



**CATHEDRAL**

6030 – 3<sup>rd</sup> Street S.E.  
Calgary, Alberta  
T2H 1K2

**CATHEDRAL ENERGY SERVICES LTD.**

**ANNUAL INFORMATION FORM**

**For the year ended December 31, 2016**

**Dated March 15, 2017**

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## GLOSSARY OF TERMS

The following are defined terms used in this Annual Information Form:

"**ABCA**" means the *Business Corporations Act* (Alberta), as amended, including the regulations promulgated thereunder;

"**Arrangement**" means the plan of arrangement pursuant to Section 193 of the ABCA, on the terms and conditions set forth in the Plan of Arrangement whereby the Trust converted into a growth-oriented corporation;

"**Arrangement Agreement**" means the amended and restated arrangement agreement dated November 16, 2009 among the Trust, Cathedral, SemBioSys, 1491265 Alberta Ltd. and New SemBioSys;

"**Board of Directors**" or "**Board**" means the board of directors of Cathedral;

"**Cathedral**" or "**Corporation**" means Cathedral Energy Services Ltd.;

"**Cathedral Energy Services Inc.**" means Cathedral Energy Services Inc., a corporation incorporated under the laws of Delaware;

"**Common Shares**" means common shares in the capital of Cathedral;

"**CRA**" means the Canada Revenue Agency;

"**Declaration of Trust**" means the declaration of trust dated as of June 24, 2002 among Rod Maxwell, H.S. Hartley and Jay Zammit, as the initial Trustees, as amended, who created the Trust;

"**Directional Plus de Venezuela, C.A.**" or "**DPV**" means Directional Plus de Venezuela, C.A., a corporation incorporated under the laws of Venezuela;

"**Directional Plus International Ltd.**" or "**DPI**" means Directional Plus International Ltd., a corporation incorporated under the laws of Barbados;

"**EM**" means Electro Magnetic;

"**EM-MWD**" means Electro Magnetic - Measurement While Drilling;

"**Fusion Measurement-While-Drilling**" or "**Fusion MWD**" means Cathedral's proprietary customizable modular MWD platform which is designed with the choice of EM transmission, positive mud pulse transmission or dual telemetry transmission;

"**G1**" means the first generation EM-MWD;

"**G2**" means the second generation EM-MWD;

"**G3**" means the third generation EM-MWD;

"**JVSAA**" means the Joint Venture and Strategic Alliance Agreement between DPI and PDVSA Servicios Petroleros announced by Cathedral on September 15, 2010, pursuant to which the parties agreed to form a joint stock company, Vencana, in which PDVSA Servicios Petroleros would own 60% of the capital stock and DPI would own the remaining 40%, for the purpose of supplying oilfield services in Venezuela to the oil and natural gas industry, commencing with the provision of directional drilling services; and expanding to such other services as mutually agreed between PDVSA Servicios Petroleros and DPI;

"**LWD**" means Logging-While-Drilling;

"**MWD**" means Measurement-While-Drilling;

"**New SemBioSys**" means 1491277 Alberta Ltd., a corporation incorporated under the ABCA;

"**PDVSA**" means Petróleos de Venezuela S.A., the state-owned oil and natural gas corporation of the Bolivarian Republic of Venezuela;

"**PDVSA Servicios Petroleros**" means PDVSA Servicios Petroleros, S.A., a wholly-owned subsidiary of PDVSA;

"**Plan of Arrangement**" means the plan of arrangement in the form and content set forth in Schedule "A" to the Arrangement Agreement;

"**Preferred Shares**" means the preferred shares in the capital of Cathedral;

"**RDS**" means the Remote Drilling System;

"**SemBioSys**" means SemBioSys Genetics Inc., a corporation incorporated under the laws of Canada;

"**Shareholders**" means the holders from time to time of Common Shares;

"**Trust**" means Cathedral Energy Services Income Trust, the predecessor entity to Cathedral, an open-ended mutual fund trust that was established under the laws of Alberta pursuant to the Declaration of Trust;

"**Trustees**" means the former trustees, from time to time, of the Trust;

"**TSX**" means the Toronto Stock Exchange;

"**TSXV**" means the TSX Venture Exchange; and

"**Vencana**" means Vencana Servicios Petroleros, S.A., a company that was jointly owned by DPI (40%) and PDVSA Servicios Petroleros (60%) for the purposes of the JVSAA.

## FORWARD LOOKING INFORMATION

This Annual Information Form ("**AIF**") contains certain forward-looking statements and forward-looking information (collectively referred to herein as "**forward-looking statements**") within the meaning of applicable Canadian securities laws. All statements other than statements of present or historical fact are forward-looking statements. Forward-looking statements are often, but not always, identified by the use of words such as "anticipate", "achieve", "believe", "plan", "intend", "objective", "continuous", "ongoing", "estimate", "outlook", "expect", "may", "will", "project", "should" or similar words, including negatives thereof, suggesting future outcomes.

In particular, this AIF contains forward-looking statements relating to: projected capital expenditures and commitments and the financing thereof; geographic allocation of equipment; ability to remain competitive; tax provisions are adequate; access to tax pools and investment tax credits; intention to continue relationships with customers; expected benefits from maintenance capital expenditures; expected reduction in on-going costs associated with the sale of Venezuela operations; amounts paid pursuant to the expectation to continue to selectively seek strategic acquisitions; amounts paid pursuant to the settlement of litigation; ability to compete and expand; no expected significant changes in production testing technology; benefits associated with in-house mud motor design; benefits associated with financial results, including cost reductions; activity levels; technology advances, including anticipated future developments of Cathedral's technology; availability of insurance coverage; future dividend determinations; and effects of proposed changes to environmental regulations.

Cathedral believes the expectations reflected in such forward-looking statements are reasonable as of the date hereof but no assurance can be given that these expectations will prove to be correct and such forward-looking statements should not be unduly relied upon.

Various material factors and assumptions are typically applied in drawing conclusions or making the forecasts or projections set out in forward-looking statements. Those material factors and assumptions are based on information currently available to Cathedral, including information obtained from third party industry analysts and other third party sources. In some instances, material assumptions and material factors are presented elsewhere in this AIF in connection with the forward-looking statements. You are cautioned that the following list of material factors and assumptions is not exhaustive. Specific material factors and assumptions include, but are not limited to:

- the performance of Cathedral's businesses, including current business and economic trends;
- oil and natural gas commodity prices and production levels;
- capital expenditure programs and other expenditures by Cathedral and its customers;
- the ability of Cathedral to retain and hire qualified personnel;
- the ability of Cathedral to obtain parts, consumables, equipment, technology, and supplies in a timely manner to carry out its activities;
- the ability of Cathedral to maintain good working relationships with key suppliers;
- the ability of Cathedral to market its services successfully to existing and new customers and reliance on major customers;
- risks associated with technology development and intellectual property rights;
- the ability of Cathedral to maintain safety performance;
- the ability of Cathedral to obtain adequate and timely financing on acceptable terms;
- the ability of Cathedral to comply with the terms and conditions of its credit facility;
- the ability to obtain sufficient insurance coverage to mitigate operational risks;
- currency exchange and interest rates;
- risks associated with foreign operations;
- risks associated with acquisitions, dispositions and business development efforts;

- environmental risks;
- changes under governmental regulatory regimes and tax, environmental and other laws in Canada and the United States ("U.S."); and
- competitive risks.

Forward-looking statements are not a guarantee of future performance and involve a number of risks and uncertainties some of which are described herein. Such forward-looking statements necessarily involve known and unknown risks and uncertainties, which may cause Cathedral's actual performance and financial results in future periods to differ materially from any projections of future performance or results expressed or implied by such forward-looking statements. These risks and uncertainties include, but are not limited to, the risks identified by Cathedral's management discussion and analysis for the year ended December 31, 2016 (the "**MD&A**") and contained herein under the heading "Risk Factors". Any forward-looking statements are made as of the date hereof and, except as required by law, Cathedral assumes no obligation to publicly update or revise such statements to reflect new information, subsequent or otherwise.

All forward-looking statements contained in this AIF are expressly qualified by this cautionary statement. Further information about the factors affecting forward-looking statements is available in Cathedral's current MD&A and annual report which have been filed with Canadian provincial securities commissions and are available on [www.sedar.com](http://www.sedar.com).

## CATHEDRAL ENERGY SERVICES LTD.

### Name, Address and Incorporation

Cathedral Energy Services Ltd. is a corporation governed by the ABCA and was amalgamated pursuant to a Certificate of Amalgamation filed on December 18, 2009 in connection with the Arrangement. Prior thereto, Cathedral's predecessor entity, the Trust, was an open-ended mutual fund trust governed by the laws of the Province of Alberta and created pursuant to the Declaration of Trust. The principal and head office of Cathedral is located at 6030 – 3<sup>rd</sup> Street S.E., Calgary, Alberta, T2H 1K2. The registered office of Cathedral is located at 1600 Dome Tower, 333 - 7th Avenue S.W., Calgary, Alberta, T2P 2Z1.

### Inter-Corporate Relationships

The following table provides the name, the percentage of voting securities owned by Cathedral and the jurisdiction of incorporation of Cathedral's sole subsidiary, either direct or indirect, as at the date hereof. On February 29, 2016, Cathedral announced it had closed the sale of its wholly-owned Barbados subsidiary, DPI. DPI held a 100% ownership interest in Directional Plus de Venezuela, C.A. and a 40% ownership interest in Vencana Servicios Petroleros, S.A. See "*General Development of the Business - Three Year History – 2016/2017*".

	Percentage of securities held (directly or indirectly)	Jurisdiction of Incorporation
Cathedral Energy Services Inc.	100%	Delaware

## GENERAL DEVELOPMENT OF THE BUSINESS

### Three Year History

2014

- During 2014 Q1, Cathedral decided to terminate its pursuit of operations in Venezuela. Management determined the expected political, financial and operational risks did not warrant continuing to pursue business opportunities in Venezuela. Furthermore, management was of the belief there were greater growth opportunities in the North American market and particularly in the U.S. Management had taken action to reduce Venezuela costs and on-going costs associated with the wind down of Venezuela operations were expected to be minimal. Cathedral provided its joint venture partner, PDVSA, with notice that it is pursuing its contractual alternative to find a third-party to purchase Cathedral's 40% interest in Vencana or having Cathedral's joint venture partner purchase its interest. At December 31, 2014, the Corporation recorded a write-down of its investment in Vencana and certain assets located in Venezuela in the amount of \$13.1 million. During 2014 there was a minor recovery of \$0.2 million.
- At the annual and special meeting of Shareholders held on April 23, 2014, Cathedral's advance notice by-law was adopted by Shareholders and became effective. Among other things, the by-law fixes a deadline by which Shareholders must submit a notice of director nominations to the Corporation in order for such nominations to be proposed at annual or special meetings of Shareholders where directors are to be elected. Further, the by-law sets forth the information that a Shareholder must include in the notice for it to be valid. In the case of an annual meeting of Shareholders, notice to the Corporation must be made not less than 30 nor more than 65 days prior to the date set for the annual meeting.

- On July 7, 2014, Cathedral announced the appointment of Michael F. Hill as Chief Financial Officer of the Corporation effective September 1, 2014. As Chief Financial Officer, Mr. Hill is responsible for finance, accounting, risk management and investor relations with a focus on strategy and business development. In addition, on July 7, 2014, Cathedral announced the appointment of Kevin Miller as Director, Finance and Accounting of the Corporation. Mr. Miller oversees the Corporation's financial reporting, treasury and tax activities.
- On July 7, 2014, Cathedral's previously announced normal course issuer bid to purchase up to 2,182,711 Common Shares at market prices through the facilities of the TSX or, if eligible, through alternative trading systems (the "**2013 NCIB**") expired and the Corporation did not renew its normal course issuer bid. There were no purchases under the 2013 NCIB.
- On August 8, 2014, Cathedral entered into an amended and restated credit agreement with respect to a three year committed revolving credit facility in the amount of \$85 million which represented a \$10 million increase from the prior credit facility. The credit facility included a \$25 million accordion feature which is subject to approval of the syndicate of lenders. The syndicate of lenders consisted of The Bank of Nova Scotia, the sole lender on the prior facility, and National Bank of Canada. The facility bore interest at the bank's prime rate plus 0.50% to 2.00% or bankers' acceptance rate plus 1.75% to 3.25% with interest payable monthly. Interest rate spreads for the credit facility depend on the level of funded debt to EBITDA (earnings before interest on long-term debt, taxes, depreciation, amortization and non-cash compensation expense – as defined in the credit agreement). The credit facility is secured by a general security agreement over all present and future personal property and is subject to certain covenants regarding the payment of dividends and the maintenance of certain financial ratios. See "*General Development of the Business - Three Year History – 2016/2017*" for recent developments with respect to the Corporation's credit facility.
- On October 20, 2014, Cathedral announced that it had supplied directional drilling equipment and services for over 1,000 wells completed by Tundra Oil and Gas Partnership ("**Tundra**") in Manitoba and Saskatchewan. This 1,000 well milestone represents over 14 years of collaboration between Tundra and Cathedral.
- On November 4, 2014, Cathedral announced an increase in its 2014 capital budget from \$24 million to \$30.6 million, primarily to meet the growth needs of the business in the U.S. The increase of \$6.6 million was for additional drilling motors and specialized power sections, MWD system upgrades, replacement capital and information technology infrastructure. The revised 2014 capital budget included \$15.5 million of growth capital, \$10.8 million of maintenance capital and \$4.3 million of infrastructure expenditures. In addition, Cathedral announced its expected sale and leaseback of the Oklahoma City operations facility in 2015 Q1 for net proceeds of approximately USD\$4.8 million.
- In November 2014, Cathedral's wholly-owned subsidiary, Cathedral Energy Services Inc., was named in a legal action in Houston, Texas commenced by a former employee (the "**Houston Action**"). In April 2015, Cathedral Energy Services Inc. was named in a second legal action in Denver, Colorado by a former employee (the "**Denver Action**", together with the Houston Action, the "**Collective Actions**"). In both Collective Actions the employees and consultants (collectively "**Claimants**") alleged that they were improperly classified as exempt under the *Fair Labour Standards Act* ("**FLSA**") and therefore entitled to unpaid overtime or additional compensation because overtime was improperly calculated. Subsequently, additional claimants joined the Collective Actions. Legal actions involving similar alleged violations have been filed in the U.S. against a number of other oilfield service companies. Cathedral Energy Services Inc.

filed defenses for both Collective Actions. See "*General Development of the Business - Three Year History – 2016/2017*" for recent developments with respect to the Collective Actions.

- During 2014, the Corporation invested \$30,763,000 in property and equipment, excluding non-cash capital lease additions. The major additions for growth capital were \$12,608,000 for additional directional drilling motors and related equipment for specific job requirements and \$2,935,000 for additional ancillary production testing equipment which will reduce future rental costs. Infrastructure capital spending of \$4,324,000 related to progress payments on the construction of the operating facility in Oklahoma City and computer system upgrades. Maintenance capital spending of \$9,639,000 included additional upgrades to existing production testing equipment and maintenance of downhole tools. The net property and equipment additions (additions net of proceeds on the regular disposal of property and equipment) in 2014 were \$25,213,000.
- In December 2014, Cathedral announced its initial 2015 capital budget of \$15 million including \$11.2 million of growth capital expenditures, \$3.3 million of maintenance capital expenditures and \$0.5 million of infrastructure expenditures. The infrastructure investment of \$0.5 million related to the remaining construction costs for the operations facility in Oklahoma City with full service repair capabilities. Cathedral also announced that it entered into a purchase and sale agreement related to the facility being built in Oklahoma City, with net proceeds on closing of approximately USD \$4.8 million in connection therewith.

