

UNITED STATES  
SECURITIES AND EXCHANGE COMMISSION  
Washington, D.C. 20549

FORM 20-F

(Mark One)

- Registration Statement Pursuant To Section 12(b) or (g) of the Securities Exchange Act of 1934  
OR  
 Annual Report Pursuant To Section 13 or 15(d) of the Securities Exchange Act of 1934  
For the fiscal year ended December 31, 2010.  
OR  
 Transition Report Pursuant to Section 13 or 15(d) of the Securities Exchange Act of 1934  
OR  
 Shell company Report Pursuant to Section 13 or 15(d) of the Securities Exchange Act of 1934

Commission file number 000-24027

NXT Energy Solutions Inc.  
(Exact Name of Registrant as Specified in its Charter)

Alberta, Canada  
(Jurisdiction of incorporation or organization)

Suite 1400, 505 – 3<sup>rd</sup> Street SW  
Calgary AB, T2P 3E6 Canada  
(Address of principal executive offices)

Ken Rogers  
Phone: 403-264-7020  
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Suite 1400, 505 – 3<sup>rd</sup> Street SW  
Calgary AB, T2P 3E6 Canada  
(Name, Telephone, E-mail and/or Facsimile number and address of Company Contact Person)

Securities registered or to be registered pursuant to Section 12(b) of the Act: None

Securities registered or to be registered pursuant to Section 12(g) of the Act:

Common Shares  
(Title of Class)

Securities for which there is a reporting obligation pursuant to Section 15(d) of the Act: NONE

Indicate the number of outstanding shares of each of the issuer's classes of capital or common stock as of the close of the period covered by the annual report:

34,002,396 common shares and 10,000,000 preferred shares outstanding as of December 31, 2010

Indicate by check mark if the registrant is a well-known seasoned issuer, as defined in Rule 405 of the Securities Act.

Yes  No

If this report is an annual or transition report, indicate by check mark if the registrant is not required to file reports pursuant to Section 13 or 15(d) of the Securities Exchange Act of 1934

Yes  No

Note-Checking the box above will not relieve any registrant required to file reports pursuant to Section 13 or 15(d) of the Securities Exchange Act of 1934 from their obligations under those Sections.

Indicate by check mark whether the registrant (1) has filed all reports required to be filed by Section 13 or 15(d) of the Securities Exchange Act of 1934 during the preceding 12 months (or for such shorter period that the registrant was required to file such reports), and (2) has been subject to such filing requirements for the past 90 days.

Yes  No

Indicate by check mark whether the registrant has submitted electronically and posted on its corporate Web site, if any, every Interactive Data File required to be submitted and posted pursuant to Rule 405 of Regulation S-T (§232.405 of this chapter) during the preceding 12 months (or for such shorter period that the registrant was required to submit and post such files).

Yes  No

Indicate by check mark whether the registrant is a large accelerated filer, an accelerated filer, or a non-accelerated filer. See definition of "accelerated filer and large accelerated filer" in Rule 12b-2 of the Exchange Act. (Check one):

Large accelerated filer  Accelerated filer  Non-accelerated filer

Indicate by check mark which basis of accounting the registrant has used to prepare the financial statements included in this filing.

U.S. GAAP  International Financial Reporting Standards as issued by the International Accounting Standards Board  Other

If "Other" has been checked in response to the previous question, indicate by check mark which financial statement item the registrant has elected to follow.

Item 17  Item 18

If this is an annual report, indicate by check mark whether the registrant is a shell company (as defined in Rule 12b-2 of the Exchange Act)

Yes  No

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The Stock Option Plan is approved annually by shareholders at the Annual General Meeting. The Stock Option Plan sets forth terms and conditions whereby options to purchase common shares of the company can be issued to directors, officers and employees of the company and to consultants retained by the company. The aggregate number of common shares reserved for issuance under this Plan, or any other prior Plan of the company shall not, at time of the stock option grant, exceed ten percent of the total number of issued and outstanding common shares (calculated on a non-diluted basis) unless the company receives permission of the stock exchange or exchanges on which the shares are then listed to exceed such threshold.

Issuance of options to any one participant shall not exceed five percent of the total number of issued and outstanding common shares in any 12 month period with consultants retained for investor relations duties further restricted to two percent in any 12 month period without permission of the stock exchange or exchanges on which the common shares of the company are listed. Furthermore, shareholder approval is required for grants of options to insiders of options that exceed ten percent of the issued common shares within any 12 month period. No options shall be granted for a term exceeding five years without permission of the stock exchange or exchanges on which the shares of the company are listed. All options issued under Plans are issued from treasury.

Options vest generally over the three year period starting from the date of grant subject to the continued provision of services whereby the options vest one-third at the end of each of the first three years following the grant date. Options generally expire, if unexercised, five years from the date of vesting. Some options at the discretion of the board are issued with early vesting periods and shorter expiry terms.

#### Compensation Expense Associated with Grant of Options

In the years ended December 31, 2010, 2009 and 2008 the company recorded stock-based compensation expense of \$577,815, \$672,060 and \$653,042 respectively.

The grant date fair value is calculated in U.S. dollars using the Black Scholes option valuation model utilizing the following weighted average assumptions:

	For the year ended December 31,		
	2010	2009	2008
Expected dividends paid per common share	Nil	Nil	Nil
Expected life (years)	1.8	3	3
Expected volatility in the price of common shares (%)	92%	103%	88%
Risk free interest rate (%)	1.5%	1.5%	4.0%
Weighted average grant date fair market value per share	\$ 0.27	\$ 0.70	\$ 1.45
Intrinsic value of options exercised	\$ 0.53	\$ -	\$ 2.66

As of December 31, 2010, 2009 and 2008 there were \$311,315, \$865,242 and \$985,473 respectively of total unrecognized compensation cost related to non-vested share-based compensation awards granted under the stock option plans. This cost is recognized over the remaining vesting period.

#### 11. Warrants

The company had no warrants outstanding in the year ended December 31, 2010.

Continuity of warrants for the year ended December 31, 2009:

	As at December 31, 2009		As at December 31, 2008	
	# of warrants	Weighted average exercise price	# of warrants	Weighted average exercise price
Outstanding as at beginning of the year	150,000	\$ 2.20 Cdn	2,776,560	\$ 1.96 U.S.
Exercised	-	-	(702,543)	\$ 2.00 U.S.
Expired	(150,000)	\$ 2.20 Cdn	(1,924,017)	-
Outstanding as at end of the year	-	\$ -	150,000	\$2.20 Cdn

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## FORWARD-LOOKING STATEMENTS

Except for any historical information contained herein, the matters discussed in this Annual Report on Form 20-F contain certain “forward-looking statements” within the meaning of the Private Securities Litigation Reform Act of 1995 with respect to our financial condition, results of operations and business. These statements relate to analyses and other information which are based on forecasts of future results and estimates of amounts not yet determinable. These statements also relate to our future prospects, developments and business strategies. These forward-looking statements are identified by their use of terms and phrases such as “anticipate”, “believe”, “could”, “estimate”, “expect”, “intend”, “may”, “plan”, “predict”, “will” and similar terms and phrases, including references to assumptions. These forward-looking statements involve risks and uncertainties, including current trend information, projections for deliveries and other trend projections, that may cause our actual future activities and results of operations to be materially different from those suggested or described in this Annual Report on Form 20-F.

These risks include:

- our ability to generate sufficient cash flow from operations or to raise adequate capital to continue as a going concern;
- our ability to achieve and execute our business plans as required to provide a quality services to clients and satisfy customers;
- the emergence of alternative competitive technologies;
- claims from third parties concerning our right to our SFD® technology;
- the loss of key personnel;
- our dependence on a few clients;
- the instability of financial markets;
- the potential of a downturn in capital expenditures by small to mid-size oil and gas exploration companies; and
- other factors described herein under “Risk Factors”.

If one or more of these risks or uncertainties materialize, or if underlying assumptions prove incorrect, our actual results may vary materially from those expected, estimated or projected. Given these uncertainties, users of the information included in this Annual Report on Form 20-F, including investors and prospective investors, are cautioned not to place undue reliance on such forward-looking statements. We do not intend to update the forward-looking statements included in this Annual Report on Form 20-F.

In this Annual Report on Form 20-F, except as specified otherwise or unless the context requires otherwise, “we”, “our”, “us”, the “company”, and “NXT” refer to NXT Energy Solutions Inc. and its subsidiaries. All references to “fiscal” in connection with a year shall mean the year ended December 31.

All financial information contained herein is expressed in Canadian dollars unless otherwise stated.

## PART I

### ITEM 1. IDENTITY OF DIRECTORS, SENIOR MANAGEMENT AND ADVISERS

Not applicable – The company is filing this Form 20-F as an annual report.

**ITEM 2. OFFER STATISTICS AND EXPECTED TIMETABLE**

Not applicable – The company is filing this Form 20-F as an annual report.

**ITEM 3. KEY INFORMATION**

**A. Selected financial data**

The following historical financial information should be read in conjunction with the section entitled “Operating and Financial Review and Prospects” and our audited consolidated financial statements and related notes, which are included elsewhere in this document. The consolidated statements of income (loss) data for the years ended December 31, 2008, 2009 and 2010 and selected consolidated balance sheet data as of December 31, 2009 and 2010 are derived from, and qualified by reference to, our audited consolidated financial statements included elsewhere in this Form 20-F. The selected consolidated balance sheet data as of December 31, 2008 is derived from our Canadian dollar audited financial statements not included in this Form 20-F. The consolidated statements of income (loss) data for the years ended December 31, 2007 and 2006 and selected consolidated balance sheet data as of December 31, 2007 and 2006 is derived from our United States dollar audited financial statements not included in this document that have been converted into Canadian dollars.

