

Bonavista Energy Corporation

**A Regulatory Appeal of Two Well
Licences and an Application for a
Pipeline**

Gilby Field

January 23, 2017

Alberta Energy Regulator

Decision 2017 ABAER 001: Bonavista Energy Corporation, A Regulatory Appeal of Two Well Licences and an Application for a Pipeline, Gilby Field

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2017 ABAER 001

Bonavista Energy Corporation

Regulatory Appeal of Two Well Licences Proceeding 1857984

Application for a Pipeline

Application 1833192

Gilby Field

Decision

[1] The Alberta Energy Regulator (AER) confirms its decision to issue Bonavista Energy Corporation's (Bonavista) well licences 476069 and 476070, which are the subject of the regulatory appeal (proceeding 1857984), and denies Bonavista's application 1833192 for a pipeline.

[2] In reaching these decisions, the AER considered all relevant materials constituting the record of this proceeding, including the evidence and argument provided by each party. Accordingly, references in this decision report to specific parts of the record are intended to assist the reader in understanding the AER's reasoning on a particular matter and do not mean that the AER did not consider all relevant portions of the record with respect to that matter.

Background

[3] Bonavista acquired licences for and developed two wells (the original wells) at Legal Subdivision (LSD) 15 of Section 22, Township 41, Range 5, West of the 5th Meridian, in 2013 at LSD 15-22-041-05W5M (the 15-22 site).

[4] On June 8, 2015, Bonavista submitted nonroutine applications for two additional horizontal gas wells to be drilled from the existing 15-22 site to bottomhole locations of 02-34-041-05W5M (2-34 bottomhole location) and 03-34-041-05W5M (3-34 bottomhole location). The applications included well survey plans that met the requirements in section 7.11.1 of *Directive 056: Energy Development Applications and Schedules*, and in section 2.020 of the *Oil and Gas Conservation Regulations (OGCR)*. The well survey provided the dimensions of the existing lease, 200 metres (m) long and 110 m wide. The survey included an extension to the east, measuring 150 m long and 30 m wide. The well applications met all setback and spacing requirements and did not require any technical variances. The public notice of application period for the well applications expired on July 8, 2015, and as the applications met AER requirements and no statements of concern were received, the AER issued well licences 476069 and 476070 (the contested well licences) on July 10, 2015.

- [5] On June 29, 2015, Bonavista applied under part 4 of the *Pipeline Act* for approval to construct and operate a pipeline to transport natural gas from the 15-22 site to an existing compressor station located in LSD 11-22-041-05W5M. The proposed pipeline would be about 0.74 kilometres (km) long with a maximum outside diameter of 114.3 millimetres (mm) and would transport natural gas with no hydrogen sulphide.
- [6] On July 23, 2015, Patrick and Patricia Alexander and Evelyn Heringer (collectively the Alexanders) requested a regulatory appeal under part 2, division 3, of the *Responsible Energy Development Act* (REDA) and part 3 of the *Alberta Energy Regulator Rules of Practice* of the AER's decision to issue the well licences to Bonavista.
- [7] On July 26, 2015, the Alexanders registered a statement of concern against the pipeline application.
- [8] On September 17, 2015, a decision was made by the AER to proceed to hearing for the pipeline application. The hearing was delayed pending the AER's decision regarding the request for the regulatory appeal.
- [9] On May 9, 2016, the AER granted the request for a regulatory appeal and decided to set the matter down for a hearing. The purpose of the hearing was to determine whether a hearing panel (the panel) should approve the pipeline, and whether the panel should confirm, vary, suspend, or revoke the AER's decision to issue the well licences.

Hearing Participants

- [10] The AER issued an initial notice of hearing on May 31, 2016, identifying Bonavista and the Alexanders as parties to the hearing. The deadline for requests to participate from other parties was June 14, 2016, and the applicant response deadline was June 21, 2016.
- [11] Sandra and Kingsbury Manderville (the Mandervilles) own property adjacent to the 15-22 site. On June 14, 2016, the Mandervilles requested full participation in the hearing. The panel granted full participation rights to the Mandervilles.
- [12] Lucie Bouvier, a property and small business owner located across the road from the 15-22 site, requested to participate in the hearing. The panel granted Ms. Bouvier the opportunity to make a short oral presentation outlining her concerns at the hearing,
- [13] Sylvia Ulrich, of the AER, was the decision-maker who signed the contested well licences and was, therefore, a party to the hearing. As determined by the panel and as agreed to by the parties, Ms. Ulrich's participation was limited to a written submission, dated October 7, 2016.