## 2015

- On March 4, 2015, Cathedral announced that its 2015 capital budget had been revised downward from the originally announced amount of \$15.0 million to \$7.0 million. The revised 2015 capital budget included \$5.1 million of growth capital, \$1.4 million of maintenance capital and \$0.5 million of infrastructure expenditures.
  - The Directional Drilling division expected to invest \$5,550,000 of the 2015 capital budget including \$3,915,000 for growth, \$1,135,000 for maintenance and \$500,000 for infrastructure. Growth capital expenditures included the addition of mud motors and drill collars for the replacement of high rental expense items and certain MWD equipment. Maintenance capital expenditures were expected to allow for motors and EM/MWD equipment. The infrastructure investment of \$500,000 related to the remaining construction costs of the operations facility in Oklahoma City with full service repair capabilities.
  - The Flowback and Production Testing division anticipated investing a total of \$1,250,000. Growth capital expenditures of \$1,185,000 related to storage tanks and additional equipment that would otherwise be rented. Maintenance expenditures of \$65,000 were planned in relation to unit upgrades.
- On March 4, 2015 Cathedral's Board of Directors approved a 2015 Q1 dividend in the amount of \$0.04 per share, which represented a reduction from the previous dividend amount of \$0.0825 per share in order to manage liquidity, maintain a strong balance sheet and better position Cathedral to take advantage of opportunities that may present themselves. Dividends are reviewed by the Board of Directors on a quarterly basis. See "*Dividend Policy*".
- During 2015 Q1, the Corporation completed the previously announced sale and leaseback of its Oklahoma City facility, for net proceeds of approximately USD \$4.9 million.

- On June 15, 2015, Cathedral announced that it successfully negotiated certain amendments to its credit facility with The Bank of Nova Scotia and National Bank of Canada. The amended credit facility had less restrictive financial covenants than the prior facility and provided credit availability of \$60 million, representing a \$25 million decrease from the prior credit facility. Cathedral elected to reduce the size of the credit facility based on its liquidity needs at the time, as well as its projected liquidity needs, and to reduce standby fees. The amended credit facility includes an accordion feature which provides for an increase of the credit facility by \$35 million at the option of Cathedral and subject to approval of the syndicate of lenders. See "*General Development of the Business - Three Year History – 2016/2017*" for recent developments with respect to the Corporation's credit facility.
- On July 7, 2015, Cathedral announced that it entered into an agreement with CRA regarding CRA's objection to the tax consequences of the conversion of Cathedral from an income trust structure into a business corporation in December 2009, which agreement did not give rise to any cash outlay by Cathedral for prior taxation years. The agreement resulted in a non-cash charge to earnings of approximately \$10.3 million in 2015 resulting from adjustments to deferred tax balances.
- On July 15, 2015, Cathedral announced that it has officially released three product enhancements to its proprietary Fusion MWD technology platform, which enhancements include superior EM capabilities, the ability to collect downhole drilling diagnostics and further ruggedizing the Fusion MWD platform to operate in increasingly demanding drilling environments. See "*Description of the Business and Operations – Access to Equipment and Technology*".
- On August 13, 2015 Cathedral announced its 2015 capital budget had been revised upward slightly from the originally announced amount of \$7.0 million to \$7.2 million.
- The Corporation opened an operating facility in Eunice, New Mexico effective September 1, 2015, in order to better support Cathedral's Flowback and Production Testing customers in the Permian Basin and the southern U.S. In addition, during October of 2015, Cathedral moved its Saskatchewan and Manitoba operations base from Estevan, Saskatchewan to Emerald Park, Saskatchewan (located ten minutes east of Regina), in order to provide better support to Cathedral's customers in Saskatchewan and Manitoba by improving response times and expanding support capabilities.
- On October 6, 2015, Cathedral announced the appointment of Mr. Dale E. Tremblay as a non-executive director of the Corporation. Mr. Tremblay has extensive oilfield service business experience in senior management positions at both domestic and international companies.
- On November 10, 2015, Cathedral announced that, based on reductions in commodity prices and uncertainties around expected drilling and completion activity in 2015 Q4 and into 2016, the Board of Directors made the decision to suspend the payment of the Corporation's quarterly dividend until industry conditions improve. Dividends are reviewed by the Board of Directors on a quarterly basis. See "*Dividend Policy*".
- During 2015, the Corporation invested \$6.9 million in property and equipment, excluding non-cash capital lease additions. The major additions for growth capital were \$3.2 million for additional drilling motors and related equipment for specific job requirements, \$0.1 million for MWD equipment and \$1.3 million for additional ancillary flowback and production testing equipment to reduce future rental costs. Infrastructure capital spending of \$0.7 million related to the construction of the operating facility in Oklahoma City that was completed and subject to a

sale and leaseback in 2015 Q1. Maintenance capital spending of \$1.6 million included: MWD upgrades; ancillary motor components; flowback and production testing units and ancillary equipment; automobiles; and shop, office and computer equipment additions. The net property and equipment additions (additions net of proceeds on the regular disposal of property and equipment) in 2015 were \$(4.2) million.

#### 2016/2017

- On January 27, 2016, Cathedral announced it again negotiated certain amendments to its credit facility with The Bank of Nova Scotia and National Bank of Canada. The amended credit facility had less restrictive financial covenants than the prior facility terms. The amended credit facility provided for credit availability of \$45 million, representing a \$15 million decrease from the prior amended credit facility.
- On January 27, 2016, Cathedral announced that, as part of strategy to deal with the current low commodity price environment and current uncertainty in the oilfield services sector, its staff had accepted additional wage rollbacks effective January 1, 2016. Aggregate wage and cash benefit rollbacks for 2015 and 2016 ranged from 17% to 28% for staff and management and up to 50% for field positions. Cathedral's full-time employee head count had been reduced from 716 at the end of December 2014 to 356 at the end of December 2015. Cathedral also reduced its number of field sub-contractors during 2015 which has traditionally been a significant component of the Corporation's workforce. Selling, general and administrative expenses excluding bad debts, non-cash depreciation and share-based compensation had been reduced 20% from December 31, 2014 to December 31, 2015 resulting from employee attrition, wage and benefit rollbacks and other cost cutting measures.
- Cathedral further announced on January 27, 2016 that one of its U.S. clients had filed a statement of claim against Cathedral's U.S. subsidiary, Cathedral Energy Services Inc., indicating damages in the amount of USD \$3.7 million in connection with the previously disclosed allegation of a down-hole drilling incident made by such client. Cathedral has vigorously defended this action.
- On January 27, 2016, Cathedral also announced that it had adopted a minimal capital expenditure program for 2016 which was to be reviewed quarterly. Cathedral's 2016 capital budget was \$1 million with \$0.2 million for growth capital and \$0.8 million for replacement or maintenance capital. The growth additions were primarily for additional pulse MWD systems and the maintenance capital was primarily to replace items which have been lost-in-hole. Cathedral intends to finance its 2016 capital budget from cash flow from operations and proceeds from redundant asset sales or assets lost-in-hole.
- On February 29, 2016 Cathedral announced it had closed the sale of its wholly-owned Barbados subsidiary, DPI. DPI held Cathedral's investment in Venezuela and this sale completed Cathedral's exit from carrying on a business in Venezuela. Net proceeds from this sale were nominal. In 2013/2014 Cathedral recorded a write-down of its Venezuela investment in the amount of \$12.9 million. As a result of the sale, there was a non-cash gain on sale of DPI of approximately \$10.8 million. Cathedral also announced that, as a result of the sale, its working capital was expected to increase by approximately \$12.3 million due to previously recorded liabilities being assumed by the purchaser of DPI.
- On July 4, 2016 Cathedral announced it had again negotiated certain amendments to its credit facility with The Bank of Nova Scotia and National Bank of Canada. The amended credit facility has less restrictive financial covenants than the prior facility terms, and the total available credit

facility was reduced to \$35 million, representing a \$10 million decrease from the prior amended credit facility.

- On August 9, 2016 Cathedral announced it had entered into a Settlement Agreement and Release (the "**FLSA Settlement Agreement**") in respect of the two Collective Actions that were filed against Cathedral's wholly owned U.S. subsidiary, Cathedral Energy Services Inc., in November 2014 and April 2015 in Houston, Texas and Denver, Colorado, respectively. Cathedral denied the allegations, and vigorously defended the litigation leading up to entering into the Settlement Agreement. The FLSA Settlement Agreement provides a mechanism for finally resolving and releasing the claims for all Claimants. Under the terms of the FLSA Settlement Agreement, the parties will establish a settlement fund of up to USD \$3.4 million. The final settlement fund amount will be based on the number of Claimants that participate in the settlement and Cathedral estimates such amount will be approximately USD \$2.9 million. The FLSA Settlement Agreement contemplates structured quarterly payments which are subject to Cathedral's financial condition and Cathedral not being in violation of its credit facility covenants. All claims in both Collective Actions have been settled and the United States District Court for the Southern District of Texas, Houston approved the settlement of the Houston Action on August 8, 2016. Any payments made by Cathedral pursuant to the FLSA Settlement Agreement are subject to the approval of Cathedral's banking syndicate. See "*General Development of the Business - Three Year History – 2014*".
- On August 10, 2016, Cathedral announced it had again negotiated certain amendments to its credit facility with The Bank of Nova Scotia and National Bank of Canada. The amended credit facility provided for credit availability of \$33 million, representing a \$2 million decrease from the prior amended credit facility and provided for a further reduction to \$30 million by September 2016. The lending syndicate has required Cathedral provide a plan by September 15, 2016 to get the amended credit facility within more typical industry covenant levels based on cash flow the business is able to generate in this current environment. This plan was intended to be considered in the context of extending the maturity of the amended credit facility beyond August 2017 or entering into a new credit facility agreement with a term extending beyond August 2017.
- On August 29, 2016 Cathedral announced it had again negotiated certain amendments to its credit facility with The Bank of Nova Scotia and National Bank of Canada. Export Development Canada joined Cathedral's banking syndicate, resulting in credit facility availability of \$36 million, representing a \$3 million increase from the prior facility. The amended credit facility provided for reductions to the total credit facility availability to \$33 million by December 31, 2016, and \$28 million by March 31, 2017. Export Development Canada's support of Cathedral is part of a previously announced program, whereby Export Development Canada earmarked financial capacity for Canadian small and medium enterprises in the oil and gas sector. Cathedral was able to demonstrate to Export Development Canada that they have a strong export mandate and a business plan to manage through the current sector challenges and achieve future growth. The maturity date of the amended credit facility was extended to November 2017.
- On August 29, 2016 Cathedral also announced it had initiated a process to identify, examine and consider a range of strategic alternatives available to Cathedral with a view to maximizing shareholder value, including, but not limited to: debt and/or equity financings, joint venture or partnership transactions, the sale of Cathedral or a portion of Cathedral's assets, a merger or other such options as may be determined by the Board of Directors to be in the best interests of Cathedral and Shareholders. Cathedral established a Special Committee of independent directors in order to consider strategic alternatives. The Special Committee retained GMP FirstEnergy

(previously FirstEnergy Capital Corp.) as its financial advisor in connection with this review of strategic alternatives.

- On December 19, 2016 Cathedral announced that it entered into a definitive agreement to sell its flowback and production testing assets for total cash consideration of \$17.8 million. The disposition was expected to result in an estimated loss on sale for accounting purposes of approximately \$6.5 million. GMP FirstEnergy acted as exclusive financial advisor to Cathedral in this sale process.
- On December 22, 2016, Cathedral again negotiated certain amendments to its credit facility with The Bank of Nova Scotia, National Bank of Canada and Export Development Canada, extending the maturity date of the amended facility to February 10, 2018.
- During 2016, the Corporation invested \$899,000 in property and equipment, excluding non-cash capital lease additions.
- In Q1 2017 the Corporation entered a settlement with one of its U.S. clients related to a down-hole drilling incident, which impacted two of its wells in December 2013. The terms of this settlement are confidential. The settlement is payable based on an initial payment in 2017 Q1 and the remainder in quarterly installments concluding in 2021.
- During Q1 2017, Cathedral completed the previously announced sale of its flowback and production testing assets. The net proceeds of the sale were estimated to be \$17.2 million and were used to reduce the amount owing under Cathedral's amended credit facility along with supplementing working capital and capital investment required to support Cathedral's growing directional drilling business. Post-closing of the disposition, Cathedral's bank debt was approximately \$11.3 million.
- On January 17, 2017 Cathedral announced it has again negotiated certain amendments to its credit facility with The Bank of Nova Scotia and Export Development Canada. Under the amended credit facility Cathedral's total credit facility availability is \$23 million (comprised of an \$18 million revolving term facility and a \$5 million swingline facility), representing a \$10 million reduction from the prior credit facility, and the maturity date of the facility has been extended to December 2018. The amended credit facility bears interest at the bank's prime rate plus 0.50% to 5.00% or bankers' acceptance rate plus 1.75% to 6.25% with interest payable monthly. Interest rate spreads for the facility depends on the level of funded debt to EBITDA (earnings before interest on long-term debt, taxes, depreciation, amortization and non-cash compensation expense – as defined in the amended credit agreement). The amended credit facility has certain restrictions consistent with the prior facilities, including, but not limited to, the paying of dividends, utilization of the accordion feature, enhanced lender financial reporting and a cap on any litigation settlement payments without lender approval. Under this amendment, any payments made by Cathedral pursuant to the FLSA Settlement Agreement exceeding USD \$200,000 are subject to the approval of Cathedral's banking syndicate. As of December 31, 2016, the total drawn facility was \$29.9 million (2015 - \$33.8 million), which consisted of a \$26.3 revolver and operating line (2015 - \$32.4 million) and \$1.5 million in letters of credit (2015 - \$1.6 million).
- On February 15, 2017 Cathedral completed a bought deal offering of 11,500,000 Common Shares at a price of \$1.12 per share (including 1,500,000 Common Shares issued pursuant to the exercise in full of the over-allotment option granted to the underwriter) for gross proceeds of \$12,880,000. The bought deal offering was oversubscribed by investors resulting in the Corporation increasing the offering size. The offering was done by way of short form prospectus in all provinces of Canada other than Quebec and on a private placement basis in the United States. GMP

FirstEnergy acted as sole underwriter for the bought deal offering. Cathedral also completed a private placement on February 15, 2017, pursuant to which certain directors and officers of Cathedral purchased a total of 1,116,071 Common Shares at a price of \$1.12 per share for gross proceeds of approximately \$1,250,000. The aggregate gross proceeds to Cathedral of both offerings were approximately \$14,130,000. The net proceeds will initially be used to repay bank indebtedness, and then to fund ongoing working capital requirements driven by increased business activity, increase capacity through funding equipment upgrades and capital expenditures, and for other general corporate purposes.

For further details, please see "*Description of the Business and Operations*" below.

## **DESCRIPTION OF THE BUSINESS AND OPERATIONS**

### **Business of Cathedral**

#### General

Cathedral is engaged in the business of providing directional drilling services to oil and natural gas companies in western Canada and the U.S. Cathedral carries on its activities in Canada and the U.S. under the name "Cathedral Energy Services" with one operating division: Directional Drilling. Subsequent to 2016 year-end, Cathedral divested its Flowback and Production Testing division. See "*General Development of the Business - Three Year History - 2016/2017*" for further details. Subsequent to 2013 year-end, Cathedral decided to terminate its pursuit of operations in Venezuela, and on February 29, 2016 Cathedral announced it had closed the sale of its Venezuelan investment by way of selling its wholly-owned Barbados subsidiary, DPI. See "*International Operations*" below for further details.

