

ALBERTA ENERGY AND UTILITIES BOARD

Calgary Alberta

CORRIDOR PIPELINE LIMITED APPLICATION TO CONSTRUCT AND OPERATE CRUDE OIL AND HYDROCARBON DILUENT PIPELINES AND ASSOCIATED FACILITIES FROM MUSKEG RIVER MINE PLANT TO SHERWOOD PARK

**Decision 99-23
Applications No. 1029060 and 1033210**

1 APPLICATIONS, INTERVENTIONS, AND HEARING

APPLICATION NO. 1029060

Corridor Pipeline Limited (Corridor), a wholly owned subsidiary of BC Gas Inc. and an affiliate of Trans Mountain Pipe Line Company Ltd. (TMPL), applied to the Alberta Energy and Utilities Board (the Board/EUB), pursuant to Part 4 of the Pipeline Act, for an approval to construct and operate approximately 453 kilometres (km) of 610-millimetre (mm) outside diameter (OD) pipeline. The pipeline would transport diluted bitumen from the Shell Muskeg River Mine Plant¹ (Mine) at Legal Subdivision (LSD) 2, Section 23, Township 95, Range 10, West of the 4th Meridian to the proposed Shell Scotford Upgrader² (the Upgrader) at LSD 10-31-55-21 W4M. Corridor also proposed a 323.9-mm OD pipeline to transport diluent from the Upgrader to the Mine to be constructed in the same right-of-way (ROW). In addition to these pipelines, Corridor proposed to construct four electrically powered pump stations on the bitumen pipeline and two on the diluent pipeline. For the purposes of this report, Application No. 1029060 is referred to as “the main lines” (Figure 1).

APPLICATION NO. 1033210

Corridor also applied, pursuant to Part 4 of the Pipeline Act, for an approval to construct and operate approximately 43 km of 508-mm OD pipeline to transport synthetic crude oil from the Upgrader to the existing facilities of Enbridge Pipelines Inc. located in SE ¼ 5-53-23 W4M. Corridor also proposed a 406.4-mm OD pipeline in the same ROW to transport supplementary feedstock from the TMPL terminal located in SW ¼ 5-53-23 W4M to the Upgrader. In addition to these pipelines, Corridor proposed to construct four electrically powered pump stations. For the purposes of this report, Application No. 1033210 is referred to as the “delivery lines” (Figure 2).

¹ In Decision 99-2, the Board stated that it was prepared to approve Shell’s application for the Mine.

² In Decision 99-8, the Board stated that it was prepared to approve Shell’s application for the Scotford Upgrader.

HEARING

The applications and interventions were considered at a hearing held at Fort Saskatchewan, Alberta, on 9, 10, and 11 March 1999 before Presiding Board Member F. J. Mink, P.Eng., Board Member J. D. Dilay, P.Eng., and Acting Board Member H. O. Lillo, P.Eng. Those who appeared at the hearing and abbreviations used in this report are listed in the following table.

THOSE WHO APPEARED AT THE HEARING

Principals and Representatives (Abbreviations Used in Report)

Witnesses

Corridor Pipeline Limited (Corridor)

C. K. Yates
M. Buchinski

T. Doyle
D. Mutrie
M. Horner, P.Eng.
R. Vergette, P.Eng.
M. W. P. Boyle
J. Hess

Shell Canada Limited (Shell)

J. Jamieson

Mobil Oil Canada Properties (Mobil)

K. F. Miller

R. and M. Schroter Enterprises Ltd. (the Schroters), G. Slater, Dr. C. Shirvell, Dr. H. Simmons, and A. Wright (the Secord Clients)

R. C. Secord
K. E. Buss

A. Wright
Dr. H. Simmons
B. S. Gettel
I. Omar, Ph.D., P.Eng.

Metis Regional Council Zone IV of the Metis Nation of Alberta (the Metis Council)

B. Fayant
S. Montgomery

S. Montgomery

D. Trueman and T. Dupre (Trueman and Dupre)

D. Trueman
T. Dupre

Group of 23 Landowners (Demeule et al.)

N. Demeule

N. Demeule
E. Schotte
A. M. Dzurny

THOSE WHO APPEARED AT THE HEARING (cont'd)

**Principals and Representatives
(Abbreviations Used in Report)**

Witnesses

289332 Alberta Ltd. (the Taylors)

R. Taylor
M. Taylor

Park Lane Farms (the Trenholms)

D. Trenholm, Sr.
D. Trenholm, Jr.

Alberta Energy and Utilities Board staff

T. H. Donnelly, Board Counsel
P. V. Derbyshire
P. R. Hunt
S. C. Lee, P.Eng.
E. A. Smith

Strathcona County, Unocal Canada Limited, Suncor Energy Inc. (Suncor), AEC Pipelines Ltd. (AEC), and Husky Oil Operations Limited filed interventions but did not participate in the hearing. Syncrude Canada Ltd. stated that it had resolved its concerns with Corridor and would, therefore, not be participating in the hearing. Enbridge Pipelines Inc. attended to monitor the proceedings.

The Fort McMurray No. 468 First Nation (the Nation) and Corridor agreed upon a short time frame for resolving the concerns raised in the Nation's intervention. It was the intent of both parties that, failing a negotiated agreement, they would provide written evidence for the Board's consideration. However, if no filings were received by 30 April 1999, the Board could conclude that a satisfactory agreement had been reached. Corridor requested an extension to 7 May 1999 to finalize its negotiations with the Nation, and the Board notes that no filings were received. The Nation was present to monitor the proceedings.

The Metis Council attended the hearing to present a statement but did not object to the applications.

Mobil registered to cross-examine and give final argument but did not present evidence.

Following the hearing, in a letter dated 18 March 1999 the Board asked Corridor to investigate the feasibility of it using existing ROWs. The Board received Corridor's response on 28 May 1999.

2 ISSUES

The Board considers the issues respecting the applications to be

- need for the pipelines
- use of existing pipeline ROWs
- route selection and land-use conflict
- public safety aspects of pipeline construction and operation
- noise
- adequacy of notification and public consultation

The Board notes that the economic merits of the project were not challenged.