**INCOME (LOSS) & COMPREHENSIVE INCOME (LOSS)**

Expressed in Canadian Dollars

	For the year ended December 31,				
	2010	2009	2008	2007	2006
Revenues	\$ 443,011	\$ 3,683,326	\$ 2,944,470	\$5,608,432	\$ 1,206,684
Operating expenses					
Survey cost	466,428	1,587,120	211,237	814,343	164,095
Administrative	4,256,621	4,241,139	3,678,803	4,016,662	2,816,002
Amortization, depreciation & depletion	164,065	175,900	175,985	215,470	1,249,420
	<b>4,887,114</b>	6,004,159	4,066,025	5,046,475	4,229,517
	<b>(4,444,103)</b>	(2,320,833)	(1,121,555)	561,957	(3,022,833)
Other expense (income)					
Interest expense (income)	(9,923)	(80,633)	(234,007)	(109,374)	(4,411)
Interest on debentures	-	-	-	100,980	1,290,239
Loss (gain) on sale of properties	1,074	(1,037)	(20,325)	-	-
Loss (gain) on foreign exchange	16,509	150,958	(20,242)	249,427	1,882
Abandonment of oil and gas properties	4,092	7,653	210,943	-	-
Other	(3,427)	7,351	83,367	(29,507)	(36,440)
	<b>8,325</b>	84,292	19,736	211,526	1,251,270
Net income (loss)	<b>(4,452,428)</b>	(2,405,125)	(1,141,291)	350,431	(4,274,103)
Other comprehensive income (loss):					
Foreign currency gain (loss)	-	-	-	-	9,907
Comprehensive income (loss) for the period	<b>\$(4,452,428)</b>	\$(2,405,125)	\$(1,141,291)	\$ 350,431	\$(4,264,196)
Basic and diluted income (loss) per share	<b>(\$0.14)</b>	(\$0.08)	(\$0.04)	\$0.01	(\$0.17)
Weighted average common shares outstanding	<b>30,774,974</b>	30,690,426	30,369,586	27,838,893	25,038,200

**Balance Sheet Data**

Expressed in Canadian Dollars

	As at December 31,				
	2010	2009	2008	2007	2006
Working capital	\$ 831,974	\$ 4,630,036	\$ 6,325,055	\$5,336,353	\$ 1,264,252
Current assets	\$ 1,419,246	\$ 5,369,813	\$ 6,971,898	\$8,602,790	\$ 3,033,419
Restricted cash	101,856	-	-	-	-
Oil and natural gas properties, net	-	5,000	7,315	35,585	151,921
Other property and equipment, net	525,804	630,827	621,396	504,160	247,688
Total assets	\$ 2,046,906	\$ 6,005,640	\$ 7,600,609	\$9,142,535	\$ 3,433,028
Current liabilities	\$ 587,272	\$ 739,777	\$ 646,843	\$3,266,437	\$ 1,769,167
Long-term liabilities	62,597	232,546	53,808	32,140	-
Total liabilities	\$ 649,869	\$ 972,323	\$ 700,651	\$3,298,577	\$ 1,769,167
Shareholders' equity	\$ 1,397,037	\$ 5,033,317	\$ 6,899,958	\$5,843,958	\$ 1,663,861

Throughout the history of the company there have been no dividends declared.

The following table sets forth certain exchange rates between our financial reporting currency, the Canadian dollar, and the United States dollar based on the noon rate of exchange of the U.S. dollar, expressed in Canadian dollars, as reported by the Bank of Canada.

<u>Date</u>	<u>Cdn / US \$ Exchange</u>	
<b>Month ended-</b>	<b>High</b>	<b>Low</b>
May 31, 2011	0.9809	0.9490
April 30, 2011	0.9691	0.9486
March 31, 2011	0.9918	0.9686
February 28, 2011	0.9955	0.9739
January 31, 2011	1.0022	0.9862
December 31, 2010	1.0178	0.9946
<b>Quarter/Year ended-</b>	<b>Average</b>	
March 31, 2011	0.9855	
December 31, 2010	1.0299	
December 31, 2009	1.1420	
December 31, 2008	1.0716	
December 31, 2007	1.0666	
December 31, 2006	1.1308	
	<b>Ending</b>	
June 27, 2011	0.9861	

**B. Capitalization and indebtedness**

Not applicable – The company is filing this Form 20-F as an annual report.

**C. Reasons for the offer and use of proceeds**

Not applicable – The company is filing this Form 20-F as an annual report.

**D. Risk factors**

Investing in our common shares involves a high degree of risk. In addition to the other information included in this document, you should carefully consider the risks described below before purchasing our common shares. If any of the following risks actually occur, our business, financial condition and results of operations could materially suffer. As a result, the trading price of our common shares could decline and you might lose all or part of your investment.

**Our ability to continue operating is not certain.**

The company is in the early stage of commercializing its SFD® technology. Its ability to generate cash flow from operations will depend on its ability to service its existing clients and develop new clients for its SFD® services. Management recognizes that this early commercialization phase can last for several years. Consistent with this early stage of commercialization the company has a significant economic dependency on a few clients. While the company is in this early stage of commercialization, the company's financial position is materially impacted by the loss or gain of any one client. The company's ability to continue operations is dependent on obtaining financing and attracting future customers through demonstrating the value that the company can bring to their exploration activities.

Until we can demonstrate our ability to continue to service existing clients and develop new clients for our SFD® services over a longer period of time, we cannot be certain that we are in a position to continue operating indefinitely. The company's ability to continue as a going concern is discussed within Note 1 of the consolidated financial statements included within this Form 20-F.

**As the company is in the early commercialization phase SFD® surveys have not been tested over all potential geological conditions. Some geological conditions may subsequently be proven to be unsuited for SFD® surveys thereby creating unforeseen limitations to the application of SFD® surveys.**

Any limitation to the application of SFD® surveys has the potential of restricting future revenue opportunities and if not properly disclosed to industry clients may impact the reputation of the company with these clients.

**The financial statements rely upon estimates and assumptions that could be incorrect.**

The preparation of financial statements requires our management to make estimates and assumptions. These estimates and assumptions affect the reported amounts of assets and liabilities including the disclosure of contingent assets and liabilities as well as revenues and expenses recorded in our financial statements. Estimates include allowances for doubtful accounts, estimated useful lives of assets and asset retirement obligations, provisions for contingent liabilities, measurement of stock-based compensation, valuation of future tax assets, valuation of undeveloped land and gross overriding royalty entitlements, valuation of preferred shares including the likelihood that the conversion feature of the preferred shares will be achieved.

The estimates and assumptions are based upon the best information available to management, however, we cannot provide assurance that future events will not prove that these estimates and assumptions are inaccurate. Any revisions to our estimates and assumptions may have a material impact on our future reported net income or loss, assets or liabilities.

**We engage in transactions with related parties.**

We have related party transactions between NXT and its officers and directors. The most significant transaction was the Technical Transfer Agreement executed on December 31, 2006 between NXT and Mr. Liszicasz, our CEO,

president and director, wherein NXT issued 10,000,000 preferred shares in exchange for the acquisition of the SFD® technology for the exploration of hydrocarbons. See item 7B of this Form 20-F.

Although NXT manages this conflict of interest risk through maintenance of a strong independent board of directors, all related party transactions have the potential for conflicts of interest that may compromise the ability of board members to exercise their fiduciary responsibility to NXT shareholders.

**Our revenue and future business opportunities are impacted by oil and gas price fluctuations.**

We incur a risk of market changes in oil and natural gas prices. Prospective revenues from the sale of our services can be impacted by oil and natural gas prices changes. The impact that price changes may have on our ability to enter into SFD® survey contracts cannot be readily determined; however, in general if commodity prices decline our SFD® surveys revenue potential will also decline.

**Our financial position is impacted by currency fluctuations.**

We currently hold our cash in Canadian dollars, U.S. dollars and Colombian pesos. We earn revenues in Canadian dollars, U.S. dollars and potentially other foreign currencies. Our reporting currency is in Canadian dollars. We do not engage in currency hedging activities. Our cash positions and potential foreign currency revenue streams in currencies other than Canadian dollars exposes us to exchange rate fluctuations between the Canadian and foreign currencies. See Item 11 of this Form 20-F.

Our financial position will be affected by exchange rate fluctuations. We may earn revenue and incur expenses denominated in foreign currencies, yet report our financial results in Canadian dollars. Furthermore we intend to enter into contracts to provide services in foreign countries and may conduct business in other currencies such as the Euro. Changes in currency exchange rates could have an adverse effect on the company's business, financial condition and results of operations.

**Our net income or loss is impacted by interest rate fluctuations.**

We currently maintain some of our available cash in short term investments that generate interest income that will be affected by any change in interest rates. See Item 11 of this Form 20-F.

**We rely upon the availability of charter aircraft to conduct our survey operations.**

Since the sale of our aircraft in 2003, NXT has relied upon the availability of aircraft from charter operators. Charter operators provide the required aircraft for SFD® survey operations on an as-required basis for a variable cost equal to a fixed price for each flight hour used. Through these agreements with charter operators the company eliminated any requirement to make a capital investment into an aircraft.

On May 8, 2009 we entered into a charter agreement with Air Partners Corp., a Calgary, Alberta based international aircraft charter operator, to supply aircraft services for our survey requirements for a minimum period of one year. This agreement has been renewed and now covers a period which ends on January 11, 2012. This agreement has been included in this Form 20-F as Exhibit No. 4.43.

Although various charter operators have provided aircraft charter services since the disposal of our aircraft in 2003 there is a risk that a suitable aircraft may not be available at some future date from a charter operator.

If a chartered aircraft is not available then NXT may have no option but to purchase a company owned aircraft and then engage a third party to operate the aircraft. A future requirement to acquire an aircraft would place significant strain on the financial and operational resources of the company. There is a risk that the company would not have the financial resources or operational capacity to acquire an aircraft within an acceptable time frame to meet operational requirements.

Should we be unable to receive aircraft services from a suitable charter operator in the future and we are unable to acquire an alternative suitable aircraft in a timely fashion we would be unable to conduct SFD® surveys for clients and this inability would have a material adverse effect on the company's business, financial condition and results of operations.

**We are a small business with limited personnel and our inability to segregate duties between administrative staff is an internal control weakness.**

Certain duties that are most appropriately segregated between different employees are, due to our limited staff, assigned to one individual.

Standard internal control methodology involves the separation of incompatible functions by assigning these functions to separate individuals, and in larger organizations, to separate departments. We often cannot allocate these functions to separate individuals because our administrative staff is too small.

Although the company has adopted alternative control methods designed to compensate for the reduced ability to separate incompatible functions these alternative controls are not effective and there is more than a remote likelihood that our internal control over financial reporting will not prevent or detect material misstatements if they should exist in our financial statements. This lack of separation of duties exposes the company to misappropriation of funds, embezzlement and other forms of fraud and could have a material adverse effect on the company's business, financial condition and results of operations. See Item 15T included in this Form 20-F.

**Our rights to SFD® technology may be challenged and we may need to defend our rights to the technology in the courts.**

Our right to the SFD® technology depends on our CEO and director, Mr. Liszicasz, having a lawful right to sell to us the exclusive right to exploit the SFD® technology for the exploration of hydrocarbons as agreed to in the Technical Transfer Agreement ("TTA"). (For a full history of the technology transfer see Item 4.A Information on the Company - History and development of the company - History of Technology Agreements included within this Form 20-F.)

