

# **ALBERTA ENERGY AND UTILITIES BOARD**

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**Calgary Alberta**

**GULF CANADA RESOURCES LIMITED  
APPLICATION TO CONSTRUCT AND OPERATE  
A SOUR GAS PROCESSING PLANT  
SOUR NATURAL GAS AND  
FUEL GAS PIPELINES  
STEEN RIVER AREA**

**NOVA GAS TRANSMISSION LTD.  
APPLICATION TO CONSTRUCT AND OPERATE  
A SWEET NATURAL GAS PIPELINE  
AND METER STATION  
STEEN RIVER AREA**

**Addendum to Decision 99-1  
Applications No. 1007769, 1030551, 1030552, and 1033762**

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## **1 DECISION**

The Alberta Energy and Utilities Board (EUB or the Board) in Decision 99-1 confirmed that Gulf Steen River Gas Plant Approval 1997-1084, issued to Gulf Canada Resources Ltd. (Gulf) on 9 May 1997, remained in good standing. Further, the Board issued the required pipeline approvals to Gulf and NOVA Gas Transmission Ltd. (NGTL). The reasons for Decision 99-1 are set out below:

## **2 APPLICATIONS**

On 7 May 1997, Gulf submitted Application No. 1007769 to the EUB, in accordance with section 26, subsection (1)(b) of the *Oil and Gas Conservation Act*, for an approval to construct and operate a new sour gas processing facility in the Dizzy field. The facility would be located in Legal Subdivision 9, Section 17, Township 122, Range 20, West of the 5th Meridian (Steen River Gas Plant) and would serve the Dizzy and Marlowe fields. The facility would be designed to process 1272 thousand cubic metres per day ( $10^3\text{m}^3/\text{day}$ ) of sour gas with a hydrogen sulphide ( $\text{H}_2\text{S}$ ) content of 20 moles per kilomole (mol/kmol). The recovery from the proposed facility would be 1225  $10^3\text{m}^3/\text{day}$  of sales gas and 41.4 cubic metres per day of  $\text{C}_5^+$ . The facility would also recover approximately 34.4 tonnes per day of sulphur equivalent that would be disposed of through subsurface injection. The EUB was satisfied that the application was complete and granted Approval No. 1997-1084 to Gulf on 9 May 1997.

On 5 October 1998, Gulf submitted Applications No. 1030551 and 1030552, pursuant to Part 4 of the *Pipeline Act*, for an approval to construct and operate approximately 18 kilometres (km) of 168.3 and 219.1-millimetre (mm) outside diameter (OD) pipeline to gather sour natural gas from its wells located in LSD 12-27-122-21 W5M, LSD 6-14-122-21 W5M, LSD 2-13-122-21 W5M, LSD 3-8-122-20 W5M, LSD 7-6-122-20 W5M, and LSD 16-30-121-20 W5M for

processing at its proposed Steen River Gas Plant. The sour natural gas gathering lines would transport sour natural gas with an H<sub>2</sub>S content of 20 mol/kmol and are designated as Level 2 pipelines. Gulf further proposes to build a 60.3-mm OD fuel gas pipeline in the same right-of-way as the sour natural gas gathering lines.

On 4 December 1998, NGTL submitted Application No. 1033762, pursuant to Part 4 of the *Pipeline Act*, for an approval to construct and operate approximately 53 km of a 273.1-mm OD pipeline to transport sweet natural gas from a proposed meter station to be located at LSD 9-17-122-20 W5M to its existing meter station at LSD 6-32-122-02 W6M.

### 3 INTERVENTIONS

On 2 and 5 October 1998, Paramount Resources Ltd. (Paramount) and Bearspaw Petroleum Ltd. (Bearspaw), respectfully, filed applications pursuant to Section 42 and 43 of the *Energy Resources Conservation Act* (ERC Act), for a review and stay of EUB Approval 1997-1084 for the Gulf Steen River Gas Plant.

Paramount indicated that it had not been notified or consulted by Gulf prior to the approval being issued. Paramount stated that it had only learned of the Gulf approval on or about 1 June 1998, despite having been in negotiations with Gulf since 28 August 1997 for the use of Paramount's Bistcho Lake Gas Plant for processing of the Steen River gas.