3 NEED FOR THE PIPELINES

3.1 Views of the Applicant

Corridor stated that the applied-for pipelines were an essential link between the Board-approved Mine and the Upgrader project. It further stated that the pipelines were essential to the delivery of bitumen from the Mine to the Upgrader, where it would be processed into synthetic crude oil for delivery to the existing terminal facilities at Sherwood Park. It further noted the need for a return line from Scotford to transport solvent to the Mine and a return line from the existing pipeline terminals to transport upgrader feedstock to Scotford.

Corridor stated that the Mine, Upgrader, main lines, and delivery lines were closely related and interdependent and, due to the complexity of the project, it did not evaluate the possibility of unused capacity of existing pipelines in the area.

3.2 Views of the Interveners

The Second Clients stated that Corridor had not adequately investigated available capacity in existing pipelines or alternatives to the construction of new pipelines. They specifically referenced the possibility of unused capacity in an existing Suncor crude oil pipeline west of Corridor's preferred route. Other interveners did not challenge the need for the pipelines.

3.3 Views of the Board

The Board is satisfied that there is a need for a pipeline to transport diluted bitumen from the Mine to the Upgrader and to transport the synthetic crude product from the Upgrader to a sales distribution point. The Board does not believe that sufficient capacity is available in any of the existing pipelines to handle the applied-for volumes of bitumen or diluent. Therefore new lines would be necessary.

4 USE OF EXISTING PIPELINE ROWS

4.1 Views of the Applicant

Corridor stated that it preferred a 30-metre (m) ROW width for the main lines and the delivery lines. However, it acknowledged that although 30 m was a pipeline industry standard ROW, it would be a significant imposition on the landowners. Accordingly, Corridor applied for a 25-m ROW, consisting of a 15-m permanent ROW and 10 m of temporary working space.

Corridor stated that it had not fully examined the potential for it to use unused portions of ROWs along its preferred eastern route, paralleling the AEC pipeline, or along a western alternative route that would parallel a ROW containing up to eleven pipelines, including the Suncor crude oil pipeline. Corridor assumed that from past experience with other operators, requests to share existing, underused ROWs would not be received favourably. Corridor said that discussions with AEC identified concerns related to ongoing maintenance and future expansion of its existing pipelines, precluding an agreement to share ROWs.

In the vicinity of the delivery lines, Corridor was concerned that close placement of pipelines in shared ROWs were a hazard to safe pipeline operation and maintenance. It believed that it would not be a productive exercise to investigate existing pipeline corridor widths and then attempt negotiations with companies operating existing pipelines in the area. Corridor planned to negotiate working space along the alignment and, if requested by the Board, was prepared to investigate the potential for shared ROWs.

Corridor stated that the ROW would be limited to 10 m of permanent ROW within the Transportation and Utility Corridor (TUC)³ located within the Sherwood Park West Restricted Development Area (RDA), with 15 m of temporary working space, to conform with TUC standards. Corridor asserted that TUC practices were not applicable to other deeded or Crown lands and that a 15-m, rather than a 10-m, permanent ROW was required to satisfy its construction and safety needs.

Subsequent to the hearing, in correspondence to the EUB dated 28 May 1999, Corridor filed a report titled "Investigation of Joint Use of Right-of-Way." Corridor asserted that 15-m was the preferred permanent ROW for the delivery lines because risks associated with pipeline operation would increase with a 10-m permanent ROW. It believed that a 5-m reduction in the width of the permanent ROW, combined with an equal increase to the temporary working space, would not significantly reduce the impact on landowners. Nevertheless, the proximity of available working space from Northwestern Utilities Limited (NUL) would permit Corridor to reduce the permanent ROW from 15 m to 10 m along much of the delivery line route.

³ In the mid-1970s, the Government of Alberta established restricted development areas (RDAs) around Alberta's two major urban centres, Edmonton and Calgary. Alberta Environment (AENV) designated land within the RDAs for TUC use. TUCs were seen as the most effective means of providing long-term alignments for future ring roads and major linear utilities needed to serve these expanding urban areas.

With respect to the route of the main lines, Corridor concluded that reduction of the ROW width could not be justified.

In correspondence filed with the EUB on 22 July 1999, Corridor responded to the submission of the Schroters. It believed that their evidence should be rejected by the Board because no justification was provided for either sharing or minimizing the ROW width.

4.2 Views of the Interveners

The Secord Clients stated that multiple pipeline ROWs crossed their farmlands and they objected to further proliferation of pipelines on their properties. They reasoned that if a 10-m ROW was suitable for the TUC, it should also be suitable for their lands. They viewed the encroachment of the delivery line ROW as sterilization of their lands for current and potential development. The Secord Clients and Trueman and Dupre asked Corridor to examine the use of existing ROWs in pipeline routing to reduce surface disturbances and limit further encumbrances to their lands.

Subsequent to the hearing, the Schroters filed correspondence with the EUB dated 19 July 1999 that reiterated their objection to additional pipeline easements on their lands. They appealed to the Board to direct AEC and/or Suncor to share ROW space with Corridor. However, if Corridor were permitted to acquire a new ROW, they requested that the Corridor's ROW width be limited to 10 m.

Further, on 10 August 1999, Trueman and Dupre filed correspondence in response to the reply of Corridor to the Schroters' filing in which they noted issues related to present costs of the land.

4.3 Views of the Board

Pursuant to EUB *Informational Letter 80-11: Joint Use of ROW (IL 80-11)*, pipeline applicants are required to evaluate the availability of shared ROWs as an alternative to the creation of entirely new ROWs. Corridor did not initially provide evidence that it had completed a reasonable assessment or contacted other operators along either of the proposed routes (main lines and delivery lines) regarding shared ROWs. Corridor agreed to submit supplemental evidence regarding the possibility of sharing existing pipeline ROWs or other means for reducing the proposed ROW.

In its subsequent filing, Corridor indicated that shared pipeline ROWs are feasible for portions of the delivery line, in particular the NUL line. Corridor is required to reduce the width of its delivery line ROW from 15 m to 10 m using concurrent workspace available from the NUL ROW.