On December 31, 2006 we executed the TTA with Mr. Liszicasz whereby Mr. Liszicasz transferred all his rights to the SFD® technology for the purpose of hydrocarbon exploration to the company.

A risk does exist that an unknown party may claim some legal entitlement to Mr. Liszicasz' intellectual property, NXT's rights to commercialize this intellectual property or NXT's right to create SFD® devices and processes. However, we believe that such a claim would be without merit.

The SFD® technology is an essential component of our business plan. If a third party challenged our lawful entitlement to this technology, the legal defense of our right to the technology may be expensive and could cause a loss of our right to the SFD® technology, or a protracted legal process to assert our right to the technology would have a material adverse effect on the company's business, financial condition and results of operations.

**We rely on a limited number of SFD® sensors and this limitation may affect our ability to conduct business.**

We have a limited number of SFD® sensors. The company would be at risk if these sensors are damaged, destroyed, wear out, stolen or in any way made unavailable for operations prior to creating and testing additional sensors. Should sensors become unavailable for any reason our ability to conduct surveys will be delayed for several months as we built new sensors. During this period we may be unable to satisfy any contractual obligations. An inability to satisfy contractual obligations may jeopardize future revenue opportunities and may potentially result in a client drawing on a performance bond posted or otherwise making claims against the

company for breach of contract. In addition, an inability to satisfy contractual obligations may have an adverse effect on our developing reputation within the oil and gas community.

**We rely on a specialized equipment to conduct SFD® surveys.**

We rely on equipment for data acquisition and signal conditioning of the SFD® signal and should this equipment be damaged, destroyed or in any other way not be available for our operations then we will be unable to conduct surveys and meet contractual obligations. If equipment necessary to conduct surveys became unavailable, there is a risk that our ability to conduct surveys will be delayed for several months and we may be unable to satisfy certain contractual obligations. A default may jeopardize future revenue opportunities and may potentially result in a client drawing on a performance bond posted or otherwise making claims against the company for breach of contract.

**Unless we pursue ongoing technological improvement and development we may be unable to respond to changes in customer requirements or new competitive technologies.**

We must continue to refine and develop our SFD® survey system to make it scalable for growth and to respond to potential future competitive pressures. These improvements require substantial time and resources. Furthermore, even if resources are available, there can be no assurance that the company will be commercially or technically successful in enhancing the technology. The company's inability to keep pace with new technologies and evolving industry standards and demands could have a material adverse effect on the company's business, financial condition and results of operations.

**We are dependent on key personnel and the loss of any of these key persons will impact our ability to conduct business.**

The company's future success depends to a significant extent on the continued service of its key technical and management personnel and on its ability to continue to attract and retain qualified employees. The loss of the services of the company's employees or the company's failure to attract, retain and motivate qualified personnel could have a material adverse effect on the company's business, financial condition and results of operations. We do not have "key man" insurance on any of our personnel.

The company has employment agreements with all of its executive officers, including George Liszicasz, its president and chief executive officer.

We have a dependence on Mr. Liszicasz to interpret the SFD® data and to enhance our technology. The company is working to minimize this dependency on one individual. Mr. Liszicasz has trained and continues to train a team of signal interpreters to minimize the company's reliance on Mr. Liszicasz to perform these functions. Currently four persons are trained to interpret SFD® signals; however, currently none are trained to an equivalent skill level of Mr. Liszicasz.

Although the company has engaged employees with suitable credentials to work with Mr. Liszicasz to enhance our interpretation process and further develop the SFD® technology, if the company is unable to reduce dependence on Mr. Liszicasz and he becomes incapable of performing or unwilling to perform these functions, then there may be an adverse affect on our ability to interpret the data from SFD® surveys or to enhance our technology.

**We rely on a limited number of employees and contractors who collectively possess the knowledge and skills to conducted SFD® surveys, interpret SFD® data and provide other services required to meet contract obligations. Additional or replacement personnel cannot be found and trained quickly. The loss of any of these key persons or increased demand for our services from clients can impair our ability to meet contract obligations thereby adversely impacting our reputation and our ability to earn future revenue from clients.**

Within the province of Alberta the skilled personnel that we require are in short supply and in addition there is

specialized training required that can take several months in order for a new employee to become effective. If we cannot hire these key personnel, we have inadequate time to train them or should we lose current personnel, then our ability to accept contracts or meet contract commitments may be adversely affected thereby restricting our ability to earn revenue.

**A single major shareholder who is also a board member and an officer of the company retains the ability to influence or control the company and this influence or control may result in a conflict of interest.**

Mr. George Liszicasz, our principal executive officer and largest shareholder, as of June 1, 2011, owns, approximately 15% of the common shares outstanding and therefore has a substantial influence in all shareholder matters. Additionally, he owns 10,000,000 preferred shares, 2,000,000 of these preferred shares are convertible immediately on a one-to-one basis into Common shares at the discretions of Mr. Liszicasz, and the balance are convertible into common shares subject largely to certain revenue performance conditions being met. If all the preferred shares were converted and there was no other change in our share structure he would own 35% of common shares. See Notes to the Consolidated Financial Statements or Item 4.B Information on the Company – Business overview – Key Contract on Which We Rely for additional information relating to the preferred shares.

Controls do exist to mitigate any potential risks associated with this conflict of interest. Mr. Liszicasz adheres to a code of conduct which includes a fiduciary responsibility to the company and its shareholders and this conduct is governed by the independent board of directors who collectively represent a majority of the board. Furthermore all material related party transactions are disclosed publicly.

However, should these conflict of interest controls not be effective, decisions may be made by the company that may advantage Mr. Liszicasz and negatively impact other shareholders.

**There is no certainty that an investor can trade our common shares on public markets at a stable market price.**

There is a limited public market for our common shares on the TSX Venture Exchange (the “TSX-V”), Over the Counter Bulletin Board (the “OTCBB”) and the Frankfurt and Berlin Exchanges and there is a risk that a broader or more active public trading market for our common shares will not develop or be sustained, or that current trading levels will not be sustained.

The market price for the common shares on the exchanges where our stock is listed has been, and we anticipate will continue to be, extremely volatile and subject to significant price and volume fluctuations in response to a variety of external and internal factors. This is especially true with respect to emerging companies such as ours. Examples of external factors, which can generally be described as factors that are unrelated to the operating performance or financial condition of any particular company, include changes in interest rates and worldwide economic and market conditions, as well as changes in industry conditions, such as changes in oil and natural gas prices, oil and natural gas inventory levels, regulatory and environment rules, and announcements of technology innovations or new products by other companies. Examples of internal factors, which can generally be described as factors that are directly related to our consolidated financial condition or results of operations, would include release of reports by securities analysts and announcements we may make from time to time relative to our operating performance, clients exploration results, financing, advances in technology or other business developments.

Because we have a limited operating history and only one profitable year to date, the market price for the common shares is more volatile than that of a seasoned issuer. Changes in the market price of the common shares, for example, may have no connection with our operating results or the quality of services provided to clients. No predictions or projections can be made as to what the prevailing market price for the common shares will be at any time, or as to what effect, if any, that the sale of shares or the availability of common shares for sale at any time will have on the prevailing market price. Given the low trading volume small trades of the company’s common shares can adversely and potentially dramatically affect the market prices for those shares.

Accordingly investors in the company's common stock should anticipate both volatile stock price and poor liquidity unless these conditions change.

**You will be subject to the penny stock rules to the extent our stock price on the OTCBB is less than \$5.00.**

Since the common shares are not listed on a national stock exchange within the United States, trading in the common shares on the OTCBB is subject, to the extent the market price for the common shares is less than \$5.00 per share, to a number of regulations known as the "penny stock rules". The penny stock rules, subject to certain exemptions, require a broker-dealer to deliver a standardized risk disclosure document prepared by the Securities and Exchange Commission (the "SEC"), to provide the customer with additional information including current bid and offer quotations for the penny stock, the compensation of the broker-dealer and its salesperson in the transaction, monthly account statements showing the market value of each penny stock held in the customer's account, and to make a special written determination that the penny stock is a suitable investment for the purchaser and receive the purchaser's written agreement to the transaction. To the extent these requirements may be applicable they will reduce the level of trading activity in the secondary market for the common shares and may severely and adversely affect the ability of broker-dealers to sell the common shares.

**You should not expect to receive dividends in the foreseeable future.**

We have never paid any cash dividends on our common shares and we do not anticipate that we will pay any dividends in the foreseeable future. Our current business plan is to retain any future earnings to finance the expansion of our business. Any future determination to pay cash dividends will be at the discretion of our board of directors, and will be dependent upon our consolidated financial condition, results of operations, capital requirements and other factors as our board of directors may deem relevant at that time.

**Our right to issue additional capital stock at any time could have an adverse effect on your proportionate ownership and voting rights.**

We are authorized under our Articles of Incorporation to issue an unlimited number of common shares and an unlimited number of preferred shares. We may issue these shares under such circumstances and in such manner and at such times, prices, amounts and purposes as our board of directors may, in their discretion, determine to be necessary and appropriate subject to compliance with applicable exchange regulations, corporate and securities laws. Proportionate ownership and voting rights of common shareholders could be adversely affected by the issuance of additional common shares, that may result in of common share value dilution.

**We may not be able to protect our trade secrets and intellectual property from competitors who would use this knowledge to eliminate or reduce our technological advantage.**

The company's success and future revenue growth will depend, in part, on its ability to protect its intellectual property. We intend to obtain a patent for the SFD® technology. The patent protection process would require disclosure of at least some aspects of our SFD® technology to third parties and ultimately public disclosure. This disclosure could significantly increase the risk of unlawful use of our technology by third parties. Furthermore we have no assurance that, even if we seek patent protection, a patent could be registered to protect our intellectual property in all or any jurisdiction within North America or other countries throughout the world. If registered, there can be no assurance that it would be sufficiently broad to protect the company's technology or that any potential patent would not be challenged, invalidated or circumvented or that any right granted thereunder would provide meaningful protection or a competitive advantage to the company. Finally, protection afforded by patents is limited by the financial resources available to legally defend intellectual property rights. NXT currently does not possess the required financial resources to fund a lengthy defense of our rights if challenged by a much larger competitor or an oil and gas company.

We do enjoy common and contract law protection of our technology and trade secrets. Employees and contractors are governed by confidentiality agreements as well as a fiduciary responsibility to protect our technology, supporting documentation and other proprietary information.