Paramount indicated that it had not intervened with the EUB when it learned of the Gulf approval because it believed that its negotiations with Gulf were continuing in good faith.

Paramount stated that it had outlined several options to Gulf for utilizing the Paramount Bistcho Lake Plant and had provided a detailed economic assessment to Gulf describing how the use of the Bistcho Lake Plant was Gulf's best processing option from both an economic and risk perspective. Paramount stated that on 10 September 1998, it was informed that Gulf had placed an order for the processing equipment needed for the proposed gas plant. Paramount stated that its last proposal to Gulf for gas processing was made on 21 September 1998.

Paramount argued that its rights had been adversely affected by the decision of the Board to approve the Gulf gas plant and therefore it had a right to notice of the decision. Since it had not received such notice, Paramount requested that the Board review its decision at a public hearing. Paramount raised issues with the Board regarding plant proliferation, conservation of oil and gas resources and environmental damage to the area.

Paramount stated that it believed it could demonstrate that:

- Paramount's existing Bistcho Lake Gas Plant alternative provided Gulf with a better processing option;
- there was insufficient gas supply to support both its own plant and Gulf's proposed facility;

- such gas processing over-capacity could result in significant reserves left undeveloped in the region because of the higher processing costs caused by the existence of two underused plants; and
- there was no justification for the increased environmental disturbance which would result from the construction of an additional sour gas plant and associated 53 km of new pipeline.

Bearspaw stated that it was also impacted by the previous decision of the Board in that it had also applied to build a pipeline, in this case to transport sour gas, to the Paramount Bistcho Lake Gas Plant. Bearspaw took the position that Alberta Environment Protection (AEP) would not allow multiple pipeline corridors to be developed in the region and therefore it could be directly affected by the proposed NGTL pipeline. However, Bearspaw did acknowledge that joint use of its proposed right-of-way would ensure minimization of environmental impact to the region.

Accordingly, pursuant to sections 29 and 42 of the ERC Act, the Board directed that a public hearing be held to consider the applications.

#### **4 THE HEARING**

Notice of Hearing was sent out to the parties on 11 December 1998. The Notice advised that submissions from all parties were to be submitted by 22 December 1998, with the Hearing scheduled for 30 December 1998.

On 14 December 1998, Paramount requested that the hearing be adjourned. This request was granted and the hearing date postponed to 6 January 1999. In order to expedite the hearing process, Gulf also offered to file its material by 28 December 1998. Paramount and Bearspaw were required to file their submission by 31 December 1998.

The applications were considered at a public hearing in Calgary, Alberta on 6 January 1999, before Board Members A. J. Berg, P.Eng., B. F. Bietz, P.Biol., and Acting Board Member T. M. Hurst . Participants in the hearing are set out in the following table.

## **THOSE WHO APPEARED AT THE HEARING**

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

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NOVA Gas Transmission Ltd. (NGTL)  
H. D. Williamson, Q.C.  
J. Nichols

Gulf Canada Resources Limited (Gulf)  
B. O’Ferrall  
S.H.T. Denstedt

Bearspaw Petroleum Ltd. (Bearspaw)  
H. R. Hansford

Paramount Resources Ltd. (Paramount)  
A. L. McLarty  
B. J. Roth

Alberta Energy and Utilities Board staff  
D. Larder, Board Counsel  
P. V. Derbyshire  
M. P. Vandenberg, C.E.T.

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### Witnesses

A. Mascarenhas, P.Eng.  
J. Sutherland, P.Eng.  
D. Hladiuk, P.Geol.  
L. Schoenthaler, P.Eng.  
G. Demke  
R. Papirnack  
R. Gereluk, P.Eng.  
M. Zelensky, P.Eng.  
M. Wright

## **5 PRELIMINARY MATTERS**

At the opening of the hearing, Bearspaw indicated that it had withdrawn its objections to the Gulf and NGTL applications and would not be participating in the hearing.

Two additional preliminary matters were tabled at the commencement of the hearing:

- a request by Gulf to dismiss Paramount’s “application”, that being the matter before the Board for hearing, and
- a motion by Paramount for an adjournment of the hearing.