The Board notes Corridor's commitment to address concerns of other landowners pertaining to *IL 80-11* and the issue of shared ROWs.

The Board recognizes that ROW reductions of 5 m will not be possible in all locations. Accordingly, Corridor should consider lesser ROW reductions through discussions with landowners. The Board directs Corridor to conduct additional public consultation with all affected landowners along the delivery lines regarding the reduction of its ROW.

The Board therefore concludes that Corridor must satisfy the Board that 1) landowners have been consulted in an effective manner and 2) Corridor's delivery line ROW has been reduced to the extent possible without compromising public safety.

5 ROUTE SELECTION AND LAND USE CONFLICT

5.1 Views of the Applicant

Corridor selected its preferred route using the primary criteria of minimizing impacts on the environment and landowners and paralleling existing linear surface disturbances wherever possible. The location of the Mine and Upgrader, as well as secondary control points, such as major river crossings, were other determinants of the route analysis. Corridor evaluated environmental parameters, including key wildlife habitats, setbacks from protected areas, minimal clearing of trees, steep terrain, riparian zones, and new access. Corridor used other criteria to evaluate route alternatives, including minimizing the pipeline length, socioeconomic impacts, and project costs.

Corridor proposed to route the northern portion of the alignment to generally follow the Alberta Oil Sands Multiple Utilities Corridor (AOSMUC), with one exception being in the area of the Alberta Oil Sands Lease 37 (Lease 37) held by Mobil. AOSMUC was endorsed in 1986 by the Alberta Government to identify preferred routing for future pipelines east of the Athabasca River in the forested Green Zone. In the vicinity of the Mobil lease, Corridor deviated from the AOSMUC routing to allow for a single crossing of the Steepbank River.

Corridor's preferred route would allow for the directional drilling of the Steepbank River, which is the preferred crossing method as recommended by the Department of Fisheries and Oceans and AENV.

During preparation of its Conservation and Reclamation (C&R) Plan, Corridor received support for its proposal from all pertinent provincial and local government agencies with jurisdiction in the impacted regions. Therefore, it focused environmental assessment and public consultation activities upon the preferred route. Corridor did not undertake detailed feasibility or economic analyses of alternative routes, but rejected them by reason of increased environmental impacts, additional pipeline lengths, and higher cost. Corridor consulted extensively with trappers, First Nations, AENV, and the Standing Committee on Oil Sands Development concerning the preferred route outlined in the C&R plan.

In addition to previously referenced routing criteria, Corridor considered further parameters for the alignment of its pipelines between Scotford and the existing Sherwood Park terminals. These included

- avoidance of densely populated areas near Fort Saskatchewan,
- use of the RDA,
- use of the TUC, and
- use of the Northeast Edmonton Pipeline Penetrator Corridor.⁴

Corridor stated that it expected the applied-for eastern pipeline route to have less impact on future development and on the general public and pointed out that it would avoid the community of Fort Saskatchewan.

Corridor did not perceive that there would be any land-use conflict impediments to the project. It believed that its pipeline operations would not hinder future development opportunities by Mobil within Lease 37. On the outstanding issues raised by landowners at the hearing, such as deeper pipe burial, topsoil stripping, and surface drainage, Corridor believed negotiated settlements could be reached and that environmental protection and public safety measures would be followed. Corridor said that it would be completing negotiated pipeline agreements with landowners if its applications were approved. At that time, Corridor would negotiate to satisfy specific landowner requests regarding soil handling, stripping, reclamation, and other related activities. Corridor said that it would be able to accommodate the Trenholms' requests for 20-m soil stripping and deeper trenching across their land.

Corridor noted that there were established industry practices it would follow in acquiring surface rights from landowners. If Corridor were to fail to reach agreement with landowners concerning compensation issues, the Alberta Surface Rights Board (SRB) would determine appropriate land values. Corridor stated that the evidence of Mr. Gettel on behalf of the Secord Clients did not contain quantitative conclusions regarding whether pipeline ROWs diminish land values. It also believed that ROW agreements with landowners must contain a caveat to prevent the placement of structures over a pipeline (i.e., setback requirements) in order to maintain pipeline integrity.

With respect to increased road traffic, Corridor stated that such activity would be limited largely to the pipeline ROW area and that landowners would not see significant effects from construction activities. Increased vehicle traffic would be relatively short lived.

5.2 Views of the Interveners

Strathcona County supported Corridor's application. Furthermore, Strathcona County viewed Corridor's pipeline alignment in the vicinity of Township Road 552 and the Canadian Pacific Railway rail line to be a new hydrocarbon transmission pipeline corridor. In the interests of reduced land fragmentation, cumulative environmental effects, improved public safety, and

⁴ The Northeast Edmonton Pipeline Penetrator Corridor is an extension of the TUC to Sherwood Park for the purpose of oil and gas pipelines and utilities. It is administered and owned by Alberta Infrastructure.

operational efficiencies, Strathcona County looked to the EUB to define a new pipeline corridor. Strathcona County did not provide anyone to speak to its submission at the hearing.

Two interveners addressed the main lines: Mobil, in the north, and the Trenholms, who farm property that would be crossed by the main lines in the south. Mobil holds the rights to Lease 37, a property with proven significant deposits of bitumen resource, according to Mobil. Mobil implied in its cross-examination and argument that pipeline development across its lease would cause concern regarding

- ultimate recovery of the bitumen resource,
- location of steam injection wells, and
- pipeline integrity and safety issues related to external heating effects on the pipelines and possible ground uplift with associated shearing of the pipeline.

The Trenholms were primarily concerned with issues associated with ROW reclamation and potential impacts to their farming operations, including

- potential for mixing of topsoil with clays due to construction activities,
- width of ROWs with respect to sterilization of productive agricultural land,
- landform disturbance as an impediment to effective drainage, and
- landform disturbance as an impediment to farm vehicles and equipment.