Our strongest protection of the SFD® technology comes from restricting access to knowledge concerning the technology. Only a very limited number of NXT personnel have access to or knowledge of the underlying SFD® technology and no one employee and only one officer has access or knowledge of all aspects of the SFD® system. Currently no third party has any significant knowledge of the technology. As further protection, SFD® equipment does not leave the direct control of NXT employees, thereby preventing unauthorized replication of the equipment.

The company reassesses the appropriateness of its intellectual property protection strategy on an ongoing basis and seeks advice from intellectual property advisors.

It is possible that a third party will copy or otherwise obtain and use the company's technology without authorization, develop a similar technology independently or design around the company's secrets. Accordingly there can be no assurance that the steps taken by the company to prevent misappropriation or infringement of our intellectual property will be successful.

An inability to protect our intellectual property would make it possible for competitors to offer similar products and services that could have a material adverse effect on its business, financial condition and results of operations.

**We experience operational hazards in our flight operations that may subject us to potential claims in the event that an incident or accident occurs.**

The flight operations of SFD® surveys are subject to the hazards associated with general flight operations. An aircraft accident may cause personal injury and loss of life, as well as severe damage to and destruction of property, SFD® sensors and SFD® equipment.

Independent third parties provide all the services required to operate the aircraft; they bear the primary risks of flight operations. These services are provided by an organization accredited by Transport Canada to operate aircraft in accordance with Transport Canada approved and audited operating procedures. The aircraft operator employs the required pilots, aircraft maintenance engineers and support personnel and ensures that they operate within their Transport Canada operating certificate. Our employees do not perform any airworthiness or flight safety operations.

We obtain insurance coverage to provide us with additional risk protection. We require the flight contractor to maintain appropriate insurance coverage for the risks associated with aircraft operations. In addition, we maintain general business insurance coverage. We believe that this insurance and the policy limits are appropriate for the operational risks that we incur.

Despite our policy not to operate the aircraft directly and our insurance coverage we cannot avoid or alternatively be insured for all risks of flight operations. In the event of an incident or accident we may be sued by injured parties in excess of our policy limits or for damages that are not covered by our insurance policy. The magnitude of a law suit of this nature is not determinable. Furthermore to the extent that our SFD® equipment is damaged we may be unable to conduct SFD® surveys for several months following an accident.

**We are a Canadian company and our nationality may impair the enforceability of judgment for any person resident outside Canada.**

Since we are a Canadian company and most of our assets and key personnel are located in Canada, you may not be able to enforce a U.S. judgment for claims you may bring against us, our assets, our key personnel or many of the

experts named in this document. This may prevent you from receiving compensation to which you may otherwise have a claim.

We are organized under the laws of Alberta, Canada and substantially all of our assets are normally located in Canada. In addition, our board of directors and our officers are residents of Canada. As a result, it may be impossible for you to affect service of process upon us or these individuals within the U.S. or to enforce any judgments in civil and commercial matters, including judgments under U.S. federal securities laws. In addition, a Canadian court may not permit you to bring an original action in Canada or to enforce in Canada a judgment of a U.S. court based upon civil liability provisions of the U.S. federal securities laws.

**We currently operate in Colombia and expect to operate in other foreign countries in the future. These foreign operations expose us to several risks that may have a material adverse effect on the company.**

**Criminal Activity and Social Instability** - Colombia over the past two decades has experienced significant social upheaval and criminal activity relating to drug trafficking, kidnapping and terrorist acts. While the situation has improved dramatically in recent years, there can be no guarantee that the situation will not again deteriorate nor are these risks yet eliminated. Furthermore other potential international survey locations may have similar or other indeterminate criminal or social instability risks.

Systemic criminal activity in a country or isolated criminal acts may disrupt operations, impact the company's ability to earn revenue, dramatically add to our cost of operations or potentially prevent us from earning any survey revenue in a country.

**Political Instability** - Any changes in regulations or shifts in political attitudes are beyond the control of the company and may adversely affect its business. Exploration may be affected in varying degrees by government regulations which have the effect of restricting exploration and production activities. These changes may adversely impact the laws and policies governing price controls, export controls, foreign exchange controls, income taxes, and expropriation of property, environmental legislation, site safety or other areas.

Currently there are no restrictions on the repatriation of our earnings in Colombia back to Canada; however, there can be no assurance that restrictions on repatriation of earnings from Colombia to Canada will not be imposed in the future.

Our operations may also be adversely affected by changes in laws and policies in Canada impacting foreign travel and immigration, foreign trade, taxation and investment.

**Commercial Disputes** – While operating in a foreign country we are subjected to local commercial laws which often involve executing contracts in a foreign language. Although every effort is made to ensure we have access to an accurate English translation, misunderstanding and potential disputes between parties may arise.

In the event of a dispute arising in connection with our foreign operations for any reason, we may be subject to the exclusive jurisdiction of foreign courts or may not be successful in subjecting foreign persons to the jurisdictions of the courts of Canada or enforcing Canadian judgments in such other jurisdictions. We may also be hindered or prevented from enforcing our rights with respect to a government instrumentality because of the doctrine of sovereign immunity.

Accordingly, these risk factors have the potential of adversely reducing the level of survey revenue from our clients, our ability to operate effectively or our ability to be paid for our services and may have a material adverse effect on the company's financial position.

**We rely upon the right to conduct airborne surveys in foreign countries. These foreign operations expose us to the risks that we will be prevented from conducting surveys when requested by clients.**

The operation of our business, namely conducting aerial SFD® surveys and interpreting SFD® data, is not subject to material governmental or environmental regulation in Canada and the United States with the exception of flight rules issued by Transport Canada and the FAA governing the use of commercial aircraft, including rules relating to low altitude flights. The requirements in other countries vary greatly and may require permits and/or provide other restrictions to conducting flight operations in the country that will restrict our ability to perform SFD® surveys.

In Colombia SFD® surveys must comply with three requirements not encountered in Canada and the United States. These requirements are; customs obligations and bonds related to the importation and exportation of the aircraft into Colombia, obtaining permits from the local aviation authority and obtaining permits from the Colombian Air Force. NXT has successfully operated in Colombia in accordance with these requirements.

With our experience in Canada, United States and Colombia we do not anticipate any unanticipated government controls or regulations that will prevent timely completion of SFD® surveys. However, we may encounter government restriction in other countries that may impact or restrict our ability conduct surveys.

If we encounter government regulation and restriction that impact or prevent us from conducting surveys in any country then we will not be able to earn revenue in the country and we may be exposed to forfeiting any performance bonds.

**We caution that the factors referred to above and those referred to as part of particular forward-looking statements may not be exhaustive and that new risk factors emerge from time to time in our rapidly changing business environment.**

#### **ITEM 4. INFORMATION ON THE COMPANY**

##### **A. History and development of the company**

We are a technology company focused on providing a service to oil and natural gas exploration clients using our proprietary SFD® survey system. The SFD® system is a remote sensing airborne survey system for the oil and gas exploration industry. SFD® and NXT® are both registered trademarks of NXT Energy Solutions Inc.

NXT was incorporated under the laws of the State of Nevada on September 27, 1994 and continued from the State of Nevada to the Province of Alberta, Canada on October 24, 2003.

Our registered office is located at 1400, 505 - 3rd Street SW, Calgary, Alberta, Canada and our telephone number is (403) 264-7020. In the United States our authorized agent is Parasec at: 318 North Carson Street, Suite 208, Carson City, NV and their telephone number is (888) 972-7273.

We are a reporting issuer in Alberta and British Columbia and are principally governed by the Alberta Securities Commission in accordance with the Securities Act (Alberta) and the Business Corporations Act (Alberta) (the "ABCA"). We are a foreign private issuer under United States securities laws and are subject to the regulation of the Securities and Exchange Commission of the United States in accordance with the *Securities Exchange Act of 1934*, as amended (the "Exchange Act").

The underlying technology employed by our SFD® survey system was invented by George Liszicasz, our CEO, president, chairman and largest shareholder. The technology was licensed to the company by Mr. Liszicasz until December 31, 2006 through a series of consecutive license agreements. On December 31, 2006 the company acquired the technology from Mr. Liszicasz pursuant to the Technical Transfer Agreement (the "TTA").

Upon execution of the TTA, Mr. Liszicasz transferred all his rights and entitlements to SFD® technology for hydrocarbon exploration to the company. Mr. Liszicasz has retained the rights to the technology for all other applications.

SFD® technology for the purposes of the TTA is defined as the theories of quantum physics and engineering which are utilized in the operation of stress field detectors used by NXT for the reception, collection and recording of subsurface geological stresses for hydrocarbon exploration. See Item 4.B “Summary information on dependents on patents, licenses and contracts” within this Form 20-F for more information on this TTA agreement.

On December 19, 2008 the company dissolved two fully owned Canadian subsidiaries, NXT Energy Canada Inc. and NXT Aero Canada Inc. All the assets and liabilities of these subsidiaries were wound up into the company.

On February 9, 2010 the company registered a branch with both the Chamber of Commerce in Bogota, Colombia and with the office of Direction of Taxes and National Customs, the Colombian tax administration. The formation of this branch became a Colombian legal requirement following the company commencing permanent activity in Colombia in 2010 while conducting commercial survey operations.

The company’s business does not rely on significant capital expenditures. The company has made capital expenditures for property and equipment of \$55,516, \$184,035 and \$292,026 respectively for years 2010, 2009, and 2008. These expenditures relate largely to computer equipment and SFD® survey equipment.

## **B. Business overview**

### **Description of the nature of the company’s operations and principle activities**

NXT utilizes its proprietary SFD® survey system to provide a service for the oil and gas industry. SFD® is an airborne tool used for oil and gas exploration. We provide a fast and cost-effective method for oil and gas clients to evaluate large areas for their exploration potential.

SFD® sensors remotely respond to changes in subsurface stress regimes that are meaningful for oil and gas exploration. These responses are captured as raw data that, when interpreted, can provide an indirect method to detect the presence of geological features such as structure, faults, fractures and reefs that are often associated with traps and reservoir accumulations. SFD® is effective over wide areas where surveys often exceed 5,000 square kilometers. The SFD® survey system has been shown effective by clients to quickly focus exploration resources offering the benefit of reducing the risk, time and expense associated with frontier exploration.

NXT delivers to clients a detailed report and maps of the surveyed area that identifies, ranks and recommends areas with SFD® indications of reservoir potential.

In 2006 the company commenced its current business model and began providing SFD® survey services to clients on a fee-for-service basis. In accordance with this model NXT will not invest either directly or indirectly in exploration or development wells or engage in other exploration or production activities. Our current business model minimizes our capital requirements thereby conserving cash, minimizes perceived or real conflicts between the interests of NXT and its survey clients and we believe will generate a higher return on capital for shareholders than if we adopted an oil and gas exploration and production business model.