#### Directional Drilling

Cathedral's Directional Drilling division provides horizontal, directional and underbalanced drilling services. These services are provided in conjunction with the use of drilling rigs provided by drilling contractors who deal independently with Cathedral's customers.

Horizontal drilling involves drilling a well with a horizontal leg to the vertical well bore. By drilling horizontally into a formation, contact with the formation is significantly increased, allowing for substantially better production of hydrocarbons from the reservoir. In situations where low reservoir permeability exists, horizontal drilling allows operators to increase pay zone exposure resulting in increased production and recovery. As a result of advancements in well completion technologies by the way of combining horizontal drilling with multi-stage fracturing, the percentage of horizontal wells drilled in Canada and the U.S. has increased significantly. Directional drilling is the controlled drilling of a wellbore to a prescribed bottom hole location. Horizontal and directional drilling operations require three distinct and separate systems to steer the drill bit below the earth's surface to a pre-determined target – a mud motor, MWD technology and may include LWD systems such as gamma ray and resistivity systems.

The use of horizontal and directional drilling equipment allows for previously unattainable bottom hole targets to be accessed. In addition, horizontal and directional drilling is used when:

- (a) it is necessary to reach a specific subsurface target that is not accessible using conventional vertical drilling practices;
- (b) the desired target zone is located directly beneath an extremely complex surface obstacle such as a mountain, lake, river and swamp or, in some instances, towns or environmentally sensitive areas;

- (c) it is desired to increase well bore exposure to the reservoir frequently resulting in increased production volumes and recoverable reserves; and/or
- (d) in the case where multiple wells are drilled from the same location, as in the case of on-shore pad drilling where multiple wells are drilled from the same location.

The economic performance of horizontal and directional drilling results in a significant advantage over conventional drilling in environments of low permeability or in situations where producers want to accelerate production from a reservoir. Increased production results from the increased exposure of the reserves to the producing wellbore. Since 2010, there has been an increasing shift towards the redevelopment of older, mature basins and targeting zones both which were previously not viable until the introduction of new completion technologies that employ the use of horizontal, multi-stage fracturing technology. Hence, an increased net present value of the well is realized due to the more efficient production of available reserves. The number of non-vertical wells drilled in Canada and the U.S. as a percentage of the total number of wells drilled has increased significantly over the years and in 2016 represented approximately 93% of wells drilled in Canada and 88% of the wells drilled in the U.S. on average throughout the year<sup>1</sup>.

Conventional drilling uses weighted mud, the purpose of which is to provide sufficient pressure to offset wellbore pressure and to prevent a blowout. One of the challenges with many low-pressure reservoirs is to avoid the drilling mud penetrating into the reservoir. If the hydrostatic pressure of the mud column exceeds the reservoir pressure, mud may penetrate from the well bore into the reservoir causing formation damage which can negatively impact rates of production and recoverable reserves. To avoid this problem, a technique called underbalanced drilling is utilized.

Underbalanced drilling is utilized to minimize formation damage. Formation damage reduces the productivity of oil and gas reservoirs, particularly in open-hole horizontal well applications. To reduce formation damage the drilling mud is made lighter by injecting nitrogen or other inert gases into the wellbore reducing the hydrostatic pressure of the mud. In making the drilling mud lighter; however, the ability of fluid based transmissions to make their way to the surface becomes more difficult. The use of EM-MWD allows for the formation information to be transmitted almost instantaneously up to the surface. In many underbalanced drilling operations, benefits are seen as the result of a reduction in drilling time, greater rates of penetration, the rapid indication of productive reservoir zones and the potential for dynamic flow testing while drilling.

Horizontal re-entry drilling is a very economical method of increasing the recovery from an existing well. In utilizing the existing wellbore, the costs of drilling down to the "kick-off point" (point where direction deviates) are saved, while the existing surface facilities may be re-utilized. The efficiency of drilling horizontal re-entry wells increases dramatically as the depth of the horizontal target increases.

## Tools and Equipment

To facilitate directional and horizontal drilling operations a number of tools are often supplied by Cathedral as part of the Bottom Hole Assembly ("**BHA**"):

### *Measurement While Drilling Systems*

MWD systems are installed in the drill string as part of the BHA to provide real time measurements of basic trajectory parameters such as inclination, direction, tool-face and temperature. Additional sensors such as pressure, gamma-ray and resistivity may be added depending upon the specific

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<sup>1</sup> Source: Baker Hughes Rig Count data

application to provide LWD capabilities. The MWD/LWD system generally consists of three basic sections:

- Power Supply - Most tools are powered by batteries.
- Sensor Section - Hole trajectory is measured by a sensor stack that contains accelerometers and magnetometers. The inclination and roll of the tool is obtained using accelerometers. Magnetometers measure the earth's local magnetic field and provide a reference direction relative to magnetic north. Other sensors such as pressure, gamma-ray, and resistivity are typically housed in separate dedicated tool sections.
- Transmitter - MWD tools transmit in two basic manners, by sending pressure waves through the drilling mud (mud pulse) or by transmitting EM signals through the earth to surface. These signals are decoded at surface and used to determine the BHA trajectory parameters. The selection of mud pulse or EM transmission depends on a number of factors related to downhole conditions.

The Directional Drilling division currently has a fleet of 126 MWD which are allocated between Canada and the U.S. based on current and projected job demand. Of the MWD fleet, approximately 80% of the systems incorporate Cathedral's proprietary technology, a common technology platform referred to as FUSION™. The FUSION electronics platform not only facilitates data transmission to surface but also allows operational instructions for the tool to be transmitted downhole (talk-down) to manage power levels and other tool parameters.

Cathedral's MWD fleet consists of the following technologies:

- FUSION EM G5 is a proprietary EM transmission that allows continuous transmission of data from the BHA to surface which provides a number of benefits to customers related to drilling time savings and the ability to more efficiently retrieve additional downhole information. Cathedral has demonstrated that this technology works in formations where many conventional EM systems are not reliable.
- FUSION RP (Rotary Pulse) is Cathedral's proprietary mud pulse data transmission system that uses a direct drive rotary valve assembly which significantly reduces the chance of plugging in high-viscosity or lost circulation applications compared to traditional hydraulic-assist linear pulse systems.
- FUSION DT (Dual Telemetry) offers a data transmission system that uses both the FUSION EM and FUSION RP data transmission systems. The talk-down capabilities (from surface) of the FUSION platform enables the operating mode of the system to be quickly changed from its baseline EM setting to dual transmission mode in which EM and rotary pulse are both operating. The dual telemetry configuration captures the benefits of pulse or EM depending on drilling and formation conditions.
- HTR (High Temperature Retrievable) is a Cathedral modified third party pulse MWD tool used in situations that are not favorable to EM transmission or based on specific customer drilling requirements. This tool can be retrieved from the wellbore using wireline in the event the BHA gets stuck downhole.

The number of MWD systems in Cathedral's fleet may change over time as the fleet is upgraded or optimized to meet market conditions or if tools are lost during drilling operations or significantly damaged. Typically, Cathedral is reimbursed by the customer for tools that are lost-in-hole.

### *Positive Displacement Mud Motors*

Positive displacement drilling mud motors are designed to drill without drill string rotation - converting hydraulic energy (volume and pressure) into mechanical energy (torque and speed). The drilling motor turns or powers the drill bit. Increasing hydraulic and mechanical power to the bit is one of the major ways to improve drilling efficiency. A bend in the mud motor is used to steer the wellbore trajectory in directional and horizontal drilling applications. In addition, drilling motors are utilized in vertical drilling applications to increase the rate of penetration.

As of December 31, 2016 Cathedral had a motor fleet consisting of 746 motors ranging in sizes from 4-3/4" to 9-1/2" which is consistent with the vast majority of customer applications. Of the total motor fleet, 64% (65% in 2015) incorporate Cathedral's proprietary design branded under the nDurance® name. Cathedral occasionally rents or purchases third party motors to satisfy specific customer and technical requirements. The number of motors in Cathedral's fleet may change over time as the fleet is upgraded or optimized to meet market conditions or if motors and assemblies are lost during the drilling operation or significantly damaged. Typically Cathedral is reimbursed by the customer for tools that are lost-in-hole.

### *Drilling Jars*

Drilling jars are tools typically run in the BHA to aid in the recovery of the drill-string in the event of it becoming stuck. Although there are several configurations of jars available (mechanical, hydraulic, hydra mechanical) the basic function remains the same. Once stuck the drill string is pulled into tension, storing elastic energy in the pipe (stretch). When the tension exceeds a pre-set limit (known as the latch setting) the jar "fires" by releasing an internal mandrel allowing the drill string to slip by approximately 1/2 meter, delivering a slide-hammer (impact) blow to the stuck section of pipe. The jar may be reset and the process repeated until the pipe is freed.

### *Shock Subs*

Shock subs are used in the BHA to cushion heavy axial loading and bit vibrations that are encountered in rough drilling operations. These tools assist in extending the drill string life by reducing vibration and shock that can cause failures in the drill string. Additional benefits include extending the life of bits by reducing "bit bounce" and increased rate of penetration as a result of consistently keeping the bit in contact with the drilling surface.

## Well Planning Services

Cathedral's Well Planning and Engineering team develops comprehensive plans for clients on how to drill specific directional and horizontal wells. A complete well plan includes:

- a trajectory/directional profile that defines the well geometry;
- anti-collision and torque and drag analysis to confirm the drillability of the well; and
- BHA recommendations for each section of the well.

The main goal of Cathedral's Well Planning and Engineering team is to provide our customers with a plan to achieve an accurately placed, efficiently drilled wellbore that meets their objectives and any other regulatory constraints.

With the dramatic shift towards horizontal wells in the past decade, well planning has emerged as one of the most critical aspects of a drilling project. Cathedral's well planning team relies on its

accumulated knowledge and experience, reliable technology and innovative design solutions to achieve the most optimal well trajectories and BHA designs.

### Drilling Optimization Services

In 2016 Cathedral began offering an enhanced line of drilling optimization engineering services to its customers. Cathedral's Drilling Optimization Group provides technical insight into clients' drilling performance to deliver comprehensive recommendations for efficient and accurate wellbore placement. The Drilling Optimization Group also supports Cathedral's operations teams to enable them to achieve higher drilling performance and service quality.

The Drilling Optimization Group is structured to combine the expertise of our well planning, drilling operations, and engineering and technology personnel to provide analysis' and recommendations to improve drilling performance.

The role of the Drilling Optimization Group is to:

- achieve the most efficient well design by minimizing the effects of torque and drag;
- achieve the most effective well design by maximizing pay zone contact;
- provide BHA design, analytics and recommendations to clients on operational parameters during drilling to maximize drilling performance for the different sections and formations of the well using Cathedral or third party technology;
- structure a continuous improvement processes with customers and internally to ensure short and long term drilling performance goals and metrics are achieved; and
- provide technical feedback within Cathedral to enhance Cathedral's proprietary motors and MWD technology.

### Market for Services

Cathedral's revenues are directly impacted by the level of capital expenditures of oil and natural gas exploration and production entities in western Canada and the U.S. In turn, these levels of capital expenditures are affected by factors including, but not limited to, oil and natural gas prices, access to capital markets, government policies and weather.

Activity levels in the Canadian oilfield industry are subject to a degree of seasonality. Cathedral's operating activities are generally lower in April and May due to spring break-up, and activity levels increase in the fall, peaking during the winter months of December through to late March, inclusive. Activity levels in the U.S. are not subject to the degree of seasonality as in western Canada.

The active rig count is a good proxy for oilfield activity levels in the industry in which Cathedral operates. In 2015 and into mid-2016 there was a significant decline in drilling activity in North America. The average number of active drilling rigs in the U.S. declined 73% from 1,862 on average in calendar 2014 to 512 on average in 2016. After hitting a low of 404 active rigs in May 2016, the U.S. rig count grew to 658 active rigs at the end of December 2016. This improvement in rig drilling was largely attributable to improvements in oil and natural gas pricing in the second half of 2016. The active U.S. rig count as at February 24, 2017 was 754 (source: Baker Hughes Rig Count data). The average number of active drilling rigs in Canada declined 55% from 363 on average in calendar 2014 to 163 on average in 2016. Similar to the U.S., the Canadian rig count improved in the second half of 2016 compared to the first half as a result of an improved outlook for energy commodity prices. The active Canadian rig count as at February 24, 2017 was 262 (source: CAODC Rig Count Data).

Cathedral's sales and marketing group identifies customers by way of monitoring potential and/or historical drilling and completion activities in western Canada and the U.S. A sales representative of Cathedral then contacts potential customers that are identified. In some instances, contacts are made with engineering firms that provide drilling and completions advice to the oil and natural gas producers. Cathedral's strategy is to have a diversified portfolio of customers. At present, Cathedral's customers include large, intermediate and junior oil and natural gas exploration and development entities which are diversified by geography, producing or exploration basin and petroleum target type (eg. conventional and non-conventional source and oil and gas focus). However, at any one time Cathedral may have single customers that represent a large portion of its consolidated revenue (see "*Risk Factors*").

Cathedral does not enter into long-term contracts with customers which is typical and industry standard for Cathedral's business line. The working relationship between Cathedral and its customers is often governed by a master services agreement. See "*Risk Factors – Performance of Obligations*".

### **Competition**

The Directional Drilling division's competition ranges from large multinational companies to companies that are smaller than Cathedral's directional drilling operations. In addition to directly competing with Cathedral in providing horizontal, directional and underbalanced drilling services, many of the multi-national competitors carry out extensive research and development and manufacture their own drilling equipment or components thereof. Smaller directional drilling companies are often regional and procure or rent their equipment (eg. motors and MWD equipment) from third party providers who also provide this equipment to other companies. In the last few years, competition has also come from contract drillers who have entered into the business by purchasing directional drilling companies.

Cathedral believes it will remain competitive in its markets by capitalizing on:

- (a) the high quality of the state-of-art equipment and the ability of the personnel to effectively supervise all aspects of the services provided;
- (b) having a presence in all of the key North American oil and natural gas producing basins along with the size and scale to offer equipment, personnel and services to larger customers with multi-well drilling programs;
- (c) providing customers with additional value added services such as well planning and drilling optimization;
- (d) the reputation of the Corporation and management to secure important relationships and to ensure the highest possible quality for the services provided;
- (e) the ability to provide safe, consistent, reliable and effective service and personnel performing the service; and
- (f) continued investment in research and development to provide a competitive advantage over that of our competitors.

