

ALBERTA ENERGY AND UTILITIES BOARD

Calgary Alberta

TALISMAN ENERGY INC. APPLICATIONS TO CONSTRUCT AND OPERATE A SOUR GAS BATTERY AND PIPELINE AND TO AMEND AN EXISTING PIPELINE LICENCE GRANDE PRAIRIE FIELD (CLAIRMONT AREA)

**Decision 2002-11
Applications No. 1089114
and 1088900**

1 INTRODUCTION

1.1 Applications and Intervention

In accordance with Section 7.001 of the Oil and Gas Conservation Regulations, Talisman Energy Inc. (Talisman) submitted to the Alberta Energy and Utilities Board (EUB/Board) Application No. 1089114 for approval to construct and operate a sour gas battery at Legal Subdivision (LSD) 4, Section 31, Township 72, Range 5, West of the 6th Meridian. The proposed battery would provide separation and measurement for Talisman's existing gas well located at

LSD 4-31-72-5W6M (4-31 well), which has a bottomhole location in LSD 14-30-72-5W6M.

In accordance with Part 4 of the Pipeline Act, Talisman submitted Application No. 1088900 to construct and operate a pipeline from the proposed battery at LSD 4-31-72-5W6M to a pipeline tie-in point located at LSD 9-36-72-6W6M. The proposed new pipeline would be approximately 0.92 kilometres (km) in length, with a maximum outside diameter of 88.9 millimetres (mm), and would transport natural gas with a maximum hydrogen sulphide (H₂S) concentration of 9.0 moles per kilomole (mol/kmol) (0.9 per cent).

The pipeline application also includes an amendment and an error correction to Talisman's pipeline Licence No. 34522. The licence amendment, submitted in accordance with Section 70 of the Pipeline Regulation, proposes a substance change to an existing 0.69 km pipeline segment located from LSD 9-36-72-6W6M to LSD 6-36-72-6W6M. This amendment would change the licensed pipeline substance from oil effluent with a maximum H₂S concentration of 48.00 mol/kmol (4.8 per cent) to natural gas with a maximum H₂S concentration of 9.0 mol/kmol (0.9 per cent). The pipeline application also proposes to amend Licence No. 34522 to reflect that a portion of pipeline from LSD 8-36-72-6W6M to LSD 9-36-72-6W6M was not constructed.

Following the filing of Applications No. 1089114 and 1088900, the EUB received one objection to the proposed project. That objection was received on April 23, 2001, from Darryl Carter, who was representing himself and two other area landowners, Colin Carter and Rodney Rockarts. Darryl Carter owns and resides on the northwest quarter of Section 31-72-5W6M; Colin Carter owns the southwest quarter of Section 31-72-5W6M but does not reside there; and Rodney Rockarts's residence is located on the northeast quarter of Section 32-72-5W6M.

The proposed gas battery and a majority of the proposed pipeline route would be located on Colin Carter's land. Therefore, pursuant to Section 29 of the Energy Resources Conservation Act, the EUB directed that a public hearing be held to consider the subject applications.

The EUB received one submission from Darryl Carter on September 29, 2001, confirming the objection he filed on April 23, 2001. The concerns he set forth in the April 23, 2001, letter of objection related to the broad issue of public safety in proximity to sour gas development, Talisman's emergency response preparedness, and environmental impacts associated with pipeline construction.

The location of the proposed battery and the pipeline route, as well as selected residences and other Talisman facilities in the area, are shown on the attached figure.

1.2 Background

The interveners' submissions indicated that the basis of their objection lay in concerns arising from an accidental release of sour oil and gas at a Talisman well in November 2000. The well, located at LSD 14-36-72-6W6M (14-36 well), is an oil well with an H₂S concentration of 14 mol/kmol (1.4 per cent) in the associated solution gas. The release occurred at approximately 7:00 p.m. on November 3, 2000. Several odour complaints led to the detection of the release at the 14-36 well by Talisman personnel; the well was shut in by 9:10 p.m. the same evening.

An EUB field staff review concluded that the incident appeared to be the result of mechanical failure that could not have been foreseen by Talisman and that no contravention of the Oil and Gas Conservation Regulations had occurred.*

Both the interveners and Talisman agreed to discuss the 14-36 well release at the hearing, while acknowledging that the subjects of the hearing were Talisman's applications for a new facility and pipeline at LSD 4-31-72-5W6M. The Board was therefore made aware at the hearing that the applicant was prepared to revisit the incident to the extent that such a review held relevance to the subject applications from a public safety and emergency preparedness standpoint.