The Hearing

[14] On June 9, 2016, the panel requested that the parties attend a prehearing meeting. On June 28, 2016, the panel and AER staff held a meeting in Govier Hall with counsel for the Alexanders and counsel for Bonavista to confirm the scope, timing, and location of the proceedings. At that meeting, the panel proposed to consider and hear evidence and submissions on the following issues:

- the need for the wells,
- the need for the pipeline,
- the technical merits of the pipeline and well applications,
- potential effects of the pipeline and wells,
- proposed mitigation measures, and
- other issues relevant to the panel's determination on the pipeline application and the regulatory appeal.

[15] On Tuesday, October 11, 2016, the panel and AER staff conducted a site visit to gain a better understanding of the landscape and area surrounding the proposed projects.

[16] The AER held a public hearing in Red Deer, Alberta, before a panel comprising hearing commissioners Barbara McNeil (presiding), Brad T. McManus, and Jurgen Preugschas. Those who appeared at the hearing are listed in appendix 1.

[17] The hearing started on October 18, 2016, and continued on October 19, 2016, at which time the panel adjourned the proceedings to provide Bonavista the opportunity to fully respond to additional questions posed by the panel.

[18] Bonavista provided a written response to the panel's questions on October 25, 2016. The hearing resumed on October 27, 2016, and concluded the same day.

Framework for Determining the Issues

[19] In making its decisions, the panel considers the mandate of the AER, which is to provide for the efficient, safe, orderly, and environmentally responsible development of energy resources in Alberta. The panel's decisions need to be consistent with factors set out in section 3 of the *Responsible Energy Development Act General Regulation* and in section 15 of *REDA*, including the interests of landowners and the impacts on landowners as a result of the use of land on which the pipeline project and wells have been proposed.

[20] In determining the issues to be addressed in this decision report, the panel considers the AER legislative framework, the issues identified in the scoping meeting, and the evidence and argument

presented at the hearing. In making its decision, the panel has framed the following questions and will address them in order:

- 1) What is the need for the wells and do the wells provide for the efficient and orderly development of Alberta's oil and gas resources?
- 2) Is the 15-22 site the optimal surface location for the wells?
- 3) If the existing 15-22 site is the optimal surface location, does Bonavista require the proposed lease extension? If the lease extension is required, should it be a temporary or a permanent extension?
- 4) What landowner impacts resulting from the wells were identified during this proceeding?
- 5) Did the applicant meet the requirements for stakeholder engagement for the project?
- 6) What is the need for the pipeline and does it provide for the efficient and orderly development of Alberta's oil and gas resources?

[21] In making its decisions, and to be consistent with the questions above, the panel will first address the matters raised in the regulatory appeal (proceeding 1857984) of the well licences. The panel may confirm, vary, suspend, or revoke the AER's decision to issue the well licences.

[22] After making its findings on the regulatory appeal, the panel will consider the pipeline application.

What is the Need for the Wells and Do the Wells Provide for the Efficient and Orderly Development of Alberta's Oil and Gas Resources?

[23] On June 8, 2015, Bonavista submitted applications to the AER to drill two horizontal gas wells with bottomhole locations of 2-34 and 3-34 from the 15-22 site. The AER issued the well licences on July 10, 2016.

[24] Bonavista contended that it would be able to develop the gas reserves in an economically viable and environmentally responsible manner and that the wells were needed at the above locations to effectively recover its resource. It submitted that it had evaluated the well site by looking at many factors, including existing developments, reservoir volumetrics, and anticipated drainage areas.

[25] The Alexanders did not object to the need for the wells and acknowledged that Bonavista owned the mineral rights and had the right to produce from the Willesden Green/Gilby Glauconite Formation.

[26] The panel finds the wells are needed to develop the resource and notes that none of the parties provided evidence to contest the need for the wells.

Is the 15-22 Site the Optimal Surface Location for the Wells?