### **Access to Equipment and Technology**

Within the directional drilling segment, technological developments have been advancing at an increasing rate. Cathedral's business strategy and competitive differentiation is based on it having access to state-of-the-art horizontal and directional equipment. Prior to the third quarter of 2002, Cathedral did not develop its own equipment, instead it relied on external suppliers to design and supply, at a reasonable price,

the equipment it required to be competitive in the marketplace. The following is a chronological summary of advances in Cathedral's proprietary technology:

#### MWD Technology

- In the third quarter of 2002, Cathedral commenced, with the assistance of third parties, to develop its own MWD platform.
- In November 2003, the Trust announced that its G1 system had reached commercial status.
- In November 2005, the Trust announced its positive pulse MWD system (which is based upon the same MWD platform as the EM-MWD system) had reached commercial status.
- In December 2007, the Trust announced that its G2 system had achieved commercial status. The G2 system included bi-directional (talk down) communication which allowed for surface control of the tool to change data rates, power levels and data formats. This resulted in increased efficiency and power management which allowed for greater depth capability.
- In January 2008, Cathedral announced the commercial introduction of its RDS platform. RDS allows the secure transmission of drilling data from the rig site to Cathedral's Calgary operations center, which permits the full experience of MWD supervisors and directional coordinators to manage directional drilling activities and obtain LWD data in real time from a central location. This system allows Cathedral to reduce the number of field personnel required on a job, thereby reducing the costs to both Cathedral and its customers. RDS continues to be utilized by Cathedral customers primarily for LWD applications.
- In late 2008, the G3 system was launched. The G3 system improved formation impedance matching and concurrently increased the data signal encoding, detection and filtration. The result has allowed the EM-MWD system to operate effectively in the southeast Saskatchewan market where competitors had not been able to deploy their own EM-MWD systems. In conventional markets, these improvements allowed the EM-MWD system to operate at depths greater than the G2 modifications made during 2007.
- In March 2010, Cathedral announced its intention to gradually convert its EM-MWD fleet to its next generation system (ultimately called Fusion MWD system) that provides for improved packaging of electronic and other components within the EM-MWD tool, which will improve the durability in high shock and vibration environments.
- In May 2011, Cathedral launched its Fusion MWD system. The Fusion MWD system is based on a customizable modular platform which provides operators with enhanced performance, reliability and accuracy in drilling environments that are challenging and of greater depth. The Fusion MWD system is designed to be fully customizable by the operator with the choice of EM transmission, positive mud pulse transmission or dual telemetry transmission. The operator has the option of telemetry type that best suits their drilling requirements and offers the most economic alternative. In the EM transmission mode the Fusion MWD system provides for increased power capabilities and enhanced filtering over previous designs, resulting in a more efficient signal and thereby allowing for successful data transmission at greater drilling depths. The modular design not only allows for standard and focal gamma logging capabilities as well as "resistivity" logging as an add-on. Cathedral now offers what is considered as a complete "LWD" (logging while drilling) package.

- In 2013, Cathedral introduced design enhancements to the Fusion base EM tool that significantly enhanced EM telemetry as compared to the predecessors. The Corporation has built new tools with the design enhancements and has an upgrade program to convert older (G2) systems as they attrition.
- In 2013, Cathedral initiated field testing of near bit inclination and gamma sensors that sense those parameters adjacent to the bit allowing customers to change trajectory faster than conventional MWD sensor placement. Two variations of design were pursued: a separate sub that would be placed between the drilling motor and bit and a drilling motor with sensors placed within the bearing section. Through the testing process it was decided in 2015 to abandon the separate sub design and focus on the smart motor design. In 2015, Cathedral conducted field tests on the mechanical aspects of the tool and will continue development in 2017.

Cathedral initiated design of the downhole power generator in 2013 with the objective of replacing costly lithium batteries and being able to operate the EM-MWD system at higher power levels allowing for increased transmission capabilities. Prototypes of the generator were field tested in 2015 and 2016.

- In 2014, Cathedral introduced a number of new proprietary technologies as follows:
  - Upgraded MWD capabilities – further enhancements of Cathedral's MWD technology platform adding a number of features to reduce cost and improve reliability and accuracy.
  - Downhole monitoring system – introduced downhole sensor technology which enables real time monitoring of critical parameters related to drilling performance which is branded under the HAWK™ ("**Hawk**") name.
  - Gamma Sensor – Cathedral has developed its own Gamma sensor technology aimed at providing improved measurement capability, improved reliability and lower cost relative to previously purchased systems.
- In 2015, Cathedral officially released the following product enhancements to its Fusion MWD technology platform:
  - Fusion EM-G5 – Enhanced EM Transmission – Cathedral's Fusion EM system was improved by incorporating higher power levels and enhanced transmission and detection technologies. In addition, two-way (talk down) communication with Fusion EM-G5 allows power level changes to be made while drilling to optimize battery consumption and extend tool run times. As a result of these enhancements, Fusion EM-G5 now offers a means for Cathedral's customers to realize the drilling time benefits of EM-MWD technology in a wider range of formations in key basins across North America where traditional EM systems have not been successful.
  - Hawk – Downhole Monitoring System – Cathedral's Hawk downhole monitoring system is a recent addition to the Fusion technology platform which records stick-slip, shock and vibration data and transmits this information in real-time to surface. This information can then be used to alter drilling parameters to reduce excessive bit wear and mitigate downhole equipment damage. By using the Hawk system, operators are able to optimize rate of penetration while minimizing unnecessary trips and other non-productive time.
  - Vibration Dampening System - Utilizing data logged by the Hawk system, Cathedral developed specialized mounting systems for gamma ray and directional sensors that can be tuned to greatly reduce the vibration levels experienced downhole. The result is ruggedized sensors that reduce downhole sensor vibration and shock levels significantly.

With fewer downhole sensor failures, Cathedral's customers will achieve more productive drilling time and the ability to pursue higher rates of penetration when using aggressive bits and drill string vibration tools.

- In 2016 Cathedral focused its MWD technology development efforts on sustaining operations, improving equipment reliability, and field testing of technologies in development. In the new product development area, the following technologies were further advanced:
  - Downhole power generator - In 2016, Cathedral made numerous improvements to its downhole generator prototype and as of Q1 2017 considers the design commercial in 4-3/4" and 6-1/2" size ranges. Further development efforts in 2017 will be focused on improving service intervals allowing the tool to operate in a broader number of applications. The generator is anticipated to have several key benefits:
    - Reducing battery costs related to the use of Cathedral's MWD tools.
    - Allowing for full use of the G5 EM transmission power capabilities which will allow for EM use in areas currently not ordinarily applicable for EM MWD.
    - Mitigation of HSE concerns arising from use of Lithium Batteries.

Cathedral has planned an initial build of commercial generator units in 2017 and will ramp up inventory of this system based on economic returns, strategic and market considerations and client acceptance of this technology.

- Linear Pulser - In 2016 Cathedral made significant progress on the development of a new mud pulse MWD technology incorporating a linear pulser design. The linear pulser design involves a retrievable mud pulse data transmission technology that largely eliminates drilling mud plug-off and other problems often associated with conventional mud pulse systems. This technology will be included as a component of Cathedral's FUSION MWD technology platform resulting in Cathedral being less dependent on third party technology (such as HTR) for certain drilling applications. During 2016 a prototype of the linear pulser underwent field testing. Commercial release of the linear pulser is expected to occur in 2017.

### Drilling Motors

In December 2011, Cathedral announced that extensive testing of its proprietary mud motor design had been completed and initial capital build out had commenced. The first mud motors from the initial build out were received in 2013 Q1. This represents another step by Cathedral in its vertical integration model and desire to control the majority of its required directional drilling equipment along with reducing costs and improving the capabilities and reliability of its equipment.

In 2014 a new motor design was developed applicable to certain drilling conditions where high revolution per minute drill bit capabilities are required. In addition Cathedral introduced improved designs for shock subs and drilling jars within its fleet.

In 2015, and to a significantly lesser extent in 2016 due to economic conditions, Cathedral continued to apply its proprietary motor design to more sizes within its motor fleet and to replace equipment lost down hole.

In 2016 additional mud motor configurations and designs were evaluated for potential addition to Cathedral's motor fleet in the future.

At any one time, Cathedral's technology development strategy and product development backlog may change depending on market conditions, economic considerations, development risk and customer demand.

### **Geographical Location and Facilities**

Cathedral's main office is located in Calgary, Alberta. As the center for oil and natural gas activity in Canada, Calgary provides advantages for Cathedral in terms of availability of key employees and management and proximity to important customers.

#### **Canadian Operations**

Cathedral has operations/repair shops located in strategic locations including Calgary, Alberta, Nisku, Alberta and Emerald Park, Saskatchewan. The operations facility location in Nisku provides a strategic advantage in terms of increasing and maintaining service to the regions of northern Alberta and northeastern British Columbia and the Emerald Park facility provides the same strategic advantage in the southeast Saskatchewan and Manitoba markets. The manufacturing of Cathedral's proprietary motors is largely conducted out of the Nisku facility. Planning, engineering and coordination of Canadian field directional/horizontal drilling operations is carried out from Cathedral's "6030 Campus" in Calgary, Alberta. In addition, Cathedral develops and enhances its proprietary MWD technology at the 6030 Campus. Cathedral mobilizes its equipment and personnel to the well locations of its customers from these operations/repair shops. Sales activities are coordinated from Cathedral's office in downtown Calgary, Alberta.

#### **U.S. Operations**

Cathedral has operations/repair shops strategically located in Casper, Wyoming, Washington, Pennsylvania, Oklahoma City, Oklahoma and Houston, Texas. From these locations Cathedral has the capability to provide its services in all the major U.S. oil and natural gas basins. Cathedral maintains an office in Denver, Colorado providing for sales and operations as well as administration support. U.S. sales activities are coordinated from Cathedral's Oklahoma facility.

#### **International Operations**

In 2007, Cathedral began pursuing directional drilling business opportunities in South America. From 2008 to 2013, Cathedral acquired land and buildings; shipped downhole equipment; established a joint venture company with PDVSA Servicios which provided for the formation of a joint stock company, Vencana, in which PDVSA Servicios Petroleros owns 60% of the capital stock and DPI owns the remaining 40%; established plans to conduct wireline and production testing services; executed a key agreement towards commencement of operations in Venezuela through Vencana, whereby PDVSA Servicios Petroleros had paid to Cathedral its 60% share of the sale proceeds relating to the sale contemplated by the agreement with the remaining 40% of the consideration being Cathedral's contribution to the joint venture; and executed operating agreements.

During 2014 Q1, Cathedral decided to terminate its pursuit of operations in Venezuela. Management determined the expected political, financial and operational risks do not warrant continuing to pursue business opportunities in Venezuela. Furthermore, management is of the belief there are greater growth opportunities in the North American market and particularly in the U.S. Management has taken action to reduce Venezuela costs and on-going costs associated with the wind down of Venezuela operations are expected to be minimal. Cathedral provided its joint venture partner, PDVSA, with notice that it is pursuing its contractual alternative to find a third-party to purchase Cathedral's 40% interest in Vencana or having Cathedral's joint venture partner purchase its interest. At December 31, 2014, the

Corporation has recorded a write-down of its investment in Vencana and certain assets located in Venezuela in the amount of \$13.1 million. During 2014 there was a minor recovery of \$0.2 million.

On February 29, 2016, Cathedral announced it had closed the sale of its Venezuelan investment by way of selling its wholly-owned Barbados subsidiary, DPI. See "*General Development of the Business - Three Year History –2016/2017*".

### **Employees**

As at December 31, 2016, Cathedral had a total of 310 full-time employees (Canada – 116 and U.S. – 194) involved in its directional drilling business. In addition, as at December 31, 2016, Cathedral employed the services of 83 field and office consultants and subcontractors (Canada – 77 and U.S. – 6) in its directional drilling business. As at December 31, 2016, Cathedral had a total of 59 employees and 8 field and office consultants and subcontractors involved in its flowback and production testing division. The flowback and production testing division was divested by Cathedral in January 2017. See "*General Development of the Business - Three Year History –2016/2017*".

### **DIVIDEND POLICY**

Cathedral's Board of Directors reviews the amount of dividends paid (if any) on a quarterly basis. Cathedral's ability to make dividend payments to Shareholders is dependent upon the operations and business of Cathedral. There is no assurance regarding the amounts of excess cash flow that may be available from Cathedral's operating activities and business on a sustainable basis that could be available to fund future dividends or if dividends will be declared at all. The actual amount of any dividends will depend on a variety of factors, including without limitation, the current performance of Cathedral, historical and future trends in the business, the expected sustainability of those trends, enacted tax legislation impacting future taxes payable as well as required long-term debt repayments, maintenance capital expenditures required to sustain performance, future growth capital expenditures, effects of acquisitions or dispositions on Cathedral's business, and other factors that may be beyond the control of Cathedral or not anticipated by management of Cathedral.

Cathedral paid or declared payable the following dividends to the Shareholders over the three most recently completed financial years:

<u>Dividend Record Date</u>	<u>Dividend Payment Date</u>	<u>Dividend per Common Share</u>
December 31, 2013.....	January 15, 2014	\$0.0825
March 31, 2014.....	April 15, 2014	\$0.0825
June 30, 2014.....	July 15, 2014	\$0.0825
September 30, 2014.....	October 15, 2014	\$0.0825
December 31, 2014.....	January 15, 2015	\$0.0825
March 31, 2015.....	April 15, 2015	\$0.04
June 30, 2015.....	July 15, 2015	\$0.04
September 30, 2015.....	October 15, 2015	\$0.04

Based on the reductions in commodity prices, the resulting decline in industry activity levels in 2015 and 2016, and uncertainties around future expected activity levels, the Board of Directors made the decision to suspend the payment of Cathedral's quarterly dividend in late 2015. The decision to suspend the dividend was made in order to preserve cash, manage liquidity, invest selectively in capital asset additions and pursue operational initiatives to better position the Corporation for improved industry

conditions. The Board of Directors will review dividend distributions on a quarterly basis giving consideration to the factors set forth in the above paragraph under "*Dividend Policy*". It is the long-term intent of the Corporation to pay quarterly dividends to Shareholders.

The Corporation's amended credit facility currently in effect with The Bank of Nova Scotia and Export Development Canada provides restrictions with respect to the payment of dividends without the prior unanimous consent of the lenders in the event a Default or Event of Default (as such terms are defined in the credit agreement as amended) has occurred, is continuing at the time of, or is reasonably expected to exist after giving effect to, the making of such dividend payment, or during the Covenant Relief Period (as defined in the credit agreement, as amended, being the fiscal quarter ended on December 31, 2015 through and including the fiscal quarter ending December 31, 2018). See "*Material Contracts*".

## **GENERAL DESCRIPTION OF CAPITAL STRUCTURE**

The authorized share capital of the Corporation consists of an unlimited number of Common Shares and an unlimited number of Preferred Shares, issuable in series. The following is a summary of the rights, privileges, restrictions and conditions attaching to each class of shares of Cathedral.

### *Common Shares*

The holders of Common Shares are entitled to: (i) receive notice of and to vote at every meeting of shareholders of Cathedral and shall have one vote thereat for each such Common Share so held; (ii) receive any dividend declared on the Common Shares by Cathedral subject to the rights of the holders of Preferred Shares; and (iii) subject to the rights, privileges, restrictions and conditions attached to the Preferred Shares, receive the remaining property of Cathedral on dissolution, liquidation or winding up.

### *Preferred Shares*

Preferred Shares may, from time to time, be issued in one or more series, each series to consist of such number of shares as may, before the issue thereof, be fixed by the directors of Cathedral. The directors may additionally determine the designation, rights, privileges, restrictions and conditions attaching to the Preferred Shares, including, without limiting the generality of the foregoing, the rate or amount of preferential dividends and the date of payment thereof, voting rights (if any), the redemption, purchase and/or conversion price and conditions of redemption, purchase and/or conversion, if any, and any sinking fund or other provisions. The Preferred Shares rank in priority to the Common Shares as to payment of dividends and the distribution of assets in the event of dissolution, liquidation or winding-up.

As of the date hereof, there are 48,916,451 Common Shares and nil Preferred Shares issued and outstanding.