1.3 Hearing

The applications and intervention were considered at a public hearing in Grande Prairie, Alberta, on November 14, 2001, before Acting Board Members M. J. Bruni, Q.C., R. D. Heggie, and J. R. Nichol, P.Eng. Following the opening of the hearing and the applicant's direct evidence, the Board, staff, and hearing participants viewed the proposed site of the battery and pipeline route, as well as the surrounding area.

The names of those who appeared at the hearing are provided in the following table.

* Letter from Alberta Energy and Utilities Board to J. Darryl Carter, Q.C. dated March 29, 2001.

THOSE WHO APPEARED AT THE HEARING

Principals and Representatives (Abbreviations Used in Report)

Witnesses

Talisman Energy Inc. (Talisman)
B. K. O’Ferrall, Q.C.

S. Sobie, C.E.T.
C. Luscombe, E.I.T.
F. Smith, P.Eng.
I. P. Dowsett, R.E.T., RWDI West Inc.
J. Hemstock,
Gecko Management Consultants
Corporation

J. D. (Darryl) Carter, C. Carter, and R. Rockarts
(interveners)*

J. D. (Darryl) Carter, Q.C.

J. D. (Darryl) Carter
R. Rockarts

Alberta Energy and Utilities Board staff
J. P. Mousseau, Board Counsel
D. L. Schafer
A. Cosijn
S. Etifier

* C. Carter, owner of SW 31-72-5W6M, did not attend the hearing.

2 ISSUES

The Board considers the issues respecting the applications to be

- need for the facilities,
- environmental matters,
- public safety issues and emergency response preparedness,
- and other matters.

3 NEED FOR THE FACILITIES

3.1 Views of the Applicant

Talisman stated that the proposed battery and pipeline were necessary because they would enable the company to tie in proven gas reserves from its existing 4-31 well. Talisman further contended that the ability to produce reserves was necessary for the efficient exploitation of oil and gas in the province.

Talisman said that the 4-31 well (bottomhole location 14-30) was drilled in August 2000 and was completed in the Boundary Lake zone. The well was tested at a stabilized rate of

approximately one million cubic feet per day of gas; Talisman expects to recover approximately 1.4 billion cubic feet (Bcf) of sales gas over the life of the well.

3.2 Views of the Interveners

The interveners did not contest the need for the proposed facilities, the location of the proposed battery, or the location of the proposed pipeline right-of-way.

3.3 Views of the Board

The Board agrees that there is a need for the proposed facilities and notes that the interveners did not contest the need for or the location of the facilities.

4 ENVIRONMENTAL MATTERS

4.1 Views of the Applicant

Talisman said that it had resolved the interveners' concerns with respect to depth of pipeline burial and had agreed to bury the pipeline to a depth of 1.5 metres (m).

With respect to the interveners' further environmental concern, prevention of topsoil admixing, Talisman stated that it intended to follow its standard protocol, which was to adhere to the requirements of Alberta Environment for environmental protection related to pipeline construction. It suggested that the company would consider engaging the services of an accredited environmental inspector recommended by Mr. Darryl Carter; however, it reserved the right to review the credentials of such a contractor. Talisman further stated that it felt it could demonstrate to the interveners that it would take measures to ensure environmental protection during pipeline construction equivalent to those that would be taken by the recommended consultant.

4.2 Views of the Interveners

The interveners did not contest Talisman's statement that the issue of depth of pipeline burial had been resolved.

The interveners requested, as a condition of approval to Talisman's application for pipeline construction, that it be required to employ the services of an accredited soils inspector. They contended that without such a condition, they had no assurance that construction and reclamation would be carried out in an environmentally responsible manner. They cited the fact that the pipeline did not require a Conservation and Reclamation Approval from Alberta Environment as grounds for employing an inspector to ensure regulatory compliance.

4.3 Views of the Board

The Board finds that Alberta Environment's *Environmental Protection Guidelines for Pipelines* sets adequate standards for environmental protection and provision for inspection during

construction and reclamation. It further notes that under these guidelines, the proposed pipeline does not require a Conservation and Reclamation Approval. It is satisfied that Talisman's standard practice is to comply with the regulatory requirements set out by Alberta Environment. The Board is also aware that an Alberta Environment reclamation inspector will respond to any concern or complaint expressed by a landowner or member of the public regarding pipeline construction and/or reclamation practices. The Board feels that adequate safeguards ensuring environmental protection exist; therefore, it will not condition these approvals as requested by the interveners. However, the Board encourages Talisman to consider engaging the services of the environmental inspector recommended by the interveners.