- [27] In its materials and during cross-examination at the hearing, Bonavista submitted that the 15-22 site would be the optimal surface location to achieve its purpose, which would be to effectively drain the undeveloped part of section 27-041-05W5M and to effectively complete the development of the southern undeveloped part of section 34-041-05W5M (34-41). Bonavista submitted that the most effective placement would be to drill in a south to north orientation toward the existing development in section 34-41 due to the orientation and coordinates of the other offset well laterals already drilled in section 34-41.
- [28] In evaluating surface placement, Bonavista said it also considered geological risks and efficiency, the use of multi-well pads over single projects, the use of existing leases, and limiting pipeline and facility infrastructure.
- [29] Bonavista said it had assessed two other surface locations: LSD 03-27-041-05W5M (3-27) and an existing surface location at LSD 02-34-041-05W5M (2-34). The specific location preferred by the landowner of 3-27 was not feasible based on Bonavista's drilling and geological constraints and criteria.
- [30] Bonavista did not choose the 2-34 location as there were surface constraints and because one well would be subject to the technical drilling challenge of a "negative build." In addition, in response to undertakings, Bonavista estimated that drilling from the 2-34 location would limit the lateral trajectories in section 34 by about 18 per cent for each well with the result that Bonavista would sacrifice maximum resource recovery.
- [31] The panel is satisfied that Bonavista considered other possible surface locations and accepts Bonavista's evidence that the alternative locations are not feasible.
- [32] The panel finds that the 15-22 site is the optimal surface location to drill the wells as it will allow Bonavista to most effectively recover the resource.

If the 15-22 Site is the Optimal Surface Location, Does Bonavista Require the Proposed Lease-Site Extension? If the Lease Extension is Required, Should it be a Temporary or a Permanent Extension?

- [33] In the Alexanders' submissions, they did not object to the need for the wells. However, they did object to the extension of the lease to accommodate the drilling of the new wells. As applicants in the regulatory appeal, the onus is on the Alexanders to provide sufficient evidence to justify the denial of the lease extension. The Alexanders said the requirement for the lease extension was the key question for the panel to consider. The Alexanders objected to the lease extension because a small piece of land to the north of the extension would be difficult to farm. They also stated that they did not want to change the long straight eastern boundary of the existing lease and that a future lease

holder may decide to fence the lease. They submitted that the need for a lease extension was the result of poor planning by Bonavista and that the Alexanders should not have to pay the price of losing more land and experience the added inconvenience of farming extra field corners as a result.

- [34] The Alexanders were also concerned that the extension would cut into a hill that they estimated as increasing in grade from 2 per cent to 11 per cent in a west to east direction through the lease extension. They were concerned about the depth of the cut required to extend the lease, the amount of earth moving that would be required, and the consequent impact on reclamation and their ability to farm around the lease. Bonavista submitted that constructing pad sites on grades of 2 to 11 per cent was common and executed regularly without major concerns or difficulties. In their materials, Bonavista committed to working with the Alexanders on any site-specific concerns regarding the hill.
- [35] In their evidence, in response to information requests and to extensive questions during the hearing, Bonavista said it had examined a number of possible alternative rig orientations and the use of alternative temporary workspaces to consider if the wells could be drilled on the 15-22 site without requiring the lease extension. In addition, the hearing was adjourned for several days to give Bonavista the opportunity to fully answer further questions asked by the panel.
- [36] To determine the lease size, Bonavista used the following criteria: the size of rig and support equipment, regulatory requirements, avoidance of well site proliferation, and safety. Bonavista explained that in drilling operations, rig orientation is typically determined by the catwalk flare direction. In its preferred orientation, the catwalk flare would be placed to the south and would require a 30 m by 150 m extension along the south end of the east edge of the 15-22 site to allow for a 50 m flare setback from the well centres, as required by *Directive 036: Drilling Blowout Prevention Requirements and Procedures*.
- [37] Bonavista was asked if the wells could be drilled directly south of the existing wells, taking into consideration the necessary distances for flaring and other setbacks. Bonavista responded that this could be possible, but because the generators are on the back end of the rig, the rig would have to be 25 m from the existing well centres. The two new well centres would then have to be located considerably further south and a south extension to the lease would be required—one that would extend into an existing yard and require removal of trees.
- [38] Bonavista stated that reorienting the rig with the catwalk flare line to the north would result in the majority of the rig layout being placed over the existing wells and facilities and a larger lease extension would be required to the east.
- [39] Bonavista pointed out that moving the catwalk flare to the west would create problems with support equipment placement and traffic routes. Complying with setback requirements would then require

positioning the east end of the rig too close to the topsoil pile, which would make supporting equipment placement and a safe traffic route impossible. Bonavista stated that placing the rig with the catwalk/flare line to the west would require an even larger extension on the east side.