## **MANAGEMENT'S DISCUSSION AND ANALYSIS**

Reference is made to the section entitled "Management's Discussion and Analysis" prepared in connection with the consolidated financial statements for the year ended December 31, 2016. The "Management's Discussion and Analysis" is incorporated herein by reference and is available on SEDAR ([www.sedar.com](http://www.sedar.com)).

## **MARKET FOR SECURITIES**

The Common Shares are listed and posted for trading on the TSX under the trading symbol "CET". The following table sets forth certain trading information in respect of the Common Shares for the most recently completed financial year.

	Trading Price (\$)	Price Range (\$)		Trading
	Close	High	Low	Volume
<b>2016</b>				
January	0.355	0.49	0.25	845,681
February	0.33	0.37	0.30	863,953
March	0.43	0.56	0.33	1,180,898
April	0.32	0.43	0.28	2,806,639
May	0.315	0.33	0.29	2,244,192
June	0.56	0.58	0.29	3,864,286
July	0.74	0.84	0.50	2,817,195
August	0.44	0.75	0.395	3,326,526
September	0.435	0.47	0.40	2,412,021
October	0.40	0.45	0.39	2,186,113
November	0.37	0.40	0.34	2,732,357
December	0.67	0.69	0.38	4,115,230

### DIRECTORS AND EXECUTIVE OFFICERS

The names, municipalities of residence, positions with Cathedral, and principal occupations of the directors and executive officers of Cathedral, and the number of voting securities of Cathedral and its subsidiaries beneficially owned, or controlled, directly or indirectly, by such directors and executive officers are set out below. The Board presently consists of seven (7) directors. All directors were duly elected at Cathedral's annual and special meeting of Shareholders held on May 12, 2016 to hold office until the next annual meeting of Shareholders or until his successor is duly elected or appointed unless his office is earlier vacated in accordance with the provisions of the ABCA or Cathedral's by-laws.

<u>Name, Municipality of Residence and Position</u>	<u>Director/ Executive Officer Since</u>	<u>Principal Occupation for Last Five Years</u>	<u>Common Shares Beneficially owned or Controlled, Directly or Indirectly</u>
P. Scott MacFarlane Calgary, Alberta <i>Director, President and Chief Executive Officer</i>	December 19, 2013/April 1, 2001	Chief Executive Officer of the Corporation since October 2013. Prior thereto, Chief Financial Officer of the Corporation since April 1, 2001.	395,552
Randal H. Pustanyk Chestermere, Alberta <i>Director, Executive Vice President and Corporate Secretary</i>	October 30, 2000	Executive Vice President, Directional Drilling Product Lines since July 2016. Prior thereto, Chief Operating Officer of the Corporation since October 2013. Prior thereto, Vice President, Operations of the Corporation since June 2000.	621,841
Rod Maxwell <sup>(1)(4)</sup> Calgary, Alberta <i>Chairman and Director</i>	October 30, 2000	Managing Director of StoneBridge Merchant Capital Corp., a private equity investment firm, located in Calgary, Alberta, that invests in growing private companies.	515,879
Jay Zammit <sup>(2)</sup> Calgary, Alberta <i>Director</i>	November 6, 2003	Chairman and Counsel at the law firm of Burstall Winger Zammit LLP in Calgary, Alberta.	50,700

<u>Name, Municipality of Residence and Position</u>	<u>Director/ Executive Officer Since</u>	<u>Principal Occupation for Last Five Years</u>	<u>Common Shares Beneficially owned or Controlled, Directly or Indirectly</u>
Scott Sarjeant <sup>(1)(3)</sup> Calgary, Alberta <i>Director</i>	April 7, 2003	President and CEO of PremiAx Financial Corp. (" <b>PremiAx</b> ") since April 2003. PremiAx is a non-bank financial institution involved in leasing and other financial businesses targeted at the energy industry, and also invests in equity and debt issued by well-established Canadian companies.	653,998
Ian S. Brown <sup>(1)(3)</sup> Calgary, Alberta, <i>Director</i>	December 18, 2009	Since January 2006 Mr. Brown has been an independent consultant. Prior thereto, Mr. Brown was the Senior Managing Director, Raymond James Ltd. from May 1995 until December 2005.	124,286
David Diachok Okotoks, Alberta <i>Vice President, Sales</i>	May 9, 2005	Vice President, Sales of the Corporation since May 2005. From September 2002 to May 2005 Sales Manager of the Corporation. Prior thereto, Sales Representative at Halliburton Services.	84,599
Michael F. Hill Calgary, Alberta <i>Chief Financial Officer</i>	September 1, 2014	Chief Financial Officer of the Corporation since September 2014. Prior thereto, Mr. Hill was Chief Operating Officer at Mosaic Capital Corporation from April 2013 to July 2014. From December 2010 to March 2013, Mr. Hill was President of MISSION Capital Inc. a consulting company providing corporate finance and advisory services. Prior thereto, Mr. Hill was Chief Executive Officer of Evoco Inc. from January 2010 to December 2010, having served as part-time Chief Financial Officer of such company prior thereto.	121,286
Bogdan Picioareanu Calgary, Alberta <i>Vice President, Technology</i>	June 1, 2009	Vice President, Technology of the Corporation since June 1, 2009.	122,111
Dale E. Tremblay <sup>(2)</sup> Calgary, Alberta <i>Director</i>	October 6, 2015	Mr. Tremblay is an independent businessman. From December 2009 to December 2013, Mr. Tremblay was the Chairman and Chief Executive Officer of Western Energy Services Corp., an oilfield drilling and well servicing company in western Canada and portions of the U.S.	109,286

Notes:

- (1) Member of the Audit Committee of which Mr. Brown is chairman.
- (2) Member of the Compensation Committee of which Mr. Tremblay is chairman.
- (3) Member of the Governance Committee of which Mr. Sarjeant is chairman.

### **Ownership of Common Shares**

As at the date hereof, the directors and executive officers of Cathedral, as a group, owned or controlled, directly or indirectly, an aggregate of 2,799,538 Common Shares, being approximately 5.72% of the issued and outstanding Common Shares.

### **Cease Trade Orders**

To the knowledge of Cathedral, no director or executive officer is, as of the date of this AIF, or was within ten (10) years prior to the date of this AIF, a director, chief executive officer or chief financial officer

of any company (including Cathedral) that: (i) was subject to a cease trade order, an order similar to a cease trade order or an order that denied Cathedral access to any exemption under securities legislation and which order was in effect for a period of more than thirty (30) consecutive days while the director or executive officer was acting in the capacity as director, chief executive officer or chief financial officer of such company; or (ii) was subject to any of the foregoing orders for a period of more than thirty (30) consecutive days after the director or executive officer ceased to be a director, chief executive officer or chief financial officer of such company and which resulted from an event that occurred while that person was acting in such capacity.

### **Bankruptcies**

To the knowledge of Cathedral and other than as disclosed below, no director, executive officer or Shareholder holding a sufficient number of securities to affect materially the control of Cathedral is, as of the date of this AIF, or was within ten (10) years prior to the date of this AIF, a director or executive officer of any company (including Cathedral) that, while such person was acting in that capacity, or within a year of that person ceasing to act in that capacity, became bankrupt, made a proposal under any legislation relating to bankruptcy or insolvency or was subject to or instituted any proceedings, arrangement or compromise with creditors or had a receiver, receiver-manager or trustee appointed to hold its assets.

In 2004, Premiix Financial Corp. ("**Premiix**"), which is wholly owned by Scott Sarjeant, invested \$5.1 million in a mezzanine finance transaction with L.O.P. Inc. ("**LOP**"), a private company involved in the fabrication and servicing of oilfield equipment in western Canada. In this transaction, Premiix purchased LOP's office and shop facilities under a sale/leaseback arrangement, and also made a subordinated loan and acquired a 20% equity interest in LOP. Mr. Sarjeant was appointed to the LOP board as Premiix's representative on June 29, 2004. In 2006, LOP got into financial difficulty. Mr. Sarjeant resigned from the LOP board on November 29, 2006. On January 29, 2007, with Premiix's cooperation, LOP's bank put LOP into receivership. All bank loans to LOP were fully recovered in May, 2007. Premiix then reappointed the receiver to continue the LOP receivership on Premiix's own behalf to recover its subordinated loan. The receivership was completed in 2011.

On June 12, 2007, Robert Chaisson was elected a director of Piper Resources Ltd. ("**Piper**"), a widely-held, non-listed exploration, development and production company. On February 19, 2008, Piper obtained creditor protection under the *Companies' Creditors Arrangement Act* (Canada) ("**CCAA**"). On August 7, 2008, Mr. Chaisson resigned as a director of Piper. On August 18, 2008 Piper was adjudged bankrupt.

Rod Maxwell acted as a director of Patch International Inc. ("**Patch**") from January 2007 until April 2009. Patch's wholly-owned subsidiary, Patch Energy Inc. ("**Patch Energy**"), of which Mr. Maxwell was not a director or officer, filed a proposal (the "**Proposal**") to its creditors under the *Bankruptcy and Insolvency Act* (Canada) ("**BIA**") on August 20, 2009 which was accepted by creditors at a meeting held on September 9, 2009. Pursuant to the Proposal, Patch Energy subsequently sold all of its assets to its working interest partner and the working interest partner's joint venture partner. The Alberta Securities Commission issued a cease trade order against Patch on October 2, 2009 for failing to make required annual continuous disclosure filings for its financial year ended May 31, 2009.

Dale E. Tremblay was a director of Liv Spa Inc., a private company that was placed into voluntary bankruptcy on August 22, 2008, which bankruptcy was completed on December 2, 2009. Mr. Tremblay was also a director of GASFRAC Energy Services Inc. ("**GASFRAC**") between May 27, 2014 and February 13, 2015. Pursuant to court supervised creditor protection proceedings commenced under the CCAA, GASFRAC sold most of its operating assets and intellectual property to a third party service industry competitor on April 7, 2015 and subsequently then completed a court approved CCAA Plan of Compromise and Arrangement pursuant to which a third party service industry competitor

acquired 100% equity ownership of GASFRAC as an operating entity on July 7, 2015. Mr. Tremblay was also a director of ATK Oilfield Transportation Inc. ("**ATK**"), a private oilfield services company, until April 1, 2019. ATK was placed into receivership following an application by its creditors on April 1, 2016.

Messrs. Rod Maxwell and Jay Zammit were directors of Iona Energy Inc. ("**Iona**"), a public oil and gas company that held assets in the United Kingdom's North Sea, until November 24, 2015, being the date on which Iona announced that it was highly likely that its wholly owned United Kingdom subsidiaries, Iona Energy (UK) Company plc ("**Iona UK**") and Iona UK Huntington Limited ("**Iona Huntington**") would commence insolvency procedures. All of the board of directors and officers of Iona, including Messrs. Maxwell and Zammit, resigned effective November 24, 2015. On January 6, 2016, representatives of FTI Consulting LLP were appointed as joint administrators of Iona UK and Iona Huntington.

Mr. Zammit was a director of GroundForce Geodrilling Solutions Inc. ("**GroundForce**") a private company that provided services to the oil and gas, mining, geothermal and ground water sectors in Western Canada. Pursuant to the BIA, Deloitte Restructuring Inc. was appointed by the Court as receiver and manager of GroundForce. On November 17, 2015, GroundForce was adjudged bankrupt by the Court and Deloitte Restructuring Inc. was appointed by the Court as the trustee in bankruptcy of GroundForce on such date.

Mr. Ian Brown was a director of Lightstream Resources Ltd., a public oil and gas company that commenced proceedings under the CCAA on September 26, 2016. Effective December 29, 2016, concurrent with the completion of the sale of all of the assets and business of Lightstream Resources Ltd. to a third party, all directors, including Mr. Brown, resigned from the board of directors.

To the knowledge of Cathedral, no director or executive officer of Cathedral, or Shareholder holding a sufficient number of securities to affect materially the control of Cathedral has, within the ten (10) years before the date of this AIF, become bankrupt, made a proposal under any legislation relating to bankruptcy or insolvency, or become subject to or instituted any proceedings, arrangement or compromise with creditors, or had a receiver, receiver manager or trustee appointed to hold the assets of the director, executive officer or Shareholder.

### **Penalties or Sanctions**

To the knowledge of Cathedral, no director or executive officer of Cathedral, or Shareholder holding a sufficient number of securities to affect materially the control of Cathedral has been subject to any penalties or sanctions imposed by a court relating to securities legislation or by a securities regulatory authority or has entered into a settlement agreement with a securities regulatory authority, or has been subject to any other penalties or sanctions imposed by a court or regulatory body that would likely be considered important to a reasonable investor in making an investment decision.

### **Conflicts of Interest**

Jay Zammit, a director of Cathedral, is Chairman and Counsel at Burstall Winger Zammit LLP, which provides legal services to Cathedral on a fee for services basis. There may be potential conflicts of interest to which the directors and officers of Cathedral will be subject in connection with the operations of Cathedral. Conflicts, if any, will be subject to the procedures and remedies available under the ABCA. The ABCA provides that in the event that a director has an interest in a contract or proposed contract or agreement, the director shall disclose his interest in such contract or agreement and shall refrain from voting on any matter in respect of such contract or agreement unless otherwise provided by the ABCA.

## **LEGAL PROCEEDINGS AND REGULATORY ACTIONS**

To the knowledge of Cathedral and other than as disclosed below, neither Cathedral nor any of its subsidiaries is a party to any legal proceeding nor was it a party to any legal proceeding during the financial year ended December 31, 2016, nor is Cathedral aware of any contemplated legal proceeding involving Cathedral or its subsidiaries or any of its property which involves a claim for damages exclusive of interest and costs that may exceed 10% of the current assets of Cathedral.

In November 2014 and April 2015, Cathedral's wholly-owned subsidiary, Cathedral Energy Services Inc., was named in the Collective Actions. In both Collective Actions the Claimants alleged that they were improperly classified as exempt under the FLSA and therefore entitled to unpaid overtime or additional compensation because overtime was improperly calculated. Legal actions involving similar alleged violations have been filed in the U.S. against a number of other oilfield service companies. Cathedral Energy Services Inc. filed defenses for both Collective Actions, and on August 9, 2016 Cathedral announced it had entered into the FLSA Settlement Agreement in respect of the Collective Actions. The FLSA Settlement Agreement provides a mechanism for finally resolving and releasing the claims for all Claimants.

All claims in both Collective Actions have been settled and the United States District Court for the Southern District of Texas, Houston approved the settlement of the Houston Action on August 8, 2016.

Under the terms of the FLSA Settlement Agreement, the parties will establish a settlement fund of up to USD \$3.4 million. The final determination of the settlement fund amount was based on the number of claimants that participated in the settlement at the end of December 2016, which under the terms of the FLSA Settlement Agreement is confidential. The settlement fund payments will be paid quarterly by the Company over a three-year period with the final payment due on or before September 2019. The quarterly payments may be accelerated in the event Cathedral meets certain financial targets over the payment period and can be deferred if a scheduled payment would put Cathedral in violation of its credit facility covenants subject to not more than three payments being deferred. Any FLSA settlement fund payments made by Cathedral exceeding USD \$200,000 are subject to the approval of Cathedral's banking syndicate. During 2016, payments in the aggregate amount of \$851,000 were made.

See "*General Development of the Business – Three Year History – 2016/2017*" for more information in respect of a claim filed against Cathedral's U.S. subsidiary in connection with a down-hole drilling incident.

Cathedral is not aware of any penalties or sanctions imposed against the Corporation by a court relating to securities legislation or by a securities regulatory authority during the financial year ended December 31, 2016, any other penalties or sanctions imposed by a court or regulatory body against the Corporation that would likely be considered important to a reasonable investor in making an investment decision or any settlement agreement that the Corporation entered into before a court relating to securities legislation or with a securities regulatory authority during the financial year ended December 31, 2016.

