compressors at both the Rossdale site and at EEEP. According to ATCO, such an undertaking would not be practical because of potential problems at the Rossdale site with operating a compressor immediately upstream of a turbine. It would also result in higher capital, operating, and maintenance costs than would the proposed project. ATCO noted that the installation of compression would also result in disruption of service to existing customers, including the University of Alberta.

ATCO concluded that the proposed pipeline was the least costly and disruptive alternative to serve the RD 11 project. It would allow the use of existing line pressures upstream of EEEP to eliminate the need for additional compressors and associated fuel and would avoid needless and expensive disruption in the future. ATCO stated that the choice of line size was based on the available upstream pressure of 3310 kPa at the EEEP and that any line smaller than 406.4 mm OD would be incapable of meeting the gas requirement for the RD 11 project. Although the proposed pipeline would be operated at only about 3310 kPa, ATCO applied for an MOP of 4960 kPa in order to avoid future disturbance to business and community members. ATCO considered this MOP to be safe and prudent and said it would avoid the need for a future MOP upgrade. ATCO submitted that, provided that the RD 11 project proceeded, the proposed pipeline was consistent with the EUB's mandate to ensure economic, efficient, and orderly development of energy facilities in Alberta.

## 4.2 Route Selection and Impacts During Pipeline Construction

In evaluating options to bring additional gas service to the Rossdale site, ATCO stated that it investigated three pipeline corridors, namely, Clover Bar, Sherwood Park, and Calgary Trail. ATCO then applied a comparison of selection criteria, which included constructability, safety, environmental disturbance, traffic volume, residential disturbance, business impact, and the cost for each corridor. ATCO ultimately chose Calgary Trail as the preferred corridor because it

- is the shortest and least expensive of the three,
- does not require compression,
- is within an existing utility corridor, and
- would disrupt the neighbourhoods less than the alternatives.

ATCO then evaluated several routes within the Calgary Trail corridor. It chose the 103rd Street alignment because it was the shortest route and would be more easily and safely constructed, would result in less disruption to traffic and business, since it is a one-way street and is already an existing transportation and utility corridor, and would have the least impact on adjacent land. ATCO indicated that it had evaluated the route in conjunction with the City of Edmonton (the City) and that it would coordinate with the City and other utilities during construction.

ATCO stated that it had undertaken an extensive public consultation process for the project, including issuing appropriate notices to landowners and occupants along the various routes, holding two open houses, placing an advertisement in Edmonton newspapers, and meeting with various communities. It also contacted all of the directly affected businesses adjacent to the pipeline route to share information and agreed to incorporate their input into the design, scheduling, and construction plan of the project to minimize the impact on businesses and

traffic. In response to the concerns expressed by the businesses about disruption to their business during construction, ATCO agreed to minimize disruption by aligning the pipeline along the street so that at least two lanes would be open for traffic all the time. It would also use steel plates where appropriate to provide access to businesses while construction was taking place. Where the pipeline traversed major roads and landscaped areas, ATCO proposed to use trenchless technology for the crossings to minimize disruption. ATCO believed that it had responded to all inquiries about the project through its communication and consultation with the business community. ATCO noted that the City had approved the routing with a number of conditions, including ones related to the horizontal drilling exit location, the pipeline route south of the river crossing, and building setback requirements, all of which were acceptable to ATCO.

ATCO believed that the proposed pipeline would be in the public interest and that it would not result in any significant adverse social, economic, or environmental effects. ATCO submitted that it had extensive experience in construction of pipeline facilities in developed areas as a result of Northwestern Utilities Limited's (the predecessor to ATCO) mains replacement program from 1986 to 1994.

### 4.3 Public Safety with Respect to Design, Construction, and Operation of the Pipeline

ATCO stated that the design and construction of the pipeline would meet or exceed applicable codes and regulations and that it would include safety measures, such as sufficient depth of cover, cathodic protection, maximum possible building setbacks, as well as regular inspection pigging facilities and automatic rupture detection and isolation systems.