[40] In response to questions about moving the catwalk flare to the east, Bonavista stated that the result would be a rig orientation that would be too close to soil piles. In addition, some equipment and product handling would take place over top of, and create a congested area around, the existing infrastructure.

[41] Bonavista was asked if the proposed wells could be drilled closer together than the planned 20 m. Bonavista responded that because of its intention to use a Savanna 638E drilling rig (Savanna rig) placing the wells closer would make it difficult to move around the first well centre when drilling the second well.

[42] A number of alternate pipe rack configurations were explored during the hearing, including placing one pipe rack on each side of the catwalk during drilling. In response to questioning, Bonavista stated that the alternatives proposed would not be effective as operators would have limited access to the pipe racks during drilling. Bonavista stated that if the catwalk flare was placed to the east, Bonavista would require all but 3.3 m of the lease extension to allow for safe equipment maneuvering for pipe handling. In addition, this orientation would place the pipe racks immediately adjacent to the south soil piles, which would prevent access for loading.

[43] Bonavista said it would use a Savanna rig, with a footprint of 26.5 m by 86.7 m. Bonavista was asked if it had considered using a drilling rig with a smaller footprint than the Savanna rig. It said that to successfully mitigate risk and to execute the drilling program, it would need the Savanna rig, which is a double class rig and meets the requirements for drilling the wells. Bonavista stated that a super single rig would not provide the required pump and hoisting capacity. Bonavista conducted an assessment of rigs used in Glauconitic horizontal wells completed in the Willesden Green field wells and found specification data available on 191 of the 228 wells. Bonavista provided evidence that 92 per cent of these wells were drilled using a double class rig. No other parties provided evidence about other rig types that could be used.

[44] Bonavista was asked about suspending wells and reducing setbacks. Bonavista stated that it understands from the AER's directives that suspending one or more of the wells while drilling the new wells does not serve to reduce, alter, or suspend the setback requirements. Its understanding is based on the fact that the setbacks reference distances from a well and that there is no requirement that the well be a producing well.

[45] Bonavista explored various possible setback variances as a solution to eliminate the need for the extension and it asserted that regulations were in place for a good reason and that Bonavista strived

to adhere to regulations. Bonavista asserted relaxations may be sought to mitigate safety or environmental risks but not for the purpose of minimizing the requested pad site extension, particularly as the proposed wells and drilling plan met AER regulatory, safety, and operational requirements.

[46] The Alexanders submitted that if the lease extension was required, an alternative should be a lease extension in the form of a temporary workspace and not a permanent extension of the lease. Bonavista stated that although the wells would be on the existing lease site, the lease extension may be needed in the future to accommodate servicing equipment. A temporary workspace would not work for Bonavista because it would not have the right to access the wells through the extension to perform necessary service work. Access would have to be negotiated with the landowner when timing may be critical.

[47] Bonavista submitted that following drilling, interim reclamation would be completed on the pad site. It pointed out that the Alexanders currently farm around the teardrop area on the existing lease and Bonavista estimated that the increase in the teardrop size to accommodate the two new wells would have only a small additional impact and would allow the Alexanders to continue farming in much the same way as they do currently.

[48] Mr. Alexander stated that the partial reclamation practices previously undertaken by Bonavista were beneficial in the long run. He further stated that the Alexanders would be able to seed the balance of the lease to grass, or crop it and farm around the resulting teardrop.

[49] In the Alexanders' submissions, they presented evidence of two other surface locations where multiple wells had been drilled: the Apache lease and the ConocoPhillips lease. The Apache lease located at LSD 02-19-041-05W5M (2-19) had four wells and the Alexanders estimated the lease size as 120 m by 200 m. The ConocoPhillips lease with three wells located at LSD 15-17-041-05W5M (15-17) was estimated by the Alexanders to be 115 m by 180 m. The view of the Alexanders was that there were other lease sites in the area with the same approximate size as the current 15-22 site that accommodated 3 or 4 wells.

[50] Bonavista presented evidence that on a per well basis, including the extension and the two new wells, the Bonavista 15-22 site would be 102 per cent the size of the Apache 2-19 site and 80 per cent the size of the ConocoPhillips 15-17 site.