## 5.1 Application to Dismiss

Gulf made a preliminary application to have Paramount's "application" dismissed on the basis that it had not provided any evidence in its written submission of 31 December 1998 to sustain the three arguments that Paramount had advanced in its successful application under section 42 of the ERC Act for a review of the Gulf gas plant approval. Gulf argued that Paramount was the applicant at the hearing and bore the onus of providing sufficient evidence to support the arguments against maintaining the original Gulf approval.

The Board rejected Gulf's submission. Although Paramount had been the applicant under its section 42 and 43 ERC Act applications, the Board stated that once it had determined that it would review the gas plant approval, Gulf became the applicant at this review hearing. Gulf, not Paramount, had the onus of presenting sufficient evidence to the Board to justify the continuing existence of the original approval.

## 5.2 Application for Adjournment

At the outset of the hearing, a motion was made by Paramount for an adjournment of approximately one week to allow it to complete its intervention. Paramount noted that it had only received the Gulf submission on 28 December 1998 and given the short time frame, compounded by the intervening holidays, it had not had sufficient time to adequately review Gulf's submission and to prepare a response. In particular, Paramount argued that much of the material submitted by Gulf in support of its application was new.

In response, Gulf argued that the review requested by Paramount was similar in effect to injunctive relief. Therefore, Gulf argued, there was an onus on Paramount to be prepared to proceed as soon as the Board was able to hear the matter. Since Paramount had filed its application for review in October, Gulf stated that Paramount should have been prepared to participate in the review at any time after that.

Gulf stated that the material that it had filed was not so much in support of its own application but rather was reactive to the information that it expected Paramount to file. Gulf noted that Paramount, in entering into negotiations with Gulf, clearly must have had its own independent assessment of the likely extent of reserves in the region. Therefore, Gulf believed that Paramount should have had little difficulty in assessing Gulf's development plans.

Gulf also noted that it had, on the strength of the Board's original approval, invested 30.5 million dollars in addition to expenses of 17.5 million dollars that had already been incurred.

Furthermore, Gulf noted that much of the construction, particularly of the pipeline that Gulf would require to deliver processed gas to the NGTL system, could only be carried out during a very narrow window during the winter months. Winter construction was necessary due to the requirements of AEP for caribou protection and the need to complete construction while the muskeg remained frozen.

Gulf noted that if the pipeline needed to transport processed gas could not be completed prior to spring break-up 1999, it would be unable to produce any Steen River gas for an additional year. This delay would result in lost revenue of some 29 million dollars. Gulf argued that even a one week delay would seriously jeopardize its chances of completing the needed construction, particularly of the pipeline, in 1999. This position was supported by NGTL who would be responsible for building and operating the pipeline.

The Board determined that it was not prepared to accept Paramount's request for a second adjournment.

While the Board recognizes that the time period between the issuance of the Notice of Hearing and the hearing commencement date was not as generous as it might be in other circumstances, the Board was forced to balance fairness to all of the parties involved.

The Board accepts that Gulf, on the strength of its approval, has made a significant economic investment and further, that any delay in the determination of the status of its gas plant approval could have a significant impact on Gulf's ability to receive a return on that investment.

The Board notes that while in its view Gulf had failed to provide adequate notice to Paramount of its application, there was no suggestion by any of the parties to the hearing that Gulf's application was in any other way deficient. Rather, the basis of Paramount's submission was that expansion of its existing plant would result in a net economic and environmental advantage and therefore had greater public value (i.e. was in the public interest).

The Board believes that in requesting the review, Paramount had a responsibility to be prepared to make its position clear, on the basis of a filed submission and supporting evidence, to the Board.

The Board believes that Paramount must have had a reasonable understanding of Gulf's application in order to be able to fairly suggest that its own proposal was superior. At the very least, it possessed an intimate knowledge of its own plant's operational realities and an experienced evaluation of the alternative as evidenced by the detailed proposals made to Gulf. Therefore, the Board believes that it had provided sufficient time for Paramount to prepare its submission.

## **6 ISSUES**

The Board believes that the issues to be addressed are:

1. the need for the plant, the gathering system, and the associated sweet gas fuel lines;
2. the need for the NGTL natural gas sales line and meter station; and
3. safety and environmental considerations.

## **6.1 Need for the Plant, the Gathering System, and the Associated Sweet Gas Fuel Lines**

### **6.1.1 Views of Gulf**

Gulf stated that the Steen River structure is located approximately 110 km northwest of High Level. Gulf interpreted this structure to be a buried impact asteroid crater that was created some 95 million years ago. The successful wells drilled to date are on the rim of this 25 km diameter structure.