However, their main concern was related to inadequate topsoil stripping and to deeper burial of the pipeline. They requested Corridor to increase the width of topsoil stripping from 6 m to 20 m, to facilitate movement of farm equipment across the ROW on their property. They also requested Corridor to bury the pipeline deeper across their lands to accommodate future use of heavy farm equipment and deep-plowing techniques. The Trenholms expressed concern that the proposed 1.5-m depth of burial could pose a safety hazard where peat-type soils necessitate deep plowing.

The Taylors objected to the routing of Corridor's delivery pipeline through their property because the north-south alignment and accompanying setback requirements would prevent the development of farm and residential buildings upon a 4.8-hectare parcel of their land. The proposed Corridor ROW would impact the Taylors' most productive quarter section of land, whereas they believed the existing pipeline ROWs west of Corridor's preferred route were underutilized and provided Corridor with an alternative route.

Further, if the pipelines were to be built on their lands, they were concerned with a soil cover depth of 1-3 m. There could be hazards to pipeline integrity from heavy farm equipment. They stated that the Corridor pipelines could negatively impact the future land values of their property. The Taylors were also concerned about the proximity of Corridor's pipelines to the north Josephburg Drainage Water Diversion Project, impacts to surface drainage and possibly to Ross Creek.

The Second Clients said that Corridor failed to locate its delivery lines in a direct route. They requested that the Board reject Corridor's application and order it to find an alternative route for the pipelines. They stated that a 10-m ROW should be adequate for construction and maintenance. Should the route remain unchanged, they requested that Corridor thoroughly investigate the use of existing pipeline ROWs.

The Second Clients further stated that in the past pipeline activities had interfered with their ability to farm and that the widths of the pipeline ROWs made use of their lands inefficient. It was their opinion that any new construction would add to these concerns and that there could be increased risks to public health and safety.

Trueman and Dupre objected to the pipelines on the basis that there would be a potential negative impact upon the future development of their land, which is located within a future urban study area. They further urged Corridor to investigate the joint use of the existing ROW on their land. Demeule et al. cited concerns regarding public health, safety, noise, and quality of life that have led to unresolved land-use issues that should have been addressed by Corridor through its public consultation process prior to the hearing. Specifically, Demeule et al. asked the Board not to consider Corridor's proposed route for its delivery line because of safety concerns, recommending instead a route east of Scotford. They further requested a delay in the EUB decision regarding the delivery lines application, citing a previous EUB position that industrial development at Fort Saskatchewan should not proceed until affected residents and Strathcona County had reached a settlement agreement (EUB Decision 99-8). This agreement would provide residents with compensation for relocation. Since such an agreement has not been finalized, Demeule et al. did not believe that it was in their best interest for the Board to approve further applications, including Corridor's.

Mobil objected to Corridor's preferred pipeline route and deviation from AOSMUC at the Steepbank River crossing. In closing argument, Mobil said that it believed that the Board should instruct Corridor to investigate an alternative route outside of Lease 37. Otherwise, Mobil expected Corridor to be responsible for costs of relocating the main lines away from any of Mobil's future production facilities. Mobil questioned Corridor regarding its lack of communication concerning pipeline routing issues across Lease 37. Prior to Mobil's letter of intervention, Corridor had not contacted Mobil to discuss the proposed pipeline route across its lease.

5.3 Views of the Board

Efforts by Strathcona County to designate defined pipeline utility corridors are commendable for land-use planning purposes. The Board agrees in principle with the use of utility corridors to facilitate orderly development of pipelines and places the onus upon applicants and municipal and regional authorities to address industrial land use within the corridors. Applicants before the Board are urged, wherever possible, to utilize existing linear disturbances for their developments. The Board accepts the routing criteria and alignment proposed by Corridor for the main lines and the delivery lines.

Regarding routing of the delivery lines, the Board did not receive sufficient evidence from the Taylors to establish that adverse effects would warrant pipeline rerouting around their lands. The Board notes that the SRB has the jurisdiction to prescribe the compensation to be paid for land usage if agreement cannot be reached. The Board expects Corridor to negotiate surface access across the Taylor property in a fair manner that will minimize adverse effects. The Board believes that the reclamation practices proposed by Corridor will minimize impacts on the productivity of the Taylor land and that of any other landowners adjacent to the ROW. Similarly, the Board finds the mitigative measures proposed by Corridor regarding potential disruption of surface drainage and spill prevention to be acceptable.

The Board does not expect significant economic or lifestyle impacts upon the landowners resulting from the Corridor pipelines, provided the proposed mitigative measures and Board recommendations are implemented. The Board believes Corridor has substantively addressed public health and safety issues raised at the hearing in its use of emergency response planning, construction practices, pipeline design, and operations and maintenance procedures. The Board recognizes that there will be increased traffic during construction, but it will be short term and the operation of the pipeline itself should not cause any long-term inconvenience.

The Board notes that Strathcona County has established a process aimed at relocating certain residents away from industrial developments in the area. Although the Board is aware that the process has been active for some time, it is not aware of the current status. The Board is encouraged that the process is continuing and urges the parties to complete it. Having regard for the nature of the proposed pipeline projects, and in light of the ongoing process between the county and residents, the Board does not intend to defer its decision.

Corridor has committed to accommodate landowners' requests respecting topsoil handling, burial depths, and reclamation as much as possible when negotiating pipeline agreements for the ROWs. The Board accepts Corridor's routing criteria, environmental protection plan, and construction and operation methods as means of reducing land-use conflicts.

Having regard for its resource conservation mandate, the Board is concerned that future in-situ bitumen production facilities on Mobil's Lease 37 may be negatively impacted by transmission pipelines. The Board understands that should Mobil decide to proceed with development of its bitumen reserves, it would have some flexibility in locating its wells and other facilities relative to the Corridor ROW. The Board also acknowledges there are uncertainties regarding the effects of pipeline operations upon in-situ recovery.

Notwithstanding, there is provision under Section 34 of the Pipeline Act for the Board to direct a licensee to alter or relocate any part of the pipeline and also to assign relocation costs. Therefore Mobil or any other operator has sufficient recourse before the Board to address pipeline relocation should the need arise.