After construction, the pipeline would be clearly marked to reduce the possibility of third-party damage. Any person or company proposing to cross the pipeline would be required to obtain a crossing agreement from ATCO, which would further ensure safe excavation near the pipeline. ATCO also stated that, since most of the pipeline would be located within the City road right-of-way, the road pavement itself would protect it. Because ATCO is a member of the On Street Construction and Maintenance (OSCAM) committee and Alberta One-Call, it believed that the pipeline would be adequately protected even in areas where it was located within the City's normal building setback distance of 15 m.

ATCO considered public safety to be a high priority in its operation. It indicated that it had 560 km of high-pressure pipelines with the City and had an excellent safety record in operating these pipelines without any major incident or injury. The operation of the pipeline would be monitored 24 hours a day, with the gas being odourized to assist in leak detection. A rigorous maintenance and inspection program, including leak detection and a flame ionization survey, would be implemented on the pipeline as an additional safety measure. ATCO stated that although the gas is dry and noncorrosive, it would also conduct internal inspection pigging every five years to detect defects and to assess whether repair or line replacement was necessary.

ATCO believed that an 8 km spacing for emergency shutdown valves (ESDVs) would be appropriate, based on the assumption that a major release would be ignited rapidly due to the traffic density along the route. It suggested that valves themselves were a potential cause of failure and that therefore more valves along the line might not reduce risk. ATCO indicated that the City also preferred not to have valves along a busy street. ATCO had developed a specific job procedure to isolate and depressurize the pipeline in the event of an emergency, as well as during repair and maintenance, and would either flare the gas at the EEEP or move the gas into other lines in the area to avoid flaring more gas than absolutely necessary.

ATCO indicated that in the event of a major rupture, the line would be automatically shut down by the ESDVs and the gas would be released in about four minutes.

### 4.4 Horizontal Drilling of River Crossing

ATCO submitted that it had decided to cross the North Saskatchewan River with a horizontal directional drill to avoid major disruption to the river valley park environment and the river. It believed that the geology under the river valley would be appropriate for drilling and that the risk of future ground movement affecting the pipeline was low based on its engineering study. It further stated that it would meet all regulatory requirements in place at the time of the drilling operation. ATCO indicated that the drill path would be about 12 m below the existing sewage tunnel where the bedrock was intact. ATCO did not believe that there were any abandoned coal mine tunnels that could be intersected by its drilling, based on the results of the geological testing, electrical imaging, and seismic reflection surveys. It also stated that the risk of a frac-out (loss of drilling fluids) at the proposed location would be remote and that, even if there was any fluid loss, it would have contingency plans in place to mitigate any environmental impacts. ATCO confirmed that drilling fluids would be composed of bentonite and water, which are not toxic to plants or animals. Drilling additives that might be toxic, such as lubricants, surfactants, and bactericides, would not be used. ATCO concluded that it had done a great deal of investigation on the crossing and was confident that it would be completed with no major problems.

### 4.5 Risk Assessment

ATCO stated that it reached the decision to select the Calgary Trail corridor without conducting a comparative risk assessment on the different corridor options.

ATCO stated that it had investigated six routing options within the Calgary Trail corridor before settling on the 103rd Street option. It performed and evaluated a qualitative assessment of hazards and the potential for third-party damage to the pipeline as part of the selection process.

ATCO then undertook a quantitative risk assessment of three routes, including the 103rd Street option, to obtain estimates of individual specific risks and the collective risks of the proposed pipeline project. It submitted that individual specific risks for residents, the most exposed population, were below the generally tolerated risk of one in one million near the pipeline and declined with distance. In order to assess the significance of collective risks, ATCO employed a set of risk threshold guidelines adopted by the County of Santa Barbara in California. The

guidelines divide the collective risk spectrum into insignificant, grey, and intolerable regions. The collective risks of ATCO's pipeline were found to be substantially in the insignificant region. Although the collective risks straddled the threshold between the insignificant and grey regions, ATCO believed that the risks were acceptable.