Although Gulf's gas reserves and deliverability studies focussed on the Slave Point formation, Gulf stated that hydrocarbon potential also exists in the Sulphur Point member and Keg River formation.

Gulf stated that production tests conducted on the 13 wells drilled to date support some 2.1 billion cubic metres of proved gas reserves in the northeast portion of the structure. Gulf estimated the potential for the remaining two thirds of the structure to be an additional 3.8 billion cubic metres of gas.

Gulf also referred to public reports that estimate considerably more undiscovered gas potential in northern Alberta and the southern Northwest Territories. Since the gas plant was approved in May 1997, Gulf stated that it had increased its holdings to 156 sections of what it believed were highly geologically prospective lands on the structure.

Based on the deliverability of wells tested to date, Gulf indicated that it would initially have to tie-in only 6 of the 13 wells to meet its needs. Additional wells will be tied-in, as their deliverability is required. Gulf stated that it has no immediate plans to drill additional wells in the northeast portion of the crater but it does plan to drill wells in other parts of the crater and outside the crater area. Gulf noted that the gathering system and the sweet gas fuel lines were also integral components of its development scheme for the Steen River area.

Gulf stated that it had reviewed Paramount's proposed alternative for processing the Steen River gas reserves and had determined that the proposed alternative was not, from Gulf's perspective, economically viable. Gulf submitted that developing its own processing capability for the Steen River gas reserves would result in orderly, economic, and efficient development and was in the public interest.

### **6.1.2 View of Paramount**

After the Gulf panel presented its evidence, Paramount advised that it would not be cross-examining Gulf nor providing direct evidence through its own panel.

### **6.1.3 Views of the Board**

The Board is satisfied that Gulf has demonstrated that the Steen River area has both the gas reserves and deliverability to sustain the proposed plant.

From a resource conservation perspective, the Board accepts that the applied-for plant is required to ensure orderly and efficient development of reserves in the Steen River area. The Board notes that Gulf has received support for its processing option from two other resource companies that explore in the region.

In the absence of safety or environmental concerns, the Board does not consider this to be a proliferation issue and considers that normal business decisions in a competitive marketplace should dictate the need for the plant. The Board is also prepared to accept that the sour gas gathering system and the associated sweet gas fuel lines are integral components of the proposed sour gas processing plant.

## **6.2 Need for the NGTL Natural Gas Sales Line and Meter Station**

### **6.2.1 Views of Gulf and NGTL**

Gulf stated that the applied for NGTL facilities are required to transport a maximum daily receipt volume of  $560 \times 10^3 \text{m}^3/\text{d}$  of processed sweet natural gas for Gulf under firm service agreements.

The NGTL pipeline will be designed to accommodate Gulf's request for firm service, as well as the forecasted maximum field deliverability of  $1219 \times 10^3 \text{m}^3/\text{d}$ , over the forecast period. NGTL stated that the facilities would meet all current Canadian Standards Association requirements for sweet natural gas service.

### **6.2.2 Views of the Board**

The Board is satisfied that the NGTL pipeline and meter station meet sweet natural gas service requirements and that the facilities are needed.

## **6.3 Safety and Environmental Considerations**

### **6.3.1 Views of Gulf and NGTL**

Gulf identified four environmental issues associated with its proposed development. These are:

- protection of woodland caribou;
- protection of discontinuous perma frost;
- minimizing new surface disturbance; and
- air emissions.

Gulf concluded that the project can be developed within an acceptable level of impact. Gulf believed that caribou, perma frost issues, and surface disturbance can be addressed by following existing guidelines and using technologies already in place. With regards to air emissions, Gulf



stated that it intends to employ an acid gas injection scheme therefore, eliminating emissions. Gulf has also prepared an emergency response plan for its Steen River Project area.

With respect to the 53 km NGTL pipeline, Gulf confirmed that a sweet pipeline operated by NGTL was far superior to Gulf operating a sour gas pipeline to the Bistcho Lake Gas Plant.