As stated in evidence, Corridor has negotiated mutually acceptable business agreements with Suncor and Syncrude. Therefore Corridor and Mobil are encouraged by the Board to enter

similar discussions and hopefully reach an agreement respecting Corridor's pipeline operations across Lease 37. Accordingly, the Board believes there is an opportunity at this early stage for Corridor and Mobil to re-examine pipeline routing across Lease 37 in more detail. Corridor is therefore requested to advise the Board of their findings in the matter of pipeline routing across Lease 37.

The Board is satisfied with the general route selection and believes that the impacts can be mitigated and that the project is in the public interest.

6 PUBLIC SAFETY ASPECTS OF CONSTRUCTION AND OPERATION

6.1 Views of the Applicant

Corridor stated that the pipelines, including the leak detection and supervisory control and data acquisition (SCADA) systems, would be designed and constructed to meet the requirements of the Pipeline Act and Regulation and the Canadian Standards Association (CSA) codes.

Corridor stated that it would clean the pipelines monthly and conduct regular internal corrosion inspections. As the substances to be transported would be noncorrosive, it did not consider it necessary to internally coat the pipelines.

Corridor indicated that its selection of fusion bond epoxy as the external pipe coating was based on the suitability of the operating temperature range and the compatibility of the dielectric constant for cathodic protection. Corridor said that it would also conduct a holiday testing process along the pipelines to further ensure external coating integrity.

It stated that, as stress corrosion cracking (SCC) was an ongoing general industry concern, it should not be an issue regarding these particular applications. However, in managing the risks of potential SCC in its proposed pipelines, Corridor would benefit from TMPL's experience in the use of a fusion bond epoxy coating, which would be less susceptible to SCC due to its moderate dielectric properties.

Corridor indicated that emergency shutdown valves (ESDV) located at various locations along the pipelines would be able to minimize spills by shutting down the lines within ten minutes of a major failure. It also indicated that it would install a fail-safe control system on the pipelines to protect them from overpressuring.

It further noted that it would initiate emergency notification to affected residents within minutes of a line being shut down. On the basis of the existing TMPL plan, Corridor had prepared a pro forma emergency response plan (ERP) that would enable Corridor to deal with emergency response in a thorough and responsible way.

In response to intervener concerns about public safety and pipeline failure statistics as summarized in EUB *Report 98-G: Pipeline Performance in Alberta 1980-1997*, Corridor indicated that the majority of the failures were related to small-diameter pipelines (60.3-168.3-mm OD) transporting wet, corrosive produced fluids. Corridor was confident about the integrity of its proposed pipelines, especially since they would carry only relatively noncorrosive materials.

Corridor further indicated that in the event of a spill, there would be no hydrogen sulphide (H₂S) released from the pipelines, hence no risk to the public from H₂S.

6.2 Views of the Interveners

With respect to the main lines, the Secord Clients stated that environmental issues, public safety, and risk factors had not been adequately addressed by Corridor. They asked the Board not to approve the Corridor applications because they had not been adequately informed of the hazards and public safety risks associated with the pipelines. They were concerned about potential pipeline failures and risks of fire or explosion and requested that an ERP be put in place well in advance of the projected pipeline start-up date.

They further objected to the delivery lines, stating that there were potential adverse effects on their lands and the environment and risks to public safety. Dr. Simmons and Mr. Wright gave evidence of reduced soil fertility for farming following pipeline construction on their lands. Mr. Wright was concerned about the results of recent testing on his land for SCC conditions by NUL. Due to the multiple pipeline crossings of Ross Creek and favourable conditions for SCC, Mr. Wright believed there was an increased risk of pipeline failure and resultant safety hazard. In addition, the Secord Clients asserted that some industry standard construction practices and testing procedures (e.g., jeepling) were not always adequate to ensure public safety.

In support of the Secord Clients, Mr. Gettel, an expert in land appraisals, also expressed concerns with respect to pipeline safety, product spills and explosions. He indicated these factors could contribute negatively to property values and marketability of the Secord Clients' lands as a result of the presence of existing pipeline ROWs and the cumulative effect of two Corridor pipelines.

Demeule et al. objected to the Corridor delivery lines. They expressed concern about pipeline failures that could cause fires or explosions and the potential hazards of the material transported in the pipelines. Primarily for safety reasons, they requested that the Board consider relocating the Corridor delivery lines to an area farther east of Scotford.

The Trenholms and Taylors had safety concerns regarding operating heavy farm equipment near the proposed pipelines. They requested Corridor to bury the pipelines deeper than usual so that the potential risks associated with deep plowing and heavy equipment would be minimized.

Dr. Omar, a witness for the Secord Clients, agreed that the Corridor applications were consistent with the codes but was concerned that the material to be transported in the pipelines could undergo some compositional changes and become corrosive. Therefore, he advocated the use of internal coating as a protective measure for internal corrosion. He also recommended some additional precautions, such as stress relieving the pipe or the use of a high-performance composite coating (HPCC) to prevent failures.

Dr. Omar suggested that industry should evaluate the performance and consider the use of high-strength steel pipe, now used for gas transmission, for oil transportation.

In his final argument, Mr. Secord stated that, given the potential level of activities in the Fort McMurray area, the proposed Corridor pipelines could be in service for a long time. He stated that Dr. Omar's evidence voiced the concerns of landowners about the future and, should the Board grant the Corridor applications, it should condition the approvals as recommended.

In final argument, Shell supported the Corridor applications. Shell indicated that it made a business arrangement with Corridor because of Corridor's reputation and good operating practices. Shell requested the Board to approve the applications, stating that they have met the applicable requirements and that they are in the public interest.

6.3 Views of the Board

The Board notes the concerns expressed by the interveners with respect to emergency response, leak detection, pipeline failures, and public safety. In addressing these issues, the Board takes into consideration the nature of the materials transported in the pipelines, the potential for corrosion, the proposed monitoring and inspection programs, and the design practices and control mechanisms to be used for these pipelines.