[51] The panel accepts Bonavista's evidence that the Savanna rig meets Bonavista's requirements to drill the wells. This type of rig has been used in the majority of similar wells drilled in this area. Bonavista stated that limitations of the possible configurations and orientations of a Savanna rig restrict the ability to drill the wells without the lease extension. The panel is satisfied that Bonavista

has demonstrated through extensive evidence that the licenced surface location of the wells will require the lease extension to meet safety and regulatory requirements to drill the wells.

[52] The panel is satisfied with Bonavista's commitments to mitigate the Alexanders' concerns regarding reclamation and farming and finds that Bonavista's proposal to partially reclaim the pad site and the resulting small extension to the teardrop around the facilities will allow the Alexanders to continue farming in much the same way as they do currently.

[53] The panel is satisfied that Bonavista requires the lease extension on a permanent basis to accommodate access for future servicing. Bonavista has stated that its plans are to partially reclaim the lease and that it does not plan to fence the lease. Based on the evidence, the panel finds that the impact to the Alexanders as a result of a permanent rather than a temporary lease extension will be minimal.

What Landowner Impacts Resulting from the Wells were Identified During this Proceeding?

[54] The Alexanders and the Mandervilles presented evidence relating to their concerns about the new wells on the 15-22 site, which included:

- the impact of the project on their road from increased traffic,
- the potential effects on water wells,
- noise and light effects from the project during construction, and
- the esthetic impact of the project and potential impact on property values.

Traffic and Road Conditions

[55] The 15-22 site is accessed by an approach off a county road allowance, described by landowners as a machinery road, and intersects with Highway 761.

[56] Landowners stated that the county road allowance was developed in stages by them and that it is not maintained by the county. Residents who use the road for access are responsible for grading, snow clearing, and general maintenance. They indicated that no drainage is in place from the north side of the road and that during wet conditions water drains over the road.

[57] The Mandervilles stated that extra traffic and heavy duty equipment during and after the construction of the existing wells has affected the road conditions. They stated that during construction, mud was tracked off the lease and onto Highway 761 and that they had difficulty accessing their property—even with a four-wheel drive vehicle.

[58] Ms. Bouvier stated that the amount of traffic during the construction of the existing wells was a nuisance, caused ruts and holes in the road, and made access challenging for her business customers.

- [59] Bonavista submitted that it strives to ensure public roads are treated respectfully and managed and maintained properly. Site-specific concerns during the drilling and completion operations when traffic is most intense can be addressed through initiatives such as speed restrictions and traffic restrictions during school bus and community gathering hours. During early planning phases, Bonavista said that it consults with the county and considers both provincial and county road restrictions, road conditions, and weather. It also meets conditions specified by Alberta Transportation and Clearwater County. Bonavista confirmed that there is a culvert installed on the access road to the 15-22 site.
- [60] Mitigations suggested by the landowners include having Bonavista construct the wells during frozen conditions, keep the road clean during construction, put additional gravel on the road after construction, and provide landowners with information for direct contact with Bonavista staff responsible for road concerns.
- [61] Bonavista acknowledged the concerns expressed by landowners about difficult road conditions and committed to work with landowners to determine timing and strategies to mitigate road concerns and to provide landowners with direct contact information for the construction supervisor.
- [62] The AER does not have requirements for and does not regulate county road use. The panel expects that landowner road concerns can be addressed through Bonavista's practice of working with the county and its commitment to communicate directly with landowners on road mitigation issues.

Water Wells

- [63] The Mandervilles were concerned about potential effects on their water well from the drilling and construction of Bonavista's wells at the 15-22 site. They also stated they were opposed to integrity testing of their well because they feared possible cross-contamination from water well testing equipment.
- [64] Bonavista stated that during the notification and consultation process, it identifies domestic water wells within a 500 m radius of a project. Landowners are consulted and Bonavista's standard practice is to have a baseline quantity and quality test completed by a qualified third party.
- [65] Bonavista submitted that their drilling practices minimize the potential to impact domestic water wells and that it completes a surface casing depth design in accordance with AER *Directive 008: Surface Casing Requirements*. Bonavista stated that for the first 400 m in depth, which it stated is a depth deeper than that for domestic water wells, it uses water-based drilling fluid, sets a surface casing string, and then cements to the surface. The intermediate hole section is also drilled with a water-based drilling fluid and the intermediate casing string is also cemented. After the drilling of the lateral section, an additional lined system is run into the well.