Within our chosen business model our primary business is to earn revenues by conducting SFD® surveys and then providing reports to clients to earn a fee. Secondly the company may negotiate to earn revenue from gross overriding royalty income and/or other incentive fees from clients should they generate production on areas recommended by SFD® surveys. Finally, in the future, the company may earn a fee by providing other related geological and geophysical services to clients.

Our objective with this business model is to maximize and hasten a broad industry acceptance and appreciation of the value of our SFD® survey system. The main obstacle in achieving this objective is the oil and gas industry’s skepticism related to any early stage technology. The industry has long memories of promising, but ultimately disappointing, technologies. Accordingly industry professionals are seldom prepared to devote resources or stake

their professional reputation on an early stage technology. This reluctance is particularly acute when the fundamental science related to the technology is complex and not easily understood as is the case with SFD®.

NXT's strategy to overcome skepticism in order to gain industry acceptance of SFD® and maximize survey revenue fall into four general categories; maximizing client endorsement opportunities, providing industry education and support, targeting the most appropriate markets (i.e. where SFD® provides the maximum benefits) plus adopting an attractive and fair pricing structure. Our specific tactics are:

1. Focus the majority of sales resources on one high profile market which offers NXT the maximum opportunity for success (Colombia);
2. Upon success in this initial market, step out to an associated market (Peru) and eventually other markets that are a logical extension of the primary market;
3. Be opportunistic by responding selectively to requests of interest from qualified potential clients "bluebirds" from all other locations in the world (South Asia). The bluebird model is defined as an opportunity that arises, not from deliberate targeted sales initiatives, but in response to unsolicited client enquiries;
4. Capitalize on any bluebird sales by soliciting sales opportunities within the bluebird market;
5. Continue to conduct small pilot surveys to expand our knowledge base and provide documentation to support the use of SFD® in new applications. Each new application opens more market opportunities and provides valuable case studies to support our sales initiatives; and
6. Respond to opportunities to present at technical conferences, publish papers in periodicals and generally maximize our opportunities to educate the industry on SFD® capabilities and document case studies successes.

#### **Description of the principle markets in which the company competes**

##### Overview of markets

The company has an opportunity to provide its services to any region in the world that conducts oil and gas exploration activities. However, the company chooses to be strategic and focus its limited sales resources in its early stages of commercialization into just a few carefully selected markets.

Discussion on market in which we operate:

##### North America Market

NXT began marketing of its SFD® survey system in 2006 largely in Canada and continued with this market focus until the end of 2008. Solely in Canada the company earned survey revenue of \$1,206,684, \$5,608,432 and \$2,944,470 respectively in the period 2006, 2007 through 2008.

In the second quarter of 2011 we completed a U.S. \$150,000 contract to conduct a pilot SFD® survey in Montana for a Calgary based client. The purpose of the pilot survey is to utilize SFD® to provide indicators of trap and reservoir potential in a complex geological environment. The survey area contains both large blanket gas and small oil fields.

##### Colombian Market

In 2008 exploration activity seriously diminished in Canada as a result of the credit crisis and falling natural gas commodity prices. In response, the company looked to international markets for new revenue opportunities. This strategy resulted in the company entering into the Colombian market in 2009. The company has now earned survey revenue in Colombia of \$443,011 and \$3,683,326 in 2010 and 2009 respectively.

Colombia has many characteristics desirable for achieving market success for our SFD® survey system. With a business friendly approach and practical resource policies, Colombia attracts a large number of exploration and

production companies from around the world. In Colombia there are obstacles to acquire geological and geophysical data as required to properly evaluate unexplored land. Obstacles include rain forests, environmental and community restrictions, security concerns and the high cost and time required to shoot seismic programs, particularly on-shore. SFD® can be a very effective tool to help overcome these obstacles.

Colombia is our primary international market focus in 2011. All the company's revenue in the past two years was earned in Colombia. The company is well known in this country and we believe Colombia continues to offer the strongest revenue opportunity for 2011.

#### Peruvian Market

NXT has selected Peru as the next appropriate market to pursue. Our evaluation confirmed that Peru offered many synergies with Colombia. Many of the companies active in Peru are also active in Colombia. Additionally, Colombia and Peru share many of the same operational, community and environmental issues that make SFD® an attractive solution.

#### South Asia Market

We capitalized on a "bluebird" opportunity in South Asia, which resulted in the signing of a U.S. \$2.66 million contract this year. This opportunity arose through established prior relationships between our geophysical staff and key decision makers in the client's exploration management. However, the contract was closed largely based upon case studies and client endorsements received from Colombian clients. Completion of this contract is contingent upon obtaining regulatory and military permits to conduct flight operations. Obtaining such permits is uncertain at this time.

#### Description of seasonality of the company's main business

There is no seasonality to the company's business.

#### Description of the source of raw material

We do not foresee any constraints upon materials or equipment that will impede our ability to execute our business plan or affect the company's ability to conduct and/or expand its business. In order to conduct our survey we require the following:

- **Survey aircraft:** - Historically NXT has both owned its own aircraft and chartered aircraft from independent charter aircraft companies.

In early 2009, in preparation for serving an international client base, we entered into a charter agreement with Air Partners Corporation, a Calgary based air-charter operator, to provide aircraft, crew and maintenance services for our survey operations worldwide. The current charter agreement with Air Partners expires on January 11, 2012 whereupon the company anticipates that the agreement will be renewed for an additional period. Air Partners is a subsidiary of Morgan Air Services which has been providing aviation services worldwide since 1983. This agreement gives us priority access, on an as-needed basis, to multiple Citation 560 series jet aircraft that have been modified to meet our survey requirements. These jets are well suited for international operations.

- **SFD® sensors:** - All the sensors are manufactured in-house. Certain machining is required by third party machine shops, with final assembly performed by our technical staff. The sensors, once assembled, require flight testing prior to being considered acceptable for operational use. Not all sensors meet the performance criteria for operational use; however, NXT has demonstrated its ability to manufacture new functional SFD® sensors.
- **SFD® assembly:** - The units in which the sensors are incorporated are custom designed, fabricated and assembled in-house or through subcontracted vendors. We utilize the services of Transport Canada approved Design Approval Representatives to prepare subsequent type certificates (STC) for the installation

of our SFD® units in each aircraft we utilize for surveys. The time to obtain an STC approval for the installation of our SFD® units into any proposed aircraft type may require several months.

- **Computer hardware and software:** - (*Data Acquisition System, SFD® Signal Conditioning Unit, and Interpretation Theatre*) The customized software used in our data acquisition system is written and modified by outside consulting programmers with whom we have long-standing relationships. The hardware we use in our SFD® survey systems (other than the SFD® unit), and the balance of the computer software we use, are all readily available from retail or wholesale sources.

We are not dependent upon any other third party contract manufacturers or suppliers to satisfy our technology requirements. See Air Partners contract discussed below under “Key Contracts”.

#### **Description of marketing channels**

The company largely uses direct sales methods with some use of commissioned sales representatives.

#### **Summary information on dependents on patents, licenses and contracts**

##### **Patents**

We have not patented our SFD® technology, however, we understand we can obtain a worldwide patent in the future (see “Risk Factors” in this Form 20-F). Our right to patent the SFD® technology in the future we understand is not compromised by our commercial use of the technology as the SFD® technology has never been disclosed to third parties (except under very limited confidential terms) or released in any manner into the public domain. See Item 3.D Key Information – Risk factors within this Form 20-F.

##### **Technical Transfer Agreement**

Upon execution of the TTA on December 31, 2006 Mr. Liszicasz sold all his rights and entitlements to SFD® technology for oil and gas exploration to the company in exchange for receiving 10,000,000 preferred shares. The preferred shares carry no voting rights.

2,000,000 of these preferred shares became immediately convertible on a one-to-one basis into common shares at the discretion of the holder.

The remaining 8,000,000 preferred shares are potentially convertible on a one-to-one basis into common shares should the company achieve the following cumulative revenue thresholds prior to the expiration of the agreement on December 31, 2015:

- 2,000,000 should cumulative gross revenue reach US \$50 million,
- 2,000,000 should cumulative gross revenue reach US \$100 million,
- 2,000,000 should cumulative gross revenue reach US \$250 million, and
- 2,000,000 should cumulative gross revenue reach US \$500 million.

At December 31, 2015 the SFD® technology can be retained by the company by either:

- if the company earned cumulative aggregate gross revenue of US \$500 million or more in the 9-year period ended December 31, 2015 then the company can retain the SFD® technology by issuing Mr. Liszicasz an additional 1,000,000 common shares; or

- if the company did not earn cumulative aggregate gross revenue of US \$500 million or more in the 9-year period ended December 31, 2015 then the company can retain the SFD® technology by immediately making any remaining preferred shares convertible; or
- if the company chooses not to retain the SFD® technology it can be reacquired by Mr. Liszicasz for \$10.00.

As at June, 27, 2011 the company has earned approximately \$14 million of cumulative gross revenue pursuant to the TTA.

The following schedule provides a summary of the ownership of the preferred shares as of June 27, 2011:

Owner of Preferred Share	Preferred Shares Owned	Percent of Class of Share
George Liszicasz, CEO & Director	10,000,000	100.0%

See “Item 10.B – Memorandum and articles of association – Rights Attached to Preferred Shares – Conversion” below.

#### **Second Amended and Restated Technical Services Agreement**

This agreement was executed on December 31, 2006 outlining the terms of Mr. Liszicasz employment agreement with the company and establishes Mr. Liszicasz’ entitlement to normal employee remuneration such as salary, benefits, bonus and options and identifies grounds for termination of this agreement. This agreement has a term ending December 31, 2015 unless terminated by the company or Mr. Liszicasz. The Second Amended Services Agreement is included as Exhibit 4.36 to this Form 20-F.

#### **Air Partners Aircraft Charter Agreement**

On May 8, 2009, the company executed an aircraft charter agreement with Air Partners Corp. to provide aircraft, services for SFD® survey operations utilizing Air Partners’ fleet of Cessna Citation 560 series jet aircraft. The original term of this agreement was for one year and has been extended through two successive contract renewals. The current extension executed on January 11, 2011 expires on January 11, 2012.

Under the terms of this agreement Air Partners shall provide aircraft charter services to meet NXT’s aircraft survey requirements both domestic and internationally. Specifically Air partners shall provide on a non-exclusive but preferential basis three Cessna Citation 560 aircraft, specifically modified to meet SFD® survey mission requirements. The Air Partners’ service shall include all aircraft personnel (including pilots, aircraft maintenance engineers and administration), insurance, aircraft maintenance, servicing and grooming all in accordance with Transport Canada and other regulatory standards.