5 PUBLIC SAFETY ISSUES AND EMERGENCY RESPONSE PREPAREDNESS

5.1 Views of the Applicant

Talisman said that it had considerable experience in managing and operating sour gas facilities such as those proposed for the 4-31 well. It noted that it put a great deal of emphasis on emergency response planning and its loss control program. Talisman said that it ensured that its facilities and wells were inspected on a scheduled basis and that its staff were properly trained. It stated that its operators would visit the proposed facilities daily and that it had preventive maintenance programs in place to ensure that safety devices on its facilities were regularly maintained and calibrated. Talisman also said that its emergency response plans (ERPs) were updated on an annual basis or more frequently, depending on the circumstances, and that it scheduled emergency response drills to evaluate each plan's effectiveness.

With respect to the release at the 14-36 well on November 3, 2000, Talisman testified that it took all reasonable steps, in a timely and proactive manner, to address all concerns arising from the incident. Talisman stated that during the release, it took H₂S readings around the perimeter of the 14-36 well site and at nearby residences. Talisman contended that H₂S concentrations resulting from the release posed no immediate threat to the health and safety of area residents. Nevertheless, in accordance with its ERP, Talisman indicated that roadblocks and evacuation plans were implemented. In addition, Talisman stated that residents immediately adjacent to and east of the well (the wind direction was from the west) were notified of the release and were offered the opportunity to evacuate due to the strong odour in the area. Talisman confirmed that cleanup operations were undertaken immediately to minimize odour from the released oil and that a safety contractor monitored for H₂S along the perimeter of the well site until 4:00 p.m. the following day, detecting none.

Talisman indicated that the release was the result of the rupture of a steel surface choke valve. It stated that the choke valve had been eroded by sand carried with the oil and gas from the wellbore. Talisman noted that the well was equipped with an emergency shutdown valve (ESDV) designed to automatically shut in the well in the event of an uncontrolled release, but conceded that the associated pressure transducer, which should have activated the ESDV, did not detect a pressure drop sufficient to do so.

Talisman indicated that it initiated cleanup, an environmental assessment of the 14-36 well site, and an investigation into the incident. It stated that it shut in four other wells in the area that it

felt could potentially experience the same problem as the 14-36 well. Talisman stated that each well's choke valve was checked for integrity prior to being put back on production and that it also checked the operating parameters of the pressure-sensing devices at the wells to ensure that they were set more closely in line with the actual operating pressure of the pipelines. Talisman testified that it then identified eight other wells with a low potential to have the same problem and checked each of the valves and sensing devices. Talisman stated that it undertook to install a supervisory control and data acquisition (SCADA) remote monitoring system at the 14-36 well and at its other flowing oil wells in the area to ensure that any future releases of H₂S would be detected, that it would be notified immediately, and the wells would be shut in. Talisman confirmed that it had initiated a review of its existing ERP, its emergency telecommunication system, and its policy with respect to well fracturing treatments and sand separation upon startup of all new wells.

With respect to safety and emergency response preparedness for the subject applications, Talisman said that since its 4-31 well had a very low H₂S concentration, 15 parts per million (0.015 mol/kmol), a calculated emergency planning zone (EPZ) was not required for the proposed pipeline. Talisman noted, however, that it would implement a 100 m EPZ for the proposed facilities, notwithstanding that there would be no residents within that zone. It said that it would include these facilities in its newly revised West County and Teepee ERP, which it submitted as evidence at the hearing. It noted that it had incorporated an automated phone notification system into its updated ERP to act as an information service to area residents; however, it said that in the case of an emergency requiring evacuation, Talisman would personally contact area residents. In addition, Talisman indicated that it was currently investigating alternatives for its emergency telecommunication system for the area.

In terms of safety features proposed for the facilities associated with the 4-31 well, Talisman said that it would install an ESDV at the wellhead, which would be activated by high- and low-pressure transducers and/or by H₂S detection. The high- and low-pressure shutdown capabilities would achieve overpressure/underpressure protection on the pipeline from the wellhead in the event of a release. Talisman also noted that H₂S sensors, which would detect concentrations as low as one part per million of H₂S, would be installed at the 4-31 facilities, along with a solar-powered radio system that would transmit an alarm to its Teepee Creek gas plant. It noted that these detection devices would be monitored by a SCADA system that would be tied into the Teepee Creek gas plant, which is manned 24 hours a day. Talisman also asserted that the sand separation problem encountered at the 14-36 oil well would not pose a problem at the 4-31 gas well.