ATCO acknowledged that the new pipeline posed a greater hazard than the old pipeline due to its higher MOP. However, it stated that there was no relationship between the frequency of ruptures and pipe diameter, at least for pipelines with medium and high pressures. ATCO also stated that the high level of activity in the 103rd Street corridor would not increase the potential for third-party damage to the pipeline because the utility corridor was well controlled.

With regard to fusion-bond epoxy coating of the pipeline, ATCO stated that such coatings were subject to testing by the Canadian Standards Association (CSA) and have a proven track record in Canada. ATCO said it had no evidence to suggest that such coatings would affect risk. If anything, it suggested, the addition of such materials would reduce external corrosion.

### 4.6 Emergency Response Planning

ATCO submitted that it had an Emergency Response Department, which coordinates emergency responses within the City using procedures outlined in an emergency response manual. ATCO's role in the event of a pipeline emergency would be to assist the City within ATCO's areas of expertise. ATCO said that it was working with the City to coordinate its emergency response capabilities with those of the City. In response to criticism that it had not prepared a site-specific emergency response plan, ATCO said that such a plan would not be appropriate in an urban setting and might actually hamper emergency response efforts. It maintained that emergency response exercises involving City and company staff established that site-specific plans were unnecessary.

### 4.7 Noise

ATCO acknowledged that noise at Rossdale is a site-wide issue that needed a cooperative effort between itself and EPCOR to ensure satisfactory resolution. ATCO stated that it was committed to responding to noise concerns about its facilities and in meeting all noise requirements. ATCO pointed out that it only became aware of the noise issue related to its metering station in August 2000 and that it had set about addressing the issue immediately. ATCO said that it had relied on a noise impact assessment conducted by EPCOR to identify what it believed to be the source of the tonal component emanating from the metering station. ATCO believed that it had resolved the source of a "screeching noise" reported to EPCOR by residents by disconnecting the scrubber vessel on November 8, 2000.

ATCO stated that it believed this work to be only the first phase in mitigating noise from the metering station. ATCO acknowledged that further assessment of noise from the metering station suggested that a second and third phase of noise control work may be necessary to fully address the impact of Rossdale site noise on surrounding communities. ATCO saw the second phase of work being the addition of acoustical lagging (noise insulation) on piping. If necessary, it would undertake a third phase, consisting of modifications to the control valves. These later

phases would be directed at the piping, which may be responsible for some of the tonal annoyance described by residents. ATCO believed the phased approach, with an assessment between each phase to determine what improvements, if any, had been achieved, was the responsible way to proceed. To ensure that these assessments provided measurable data, ATCO indicated that it would install permanent monitoring to correlate noise to flow conditions. In this way, relative improvements achieved by each phase could readily be determined. ATCO also stated that the noise control work would continue with other possible options, such as sound fences or barriers, until the tonal noise source had been suitably addressed.

With regard to the new metering station, ATCO believed that current noise attenuation technology would be able to control any significant potential noise sources.

ATCO expressed willingness to work with EPCOR to address overall site noise. In addition, ATCO committed to participate in an ongoing community advisory committee to address noise concerns of local residents.

### 4.8 Archaeology and Historical Resources Impact Assessment

ATCO submitted that the proposed pipeline project would not result in any significant adverse affects on archaeological resources. It stated that Alberta Community Development (ACD) had approved its historical resources overview assessment and also required the preparation of an historical resources impact assessment (HRIA). The scope of the HRIA was limited to monitoring the two bell holes for the directional drilling.

ATCO noted that ACD would be responsible for ensuring compliance with the Historical Resources Act (HR Act) at the south-side bell hole, while EPCOR would be responsible for ensuring compliance on its Rossdale site.

ATCO submitted that given the existing disturbances at both bell hole locations, it was unlikely that historical resources would be negatively impacted by the pipeline project. ATCO accepted EPCOR's view that both the north bell hole and the installation of a new gas regulating station would only impact precontact occupation levels. On this basis, it concluded that monitoring the excavation was sufficient to recover any potential archaeological material.