The Board notes that Corridor has not finalized its ERP but has committed to use the TMPL plan as a basis. This includes resident input to the plan. On the basis of the evidence presented, the Board is satisfied that the Corridor plan, when completed, would be capable of dealing with emergency situations appropriately. The Board believes that during a significant leak event, Corridor would be able to shut down the pipelines and notify the affected residents in a timely manner.

The Board is satisfied that Corridor's proposed leak detection system and ROW inspection program would meet the requirements of the CSA codes and the Pipeline Regulation. The Board acknowledges that the existing TMPL leak detection system has a long history of effective operation. It believes that the Corridor system, when integrated with the TMPL system, would provide the same level of leak detection capabilities and communication infrastructure.

The Board is satisfied that the substance to be transported in the proposed pipelines has only trace amounts of H₂S and is relatively noncorrosive. The Board notes that the existing TMPL system has been transporting similar materials for years without any major internal corrosion

problems. The Board is satisfied that Corridor's proposed monitoring and inspection program will help maintain the integrity of the proposed pipelines. Furthermore, the Board notes that any change in substance that Corridor may propose in the future would be subject to the application process and reviewed by the Board to ensure that all requirements are met prior to approval.

The Board acknowledges the concerns expressed by some interveners with respect to fire, explosion, and third-party damage to the pipelines by their farming operations. The Board notes that crude oil is much less hazardous than, for example, high-vapour-pressure product or sour gas. Notwithstanding, the Board expects industry to continue to observe safe and efficient practices in the design, construction, and operation of pipelines and to strive for zero failures. From EUB *Report 98-G*, the Board notes that third-party damage is a significant cause of failure. Therefore, the Board expects Corridor to meet its commitment to hold discussions with the landowners regarding appropriate pipeline burial depths on their land to reduce the risk of potential damage to the pipelines.

The Board considers EUB *Report 98-G* to be a useful document to illustrate the trend of pipeline failure rates according to substances, pipe sizes, and failure causes. Further, the Board notes that the failure rates for large-diameter pipelines, such as the applied-for lines, are low, as they normally transport cleaner, noncorrosive materials.

The Board recognizes the concern expressed by the interveners with respect to SCC. On the basis of the findings of the National Energy Board (NEB) inquiry and the information contained in the *Board's Informational Letter (IL) 98-6: Stress Corrosion Cracking on Pipelines*, the Board is of the view that SCC is likely caused by a combination of factors, including poor external pipe coating. The Board notes that fusion bond epoxy coating proposed by Corridor is generally acceptable to industry and believes that it is less susceptible to SCC because of its dielectric properties. The Board finds no other evidence presented at the hearing that would suggest that the proposed pipelines would be more likely to be susceptible to SCC than other pipelines in the province.

Therefore, the Board does not consider SCC to be a significant issue for the Corridor applications. The Board concurs with Corridor that SCC is an ongoing industry concern and that pipeline companies should be adequately concerned about it and should actively plan a remedy. In that regard, the Board expects Corridor to continue to share information with industry regarding SCC and to establish appropriate mitigation and monitoring measures for SCC, as required by *IL 98-6*.

The Board notes the concerns raised by Dr. Omar on behalf of the landowners and believes that the applicant has adequately addressed these. The Board is satisfied that Corridor's practice is consistent with industry standards and in compliance with regulatory and CSA requirements. The Board also believes that the materials to be transported would not contribute to internal corrosion; therefore it is not convinced that internal coating is necessary. Notwithstanding, the Board expects Corridor to regularly monitor its pipelines and to identify and correct any significant operational problems that may arise in the future.

On the basis of the evidence presented at the hearing and having regard for the safety record and operating history of the TMPL system, the Board believes that the design, construction, operation, and maintenance practices employed by Corridor would meet the requirements of the CSA codes and the Pipeline Regulation. The Board is satisfied that the construction and operation of the proposed pipelines would not create any significant risk to public safety.

7 NOISE

7.1 Views of the Applicant

Corridor said that all of its facilities would comply with the requirements of *Interim Directive (ID) 94-4: Noise Control Directive*. Corridor completed a noise survey in the vicinity of the proposed pump station location near the Upgrader to determine possible effects upon adjacent landowners. The results of this survey indicated that, with one exception, noise levels from the facility were within the permissible sound level (PSL) of 47 decibels (dBA) established through prior EUB applications.⁵ By enclosing pump stations inside industrial buildings, Corridor believed that noise effects could be sufficiently mitigated without installing sound attenuation materials.

At the hearing Corridor submitted a noise assessment report as a draft report with preliminary findings. Upon final review of its noise assessment report, Corridor agreed to update its EUB application with the noise assessment report and forward the assessment to all registered parties.

7.2 Views of the Interveners

Demeule et al. requested that the Board impose several restrictions upon approval of Corridor's delivery lines in order to reduce potential noise impacts, including

- a limitation on construction hours in the vicinity of the Upgrader,
- a requirement for noise suppression devices on motorized construction equipment,
- a noise monitoring program to verify that the closest or most impacted residents would not experience noise above 40 dBA,
- a 24-hour complaint line, and
- no project traffic on Township Road 554 between Range Roads 220 and 215.

Demeule et al. believed that Corridor's noise assessment was only for a single facility and did not accurately represent the existing or cumulative noise levels in the Scotford area. They stated that there was incomplete information within Corridor's noise assessment and that the PSL of 40 dBA would be exceeded at several residences as a result of Corridor's activities, including noise increases of 3.8 dBA and 3.4 dBA, or a twofold increase of sound levels, for two residences.

⁵ Following construction of the Shell Upgrader facility, residents would no longer occupy the property that experienced a noise level exceedance.

7.3 Views of the Board

The Board acknowledges Corridor's commitment to comply with the *ID 94-4* and accepts the findings of its noise assessment. Due to the proximity of residences to Corridor's pipeline terminus at Scotford and the identified noise concerns of local residents, the Board expects Corridor to establish a noise complaint telephone system for use in the community. Upon receipt of valid noise complaints relating to the construction or operation of the facility, the Board expects Corridor to respond with appropriate mitigative measures.