Talisman said that in the event that the plant received an alarm from the proposed facilities, its field staff's response time to the 4-31 well site would be between 15 and 30 minutes. It also noted, however, that should a condition exist at the 4-31 facility that triggered an alarm, the ESDV would activate immediately to shut in the well.

Talisman encouraged the interveners to become involved in its ERP planning process. It suggested that this would provide valuable input from the company's standpoint and might also assist the interveners in understanding how the ERP would provide for their safety.

5.2 Views of the Interveners

The interveners recounted the events surrounding the release that occurred at Talisman's 14-36 well in November 2000 and described how their families were impacted. One specific example offered was that Mr. Rockarts's mother had travelled through what was portrayed as a fog of H₂S gas as she drove her car south on the road immediately east of the well.

The interveners said that the release raised a general concern for them and other members of their community with respect to Talisman's ability to deal adequately with safety issues and to protect the public in an emergency situation. They suggested that the focus of the hearing should not be solely on the applied-for facilities, but rather on a more comprehensive overview of Talisman's development in the area as it relates to public safety. The interveners stated that they did not have faith in the protection measures implemented or proposed by Talisman or in any assurance the Board may offer in this regard.

The interveners expressed dissatisfaction both with the manner in which the 14-36 well release was handled by Talisman and with the findings on the incident conveyed to them by EUB staff.* Given these concerns and their view that Talisman's proposed applications would be routinely approved by the Board, the interveners said they had sought the hearing as a forum in which the incident would be entered in the public record prior to Talisman's new project proceeding.

The interveners said that Talisman's West County and Teepee ERP was a public relations document and pointed to various statements made in the Public Affairs section of the ERP. They stated that they would rather not have an ERP because it could provide the public with the impression that they are protected, simply because the document existed. They recounted a specific problem they had experienced with the existing ERP during the 14-36 well incident: When they called Talisman's emergency telephone number, they could not get through because they were put on hold or the line went dead. They also expressed concern that Talisman had not placed a block on the road to the east of the release and that some individuals approaching from that direction might therefore have inadvertently travelled toward the release.

5.3 Views of the Board

The Board is very clear that the purpose of the hearing was to consider the subject applications, not to hold an inquiry into the release at the 14-36 well in November 2000. However, the Board recognizes that a discussion of the incident could have relevance to the applications, given that the applied-for facilities associated with the 4-31 well were similar in nature and in close proximity to those at the 14-36 well. The Board further observes that the circumstances surrounding the 14-36 well incident permitted an understanding of the effectiveness of safety practices and procedures that Talisman already had and subsequently put in place.

* Letter from Alberta Energy and Utilities Board to J. Darryl Carter, Q.C., dated March 29, 2001.

The Board acknowledges Talisman's approach to reviewing its emergency response procedures and safety equipment in the area as a follow-up to the 14-36 well incident. Under the circumstances, the Board would expect a company to take such measures, with a view to improving existing operations, as well as the design of new facilities.

The Board has evaluated Talisman's updated West County and Teepee ERP and, while it still requires official Board approval, finds it to be a complete document, incorporating the proposed facilities. The Board notes that Talisman has committed to implementing a 100 m EPZ for the proposed battery and pipeline, although there are no residents within this zone. The Board requires Talisman to continue to evaluate alternative options for its emergency telecommunication system, given the concerns raised by the interveners in this regard.

The Board notes that the 4-31 well contains very low H₂S concentrations and is satisfied that the safety measures proposed by Talisman for the facilities will provide an adequate level of protection for area residents and the environment. The Board notes that connecting the 4-31 facilities to the Teepee Creek gas plant's SCADA system is an important feature, which would allow for the prompt detection of any release and the shutting in of the well. The Board also expects that Talisman will be vigilant in its preventive maintenance and loss control programs for its operations. The EUB will review Talisman's performance in this respect through site inspections.

The Board believes that as a result of the accidental release of H₂S at the 14-36 well in November 2000, Talisman has made the appropriate changes to its response structure within the ERP. The Board notes that an ERP has many purposes, including but not limited to setting out procedures, ensuring public safety, and facilitating appropriate communication with the public, media, and government. As such, the Board believes that Talisman's ERP will be effective and appropriate for the circumstances. However, Talisman is required to submit for review and approval a detailed action plan discussing communications protocol, to ensure that it is capable of receiving multiple phone calls at once, should the need arise in an emergency situation.