## **INTEREST OF MANAGEMENT AND OTHERS IN MATERIAL TRANSACTIONS**

No director or executive officer of Cathedral, or any person that beneficially owns, or controls or directs, directly or indirectly, more than 10% of the Common Shares, or any associate or affiliate of any of the foregoing has had any material interest, direct or indirect, in any transaction since the commencement of Cathedral's three most recently completed financial years or during the current

financial year, or in any proposed transaction, that has materially affected or is reasonably expected to materially affect Cathedral or any of its subsidiaries.

### **AUDITORS, REGISTRAR AND TRANSFER AGENT**

The auditors of Cathedral are KPMG LLP, Calgary, Alberta. Computershare Trust Company of Canada in Calgary, Alberta is registrar and transfer agent for the Common Shares.

### **MATERIAL CONTRACTS**

The following are contracts material to Cathedral and can be viewed under Cathedral's profile on the SEDAR website at [www.sedar.com](http://www.sedar.com):

- (i) On January 16, 2017, Cathedral entered into a seventh amending agreement with the Bank of Nova Scotia, National Bank of Canada and Export Development Canada (See "*General Development of the Business – Three Year History – 2016/2017*")
- (ii) On December 22, 2016, Cathedral entered into a sixth amending agreement with the Bank of Nova Scotia, the National Bank of Canada and Export Development Canada (See "*General Development of the Business – Three Year History – 2016/2017*")
- (iii) On December 16, 2016, Cathedral and Cathedral Energy Services Inc. entered into an asset purchase and sale agreement with Ideal Completions Group LLC pursuant to which Cathedral divested its flowback and production testing assets (See "*General Development of the Business - Three Year History - 2016/2017*")
- (iv) On September 2, 2016, Cathedral entered into a fifth amending agreement with the Bank of Nova Scotia, National Bank of Canada and Export Development Canada (See "*General Development of the Business – Three Year History – 2016/2017*")
- (v) On August 9, 2016, Cathedral entered into a fourth amending agreement with the Bank of Nova Scotia and National Bank of Canada (See "*General Development of the Business – Three Year History – 2016/2017*")
- (vi) On June 30, 2016, Cathedral entered into a third amending agreement with the Bank of Nova Scotia and National Bank of Canada (See "*General Development of the Business – Three Year History – 2016/2017*")
- (vii) On January 27, 2016, Cathedral entered into a second amending agreement with The Bank of Nova Scotia and National Bank of Canada (See "*General Development of the Business - Three Year History – 2016/2017*")
- (viii) On June 15, 2015, Cathedral entered into a first amending agreement with The Bank of Nova Scotia and National Bank of Canada (See "*General Development of the Business - Three Year History – 2015*")
- (ix) On August 8, 2014, Cathedral entered into an amended and restated credit agreement with a syndicate of lenders consisting of The Bank of Nova Scotia, the sole lender with respect to Cathedral's prior facility, and National Bank of Canada (See "*General Development of the Business - Three Year History – 2014*")

## **RISK FACTORS**

### **Crude Oil and Natural Gas Prices**

Demand for the services provided by Cathedral is directly impacted by the prices that Cathedral's customers receive for the crude oil and natural gas they produce. The prices received and the volumes produced have a direct correlation to the cash flow available to invest in drilling activity and other oilfield services. The markets for oil and natural gas are separate and distinct and are largely driven by supply and demand factors. Oil is a global commodity with a vast distribution network. As natural gas is most economically transported in its gaseous state via pipeline, its market is dependent on pipeline infrastructure and is subject to regional supply and demand factors. Recent developments in the transportation of liquefied natural gas ("LNG") in ocean going tanker ships could introduce more of an element of globalization to the natural gas market. Crude oil and natural gas prices are quite volatile, which accounts for much of the cyclical nature of the oilfield services business.

Prices for oil and natural gas are subject to large fluctuations in response to relatively minor changes in the supply of, and demand for, oil and natural gas, market uncertainty and a variety of additional factors beyond the control of Cathedral. These factors include economic conditions in the U.S. and Canada, the actions of the Organization of Petroleum Exporting Countries ("OPEC"), government regulation, political stability in the Middle East and elsewhere, the foreign supply of oil and natural gas, risks of supply disruption, the price of foreign imports, technological advances improving the efficiency of oil and natural gas extraction and production, and the availability of alternative fuel sources and other advances that reduce energy use efficiency impacting consumption. In addition to pricing determined based on worldwide or North American supply and demand factors, there are a number of regional factors that also influence pricing such as transportation capacity, oil and natural gas physical properties and local supply and demand. Petroleum prices are expected to remain volatile for the near future as a result of market uncertainties over the supply and the demand of these commodities related to the current state of the world economies, OPEC actions and credit availability and liquidity concerns in the energy industry.

During 2016, the price of West Texas Intermediate Crude more than doubled from its February low of approximately USD \$26/bbl to end the year at approximately USD \$54/bbl. This price improvement positively impacted the Corporation's business; however, crude prices remain approximately 50% below the price of approximately USD \$108/bbl achieved in June 2014. Commodity prices at the current levels may not be supportive of oil and natural gas development and exploration spending historically. Furthermore, continued price movements of this magnitude may impact E&P companies' willingness to commit to capital spending, which in turn may have a significant adverse effect on the Corporation's business and financial results.

World crude oil prices and North American natural gas prices, including LNG, are not subject to control by Cathedral. With that in mind, Cathedral attempts to partially manage this risk by way of maintaining cost structure that can be adjusted to reflect activity levels. A significant portion of Cathedral's fieldwork is performed by sub-contractors and staff paid on a day rate or hourly basis which allows us to operate with lower variable costs and fixed overhead costs in seasonally low activity periods as well as extended downturns in the oilfield services sector. In addition, Cathedral also strives to continuously improve its operational efficiencies and reduce the cost of the equipment it deploys.

### **Take Away Capacity for Cathedral's Customers**

Cathedral's customers rely on various transportation methods to deliver the produced oil and natural gas to the end market including: pipelines, truck and railway. If such take away capacity becomes full and incremental capacity is not added, the price and production of hydrocarbons may be adversely impacted resulting in lower oilfield service industry activity levels. This could have a material adverse

effect on Cathedral's business operations, financial condition, results of operations, cash flow and the ability to pay dividends to Shareholders.

#### Alternatives to and Changing Demand for Hydrocarbon Products

Fuel conservation measures, alternative fuel requirements, increasing consumer demand for alternatives to oil and natural gas, and technological advances in fuel economy and energy generation devices could reduce the demand for crude oil and other liquid hydrocarbons. The Corporation cannot predict the impact of changing demand for oil and natural gas products, and any major changes may have a material adverse effect on the Cathedral's business, financial condition, results of operations and cash flows and therefore on the dividends declared on the Common Shares.

#### Cash Dividends to Shareholders are Dependent on the Performance of Cathedral

Cathedral's ability to make dividend payments to Shareholders is dependent upon the operations and business of Cathedral. In November 2015, the Board made the decision to suspend the payment of the Corporation's quarterly dividend based the reductions in commodity prices and the resulting decline in industry activity levels in 2015 and uncertainties around expected activity levels in the future (see "*Dividend Policy*"). There is no assurance that dividends will be declared at all in the future and, if declared, there is no assurance regarding the amounts of cash that may be available from Cathedral's operations and business that could be available to fund such future dividends. The actual amount of any dividends will depend on a variety of factors, including without limitation, the current performance, historical and future trends in the business, the expected sustainability of those trends, enacted tax legislation which will affect future taxes payable as well as required long-term debt repayments, maintenance capital expenditures required to sustain performance, future growth capital expenditures, effect of acquisitions or dispositions on Cathedral's business, compliance with debt covenants and other factors that may be beyond the control of Cathedral or not anticipated by management of Cathedral.

Cathedral's dividend policy is subject to change at the discretion of its Board of Directors. In addition, Cathedral's credit facility covenants include certain restrictions on the payment of cash dividends without the consent of the lenders in certain circumstances. See "*Dividend Policy*" herein.

#### Performance of Obligations

The Corporation's success depends in large part on whether it fulfills its obligations with clients and maintains client satisfaction. If Cathedral fails to satisfactorily perform its obligations, makes errors in the provision of its services, or does not perform its services to the expectations of its clients, its clients could terminate working relationships, including master service agreements, exposing Cathedral to loss of its professional reputation and risk of loss or reduced profits, or in some cases, the loss of a project and claims by customers for damages. Typically, Cathedral's master service agreements do not contain any guaranteed payments and are cancellable on 30 or less days' notice.

#### Access to Capital

The credit facilities of Cathedral contain covenants that require it to meet certain financial tests and that restrict, among other things, the ability of Cathedral to incur additional debt, make significant acquisitions, dispose of assets or pay dividends in certain circumstances. To the extent the cash flow from operations is not adequate to fund Cathedral's cash requirements, external financing may be required. Lack of timely access to such additional financing, or which may not be on favorable terms, could limit the future growth of the business of Cathedral and, potentially have a material adverse effect on the amount of cash available for dividends. To the extent that external sources of capital, including public and private markets, become limited or unavailable, Cathedral's ability to make the necessary

capital investments to maintain or expand its current business and to make necessary principal payments under its credit facility may be impaired.

#### Forward-looking Information May Prove Inaccurate

Numerous statements containing forward-looking information are found in this AIF, documents incorporated by reference herein and other documents forming part of Cathedral's public disclosure record. Such statements and information are subject to risks and uncertainties and involve certain assumptions, some, but not all, of which are discussed elsewhere in this document. The occurrence or non-occurrence, as the case may be, of any of the events described in such risks could cause actual results to differ materially from those expressed in the forward-looking information.

#### Interest Rates

Cathedral's current credit facility bears interest at a floating interest rate and, therefore, to the extent Cathedral borrows under this facility, it is at risk of rising interest rates. Management continually monitors interest rates and would consider locking in the rate of its term debt.

#### Debt Service

Cathedral has a committed extendible revolving credit facility with a syndicate of lenders consisting of The Bank of Nova Scotia and Export Development Canada in the amount of \$18 million (excluding the \$5 million swingline facility) with a maturity date of December 31, 2018. Although it is believed that the credit facility and amendments thereto is sufficient, there can be no assurance that the amount will be adequate for the financial obligations of Cathedral. As well, if Cathedral requires additional financing such financing may not be available or, if available, may not be available on favorable terms. Cathedral's lenders have been provided with security over substantially all of the assets of Cathedral. There is no assurance that the existing credit facility will be extended beyond its maturity date.

In light of the current volatility in oil and natural gas prices and uncertainty regarding commodity price levels in the future there is a risk that the Corporation could temporarily breach the covenants included in its credit facility. If the Corporation does temporarily breach these covenants, the secured revolving term loan could become due and payable on demand.

#### Additional Shares

If the Board of Cathedral decides to issue additional Common Shares, Preferred Shares or securities convertible into Common Shares, existing shareholders may suffer significant dilution.

#### Unpredictability and Volatility of Share Price

The prices at which the Common Shares trade cannot be predicted. The market price of the Common Shares could be subject to significant fluctuations in response to variations in quarterly operating results and other factors. In addition, in the event a dividend is paid the annual dividend yield on the Common Shares as compared to the annual yield on other financial instruments may also influence the price of Common Shares in the public trading markets. An increase in prevailing interest rates will result in higher yield on other financial instruments, which could adversely affect the market price of the Common Shares. The market price of the Common Shares may also be impacted by other factors including the net asset value of our assets which will vary from time to time depending on factors beyond our control.

In addition, the securities markets have experienced significant market wide and sectorial price and volume fluctuations from time to time that often have been unrelated or disproportionate to the

operating performance of particular issuers. Such fluctuations may adversely affect the market price of the Common Shares.

#### Income Tax Matters

The business and operations of Cathedral are complex and Cathedral and its predecessors have executed a number of significant financings, reorganizations, acquisitions and other material transactions over the course of its history. The computation of income taxes payable as a result of these transactions involves many complex factors as well as Cathedral's interpretation of relevant tax legislation and regulations.

Cathedral's management believes that the provision for income tax is adequate and in accordance with generally accepted accounting principles and applicable legislation and regulations. However, tax filing positions are subject to review by taxation authorities who may successfully challenge Cathedral's interpretation of the applicable tax legislation and regulations. It is also possible that tax authorities may retroactively or prospectively amend tax legislation or its interpretation, which could affect Cathedral's current and future income taxes. It should be noted that effective July 1, 2015 the general corporate tax rate in the Province of Alberta was increased from 10% to 12%.

#### Key Personnel and Employee/Sub-contractor Relationships

Shareholders must rely upon the ability, expertise, judgment, discretion, integrity and good faith of the management and employees of Cathedral. The success of Cathedral is dependent upon its personnel and key sub-contractors. The unexpected loss or departure of any of Cathedral's key officers, employees or sub-contractors could be detrimental to the future operations of Cathedral. Cathedral does not maintain key man insurance on any of its officers. The success of Cathedral's business will depend, in part, upon Cathedral's ability to attract and retain qualified personnel as they are needed. Additionally, the ability of Cathedral to expand its services is dependent upon its ability to attract additional qualified employees. Historically, Cathedral has not had any significant issues with respect to attracting and the retention of quality office, shop and field staff. During high levels of activity, attracting quality staff can be challenging due to competition for such services. As a consequence of the industry downturn experienced since mid-2014 resulting in workforce reductions, many former industry workers have left the industry either temporarily or permanently. As a consequence of this, attracting and retaining staff may be more challenging in the future than in the past. Cathedral provides its staff with a quality working environment, effective training, tools with current technology and competitive remuneration packages that allows it to attract and retain the quality of its workforce, whether in the field, shop or office. There can be no assurance that Cathedral will be able to engage the services of such personnel or retain its current personnel.

#### Competition

The oil and natural gas service industry in which Cathedral and its operating entities conduct business is highly competitive. Cathedral competes with other more established companies which have greater financial, marketing and other resources and certain of which are large international oil and natural gas service companies which offer a wider array of oil and natural gas services to their clients than does Cathedral.

At any time there may be an excess of certain classes of oilfield service equipment in North America in relation to current levels of demand. The supply of equipment in the industry does not always correlate to the level of demand for that equipment. Periods of high demand often spur increased capital expenditures on oilfield service equipment, and those capital expenditures may result in equipment levels which exceed actual demand. In periods of low demand, there may be excess equipment available within the industry. Excess equipment supply in the industry could cause competitors to lower their rates and

could lead to a decrease in rates in the oilfield services industry generally, which could have an adverse effect on revenues, cash flows and earnings in the industry and for the Corporation.

#### Access to Parts, Consumables and Technology and Relationships with Key Suppliers

The ability of Cathedral to compete and expand will be dependent on Cathedral having access, at a reasonable cost, to equipment, parts and components for purchased equipment for the development and acquisition of new competitive technologies. An inability to access these items and delays in accessing these items could have a material adverse effect on Cathedral's business, financial condition, results of operations and cash flow. Cathedral's equipment may become obsolete or experience a decrease in demand due to competing products that are lower in cost, have enhanced performance capabilities or are determined by the market to be more preferable for environmental or other reasons. Although Cathedral has very good relationships with its key suppliers, there can be no assurances that those sources of equipment, parts, components or relationships with key suppliers will be maintained. If these are not maintained, Cathedral's ability to compete may be impaired. If the relationships with key suppliers come to an end, the availability and cost of securing certain parts, components and equipment may be adversely affected.