While the Board has no jurisdiction to regulate provincial highways and secondary roads, it expects Corridor to minimize traffic impacts and to deal with this matter with the appropriate authorities.

8 ADEQUACY OF NOTIFICATION AND PUBLIC CONSULTATION

8.1 Views of the Applicant

Corridor outlined the measures it had taken to ensure that landowners and other impacted parties would be well informed of its intentions to construct and operate the Corridor pipeline project. It said that its approach to public consultation had been thorough, responsible, and well intentioned. Landowners with lands directly traversed or within 200 m of the proposed pipeline ROWs received information mailouts from Corridor, and Corridor made efforts to personally visit each landowner.

8.2 Views of the Interveners

The Second Clients were dissatisfied with Corridor's public consultation process. They cited inadequate personal consultation and an improper process for securing signatures on consent documents.

Demeule et al. stated that even though some of the group had attended the Corridor open house, they were not fully aware of the entire scope of the project and specifically of the proposal to construct pump stations at Fort Saskatchewan. They also questioned the methods used by Corridor to inform landowners impacted by the project, noting that only four members of the group they represent received information. They also stated that there was no follow-up to the concerns they registered during the open house.

The Taylors said that Corridor had not given them sufficient opportunity to discuss their concerns prior to submitting its application to the Board. During the proceeding, Corridor provided the Taylors with copies of its application and met with them to discuss their concerns. Corridor committed to continue discussions with the Taylors after the hearing.

The Trenholms expressed concern that other impacted farmers did not appear at the proceedings, possibly because they felt intimidated by the hearing formality and overwhelmed by the amount

of written material. They stated that they did not receive sufficient information about the pipeline project regarding soils and reclamation without having to request it. They noted that the application did not identify possible conflicts with agricultural activities and asserted that Corridor should have contacted them personally to discuss the proposed pipelines prior to submitting the application.

Mobil argued that Corridor had not met the requirements of the EUB's *Energy Development Application Guide and Schedules (Guide 56)*. It did not provide adequate notification of its project, nor did it participate in meaningful consultation regarding its project and the effects it would have in respect to Lease 37 prior to submitting its application.

8.3 Views of the Board

The Board expects that applicants, especially those intending to construct facilities in areas of intensive industrial development, will have a clear understanding of the public notification and consultation process. The process must be in progress well in advance of the submission of an application to the Board, let alone in advance of the subsequent hearing proceedings. It must be a professional and thorough action that enables all parties that are or may be directly affected to obtain a clear understanding of the proposed project. Affected parties must be given sufficient information and the opportunity to participate meaningfully in the project that affects them, commencing with the design and continuing throughout operation.

The applicant is responsible to provide affected parties with information that is complete, easily understood, consistent, factual, timely and, where applicable, explained in terms of the project's role as a component of a larger energy development plan. Concerns must not be simply noted and recorded by the applicant, but heard, properly addressed, and resolved through negotiated agreement.

To this end, the Board has outlined its expectations in *Guide 56*. Furthermore, in collaboration with AENV, the Board has produced *Information Letter (IL) 89-4: Public Involvement in the Development of Energy Resources*, which seeks to improve the public consultation process through increased understanding of regulators' expectations and the regulatory process.

The Board believes that Corridor met the minimum public notification and consultation requirements of *Guide 56*. However, the project awareness may not have been communicated thoroughly and effectively to all affected parties, starting with the design phase of the project.

The Board cannot be responsible to ensure that all agreements between private parties are honoured. However, the Board expects that an applicant will meet all public commitments made, not only during the course of a hearing, but throughout the negotiated agreement process. Failure to meet such agreements may result in a range of actions by the Board, up to and including a review of the approval itself. The Board is not prepared to condition the approval with evidence of completed agreements between Corridor and the area landowners, but entrusts the satisfactory conclusion of fair, negotiated agreements to the professionalism of Corridor.

9 DECISION

Having carefully considered the evidence, the Board approves the Corridor applications subject to the following conditions.

Relative to the delivery lines, Corridor is requested to conduct additional public consultation regarding reduction of its ROW width and report results of the ROW reduction to the Board.

Relative to the main lines, Corridor is requested to consult with Mobil to re-examine routing alternatives in the vicinity of Lease 37 and advise the Board of its findings.

Dated at Calgary, Alberta, on 28 September 1999.

ALBERTA ENERGY AND UTILITIES BOARD

F. J. Mink, P.Eng.*
Presiding Board Member

[Original signed by]

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

[Original signed by]

H. O. Lillo, P.Eng.
Acting Board Member

* Effective 3 September 1999, F. J. Mink ceased to participate in this Decision.