NXT’s minimum aircraft charter commitment during the extension to January 11, 2012, is approximately \$335,000. The company’s commitment is based upon chartering in aggregate a minimum of 100 aircraft hours. Flight hours in excess of this 100 hour minimum shall be made available to NXT for survey operations on an as required base subject to availability. As at June 27, 2011 the company has contracted 9 hours pursuant to this agreement.

Air Partners Aircraft Charter Agreement dated January 11, 2011 is included as Exhibit 4.43 to this Form 20-F.

#### **Equicom Group Inc Agreement**

On May 26, 2011 NXT entered into an agreement with Equicom Group Inc (Equicom) with an initial term of one year that is subject to cancellation by NXT with 60 day written notice. Equicom provides strategic communications services to approximately 100 public companies across a diverse range of industries. Under the terms of the

agreement, NXT will pay Equicom a monthly fee of \$6,000 for select strategic communication services. The contract commences immediately. Neither Equicom nor any of its principals have an ownership interest, directly or indirectly, in NXT or its securities, nor has the company granted Equicom or its principals any rights to acquire any such interests. Equicom is a wholly-owned subsidiary of TMX Group Inc.

Equicom Group Inc Agreement dated effective May 26, 2011 is included as Exhibit 4.44 to this Form 20-F.

#### **Basis for statements made regarding competitive position**

Our SFD® airborne survey service is based upon a proprietary technology. It is capable of remotely, from a survey aircraft, identifying subsurface anomalies associated with potential hydrocarbon traps with a resolution that we believe is technically superior to other airborne survey systems. To our knowledge there is no other company employing technology similar or comparable to our SFD® survey system for oil and natural gas exploration.

Seismic is the standard technology used by the industry to image subsurface structures. It is our view that the SFD® survey system is a complementary technique to seismic. Our system may reduce the need for seismic in wide-area reconnaissance but will not replace the role of seismic in verifying structure, closure and selecting drilling locations. The seismic industry is very competitive with many international and regional service providers.

The SFD® system is often used as a focusing tool for seismic. With an SFD® survey a large tract (i.e. over 5,000 square kilometers) of land can be evaluated quickly to identify locations with indications of reservoir potential. Seismic surveys, although effective in identifying these locations, are much more expensive, require significantly more time and impose a much greater negative impact on communities and the environment. An SFD® survey deployed first can provide necessary information to target a seismic program over just the locations selected by SFD®. This approach can result in a more effective seismic program and reduce the overall cost, time, community resistance and environmental impact required to locate and qualify a prospect.

The industry uses other technologies for wide area oil and natural gas reconnaissance exploration such as aeromagnetic and gravity surveys. These systems can provide regional geological information such as basement depth, sedimentary thickness and major faulting and structural development; however, these other airborne techniques are not as suitable for identifying areas with reservoir potential as SFD®.

#### **Description of material effects of governmental & environmental regulation**

##### **SFD® Survey Flight Operations**

The operation of our business, namely conducting aerial SFD® surveys and interpreting SFD® data, is not subject to material governmental or environmental regulation in Canada and the United States with the exception of flight rules issued by Transport Canada and the FAA governing the use of commercial aircraft, including rules relating to low altitude flights. The requirements in other countries vary greatly and may require permits and/or provide other restrictions to conducting flight operations in the country that may restrict our ability to perform SFD® surveys as freely as in Canada and the United States.

In Colombia SFD® surveys must comply with three requirements not encountered in Canada and the United States. These requirements are; customs obligations and bonds related to the importation and exportation of the aircraft into Colombia, obtaining permits from the local aviation authority and obtaining permits from the Colombian Air Force. NXT has successfully operated in Colombia in accordance with these requirements.

With our experience in Canada, the United States and Colombia we do not anticipate any unanticipated government controls or regulations that will prevent timely completion of SFD® surveys. However, we may encounter government restriction in other countries that may impact or restrict our ability conduct surveys.

If we encounter government regulation and restriction that impact or prevent us from conducting surveys in any country then we will not be able to earn revenue and may potentially expose the company to forfeiture of performance bonds.

### C. Organizational structure

The following table provides a list of all subsidiaries and other companies controlled by the company:

Subsidiaries	Date and Manner of Incorporation	Authorized Share Capital	Issued and Outstanding Shares	Nature of the Business	% of each Class of Shares owned by NXT
NXT Energy USA, Inc.	October 20, 1995 by Articles of Incorporation – State of Nevada	20,000,000 common	5,000,000 common	Inactive	100%
NXT Aero USA, Inc.	August 28, 2000 by Articles of Incorporation – State of Nevada	1,000 common 4,000 preferred	100 common	Inactive	100%

### D. Property, plants and equipment

#### Oil and Gas Properties

The company owns limited acres of undeveloped land in the Canadian western sedimentary basin. These assets are not a material asset of the company and have been written down a nominal value in our financial records. Additionally the company is entitled to royalty interest on production on certain lands surveyed by clients. Royalty revenue is not significant at this time but may increase in the future if these lands, on which NXT has royalty interest, are developed and commence producing hydrocarbons.

#### Facilities

We operate from a 7,087 square foot leased office located at Suite 1400, 505-3rd Street SW, Calgary, Alberta, Canada T2P 3E6. The amended lease for this facility commenced on June 1, 2008 and includes 2,100 square feet that was added to the original lease on a co-terminus basis. The original six year lease was entered into on November 1, 2006 and expires on October 31, 2012. The monthly lease payment is currently \$31,871.

#### Equipment

Our SFD® technology is comprised of the following components, which we collectively refer to as our SFD® survey system, used for the following functions:

- *Stress Field Detector*—the stress field detector, or SFD® including a unit which houses the SFD® sensors, is the principal component of our technology. SFD® sensors respond to changes in subsurface stress. These responses are transformed through passive transducer into electronic digital signals. Airborne surveys are conducted with an array of 22 SFD® sensors, consisting of 6 primary, 8 secondary and 8 development sensors, allowing multiple SFD® signals responses at all points of a survey.

This equipment is generally stored at our Calgary office facility unless deployed during survey operations when they would travel with the aircraft and are stored in a locked facility at the survey location when not in use.

- *Data Acquisition System*—used in conjunction with the SFD® sensor array on surveys, our data acquisition system is a compact, portable computer system which concurrently acquires the electronic digital signals from the SFD® sensor array and other pertinent client data, including the GPS location information of the data. This equipment is generally stored at our Calgary office facility unless deployed during survey operations when they would travel with the aircraft and are stored in a locked facility at

the survey location when not in use.

- **SFD® Signal Conditioning Unit**—this self-contained unit contains electronic circuits for stabilizing and conditioning electronic signals. All sensor output is directly connected to this unit and after signal conditioning is completed, all output is forwarded to the computer system. This equipment is generally stored at our Calgary office facility unless deployed during survey operations when they would travel with the aircraft and are stored in a locked facility at the survey location when not in use.
- **Interpretation Theatre**—once returned to our home base, the SFD® data collected is processed and converted into a format that can be used by our interpretive staff using systems consisting of generally off-the-shelf computer equipment, high definition monitors, projectors and screens. This equipment is generally permanently set up at our Calgary office facility. A remote interpretation theater is available and may be deployed during survey operations and would be set up in a facility at the survey location.

The company is not affected by any significant environmental concerns nor is there any planned significant capital additions contemplated.

#### ITEM 4A. UNRESOLVED STAFF COMMENTS

None.

#### ITEM 5. OPERATING AND FINANCIAL REVIEW AND PROSPECTS

*The following discussion of our financial condition and results of operations should be read in conjunction with the "Selected Financial Data" and the accompanying Consolidated Financial Statements and the notes to those statements appearing elsewhere in this Form 20-F. The following discussion contains forward-looking statements that reflect our plans, estimates and beliefs. Our actual results could differ materially from those discussed in these forward-looking statements. Factors that could cause or contribute to such differences include, but are not limited to, those discussed below and elsewhere in this annual report, particularly under the caption "Risk Factors".*

##### A. Operating results

Overall Operational Performance

##### Selected Annual Information

	For the year ended December 31,		
	2010	2009	2008
SFD® survey revenue	\$443,011	\$3,683,326	\$2,944,470
Net comprehensive income (loss)	(4,452,428)	(2,405,125)	(1,141,291)
Net income (loss) per share unit; basic and diluted	(\$0.14)	(\$0.08)	(\$0.04)
Net cash generated (used) in operating activities	(2,692,776)	(2,580,308)	(1,816,150)
Cash and short term investments	1,370,234	4,174,145	6,894,170
Total assets	2,046,906	6,005,640	7,600,609
Long term liabilities	62,597	232,546	53,808

##### Financial Highlights for 2010

- We completed one SFD® survey for one new client earning \$443,011 of revenue in the year and incurred a net loss of \$4,452,428. 100% of all survey revenue in 2010 was earned in Colombia.

- \$2,692,776 in cash was used for operating activities in the year.
- Our cash and investments held on account as at the end of the year are \$1,370,234; a decrease of \$2,803,911 from the beginning of the year. Working capital ended the year at \$831,974 as compared with \$4,649,393 at the end of 2009.

#### Financial Highlights for 2009

- The company commenced operation in Colombia in 2009. 100% of survey revenue was earned in Colombia in 2009.
- Our first Colombian survey contract was conducted in the second quarter of 2009 for U.S. \$2.3 million. In the last quarter of 2009 we completed two surveys for a client for aggregate revenue of U.S. \$1.0 million survey. Total survey revenue for the year was Cdn. \$3,683,326.
- We used \$2,580,308 in operating activities in the year.
- Our cash and investments held on account as at the end of the year are \$4,174,145, a decrease of \$2,720,025 from the beginning of the year. Working capital (current assets minus current liabilities) at the end of 2009 was \$4,630,036, a decrease of \$1,695,019 from the beginning of the year.

#### Financial Highlights for 2008

- We completed SFD® surveys for two clients earning \$2,944,470 of revenue in the year and incurred a net loss of \$1,141,291. 100% of survey revenue was earned in Canada in 2008.
- We used \$1,816,150 in operating activities in the year.
- \$1,499,853 of cash was received as a result of 276,667 options being exercised at an average exercise price of \$0.45 and 677,543 warrants being exercised at \$2.03 per share.
- Our cash and investments held on account as at the end of the year are \$6,894,170, a decrease of \$746,792 from the beginning of the year. Working capital at the end of the year was \$6,325,055 as compared with \$5,336,353 at the end of 2007.