ATCO accepted the following specific recommendations to mitigate the impact of the pipeline:

- hand excavation of the precontact occupation levels;
- excavation of two 2-by-2 m blocks, one in the proposed location of the bell hole and one in the proposed location of the new gas regulating station; and
- if the excavated blocks revealed an area of intensive precontact occupation, expansion of the excavation to the entire activity area within the impact zone of the proposed development.

## 5 VIEWS OF THE INTERVENERS

While some interveners cross-examined the ATCO panel, no interveners presented direct

evidence that would raise any significant issue with ATCO's evidence. No interveners presented specific evidence relating to the design, construction, operation, maintenance, or public safety of the proposed pipeline.

Some concerns were raised with respect to the possibility of a frac-out during construction of the river crossing. However, no specific information was presented concerning ATCO's ability to successfully complete the horizontal drilling of the river crossing.

ACD stated that it would require ATCO to monitor the excavation of the bell hole in the End of Steel Park during pipeline construction.

With respect to risk assessment, Ms. Ulfsten, on behalf of herself and the Hill family, said she was concerned about the adequacy of ATCO's risk assessment. In her view, the prospect of a pipeline failure, however remote, was unacceptable. She cited examples of pipeline failures in Alberta and elsewhere that had resulted in fatalities and noted a recent incident with an ATCO pipeline under the Athabasca River as examples of failures that could occur. ConCerv said that no risk to the public associated with the pipeline was acceptable, because the need for the RD 11 project, and therefore the pipeline, had not been established.

The Confederacy of Treaty Six First Nations (Treaty Six) noted that the alternative pipeline corridors were not examined from a risk perspective, leaving uncertainty as to whether a lower risk option had been overlooked.

Dr. Charlton was sceptical about the fusion-bond epoxy coating ATCO would apply to the portion of the pipeline under the river. He questioned whether this was an unproven technology and whether this uncertainty had been considered in the risk assessment.

With respect to noise, some local residents said that they were not able to distinguish between noise from ATCO's facilities and overall noise from the Rossdale site. Residents in the area believed that noise was already an issue in the centre of the city and maintained that ATCO's new metering station, along with RD 11, would inevitably contribute to greater noise levels.

Local residents also questioned ATCO's ability to control noise levels, given that ATCO had admitted that it did not yet fully understand the full contribution of its facilities to the overall noise environment. Residents also were sceptical about the effectiveness of noise mitigation work, particularly since ATCO had not even selected which options or methods to pursue.

The local residents believed that noise would continue to affect the neighbourhood and that the uncertainty of how to mitigate the problem would result in a continued unwanted impact on their quality of life, personal time, and property values.

ConCerv argued that ATCO's application was incomplete with respect to its assessment of impacts on archaeological resources. It argued that ATCO did not appear to have taken these impacts very seriously and maintained that ATCO had to provide the HRIA required by ACD.

Treaty Six suggested that ATCO and ACD were intentionally avoiding or ignoring archaeological and historic resources potentially located at the south bell hole location. It submitted that the location of the pipeline was once the location of the Papaschase reserve and that the End of Steel Park was the site of a confluence of four important trading trails. Treaty Six argued that the pipeline project could disturb archaeological resources, both along its entire length and at the south bell hole location. It was Treaty Six's position that the entire length of the pipeline, including the south bell hole location, should be monitored by an archaeologist during construction.

The First Peoples/First Settlers (FPFS) noted that much of South Edmonton was once the location of the Papaschase reserve and expressed concern about the potential impact of pipeline construction on archaeological resources on both sides of the North Saskatchewan River. FPFS was especially concerned about the possible impact of the pipeline on the historic cemetery near the Rossdale site. However, it agreed that careful excavation of the pipeline route to appropriate depths would address its concerns.