- [66] Bonavista said that it does not complete post-water-well testing unless a landowner identifies a concern. When landowners identify concerns, Bonavista noted that it has the well tested and viewed against baseline information. If it finds that impacts have occurred as a result of operations, it meets its regulatory obligations to fix the problem. Bonavista stated that it remedies problems at its sole cost, which includes drilling a replacement water well if necessary.
- [67] Bonavista stated that it engages a company for water well testing and that this company has stated to Bonavista that its testing is completed by qualified professionals with procedures and processes in place for tool handling and cleaning. Bonavista indicated that it has confidence in its process and is committed to understanding the Mandervilles' concerns related to water well testing.
- [68] The panel finds that Bonavista's practice to protect domestic water wells during drilling meets AER requirements. The panel finds that Bonavista's protocols to test domestic water wells in the vicinity of a proposed project, its use of a qualified third party for testing purposes, and its proposed follow-up in the event of potential concerns sufficiently addresses the water well concerns raised by the Mandervilles.

Noise and Lights

- [69] Ms. Bouvier stated that noise during the construction of the existing wells prevented the Bouviers from keeping their windows open. The Mandervilles expressed concerns about possible sleep disturbance as a result of noise and lights during the construction of the wells.
- [70] Bonavista stated that the Savanna rig is an AC diesel/electric rig. Internal combustion engines are limited to the generator buildings, which then power electric driven motors. Sound attenuation would be provided by hospital grade mufflers, which are installed on the Savanna rig generators.
- [71] Bonavista submitted that lights are required for the drilling and completion operations and that it could make attempts to mitigate light concerns by attempting to direct lights away from residences.
- [72] The panel notes *AER Directive 038: Noise Control* contains requirements for noise control of operations and facilities, but it is not applicable to construction noise. The directive does suggest that licensees attempt reasonable mitigation to reduce noise impacts during construction by advising nearby residents of significant noise-causing activities, scheduling these events to reduce disruption, and ensuring that internal combustion engines are fitted with appropriate muffler systems. Licensees are also encouraged to respond to and manage valid complaints appropriately. Compliance regarding drilling and servicing activity is evaluated on a complaint basis only, and is initially assessed by the local AER field centre.
- [73] The panel recognizes that noise and lights can be an issue for those who live in the vicinity of oil and gas development. The panel notes that noise and light impacts from Bonavista's construction,

drilling, and completion activities will be temporary. The panel is satisfied with Bonavista's proposed mitigations and its commitment to work with landowners.

Visual Impacts and Property Values

[74] Landowners expressed concerns about the visual impact of the proposed project. Ms. Bouvier stated that during the construction of the existing wells, customers had difficulty seeing her business sign because of the height of the embankment. The Alexanders expressed their preference that the existing and new wells be in a line to provide a neat and appealing appearance on the 15-22 site. The Mandervilles were concerned about the impact of the proposed project on their view, stating that although Bonavista had planted twelve spruce trees along the fence line as a screen following construction of the existing wells, the trees had not grown enough to provide an adequate visual barrier.

[75] Bonavista submitted that it understands that the trees along the Mandervilles' property were planted when the existing wells were drilled. Ten-foot blue spruce trees were requested by the Mandervilles and were provided by Bonavista. Bonavista stated that it is prepared to discuss other trees or address the visual impacts in some other fashion with the Mandervilles. Bonavista also stated it would discuss with Ms. Bouvier the concerns about her sign.

[76] The AER does not have specific requirements for visual impacts of oil and gas facilities. The panel is satisfied with Bonavista's commitment to work with the Mandervilles on this matter.

[77] The panel notes that the Mandervilles also had general concerns about the potential negative impact on the value of their property as a result of the visual impact of the two wells; however, they did not present evidence on this matter.

[78] The panel recognizes that landowners have concerns regarding property values. However, the AER emphasizes that matters of compensation, such as property values, are not within the AER's jurisdiction.

Did the Applicant Meet the Requirements for Stakeholder Engagement for the Project?

[79] *Directive 056* requires companies to develop an effective participant involvement program that includes parties whose rights may be directly and adversely affected by the nature and extent of the company's proposed project and who have known concerns with the project. A goal of *Directive 056* is that companies and stakeholders engage effectively so that issues may be identified early and problems solved or mitigation plans made on the basis of meaningful collaboration between the parties. The onus is on all involved to use reasonable efforts to participate in a manner that enables an effective and informative process.