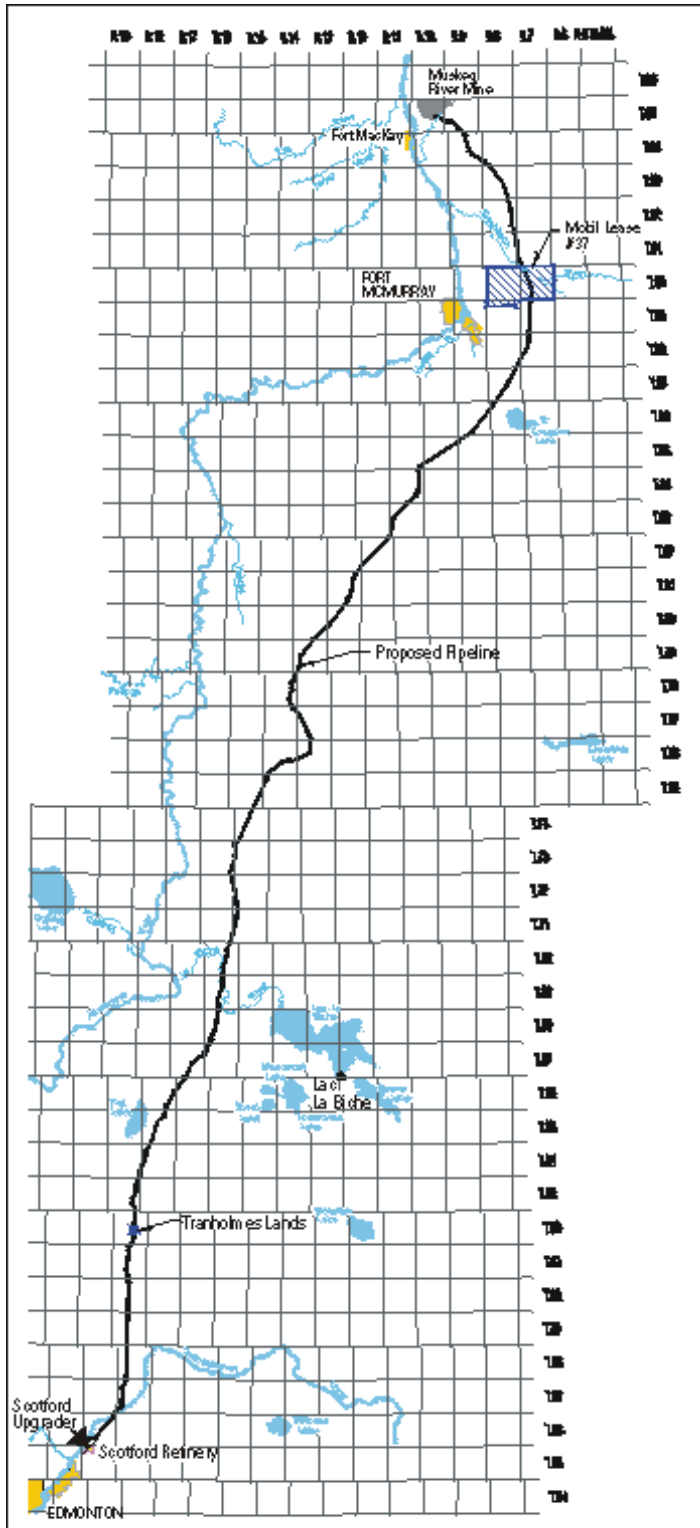


Figure 1 Main Lines
Application number 1029060
Corridor Pipeline Limited

Decision 99-23

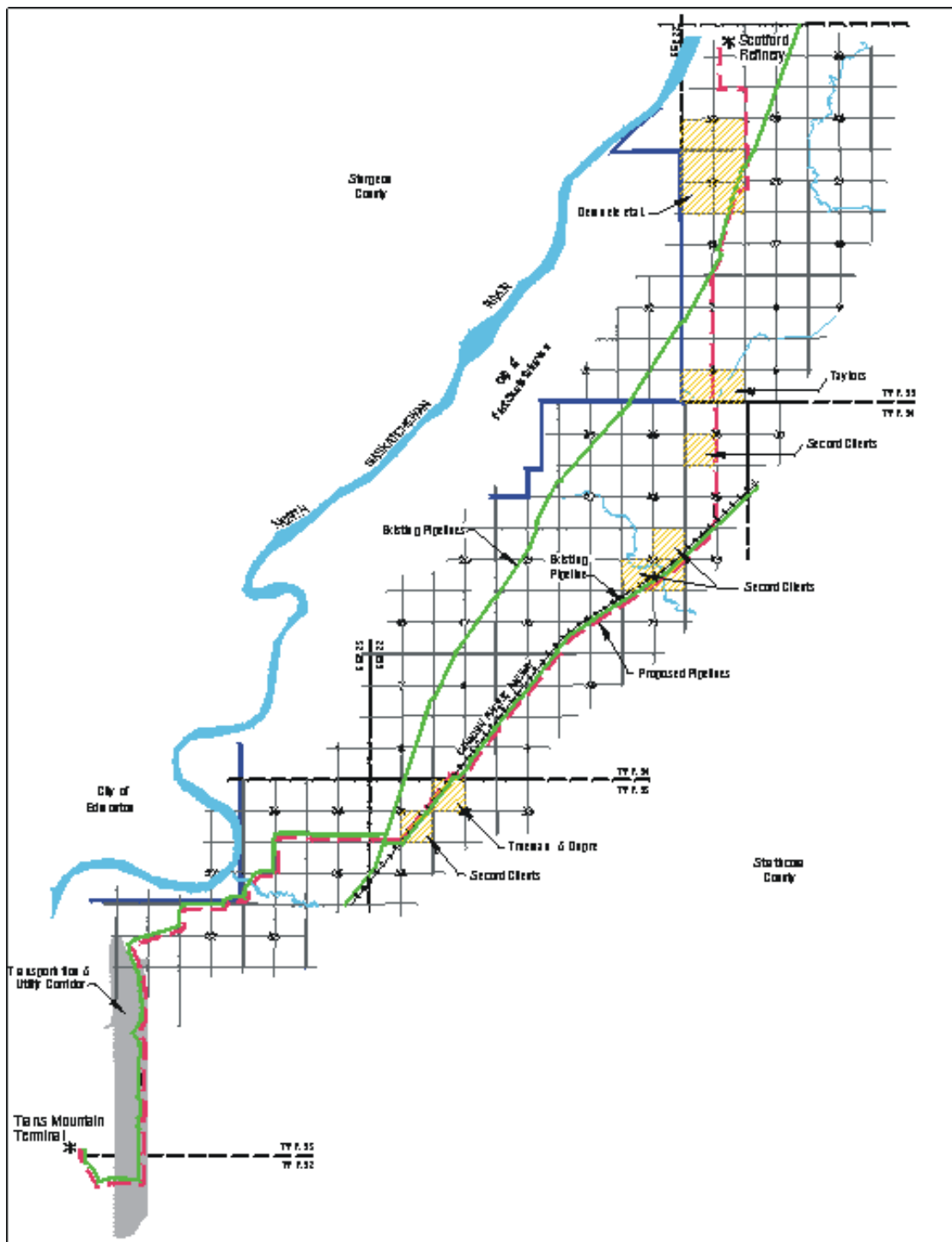


Figure 2 Delivery Lines
Application No. 10222-10
Corridor Pipelines Limited.