ACD noted that it had required Northwestern Utilities Limited to carry out an assessment under the HR Act of the proposed pipeline in 1999. It had also reviewed a historic resources overview previously submitted by ATCO and determined that ATCO should conduct an impact assessment consisting of archaeological monitoring of the bell hole excavations during the construction of the pipeline.

ACD acknowledged that responsibility for the assessment would be split between EPCOR's archaeology consultants at the Rossdale site and ATCO's archaeological consultants at the south bell hole location. ACD noted that the location of the proposed pipeline trench had been subject to heavy disturbance over many years and that its location was generally outside the concentration of structural remains for fur trade-era materials.

ACD stated that it was unlikely that archaeological resources would be encountered at the south bell hole location. In support of this position, ACD stated that the impact area on the south side was quite small, there had already been substantial disturbance in that area, and the geomorphological conditions existing on the south side largely precluded the prospect of encountering deeply buried deposits from the precontact era. ACD further stated that it was unlikely that traces of the historic trail system located in the area would remain, given the disturbance they had been subject to over the last century.

ACD recommended that any EUB approval of the ATCO application acknowledge that the approval must be subject to the results of the HR Act assessment that ACD has ordered.

# 6 VIEWS OF THE BOARD

## 6.1 Need for the Pipeline

The Board is satisfied that additional gas would be required at Rossdale if the RD 11 project proceeds. The Board accepts that the existing pipelines in the area are currently operating at capacity, and that they would not be able to meet the new gas requirement for the RD 11 project without undergoing major modifications. The Board is of the view that the proposed pipeline represents a reasonable alternative to provide new gas to RD 11, requiring no compression at either EEEP or the Rossdale site.

The Board notes that the proposed MOP is considerably higher than the normal operating pressure required for the RD 11 project. The Board accepts that the applied-for MOP has the benefit of eliminating the need for future upgrades and the associated disturbance, and would provide additional pipeline capacity for future need in the City.

## 6.2 Route Selection and Impacts During Pipeline Construction

The Board accepts ATCO's criteria for selecting the pipeline corridor and is satisfied that the proposed route represents the shortest and least disruptive alignment. The Board notes that the proposed route is already within an existing transportation and utility corridor and believes that the overall incremental impact on the area would not be significant.

The Board recognizes that during construction of the pipeline there would be some disruption to the business community and traffic. However, the Board is convinced that the mitigative measures proposed by ATCO will help minimize the impact. The Board further notes that no specific objections were received from businesses with respect to the routing of the pipeline and that the City has approved the routing with some conditions that were acceptable to ATCO.

The Board notes ATCO's experience related to pipeline construction in urban areas and is satisfied that the proposed pipeline would be completed with the least possible disruption to the business community and traffic. Notwithstanding, the Board encourages ATCO to coordinate the construction work with the City where necessary to minimize the impact on the area residents and businesses.

## 6.3 Public Safety with Respect to Design, Construction, and Operation of the Pipeline

The Board considers public safety to be a high priority, particularly in urban areas with high-pressure pipelines. In the event of a major failure, the Board would require ATCO to be able to shut down and isolate the line as quickly as possible and to limit the volume of release to a minimum. The Board notes the four-minute release time estimated by ATCO and believes that this is a reasonable duration for gas release resulting from a major line rupture. Therefore, although ATCO only marginally meets the ESDV spacing requirement of the CSA codes, the Board sees no immediate need to require ATCO to install additional ESDVs along the proposed pipeline.

The Board is satisfied that the proposed pipeline meets the design and construction requirements of applicable CSA codes and the Pipeline Regulation. The Board notes that ATCO is a member of OSCAM and Alberta One-Call and believes that the likelihood of third-party damage on the pipeline would be low. The Board is also convinced that continuous monitoring of the pipeline operation, coupled with the maintenance, inspection, and leak detection program proposed by ATCO, would help further ensure the integrity of the pipeline.

With respect to line isolation and depressurization during maintenance, repair, or emergency situations, the Board notes that ATCO has developed a specific job procedure that would enable it to either flare the gas at EEEP or move the gas into other pipelines in the area to avoid unnecessary flaring. The Board accepts that this job procedure would help reduce the public risk associated with operating the pipeline within the city.