6 OTHER MATTERS

6.1 Views of the Applicant

With respect to the general concerns raised by the interveners relating to the social impacts and risks associated with oil and gas development, Talisman cited its corporate policy on health, safety, and the environment. It stated that it recognized its duty to respect and protect stakeholders and the environment in the areas where it operated. Talisman admitted that there was some element of risk involved in the oil and gas industry. However, it presented dispersion models to demonstrate that the health risk factors arising from the 14-36 and 4-31 facilities were minimal.

Talisman said that mechanical failure occurred occasionally in every industry and that such accidents could happen without negligence or fault. It argued that the release at the 14-36 well resulted from unforeseen mechanical failure and that it would be improper for the Board to impose penalties or sanctions as a result.

6.2 Views of the Interveners

The interveners made repeated reference to the social impacts resulting from oil and gas activity in their community. Specifically, they described a connection between oil and gas development and public health and safety effects. They emphasized the involuntary nature of their exposure to such events as the accidental release of H₂S at the 14-36 well in November 2000. They alluded to the impacts that such an event caused on their quality of life, insofar as they felt no assurance that they were safe from such perceived threats, even in their own homes. They expressed the point of view that in this respect oil and gas activity constituted an unwelcome intrusion into their lifestyle and their community.

The interveners emphasized that they did not want this type of incident to recur in their community. They expressed the view that the EUB should penalize companies for such incidents and suggested that there should be a process in place for public review of these types of matters. The interveners raised the concern that they had had to request a report on the incident from the EUB, rather than the EUB initiating an inquiry.

6.3 Views of the Board

The Board recognizes that energy development, while providing economic benefits, also carries with it inherent impacts and risks. And though the economic benefits tend to accrue to the province as a whole, the Board is aware that the impacts of development are experienced most immediately by residents in the vicinity of a project. Section 2.1 of the Energy Resources Conservation Act specifically requires the EUB to carefully consider whether or not a project is in the public interest, having regard for its social, safety, economic, and environmental impacts. The EUB is therefore challenged to balance the shared economic benefits of a proposed project with its more localized risks and impacts. In instances where the potential benefits appear to be outweighed by the risks and impacts associated with a project, the Board will deny an application.

The Board notes that it requires companies to notify the local EUB Field Centre of any incident and to follow up with a report outlining how the situation has been remedied, as well as any corrective action that has been implemented at other operations. The Board confirms that its policy is to follow up on every incident reported to it and, should noncompliance be identified, it will initiate the appropriate level of enforcement. At the same time, the Board notes that not every incident warrants enforcement, and it reserves the right to exercise discretion in initiating enforcement action.

Notwithstanding that enforcement action was not taken in response to the 14-36 well incident, the Board recognizes that Talisman independently undertook remedial measures to minimize the risk of future occurrences of a similar nature. The Board also observes that the incident has influenced its decision in relation to this hearing, insofar as it has accorded additional scrutiny to Talisman's updated West County and Teepee ERP.

The Board notes that it is currently conducting a review of its enforcement policy, key components of which are outlined in *Interim Directive (ID) 99-2: Revisions to Enforcement Ladder for Retirement of Overproduction and Revised Policy on Administration of Oil MRLs*

and Overproduction and Informational Letter (IL) 99-4: EUB Enforcement Process, Generic Enforcement Ladder, and Field Surveillance Enforcement Ladder. In addition, the Board is aware that complementary recommendations for enhancing its approach to inspection and enforcement are contained in the *Findings and Recommendations Final Report* of the Provincial Advisory Committee on Public Safety and Sour Gas (December 2000); it notes that implementation of these recommendations is currently substantially under way.

7 DECISION

Having carefully considered the evidence before it, the Board finds that Talisman has demonstrated the need for the proposed facilities, which can be constructed and operated in a safe and environmentally acceptable manner. The Board is satisfied that there are no proven or substantive impacts arising from the proposed facilities that have not or will not be mitigated through a combination of regulatory vigilance and conscientious operation. Therefore, the Board approves Applications No. 1089114 and 1088900, subject to Talisman meeting all regulatory requirements, as well as the commitments it has made with respect to its revised ERP and implementing and monitoring the safety equipment proposed for the subject facilities.

Dated at Calgary, Alberta, on January 22, 2002.