[80] It appears to the panel that, prior to the hearing, Bonavista and the Alexanders had been unable to resolve and address concerns related to the proposed wells. During the hearing, landowner concerns relating to the wells were raised and thoroughly discussed. Bonavista responded and agreed to meet with landowners to more completely understand concerns and determine appropriate mitigations. Bonavista also made a number of commitments (see appendix 2) to directly deal with landowner concerns. During the hearing, Mr. Alexander gave credit to Bonavista for its practice of partially reclaiming the lease and not burying top soil.

[81] The panel hopes that the parties have turned a corner in terms of communication and that the concerns discussed and the mitigations proposed during the hearing are an indicator of a more productive relationship.

What is the Need for the Pipeline and does it Provide for the Efficient and Orderly Development of Alberta's Oil and Gas Resources?

[82] In its application binder, Bonavista submitted that its existing two wells on the 15-22 site with bottomhole locations at 2-22 and 3-22 currently flow through a 168.3 mm (6-inch) pipeline to a compressor station at LSD 11-22-041-05W5M (11-22) at a pressure of 650 kilopascals (kPa). Drilling two new wells at the 15-22 site and flowing all four wells through the existing pipeline would require some gas to be redirected into a different gathering system and to another compressor at LSD 03-28-041-04W5M (3-28) due to compressor capacity restraints at the 11-22 compressor.

[83] Based on Bonavista's pipeline modelling, redirecting some of the volumes would still result in a pressure increase of about 400 kPa at the surface at the 15-22 site. Bonavista submitted that the pressure increase would be above optimal operating conditions and result in lower gas rates from the existing wells.

[84] Bonavista noted that building a new 114.3 mm (4-inch) pipeline from the 15-22 site to the 11-22 compressor would allow the existing wells to flow through the new 4-inch pipeline and remain in the current gathering system at similar-to-current operating conditions. The two new wells would flow through the existing 6-inch pipeline into the 3-28 gathering system.

[85] The Alexanders submitted that the existing 6-inch pipeline from the current 15-22 site had been installed only three years ago for the production of the 15-22 wells. They pointed out that the proposed pipeline would have the same beginning and end points as and would run parallel to the existing line. They submitted that they were concerned with the proliferation of oil and gas facilities in their area and believed that the need for a second pipeline reflected poor planning by Bonavista. The Alexanders wanted to minimize the linear footprint on their land.

[86] Bonavista stated that current gas throughput at its existing 11-22 compressor station was about 260 thousand cubic metres per day ($10^3 \text{ m}^3/\text{d}$), and that its capacity was about $350 \times 10^3 \text{ m}^3/\text{d}$. It said

that it expected the two new wells to begin production at a rate of about $100 \times 10^3 \text{ m}^3/\text{d}$ per well. Producing all four wells through the existing 6-inch pipeline would result in about $460 \times 10^3 \text{ m}^3/\text{d}$ of gas, which would be greater than the 11-22 compressor's capacity. As a result, some gas would have to be diverted and routed to an alternate compressor station at 3-28. This would result in higher pipeline operating pressures and a reduction in production rates at the 2-22 and 3-22 wells from $17 \times 10^3 \text{ m}^3/\text{d}$ to $11 \times 10^3 \text{ m}^3/\text{d}$.

- [87] Bonavista was asked how much it expected well production rates for the two proposed wells to decline. Bonavista provided a production volume chart, which projected that the two new wells would produce approximately $200 \times 10^3 \text{ m}^3/\text{d}$ initially, but that production volumes would drop significantly and that the drop would begin almost immediately. Production volumes would decline to approximately half ($100 \times 10^3 \text{ m}^3/\text{d}$) within about six months and would continue to fall at a more gradual rate after that. The panel notes this suggests that within six to seven months, production rates would fall to the point that all gas produced by the four wells could be managed by the compression facilities at the 11-22 compressor station.
- [88] Bonavista was asked to explain the economics of constructing a new pipeline, considering that the production volumes from the two existing wells would be reduced by approximately $6 \times 10^3 \text{ m}^3/\text{d}$. In response, Bonavista projected that the loss of revenue during the seven month period when production from the two original wells would be backed out would be \$165 984. Bonavista noted that since its capital estimate for the new 4-inch pipeline would be \$120 000, its project payback would be achieved in approximately five months. Bonavista stated that for production optimization capital expenditures, it considers a project viable if payout occurs in less than six months.
- [89] Counsel for the Alexanders argued that the estimated \$46 000 in delayed revenue to Bonavista would not justify the cost to the Alexanders of having a second pipeline across their land and asked that the panel deny the pipeline application.
- [90] As part of its economic analysis, Bonavista commented that it anticipates that there could be additional drilling in the area, which could create greater gas backout in the future.
- [91] In response to questions about further linear disturbance, Bonavista stated that the existing right-of-way (ROW) for the 6-inch pipeline is 15 m. Bonavista proposed taking an additional 5 m ROW for the proposed 4-inch pipeline, as it would use the existing ROW from the 6-inch pipeline for temporary workspace.
- [92] The panel finds that due to the rapid reduction in production volume expected to occur from the proposed new wells, the need for extra pipeline capacity is relatively short-lived. Within six to seven months, production rates will decline enough to eliminate the need for an additional pipeline to handle production from the four wells at the 15-22 site. Having the additional pipeline available