Considering ATCO's experience in constructing and operating pipelines in urban areas and given the additional safety measures proposed by ATCO, the Board is of the view that the proposed pipeline could be constructed properly and operated safely with low likelihood of a major failure.

### 6.4 Horizontal Drilling of River Crossing

The Board concurs with ATCO that crossing the North Saskatchewan River with horizontal directional drilling would avoid major disruption to the river valley park environment and the river. Considering the results of ATCO's engineering study and geological tests, the Board is of the view that the likelihood of intersecting any old, abandoned coal mines during the drilling operation of the river crossing is very low. The Board accepts the evidence presented that the bedrock at a depth of 12 m below the sewage tunnel would be intact and that it would provide sufficient protection from interference with the existing tunnel.

The Board would be concerned about the effect of a fluid loss during the drilling operation of the river crossing. However, the Board is of the view that the likelihood of an event is low, based on the depth of the drill path proposed by ATCO. Even if it occurred, the Board believes that ATCO would be able to implement its contingency plans to mitigate any environmental impacts associated with the spill. The Board also notes that drilling fluids used in this type of drilling operation do not pose toxicity problems and that a spill, if dealt with as proposed, should not adversely impact the river environment.

### 6.5 Risk Assessment

The Board believes that ATCO undertook the pipeline risk assessment appropriately and that it is credible. Intervener concerns focused mainly on risk management issues, without challenging in any fundamental way the applicant's assessment of the risks associated with the project. The Board is therefore prepared to accept the applicant's quantitative evidence on this matter as presented.

The Board believes that the individual specific risks of the pipeline, which fall below the generally accepted value of one in one million, are acceptable. The acceptability of the

collective risk of the pipeline is less obvious and requires some comment. The assessment shows that the risk of a very few fatalities is insignificant according to the County of Santa Barbara guidelines and therefore is acceptable. The corresponding risk of several fatalities falls within the grey region. The number of fatalities at which the threshold between insignificance and grey is crossed may be as low as five or as high as thirteen, allowing for the degree of uncertainty that the applicant said was associated with the risk estimates. This means that the collective risk of five or more fatalities on the low end to thirteen or more fatalities on the high end is grey.

The Board believes risks that cannot be immediately classified as insignificant warrant careful scrutiny. In this instance, the collective risks reflect the product of extremely low-frequency events with potentially serious consequences. The Board notes that the estimated annual frequency of fatalities at the grey zone boundary is very low—in the order of one in 80 million. Moreover, the risk estimates provided to the Board may overestimate the real risks. With these considerations in mind, the Board finds that the collective risk is acceptable. The Board agrees with the recommendation of ATCO's consultant that risk mitigation measures be implemented to the maximum extent possible in the design and operation of the project.

### 6.6 Emergency Response Planning

The Board accepts that given the shared responsibility between ATCO and the City, there is no need for a site-specific emergency response plan to deal with the proposed pipeline. The Board is satisfied that the planning processes in place within the City and ATCO's intention to fully participate in such processes will satisfy its requirements for emergency response planning.

### 6.7 Noise

The Board considers noise from the Rossdale site as a single shared issue between ATCO and EPCOR. The Board accepts the commitment made by ATCO to work with EPCOR and other local residents through a community advisory panel to address current and future noise issues. Within the advisory panel's process, the Board expects that ATCO will take an active part in a complaint handling and response process and will continue to address community noise issues in a timely and appropriate manner.

The Board believes that ATCO, upon becoming aware of the noise problem at its metering station, has responded in a positive manner. The Board believes that the approach being taken by ATCO to identify the sources of noise, including tonal components, at the existing metering station will be effective in designing appropriate mitigation measures and expects this work to be completed in the shortest time frame possible. The Board also expects that ATCO will assess and deal with potential noise sources from the proposed metering station prior to it being commissioned.