NGTL as part of its application, submitted a detailed Conservation and Reclamation report which outlines and recognizes the specific environmental mitigation measures required for a pipeline in perma frost and caribou areas. Further, the report addresses specific measures that reduce the potential to cause adverse environmental impact, such as mitigating impacts on wildlife (specific plan for caribou), fisheries, wet lands, and construction in adverse weather.

### **6.3.2 Views of the Board**

The Board is satisfied that both the Gulf plant and gathering system and the NGTL facilities, if constructed as proposed, will not have unacceptable environmental impacts.

## **7 DECISION**

Refer to Section 1 of this report.

Dated at Calgary, Alberta, on 19 January 1999

### **ALBERTA ENERGY AND UTILITIES BOARD**

A. J. Berg, P.Eng.

B. F. Bietz, P.Biol.

T. M. Hurst

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**Decision 99-1**

**Applications No. 1007769, 1030551, 1030552, and 1033762**

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### **1 APPLICATIONS AND HEARING**

#### **Application No. 1007769**

Gulf Canada Resources Limited (Gulf), submitted an application to the Alberta Energy and Utilities Board (EUB or the Board) in accordance with section 26, subsection (1)(b) of the *Oil and Gas Conservation Act* on 7 May 1997 for an approval to construct and operate a new sour gas processing facility in the Dizzy field. The facility would be located in Legal Subdivision 9, Section 17, Township 122, Range 20, West of the 5th Meridian (Steen River Gas Plant) and would serve the Dizzy and Marlowe fields. The facility would be designed to process 1272 thousand cubic metres per day of sour gas with a hydrogen sulphide (H<sub>2</sub>S) content of 20 moles per kilomole (mol/kmol) from which 1225 thousand cubic metres per day of sales gas and 41.4 cubic metres per day of C<sub>5</sub>+ would be recovered. The facility would be designed to dispose of approximately 34.4 tonnes per day of sulphur equivalent through subsurface injection. The EUB was satisfied that the application was complete and granted Approval No. 1997-1084 to Gulf on 9 May 1997.

#### **Applications No. 1030551 and 1030552**

Gulf applied, pursuant to Part 4 of the *Pipeline Act*, on 5 October 1998 for an approval to construct and operate approximately 18 kilometres of 168.3 and 219.1-millimetre (mm) outside diameter (OD) pipeline to gather sour natural gas from its wells located in Lsd 12-27-122-21 W5M, Lsd 6-14-122-21 W5M, Lsd 2-13-122-21 W5M, Lsd 3-8-122-20 W5M, Lsd 7-6-122-20 W5M, and Lsd 16-30-121-20 W5M for processing at its proposed Steen River Gas Plant. The sour natural gas gathering lines will transport sour natural gas with an H<sub>2</sub>S content of 20 mol/kmol and are designated as Level 2 pipelines. Gulf further proposes to build a 60.3-mm OD fuel gas pipeline in the same right-of-way as the sour natural gas gathering lines.

**Application No. 1033762**

On 4 December 1998, NOVA Gas Transmission Ltd. (NGTL) applied pursuant to Part 4 of the *Pipeline Act* for an approval to construct and operate approximately 53 kilometres of a 273.1 mm OD pipeline to transport natural gas from a proposed meter station to be located at Lsd 9-17-122-20 W5M to its existing meter station at Lsd 6-32-122-02 W6M.

The public hearing of the applications was held in Calgary, Alberta on 6 January 1999, before Board Members A. J. Berg, P.Eng., B. F. Bietz, Ph.D., P.Biol., and acting Board Member T. M. Hurst .

**2 DECISION**

Having carefully considered all the evidence, the Board confirms that Gulf Steen River Gas Plant Approval 1997-1084 remains in good standing and is prepared to approve Gulf's Applications No. 1030551 and 1030552.

Further the Board is prepared to approve NGTL's Application No. 1033762 and will issue the required approvals to Gulf and NGTL. Having regard for the construction windows imposed by environmental constraints to mitigate adverse effects on caribou and construction through a perma frost area, the Board is issuing this brief report and will issue a detailed report giving the reasons for its decision in due course.

Dated at Calgary, Alberta, on 8 January 1999.

**ALBERTA ENERGY AND UTILITIES BOARD**

*<Original signed by>*

A. J. Berg, P.Eng.

*<Original signed by>*

B. F. Bietz, Ph.D., P.Biol.

*<Original signed by>*

T. M. Hurst