#### Net Income (Loss)

	For the year ended December 31,		
	2010	2009	2008
SFD® survey revenue	\$ 443,011	\$ 3,683,326	\$ 2,944,470
Operating expenses	4,887,114	6,004,159	4,066,025
Income (loss) before other expenses	(4,444,103)	(2,320,833)	(1,121,555)
Other expense	8,325	84,292	19,736
Net loss	\$ (4,452,428)	\$ (2,405,125)	\$ (1,141,291)

#### SFD® Survey Revenue – 2010 compared with 2009

In 2010, NXT recognized \$443,011 of SFD® revenue related to one contract for a new Colombian client. SFD® survey revenue for the year ended December 31, 2009 was \$3,683,326 and was related to two SFD® survey contracts in South America that were completed for new NXT clients.

#### SFD® Survey Revenue – 2009 compared with 2008

The SFD® survey revenue for the year ended December 31, 2009 was \$3,683,326 and was generated from three SFD® surveys that were completed for two new clients in Colombia. The SFD® survey revenue for the year ended December 31, 2008 was \$2,944,470 and was generated from two SFD® survey contracts that were completed for existing NXT clients in Canada.

#### Expenses

	For the year ended December 31,		
	2010	2009	2008
SFD® survey cost	\$ 466,428	\$ 1,587,120	\$ 211,237
Administrative	4,256,621	4,241,139	3,678,803
Amortization, depreciation and depletion	164,065	175,900	175,985
	<b>\$ 4,887,114</b>	<b>\$ 6,004,159</b>	<b>\$ 4,066,025</b>

Expenses for the years ended December 31, 2010, 2009 and 2008

SFD® survey costs - in 2010 and 2009 all of our surveys were performed in Colombia while in 2008 our surveys were conducted in Canada. In 2010 we incurred survey costs of \$466,428 (\$1,587,120 - 2009 and \$211,237 - 2008) which include commissions on sales of \$13,662 (2009 - \$160,891 and 2008 - nil), flight costs of \$322,050 (2009 - \$956,836 and 2008 - \$223,946) and meal, hotel and transportation costs of \$70,249 (2009 - \$334,717 and 2008 - \$7,145).

The higher survey costs incurred in 2010 and 2009 as compared with 2008 (as measured as a percentage of revenue) is largely due to two factors. The first is the extra market development costs required to become established and gain a market profile in a new country. The second is the inherent cost differences associated with operating in Colombia as compared with Canada.

The market development costs include mainly non-revenue survey flights designed to showcase SFD® capabilities in a new geological and market setting. These non-revenue survey costs represented over 20% of our total survey costs in 2009. In addition, NXT performed SFD® data interpretation in Colombia rather than in Canada for our first Colombian survey. This location decision was entirely marketing driven despite the higher travel, accommodation and out of country premiums. We won added client respect for our survey system by providing them with an opportunity to directly observe the SFD® interpretation process and interact with our interpretation staff.

The extra Colombian survey costs as compared with a Canadian survey is due to the time required to conduct a survey as well as the higher cost to mobilize and demobilize the survey aircraft and crews to a non-Canadian location. In Colombia NXT does incur many delays related to obtaining permits and approvals not required in Canada that can result in surveys taking several weeks to complete that may take only a few days in Canada. These delays result in additional aircraft, crew and accommodation costs.

Administration - the company had a minimal administrative cost increase in 2010 of \$15,482. The increase of \$562,336 for 2009, in comparison to 2008, related to hiring of additional staff and increased costs associated with symposiums, conferences and travel for marketing and sales in international markets.

Amortization, depreciation and depletion - in 2010 depreciation decreased in comparison to the two previous years. In 2009, the company continued computer and software upgrades necessary for our operations. In 2008, the company invested in additional equipment required to develop sensors and also expanded its office space in its existing building incurring costs to update and furnish the facilities.

**Other Expense (Income)**

	For the year ended December 31,		
	2010	2008	2007
Interest income	\$ (9,923)	\$ (80,633)	\$ (234,007)
Loss (gain) on foreign exchange	16,509	150,958	(20,242)
Loss (gain) on sale of properties	1,074	\$ (1,037)	\$ (20,325)
Accretion of asset retirement obligation	4,092	7,653	210,943
Other expense (income)	(3,427)	7,351	83,367
	<u>\$ 8,325</u>	<u>\$ 84,292</u>	<u>\$ 19,736</u>

Interest income - Interest income, generated by short term investments, was offset by interest expense resulting in \$9,923 of net interest income in 2010, \$80,633 in 2009 and \$234,007 net income in 2008. The decline in interest net income is caused largely by a decline in Cash, Cash Equivalents and Short term Investments combined with a reduction in interest rates earned on cash balances.

Loss (gain) on foreign exchange - Loss (gain) on foreign exchange - loss or gain on foreign exchange is caused by changes in the relative exchange values of the U.S. dollar, Canadian dollar and Colombian peso ("COP"). For example, when the Canadian dollar trades higher relative to the U.S. dollar or COP, then net financial assets held in U.S. dollars or COP will decline in value and this decline will be reflected as a foreign exchange loss in the period. The company normally holds its cash and investments in Canadian dollars to reduce the impact caused by market volatility; however, currently we are contractually obligated to hold certain Restricted Cash funds in U.S. dollar instruments to support bond commitments. In 2009 the company incurred a large loss resulting from decline in the US dollar while the company held large US dollar denominated receivables.

Gain on sale of properties - In 2008 the gain was from the sale of the company's working interest in a well in En-tice, Alberta effective April 1, 2008. The gain and loss in 2009 and 2010 respectively relates to the sale of miscellaneous assets.

Accretion of asset retirement obligation - management conducted a review in 2008 of all wells for which NXT had a historical participation and determined that there is an obligation related to 8 gross (1.1 net) wells drilled in the years 2000 through 2004 that still require abandonment. Management has determined the asset retirement obligation based upon estimates of the costs to remediate, reclaim and abandon the wells and the estimated timing of the costs to be incurred. At December 31, 2010, the asset retirement obligation is estimated to be \$54,444 (December 31, 2009 - \$51,254), based on a total future liability of \$61,811. These obligations are estimated to be settled in four years. This amount has been calculated using an inflation rate of 3.4% and discounted using a credit-adjusted risk-free interest rate of 10.0%.

Other expense (income) consists of several items:

Gross overriding royalties - The company is entitled to gross overriding royalties in Canada related to some previous SFD® surveys. In the year ended December 31, 2010 \$9,229 of royalty revenue was earned compared with \$997 in 2009 and \$10,592 in 2008. Currently, the company holds royalty interests in two producing wells in Alberta and an entitlement to royalties on future production on much of the land where we have conducted surveys for clients in Canada. There is no certainty royalties will be earned from these entitlements.

Oil and natural gas revenue - Effective April 1, 2008, the company sold its working interest in its last producing well. Following the effective date, the company ceased to hold working interests in any producing wells and accordingly earned no oil and gas revenue in 2009 and 2010.

Settlement - In the third quarter of 2008 the company paid out \$90,000 to settle a statement of claim that was outstanding since 2002. The plaintiff was a past president and director of NXT.

**Summary of Quarterly Results (Unaudited)**

	Dec 31, 2010	Sept 30, 2010	June 30, 2010	March 31, 2010
Revenue	\$0	\$0	\$443,011	\$0
Net income (loss) from continuing operations	(1,276,690)	(962,590)	(890,673)	(1,322,475)
Basic and diluted earnings (loss) per share	(\$0.04)	(\$0.03)	(\$0.03)	(\$0.04)
	Dec 31, 2009	Sept 30, 2009	June 30, 2009	March 31, 2009
Revenue	\$1,044,889	\$447	\$2,638,759	\$228
Net income (loss) from continuing operations	(671,458)	(696,591)	283,005	(1,047,081)
Basic and diluted earnings (loss) per share	(\$0.02)	(\$0.03)	\$0.01	(\$0.03)

Q4 2010 to Q3 2010 comparison; the company recognized nil in survey revenue and \$404,053 in stock based compensation expense in Q4 (respectively nil and \$72,899 - Q3). The increase in stock-based compensation expense is attributed to 2,113,204 stock options that were re-priced on December 8, 2010 at an exercise price of \$0.63 per share.

Q3 2010 to Q2 2010 comparison; the company recognized nil in survey revenue and \$72,899 in stock based compensation expense in Q3 (respectively \$443,011 and 100,864 - Q2).

Q2 2010 to Q1 2010 comparison: the company recognized \$443,011 in survey revenue, \$31,507 in stock based compensation expense and recorded \$342,959 in survey costs in Q2 (respectively nil, \$69,356 and \$118,056 - Q1).

Q1 2010 to Q4 2009 comparison: the company recognized no survey revenue, \$69,356 in stock-based compensation expense and recorded no survey costs in Q1 (respectively \$1,044,766, \$187,343 and \$508,308 - Q4).

In comparing Q4 2009 to Q3 2009, the company recognized \$1,044,766 in survey revenue in Q4 (nil - Q3) and recognized \$187,343 in stock-based compensation expense (\$112,254 - Q3).

In comparing Q3 2009 to Q2 2009, the net loss in Q3 is due to the company recognizing no survey revenue in Q3 (\$2,638,560 - Q2).

In comparing Q2 2009 to Q1 2009, the company recognized \$2,638,560 in survey revenue in Q2 (nil - Q1) for one completed international survey contract resulting in net income. Our expenses in the second quarter are higher due to the ramp up required for executing an international survey contract as well as increased costs as we pursue marketing to foreign markets.

In comparing Q1 2009 to Q4 2008, the increased net loss in Q1 2009 over Q4 2008 of \$115,744 is due to additional salary costs incurred with the hiring of a Chief Operating Office to augment our senior management staff, fees for a geosciences consultant, higher stock-based compensation costs and costs incurred for the NAPE Expo conference in Houston, Texas.

**B. Liquidity and capital resources**

At December 31, 2010 the company's cash and equivalents was \$1,370,234 and was \$1,054,395 as of June 27, 2011. Our current cash position includes the net proceeds of a private placement completed in March of 2011 in the amount of \$1,493,723. In the first quarter of 2011, \$267,000 was encumbered with a Canadian chartered bank to secure a contract performance bond and accordingly has been excluded from our current cash position and recorded as Restricted Cash. We project that the executed survey contracts scheduled for 2011 are profitable yet will require cash during the survey phase. Our current contracted backlog of surveys is U.S. \$2.8 million dollars.

The company has no material commitments for capital expenditures either as of the end of the latest year or any subsequent interim periods.