#### Technology

The success and ability of Cathedral to compete depends in part on the technologies that it brings to the market, and the ability of Cathedral to prevent others from copying such technologies. Cathedral currently relies on industry confidentiality practices ("trade secrets"), including entering into industry standard confidentiality agreements and in some cases patents (or patents pending) to protect its proprietary technology. Cathedral may have to engage in litigation in order to protect its intellectual property rights, including patents or patents pending, or to determine the validity or scope of the proprietary rights of itself or others. This kind of litigation can be time-consuming and expensive, regardless of whether or not Cathedral is successful.

The intellectual property rights of Cathedral may be invalidated, circumvented, challenged, infringed or required to be licensed to others. It cannot be assured that any steps Cathedral may take to protect its intellectual property rights and other rights to such proprietary technologies that are central to Cathedral's operations will prevent misappropriation or infringement.

Cathedral competes with other more established companies which have greater financial resources to develop new technologies. Competitors may also develop similar tools, equipment and technology to Cathedral's thereby adversely affecting Cathedral's competitive advantage in one or more of its businesses. Additionally, there can be no assurance that certain tools, equipment or technology developed by Cathedral may not be the subject of future patent infringement claims or other similar matters which could result in litigation, the requirement to pay licensing fees or other results that could have a material adverse effect on Cathedral's business, results of operations and financial condition.

#### Potential Replacement or Reduced Use of Products and Services

Certain of Cathedral's equipment or systems may become obsolete or experience a decrease in demand through the introduction of competing products that are lower in cost, exhibit enhanced performance characteristics or are determined by the market to be more preferable for environmental or other reasons. Cathedral will need to keep current with the changing market for oil and natural gas services and technological and regulatory changes. If Cathedral fails to do so, this could have a material adverse effect on its business, financial condition, results of operations and cash flows.

## Operating Risks and Insurance

Cathedral has an insurance and risk management plan in place to protect its assets, operations and employees. However, Cathedral's oilfield services are subject to risks inherent in the oil and natural gas industry, such as equipment defects, malfunctions, failures, natural disasters and errors by staff, some of which may not be covered by insurance. These risks could expose Cathedral to substantial liability for personal injury, loss of life, business interruption, property damage or destruction, pollution and other environmental damages. Cathedral attempts to obtain indemnification from our customers by contract for some of these risks in addition to having insurance coverage. These indemnification agreements may not adequately protect against liability from all of the consequences described above. In addition, Cathedral's operating activities includes a significant amount of transportation and therefore is subject to the inherent risks including potential liability which could result from, among other things, personal injury, loss of life or property damage derived from motor vehicle accidents. Cathedral carries insurance to provide protection in the event of destruction or damage to its property and equipment, subject to appropriate deductibles and the availability of coverage. Liability insurance is also maintained at prudent levels to limit exposure to unforeseen incidents. An annual review of insurance coverage is completed to assess the risk of loss and risk mitigation alternatives. It is anticipated that insurance coverage will be maintained in the future, but there can be no assurance that such insurance coverage will be available in the future on commercially reasonable terms or be available on terms as favorable as Cathedral's current arrangements. The occurrence of a significant event outside of the coverage of Cathedral's insurance policies could have a material adverse effect on the results of the Corporation. If there is an event that is not fully insured or indemnified against, or a customer or insurer does not meet its indemnification or insurance obligations, it could result in substantial losses.

## Business continuity, disaster recovery and crisis management

Inability to restore or replace critical capacity in a timely manner may impact business and operations. A serious event could have a material adverse effect on Cathedral's business, results of operations and financial condition. This risk is mitigated by the development of business continuity arrangements, including disaster recovery plans and back-up delivery systems, to minimize any business disruption in the event of a major disaster. Insurance coverage may minimize any losses in certain circumstances.

## Risks of Foreign Operations

Cathedral may conduct a portion of its business outside North America through a number of means including projects, joint ventures and partnerships and other business relationships. As such, Cathedral could be exposed to risks inherent in foreign operations including, but not limited to: loss of revenue, property and equipment as a result of expropriation and nationalization, war, civil and/or labour unrest, strikes, terrorist threats, civil insurrection and other political risks; fluctuations in foreign currency and exchange controls; increases in duties, taxes and governmental royalties and renegotiation of contracts with governmental entities; trade and other economic sanctions or other restrictions imposed by the Canadian government or other governments or organizations; as well as changes in laws and policies governing operations of foreign-based companies.

Carrying on business outside of Canada gives rise to the risk of dealing with business and political systems that are different than Cathedral is accustomed to in Canada.

Cathedral made the decision to terminate its pursuit of operations in Venezuela in 2014 which were provided through a joint venture with a wholly-owned subsidiary of PDVSA, the state-owned oil and natural gas corporation of the Bolivarian Republic of Venezuela. The joint venture company, Vencana, was owned 60% by the PDVSA wholly-owned subsidiary and 40% by Cathedral's wholly-owned subsidiary, DPI. On February 29, 2016, Cathedral announced it had closed the sale of its

Venezuelan investment by way of selling its wholly-owned Barbados subsidiary, DPI. See "*General Development of the Business - Three Year History –2016/2017*".

#### Weather and Seasonality

A significant portion of Cathedral's operations are carried on in western Canada where activity levels in the oilfield services industry are subject to a degree of seasonality. Operating activities in western Canada are generally lower during "spring breakup" which normally commences in March and continues through to May. Operating activities generally increase in the fall and peak in the winter months from December until late March. Additionally, volatility in the weather and temperatures not only during this period, but year round, can create additional unpredictability in operational results. Activity levels in the oil and natural gas basins in the U.S. are not subject to the seasonality to the same extent that it occurs in the western Canada region.

#### Foreign Currency Exchange Rates

Cathedral derives revenues from the U.S. which are denominated in the local currency. This causes a degree of foreign currency exchange rate risk which Cathedral attempts to mitigate by matching local purchases in the same currency. Furthermore, Cathedral's Canadian operations are subject to foreign currency exchange rate risk in that some purchases for parts, supplies and components in the manufacture of equipment are denominated in U.S. dollars. Cathedral's foreign currency policy is to monitor foreign current risk exposure in its areas of operations and mitigate that risk where possible by matching foreign currency denominated expense with revenues denominated in foreign currencies. Cathedral strives to maintain limited amounts of cash and cash equivalents denominated in foreign currency on hand and attempts to further limit its exposure to foreign currency through collecting and paying foreign currency denominated balance in a timely fashion.

In addition, Cathedral is exposed to currency exchange risk on those of its assets denominated in U.S. dollars. Since Cathedral presents its financial statements in Canadian dollars, any change in the value of the Canadian dollar relative to the U.S. dollar during a given financial reporting period would result in a foreign currency loss or gain on the translation of its assets measured in other currencies into Canadian dollars. Consequently, Cathedral's reported earnings could fluctuate materially as a result of foreign exchange translation gains or losses. Other than natural hedges arising from the normal course of business in foreign jurisdictions, Cathedral does not currently have any hedging positions.

#### Acquisition Risks

Cathedral expects to continue to selectively seek acquisitions in connection with its growth strategy. Cathedral's ability to consummate and to integrate effectively any future acquisitions on terms that are favorable to it may be limited by the number of attractive acquisition targets, internal demands on Cathedral's resources, and to the extent necessary, Cathedral's ability to obtain financing on satisfactory terms for larger acquisitions, if at all. Acquisitions may expose Cathedral to additional risks, including: difficulties in integrating administrative, financial reporting, operational and information systems and managing newly-acquired operations and improving their operating efficiency; difficulties in maintaining uniform standards, controls, procedures and policies through all of Cathedral's operations; entry into markets in which Cathedral has little or no direct prior experience; difficulties in retaining key employees of the acquired operations; disruptions to Cathedral's ongoing business; and diversion of management time and resources.

#### Business Development Risks

In implementing its strategy, Cathedral may pursue new business or growth opportunities. There is no assurance that Cathedral will be successful in executing those opportunities. Cathedral may have

difficulty executing the its strategy because of, among other things, increased competition, difficulty entering new markets or geographies, difficulties in introducing new products, the ability to attract qualified personnel, barriers to entry into geographic markets, and changes in regulatory requirements.

#### Credit Risk

All of Cathedral's accounts receivables are with customers involved in the oil and natural gas industry, whose revenue may be impacted by fluctuations in commodity prices. Although collection of these receivables could be influenced by economic factors affecting this industry and thereby have a materially adverse effect on operations, management considers risk of significant loss to be minimal at this time. To mitigate this risk, Cathedral's customers are subject to an internal credit review along with ongoing monitoring of the amount and age of receivables balances outstanding.

#### Reliance on Major Customers

Management of Cathedral believes it currently has a good mix of customers. In 2016, approximately 13% of the Corporation's revenue was attributable to sales transactions with a single customer. In 2015, two different customers represented approximately 12% and 10% of the Corporation's revenue. While Cathedral believes that its relationship with existing customers is good, the loss of any one or more of these customers, or a significant reduction in business done with Cathedral by one or more of these customers, if not offset by sales to new or existing customers, could have a material adverse effect on Cathedral's business, results of operations and prospects and therefore on the ability to pay dividends to Shareholders in the future. Mergers and acquisitions activity in the oil and natural gas exploration and production sector can impact demand for our services as customers focus on internal reorganization prior to committing funds to significant oilfield services. In addition, demand for Cathedral's services could be negatively affected in that upon completion, the merger and acquisitions customers may re-direct their work to Cathedral's competitors.

#### Environmental Risks

Cathedral is subject to various environmental laws and regulations enacted in the jurisdictions in which it operates which govern the manufacture, processing, importation, transportation, handling and disposal of certain materials used in Cathedral's operations. Cathedral has established procedures to address compliance with current environmental laws and regulations and monitors its practices concerning the handling of environmentally hazardous materials. However, there can be no assurance that Cathedral's procedures will prevent environmental damage occurring from spills of materials handled by Cathedral or that such damage has not already occurred. On occasion, substantial liabilities to third parties may be incurred. Cathedral may have the benefit of insurance maintained by it or the operator; however Cathedral may become liable for damages against which it cannot adequately insure or against which it may elect not to insure because of high costs or other reasons.

There is growing concern about the apparent connection between the burning of fossil fuels and climate change. The issue of energy and the environment has created intense public debate in Canada, the U.S. and around the world in recent years that is likely to continue for the foreseeable future and could potentially have a significant impact on all aspects of the economy including the demand for hydrocarbons and resulting in lower demand for Cathedral's services. There can be no assurance that the provincial, state and local governments or the Federal Governments of Canada and U.S. and other jurisdictions in which Cathedral enters into to provide its services will not adopt new environmental regulations, rules or legislation or make modifications to existing regulations, rules or legislation which could increase costs paid by Cathedral's customers. An increase in environmental related costs could reduce Cathedral's customers' earnings and/or it could make capital expenditures by Cathedral's customers uneconomic.

Over the past two years both the Canadian Federal Government and the Government of Alberta have announced various programs related to climate change and have made certain commitments regarding regulating greenhouse gases ("GHG") and other air pollutants. These proposals also contemplate taxes on GHG emissions to be paid by the users of hydrocarbons and caps on emissions by producers of hydrocarbons such as oilsands and energy companies.

As a result of these programs still being developed and their implementation still in the early stages, Cathedral is unable to predict the total impact of the potential and forthcoming regulations upon its business. As a user of hydrocarbons in its business for heating and vehicles, Cathedral is impacted on an operational cost basis. Cathedral's customers may face increases in operating costs in order to comply with legislation which could have the effect of curtailing exploration and development by oil and natural gas producers and that in turn, could adversely affect Cathedral's operations by reducing demand for its services.

#### Government Regulation

The oil and natural gas industry in Canada and the U.S. is subject to federal, provincial, state and municipal legislation and regulation governing such matters as land tenure, commodity prices, production royalties, production rates, environmental protection controls, the exportation of crude oil, natural gas and other products, as well as other matters. The industry is also subject to regulation by governments in such matters, including laws and regulations relating to health and safety, the conduct of operations, the protection of the environment and the manufacture, management, transportation, storage and disposal of certain materials used in Cathedral's operations.

Government regulations may change from time to time in response to economic or political conditions. The exercise of discretion by governmental authorities under existing regulations, the implementation of new regulations or the modification of existing regulations affecting the crude oil and natural gas industry could reduce demand for Cathedral's services or increase its costs, either of which could have a material adverse impact on Cathedral.

There can be no assurance that the provincial, state and local governments or the Federal Governments of Canada and U.S. and other jurisdictions in which Cathedral enters into to provide its services will not adopt a new royalty regime or modify the methodology of royalty calculation which could increase the royalties paid by Cathedral's customers. An increase in royalties could reduce Cathedral's customers' earnings and/or it could make capital expenditures by Cathedral's customers uneconomic. Although Cathedral is not a direct investor in the oil and natural gas market, it does affect Cathedral's customers' cash flow available to invest in drilling activity and other oilfield services.

#### Safety Performance

Cathedral has programs in place to address compliance with current safety and regulatory standards. Cathedral has a corporate safety manager responsible for maintaining and developing policies and monitoring operations consistent with those policies. Poor safety performance could lead to lower demand for Cathedral's services. Standards for accident prevention in the oil and natural gas industry are governed by company safety policies and procedures, accepted industry safety practices, customer-specific safety requirements, and health and safety legislation. Safety is a key factor that customers consider when selecting an oilfield service company. A decline in Cathedral's safety performance could result in lower demand for services, and this could have a material adverse effect on revenues, cash flows and earnings. Cathedral is subject to various health and safety laws, rules, legislation and guidelines which can impose material liability, increase costs or lead to lower demand for services.

## Conflict of Interest

Certain directors and officers of Cathedral are also directors and/or officers of oil and natural gas exploration and/or production entities and conflicts of interest may arise between their duties as officers and directors of Cathedral and as officers and directors of such other companies. Such conflicts must be disclosed in accordance with, and are subject to such other procedures and remedies as apply under the ABCA.

## Legal Proceedings

Cathedral is involved in litigation from time to time. No assurance can be given as to the final outcome of any legal proceedings or that the ultimate resolution of any legal proceedings will not have a materially adverse effect on Cathedral.

## Risks associated with information technology systems

Cathedral is dependent upon information technology systems in the conduct of its operations. Any significant malfunction, breakdown, downtime, invasion, virus, cyber-attack, security breach, destruction or interruption of these systems due to equipment or software failures or by employees, others with access to Cathedral's systems, or unauthorized persons could negatively impact its operations. To the extent any breakdown, downtime, malfunction, invasion, cyber-attack or security breach results in disruption to Cathedral's operations, loss or disclosure of, or damage to, its data or confidential information, its reputation, business, results of operations and financial condition could be materially adversely affected. Cathedral's systems and insurance coverage for protecting against information technology or cyber security risks may not be sufficient. Although to date Cathedral has not experienced any material losses relating to information technology failures or cyber-attacks, it may suffer such losses in the future. Cathedral may be required to expend significant additional resources to continue to modify or enhance its protective measures, to investigate and remediate any information security vulnerabilities or to maintain its information technology systems in good repair.