ALBERTA ENERGY AND UTILITIES BOARD

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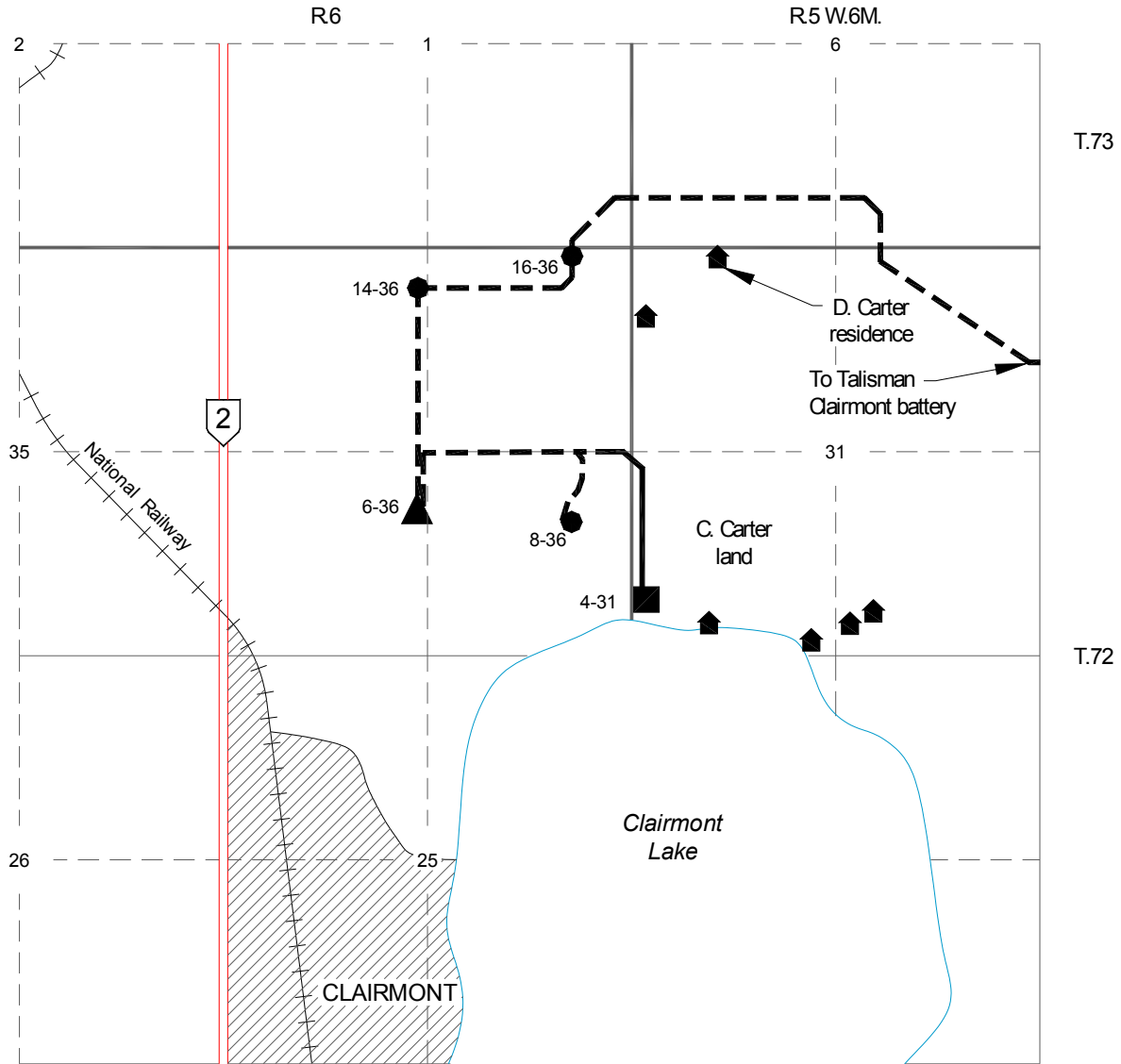
M. J. Bruni, Q.C.
Acting Board Member

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R. D. Heggie
Acting Board Member

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J. R. Nichol, P.Eng.
Acting Board Member



Legend

-  Residence
-  Proposed pipeline
-  Existing pipeline
-  Proposed gas battery
-  Existing satellite battery
-  Existing well

Clairmont Area

Applications No. 1089114, 1088900

Talisman Energy Inc.

Decision Report 2002-11