The Board notes the decision by ATCO to drill the pilot hole under the river for the gas pipeline only during daylight hours, thereby not increasing nighttime noise levels. In any event, the Board notes that ATCO must meet the EUB's *Noise Control Directive* (presented in *Interim Directive 99-8*) in all phases of its project.

### 6.8 Archaeological and Historical Resources Impact Assessment

As discussed in Section 3.2.3 of *Decision 2001-33*, the Board will rely on the decisions of ACD respecting archaeological and historic resources that may be impacted as a result of the ATCO project. The Board also suggests that ATCO may wish to develop a burial policy similar to EPCOR's to deal with the remote possibility of uncovering human remains.

Issued at Calgary, Alberta, on May 8, 2001.

**ALBERTA ENERGY AND UTILITIES BOARD**

*(Original signed by)*

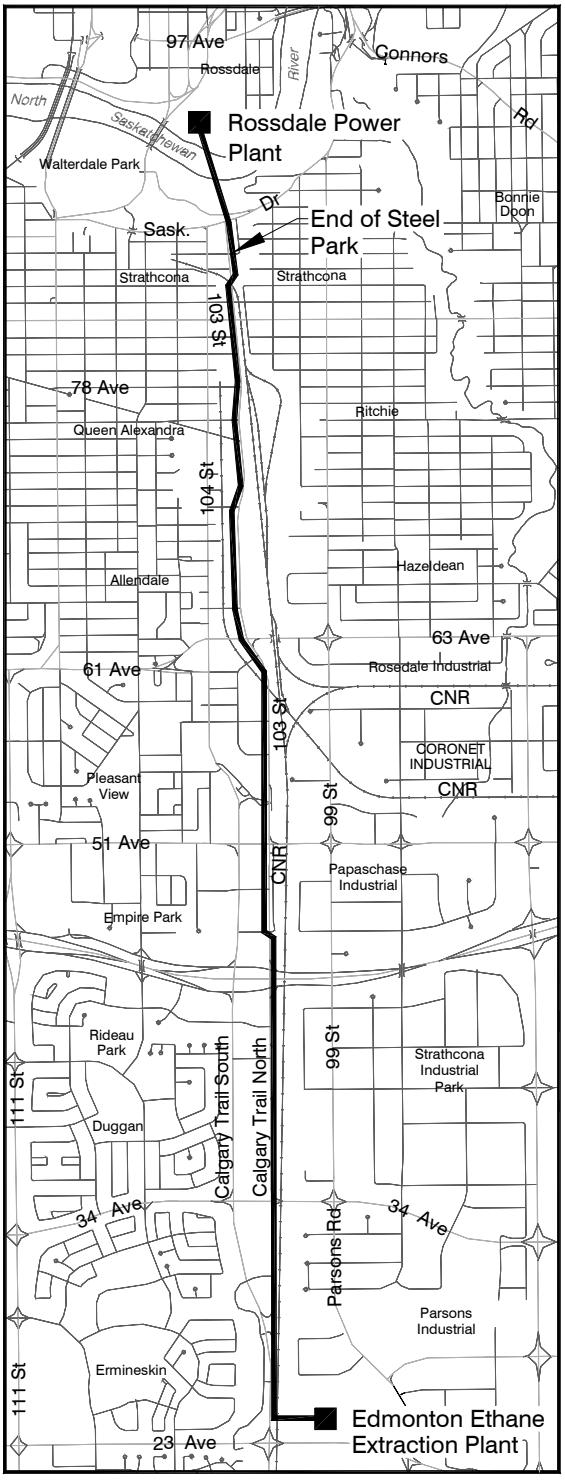
J. D. Dilay, P.Eng.
Presiding Member

*(Original signed by)*

T. M. McGee
Board Member

*(Original signed by)*

C.A. Langlo, P.Geol.
Acting Board Member




Edmonton Area
Proposed Pipeline Route

Application No. 1055407

ATCO Pipelines

Decision 2001-34