## **AUDIT COMMITTEE**

### **General**

The Board has developed written terms of reference outlining the Audit Committee's roles and responsibilities and which provide appropriate guidance to Audit Committee members as to their duties. These terms of reference are reviewed annually by the Board. The Audit Committee reviews the annual and interim financial statements of Cathedral and makes recommendations to the Board with respect to such statements. The Audit Committee also reviews the nature and scope of the annual audit as proposed by the auditors and management, and the adequacy of the internal accounting control procedures and systems within Cathedral. The Audit Committee is responsible to ensure that management has implemented an effective system of internal control and has oversight responsibility for management reporting on internal control. The full text of the Audit Committee Charter is attached as Schedule "A" to this AIF.

### **Composition of the Audit Committee**

The Audit Committee is currently comprised of Ian Brown (Chair), Scott Sarjeant and Rod Maxwell. Messrs. Brown, Sarjeant and Maxwell are all independent and financially literate under National Instrument 52-110 – *Audit Committees*.

## Relevant Education and Experience

In addition to each member's general business experience, the education and experience of each Audit Committee member that is relevant to the performance of his responsibilities as an Audit Committee member are as follows.

Mr. Brown is a Chartered Accountant and has been an independent businessman since January 2006. Prior thereto, Mr. Brown was the Senior Managing Director, Raymond James Ltd. from May 1995 until December 2005. Mr. Brown serves on the Board of Directors of Bonavista Energy Corporation (TSX), Consolidated Westview Resources Corp. (TSXV), Karnalyte Resources Inc. (TSX), Petrobank Energy and Resources Ltd. (TSX) and Lightstream Resources Ltd. (TSX).

Mr. Sarjeant holds a Masters of Business Administration and a law degree, and is presently the President and CEO of PremiAx Financial Corp., a non-bank financial corporation that operates financial businesses targeted at the energy industry. From 1994 to 2003, Mr. Sarjeant was co-founder of AltaGas Services Inc., a publicly listed Canadian energy services company, where he served as Executive Vice President. From 1987 to 1994, Mr. Sarjeant was a Vice President in the Corporate Finance Group of Citibank Canada. He has served on the audit committees of other publicly listed entities, including: AltaGas Services Inc. (TSX), Champion Resources Ltd. (TSXV) and Rare Method Interactive Corp. (TSXV).

Mr. Maxwell is a Chartered Accountant and Chartered Business Valuator and is presently the Managing Director of StoneBridge Merchant Capital Corp.

## Pre-Approval Policies and Procedures

The Audit Committee has adopted a pre-approval policy with respect to permitted non-audit services. Under the policy, the Audit Committee has granted pre-approval services for non-audit services of \$150,000 for fiscal 2017.

## External Auditor Service Fees (By Category)

The following table provides information about the fees billed to the Corporation for professional services rendered by KPMG LLP during fiscal 2015 and 2016:

	<u>2015<sup>(1)</sup></u>	<u>2016<sup>(1)</sup></u>
Audit Fees <sup>(2)</sup>	\$108,145	\$125,000
Audit-Related Fees <sup>(3)</sup>	\$48,552	\$45,900
Tax Fees <sup>(4)</sup>	\$80,743	\$105,169
All Other Fees	-	-
Total:	<u>\$237,440</u>	<u>\$276,069</u>

Notes:

- (1) Billed or estimated to be billed for services in the applicable year.
- (2) Audit fees for professional services rendered by KPMG LLP for the audit of Cathedral's annual consolidated financial statements as well as services provided in connection with statutory and regulatory filings.
- (3) Audit-related fees are for services related to performance of the review of Cathedral's quarterly consolidated financial statements.
- (4) Tax fee for tax compliance, tax advice and tax planning.

## INTERESTS OF EXPERTS

KPMG LLP are the auditors of Cathedral and have confirmed that they are independent with respect to Cathedral within the meaning of the relevant rules and related interpretations prescribed by the relevant professional bodies in Canada and any applicable legislation or regulations.

## **ADDITIONAL INFORMATION**

Additional information relating to Cathedral and its predecessor entity, the Trust, may be found on SEDAR at [www.sedar.com](http://www.sedar.com). Additional information, including information as to directors' and officers' remuneration and indebtedness, principal holders of Cathedral's securities and securities authorized for issuance under equity compensation plans is contained in Cathedral's information circular dated March 2, 2016 in respect of Cathedral's annual meeting of Shareholders held on May 12, 2016. Additional financial information is provided in Cathedral's comparative consolidated financial statements and MD&A for the year ended December 31, 2016.

### **Effective Date**

Unless otherwise specifically herein provided, the information contained in this AIF is stated as at March 15, 2017.

## **Schedule "A"**

### **CATHEDRAL ENERGY SERVICES LTD. AUDIT COMMITTEE CHARTER**

**Dated: March 2015**

#### **ROLE AND RESPONSIBILITIES**

The Audit Committee ("Committee") is a committee of the Board of Directors (the "Board", each member of the Board a "Director") established to assist the board in fulfilling its responsibility for oversight of Cathedral Energy Services Ltd. (the "Corporation") financial reporting process.

#### **RESPONSIBILITIES**

The primary functions of the Committee are to assist the Board in fulfilling its responsibilities with respect to: (i) oversight, review and approval of the financial statements and the accounting and financial reporting processes of the Corporation; (ii) oversight of the assessment of the system of internal controls that management has established; and (iii) oversight of the external audit process. In addition, the Committee shall assist the Board, as requested, in fulfilling its oversight responsibilities with respect to financial risk management practices.

The Committee shall be directly responsible for recommending to the Board the nomination of the external auditor and the compensation and retention of the external auditor and overseeing the work of the external auditor and the relationship of the external auditor with the Corporation (including the resolution of disagreements between management and the external auditor regarding financial reporting).

The Committee is responsible for ensuring the external auditor maintains an open and transparent relationship with the Committee, and that the ultimate accountability of the external auditor is to the shareholders of the Corporation.

#### **MEMBERSHIP**

The Committee shall be comprised of a minimum of three directors including a Committee Chair, all of whom shall qualify as independent directors pursuant to National Instrument 52-110 *Audit Committees* (as implemented by the Canadian Securities Administrators and as amended from time to time). Each member of the Committee shall be financially literate, as defined in NI 52-110, and the Chair of the Committee shall have accounting or related financial managerial expertise. The members of the Committee and its Chair shall be appointed by the Board. Appointments shall be made in accordance with procedures established by the governance committee of the Board from time to time.

#### **MEETINGS**

The Committee shall meet at least four times annually (for review of Q1, Q2 and Q3 interim reports as well as pre and post annual audit), or more frequently as circumstances dictate. The Committee shall report to the Board on its activities after each of its meetings. The Committee is expected to establish and maintain free and open communication among the independent external auditor and senior management and shall periodically meet separately with each of them. The President and Chief Executive Officer (collectively "CEO") and the Chief Financial Officer are expected to be available to attend the Committee's meetings or portions thereof. The affirmative vote of a majority of the members of the

Committee participating in any meeting of the Committee is necessary for the adoption of any resolution. In the event of a tie vote on any matter, such matter shall be presented to the Board for its consideration and determination.

## **AUTHORITY**

The Committee has the authority to conduct any review or investigation appropriate to fulfilling its responsibilities. The Committee has the sole authority to approve any non-audit engagement by the Corporation's independent external auditors and to approve all audit engagement fees and terms. The Committee shall have unrestricted access to personnel and information, and any resources necessary to carry out its responsibility.

The Committee shall be empowered to retain, obtain advice or otherwise receive assistance from outside independent legal counsel, accountants or others to assist in the conduct of any investigation as it deems necessary in the course of fulfilling Committee duties. The Corporation shall provide for appropriate funding, as determined by the Committee, for payment of compensation to the independent external auditor for the purposes of issuing an audit report and to any advisors retained by the Committee.

## **REVIEW OF CHARTER AND COMMITTEE PERFORMANCE**

On an annual basis, the Committee shall report to the Board on the Committee's performance against this Charter and the goals established annually by the Committee for itself. The Committee shall review and update the adequacy of this Charter periodically, and where necessary, recommend changes to the Board for its approval.

## **SPECIFIC DUTIES AND RESPONSIBILITIES**

The duties and responsibilities of a member of the Committee are in addition to those duties set out for a member of the Board.

### **1) Financial Reporting and Public Disclosure**

- (a) Review, with management and the independent external auditor:
  - (i) the independent external auditors annual audit plan;
  - (ii) the Corporation's annual audited financial statements. In relation to the annual audited financial statements, review significant issues including accounting principles, practices and significant management estimates and judgments, including any significant changes in the Corporation's selection or application of accounting principles, any major issues as to the adequacy of the Corporation's internal controls and any special steps adopted in light of material control deficiencies;
  - (iii) the Corporation's annual management's discussion and analysis ("MD&A");
  - (iv) the independent external auditors' audit examination of the annual financial statements and their report thereon; and
  - (v) all public disclosure documents containing audited or unaudited financial information before release, including, but not limited to, any prospectus, the

Corporation's annual report, the Corporation's annual information form, the Corporation's management proxy circular and any press releases.

- (b) Review, with management and if appropriate, the independent external auditor engaged to perform a limited scope review of the interim reports:
  - (i) the Corporation's interim unaudited financial statements;
  - (ii) the Corporation's interim MD&A;
  - (iii) related press releases; and
  - (iv) any significant changes to the Corporation's accounting principles.
- (c) Oversee an investigation sufficient to provide reasonable grounds for believing that the financial statements and reports referred to in (a) and (b) above are complete in all material respects and consistent with the information known to Committee members, and assess whether the financial statements reflect appropriate accounting principles.
- (d) Review with senior management and the independent external auditor, management's handling of any proposed audit adjustments identified by the independent external auditors.
- (e) Meet with the independent external auditor to review the results of the audit examination of the financial statements and their report thereon, their judgments about the quality and appropriateness of the Corporation's accounting principles, and any audit problems or difficulties and management's response.
- (f) Review and resolve any significant disagreement among the management and the independent external auditors encountered during the course of their audit or review, including any restrictions in the scope of the independent external auditor's work or access to required information.
- (g) Review the integrity of the Corporation's internal and external financial reporting process, in consultation with the independent external auditors.
- (h) Review tax, legal and any financial reporting aspects of the Corporation as the Committee considers appropriate.
- (i) Consider, evaluate and recommend to the Board such changes as are appropriate to the Corporation's auditing and accounting principles and practices as suggested by the independent external auditors or senior management.
- (j) Review with the independent external auditors and senior management the extent to which changes and improvements in financial and accounting practices, as approved by the Committee, have been implemented.
- (k) Formally recommend approval to the Board of the Corporation's annual financial statements, interim financial statements and reports referred to in (a) and (b) above. The annual audited financial statement review shall include a report from the independent external auditors about the quality of the most critical accounting policies upon which the

Corporation's financial status depends, and involve the most complex, subjective or significant judgmental estimates, decisions or assessments.

## **2) Independent External Auditor**

- (a) Be directly responsible, in the Committee's capacity as a committee to the Board and subject to the rights of shareholders and applicable law, for the appointment, compensation, retention and oversight of the work of the independent external auditors for the purposes of preparing or issuing an audit report, or performing other audit, review, or attest services for the Corporation. The independent external auditors shall report directly to the Committee.
- (b) At least annually, obtain and review a report by the independent external auditor describing:
  - (i) the independent external auditors' internal quality-control procedures; and
  - (ii) any material issues raised by the most recent internal quality-control review, or peer review, of the independent external auditors, or by any inquiry or investigation by governmental or professional authorities, within the preceding five years, respecting one or more independent audits carried out by the independent external auditors, and any steps taken to deal with any such issues.
- (c) Confirm the independence of the independent external auditor by discussing and reviewing all significant relationships that the independent external auditors have with the Corporation and obtaining their assertion of independence in accordance with professional standards.
- (d) Review and evaluate:
  - (i) the performance of the independent external auditor, and make a recommendation to the Board regarding the reappointment or discharge of the independent external auditors for presentation to the shareholders;
  - (ii) the terms of engagement, audit scope and audit plans of the independent external auditors together with their proposed fees; and
  - (iii) the engagement of the independent external auditors firm or affiliates to perform non-audit services, together with the fees thereof, and the impact thereof, on the independence of the independent external auditors.
- (e) Approve all non-audit service with the Corporation's independent external auditors other than services related to limited scope reviews of interim reports and Canadian and United State tax services.
- (f) When there is to be a change in the independent external auditor, review all issues relating to the change to be included in the required notice to securities regulators of such change.
- (g) Review and approve the hiring policies for the Corporation's hiring of employees or former employees of the present and any former independent external auditors.

### **3) Internal Controls**

- (a) Evaluate whether senior management is adequately communicating the importance of internal control to all relevant personnel.
- (b) Periodically privately consult with the independent external auditor about internal controls and the completeness and accuracy of the Corporation's financial statements. Any significant recommendation made by the independent external auditor for the strengthening of internal controls shall be reviewed and discussed with senior management.
- (c) Review whether the internal control recommendations made by internal auditors and the independent external auditor are being implemented by senior management and, if not, why not.

### **4) Compliance with Relevant laws and regulations**

- (a) Periodically obtain updates from senior management regarding procedures and processes to ensure compliance with applicable laws and regulations (including but not limited to, securities, tax and environmental matters).
- (b) Review and receive reports from the Corporation's Disclosure Committee.
- (c) Monitor and approve the Corporation's Disclosure Policy.

### **5) Other Responsibilities**

- (a) Review policies and procedures with respect to officers' and directors' expense accounts and perquisites, including the use of corporate assets.
- (b) As requested by the Board;
  - (i) review the financial risks arising from the Corporation's exposure to such things as interest rates, credit, insurance programs, remittances, assessments, tax policies and planning initiatives and government audits and report the results of such reviews to the Board for the purpose of assisting the Board in identifying the principal business risks associated with the business of the Corporation.
- (c) Review the procedures established for the receipt, retention, and treatment of complaints received by the Corporation of concerns regarding accounting, internal accounting controls, auditing or code of conduct matters and resolution of such concerns, if any.
- (d) Review the procedures established allowing the confidential, anonymous submission by the Corporation's employees of concerns regarding questionable accounting or auditing matters and resolution of such concerns, if any.
- (e) Review with the Board, any issues that arise with respect to the quality or integrity of the Corporation's financial statements, the Corporation's compliance with legal or regulatory requirements and the performance and independence of the Corporation's independent external auditors.
- (f) Review and/or approve other financial matters delegated specifically to it by the Board.

## **PROCEDURE GOVERNING ERRORS OR MISTATEMENTS IN THE FINANCIAL STATEMENTS**

In the event a Director of the Corporation has reason to believe, after discussion with management, that a material error or misstatement exists in the Corporation's financial statements, that Director shall forthwith notify the Committee and the independent external auditor of the error or misstatement of which the Director becomes aware in a financial statement that the independent external auditor or a former independent external auditor has reported on.

If the independent external auditor or a former independent external auditor of the Corporation is notified or becomes aware of an error or misstatement in a financial statement on which the auditor or former auditor has reported, and if in the auditor's or former auditor's opinion the error or misstatement is material, the auditor or former auditor shall inform the Board and/or Committee accordingly.

When the Committee or the Board is made aware of an error or misstatement in a financial statement the Board shall prepare and issue revised financial statements or otherwise inform the shareholders and file such revised financial statements as required.

## **LIMITATION ON COMMITTEE MEMBERS' DUTIES**

Nothing in this Charter is intended, or may be construed, to impose on any member of the Committee a standard of care or diligence that is in any way more onerous or extensive than the standard required by law. The purposes and responsibilities outlined in this charter are meant to serve as guidelines rather than inflexible rules and the Committee may adopt such additional procedures and standards it deems necessary from time to time to fulfill its responsibilities.