would minimally expedite production of the resources. The panel also notes that Bonavista, when asked, did not provide evidence that reserve recovery would be hindered by the short-term deferral, so the panel finds that the production volumes are not lost, but have been merely deferred for later realization.

Conclusion

Regulatory Appeal

[93] The principal question the panel was asked to determine in this regulatory appeal was whether the lease site extension was required. In answering that question, the panel first determined that the wells are needed and that the 15-22 site is the optimal surface drilling location.

[94] Extensive evidence was provided to convince the panel that the extension is required by Bonavista. In making its decision on the regulatory appeal, the panel carefully considered the effects on landowners. Based on the evidence, the panel finds that Bonavista's proposed mitigation measures sufficiently address the impacts on landowners and the panel is satisfied that any residual impacts are minimal. Therefore, the AER confirms its decision to issue Bonavista's well licences 476069 and 476070, which were the subject of the regulatory appeal (proceeding 1857984).

Pipeline Application

[95] The panel finds the need for extra pipeline capacity to be relatively short lived. The short-term economic advantage to Bonavista does not justify the impacts to landowners created by the additional disturbance to their lands.

[96] The panel also does not expect the absence of an additional pipeline to strand resources or prevent the eventual production of those resources. Some production would be deferred for several months. However, within several months, it is expected that production from all wells would continue unhindered. The panel finds that the modest increase in revenue in the short term, as provided by the second pipeline, is not a compelling reason to install the second pipeline in the face of the Alexanders' opposition.

[97] The panel notes that Bonavista's need for the proposed pipeline for possible future projects is speculative and Bonavista can apply for a future pipeline project, without prejudice. Therefore, the AER denies Bonavista's application 1833192 for a pipeline.

Dated in Calgary, Alberta, on January 23, 2017.

Alberta Energy Regulator

<original signed by>

B. McNeil
Presiding Hearing Commissioner

<original signed by>

B. T. McManus
Hearing Commissioner

<original signed by>

J. Preugschas
Hearing Commissioner

Appendix 1 Hearing Participants

Principals and Representatives

(Abbreviations used in report)

Witnesses

Bonavista Energy Corporation (Bonavista)
P. Quinton-Campbell

S. W. Shimek

P. and P. Alexander
G. S. Fitch

S. and K. Manderville
J. West

L. Bouvier

Alberta Energy Regulator staff

R. Mueller, AER Counsel
T. Wheaton
L. Olsen
D. Grzyb
M. Xhaferllari

Appendix 2 Summary of Commitments

The AER notes that Bonavista has made certain undertakings, promises, and commitments (collectively commitments) to parties involving activities or operations that are not strictly required under AER requirements. These commitments are separate arrangements between the parties and do not constitute conditions to the AER's confirmation of the well licences. The AER expects Bonavista to comply with commitments made to all parties. The commitments that have been given some weight by the AER are summarized below:

- 1) Bonavista will work with landowners to determine timing and strategies to successfully mitigate potential road concerns during drilling and completion operations and will provide landowners with direct contact information for the construction supervisor.
- 2) Bonavista will use a drilling rig with positive air shutoff on the generator engines.
- 3) Bonavista will continue dialogue with the Mandervilles' about their water well concerns.
- 4) Bonavista is prepared to discuss with the Mandervilles what can be done to plant other trees or address esthetics in some other fashion.
- 5) Bonavista will discuss with Ms. Bouvier her concerns about her sign.