The company projects liquidity constraints that will restrict our available working capital required to complete operational requirements. The company continues to review administrative cost cutting and other measures to conserve cash. The company has been successful in reducing administrative expenditures in the first quarter of 2011 as compared with the same period last year through salary reductions and administrative personnel cutbacks. In addition, the company is pursuing other means to conserve cash. Despite these measures the company likely will require additional capital in 2011.

Our ability to continue as a going concern will ultimately be dependent upon our ability to sustain positive cash flow from operations and/or obtain additional financing. The outcome of these matters cannot be predicted with certainty at this time.

The following table summarizes the change in cash flow for the years ended December 31, 2010, 2009 and 2008:

	<b>For the year ended December 31,</b>		
	<b>2010</b>	2009	2008
Cash generated (used) in operating activities	<b>\$ (2,692,776)</b>	\$ (2,580,308)	\$ (1,816,150)
Cash generated by financing activities	<b>45,837</b>	42,262	1,313,984
Cash generated (used) in investing activities	<b>(1,062,623)</b>	6,566,126	(1,340,065)
	<b>\$ (3,709,562)</b>	\$ 4,028,080	\$ (1,842,231)

#### **Operating Activities**

2010 - the \$2,692,776 of cash used in operating activities reflects our net loss of \$4,452,428 adjusted for \$746,144 of non-cash additions and a \$1,013,508 net increase in non-cash working capital.

2009 - The \$2,580,308 of cash used in operating activities reflects our net loss of \$2,405,125 adjusted for \$849,180 of non-cash expenses and a \$1,024,363 net decrease in non-cash working capital.

2008 - The \$1,816,150 of cash used in operating activities reflects our net loss of \$1,141,291 adjusted for \$1,019,645 of non-cash expenses and a \$1,532,558 net decrease in non-cash working capital.

#### **Financing Activities**

2010 - We raised \$54,518 through the exercise of options and reduced our capital lease by \$8,681.

2009 - We raised \$50,239 through the issuance of shares and reduced our capital lease by \$7,977.

2008 - We raised \$1,499,853 through the exercise of options and warrants and reduced our capital lease by \$7,329. We also paid out the final amount of \$178,540 in registration penalty in connection with the convertible debentures issued in the 2005 private placement.

#### **Investing Activities**

2010 - \$905,651 was invested in short-term investments and \$55,516 was invested in capital assets.

2009 - due to the low interest rates offered in the current market, maturing short term investments were moved to more liquid investments as we wait for an upturn in rates. \$184,035 was invested in capital assets and \$2,056 was generated through the sale of property.

2008 - \$1,095,439 was invested in short-term investments, \$292,026 in capital assets and \$47,400 was generated through the sale of oil and gas properties in the Entice area of Alberta.

**Projected and Actual Cash Receipts Subsequent to December 31, 2010**

The company closed a non-brokered private placement on February 16, 2011 for aggregate proceeds of \$1,600,300 (net \$1,497,279) including \$40,000 from two company officers. At this closing the company issued 3,200,600 units at a price of \$0.50 per unit where each unit consisted of one common share and one warrant. Each warrant entitles the holder to acquire an additional common share at a price of \$0.60 per share on or before the expiry date of February 16, 2012. The expiry date may become accelerated at the discretion of the company if the shares trade at a price greater than \$0.90 for 10 consecutive trading days. In connection with this closing, the company paid a finder's fee of \$72,660 and issued 145,320 warrants with the same terms as above.

**C. Research and development, patents and licenses, etc.**

There was no research and development expense reported in 2010, 2009 and 2008. In these three years expenditures related to research and development were not significant and was included within administrative expense.

**D. Trend information**

As at June 27, 2011 the company had on its order book a U.S. \$2.66 million contract to conduct a SFD® survey for a client in Asia and U.S. \$150,000 for a SFD® survey in Montana USA for a Calgary Canada based client. The completion of the Asia survey is contingent on us obtaining flight permits as required to fly in the country. These permits must be granted by the local military and regulatory bodies. There is no certainty that these permits can be obtained and accordingly the company is at risk of not being able to complete this contract. The Montana survey is largely completed at this time.

In addition the company has submitted quotes for potential SFD® survey work and if these contracts are awarded the company could earn revenue for the balance of 2011 that would be higher than the revenue earned in 2010.

**E. Off-balance sheet arrangements**

We do not have any off-balance sheet arrangements.

**F. Tabular disclosure of contractual obligations**

The following table sets forth our contractual obligations as of December 31, 2010:

	Total	Payments Due by Period		
		Less Than 1 Year	1-3 Years	Over 3 years
Copier lease-to-own agreement	\$18,837	\$9,447	\$9,390	-
Rent or operating lease	\$709,654	\$419,341	\$290,313	-
Aircraft charter commitment	\$305,855	\$305,855	-	-

## ITEM 6. DIRECTORS, SENIOR MANAGEMENT AND EMPLOYEES

### A. Directors and senior management

NXT's articles of incorporation provide for a minimum of one director and a maximum of 15 directors comprising our board of directors. At present, our board of directors consists of six members.

Our directors are elected by our shareholders at our annual meeting of shareholders and hold the position either until the next annual shareholders' meeting or until a successor is appointed.

The following table sets forth information, including directorships in other reporting issuers, as of June 27, 2011, for our directors, executive officers and key employees:

<b>MICKY ABOUGOUSH</b>  <i>Age 64</i> <i>Director since November 2007</i>	<p>Mr. Abougoush is a professional engineer with over 40 years of experience in the petroleum industry, largely in technical and executive positions. He is currently the president of Teknica Overseas Ltd., an international consulting company. Mr. Abougoush is a board member of a number of private companies.</p> <p>Mr. Abougoush is a member of the Audit and Governance Committees.</p>
<b>BRIAN KOHLHAMMER</b>  <i>Age 48</i> <i>Director since December 2004</i>	<p>Mr. Kohlhammer is a Chartered Accountant with over twenty years experience in financial management reporting including four years public accounting and eighteen years financial forecasting, analysis and reporting.</p> <p>Since December 2004, Mr. Kohlhammer has been serving as Vice President of Finance and Chief Financial Officer for Delphi Energy Corp., a public junior oil and gas company in Canada traded on the Toronto Stock Exchange and based in Calgary, Alberta.</p> <p>Mr. Kohlhammer is the financial expert and Chair of the Audit Committee and a member of the Governance Committee.</p>
<b>George Liszicasz</b>  <i>Age 57</i> <i>Director, Chairman and Chief Executive Officer since January 1996; President since July 2002</i>	<p>Mr. Liszicasz is the inventor of the SFD® technology and has been our Chairman and Chief Executive Officer since the company's inception. Mr. Liszicasz was appointed our president in July 2002. Mr. Liszicasz' primary responsibilities, as the Chief Executive Officer and president, are to ensure the smooth running of the day-to-day operations and to further develop our SFD® technology. Prior to founding NXT, Mr. Liszicasz was Vice President of Susa Petroleum Inc. from 1993 to 1994. From 1987 to 1995, Mr. Liszicasz was President of Owl Industries Ltd., a developer of electronic controlling devices, where he had both engineering and business responsibilities.</p> <p>Mr. Liszicasz studied electronics and general sciences at the University of British Columbia and obtained a High Voltage Controls and Station Operations degree in Electronics from the Landler Jenő Technitken in Hungary in 1973.</p>
<b>DOUGLAS ROWE</b>  <i>Age 69</i> <i>Director since May 2002</i>	<p>Mr. Rowe is the President of ETA Energy Solutions Inc., a private company engaged in fuel efficiency enhancement. His previous positions were Chief Executive Officer of Trinity Metals Corporation, a private company engaged in mineral exploration and the Executive Chairman and Chief Executive Officer of Birch Mountain Resources Ltd., a publicly listed industrial minerals and mineral exploration company.</p> <p>Mr. Rowe is a professional engineer with a Bachelor of Science degree in Electrical Engineering from Queen's University which he obtained in 1967 and has over 40 years of industry experience.</p> <p>Mr. Rowe is Chair of the Compensation Committee.</p>

**CHARLES SELBY**  
Age 54  
Director since January 2006

Mr. Selby is both a lawyer and professional engineer. He is the president of Caledonian Royalty Corporation and Caledonian Global Corporation. He is also the Chairman and CEO of Canadian Star Energy Limited. He was formerly an officer of Pengrowth Corporation, which administers Pengrowth Energy Trust, a large North American energy royalty trust.

Mr. Selby is the Executive Chairman of Montana Exploration Co. Mr. Selby is also a director of Bridge Resources Corp., Vecta Energy Corp. and Quest Investment Management Corp. all reporting issuers in Canada.

Mr. Selby is a member of the Audit, Compensation and Disclosure Committees.

**THOMAS E. VALENTINE**  
Age 49  
Director since November 2007

Mr. Valentine is a Partner with Macleod Dixon LLP, where he has practiced law, both as a Barrister & a Solicitor, since his call to the Bar in 1987. He is a member of the firm's Global Resources Practice Group and is involved in energy and energy related matters throughout the Middle East, North Africa, the CIS, Asia and South America.

Mr. Valentine is also a member of the Board of Directors of Calvalley Petroleum Inc. and Veraz Petroleum Ltd.

In 2003 and 2004 Mr. Valentine was Senior Counsel (Projects) to Qatar Petroleum, the national oil and gas company of the State of Qatar. Mr. Valentine holds a BA from the University of British Columbia, a LLB from Dalhousie University, and a LLM from the London School of Economics.

Mr. Valentine is the Chair of the Governance Committee and a member of the Compensation Committee.

**KEN ROGERS**  
Age 58  
CFO, VP FINANCE SINCE JANUARY 2006

Mr. Rogers joined NXT in January 2006 as Vice President of Finance and was appointed CFO in May 2006. Mr. Rogers is a Chartered Accountant with over 25 years of financial and operational management experience. Mr. Rogers has given his notice of resignation as an officer of the company which is intended to occur in mid-July 2011 pending a transition to his successor.

In 2005 Mr. Rogers provided contracted financial and regulatory reporting services to Enterra Energy Trust. From September 2003 to the end of 2004, Mr. Rogers was VP of Finance for Superior Propane. Superior Propane is the only national propane distributor in Canada with cash flows exceeding \$100 million annually and 1,800 employees. Superior is the largest division of Superior Plus, an income trust that trades on the TSX. Responsibilities at Superior included supply and transportation plus all finance functions for the division. From 2000 to 2003 he served as President and VP Finance for Foremost Industries. Foremost is a manufacturer of off-road vehicles and drilling rigs. During this period Foremost converted to a TSX trading mutual fund trust. From 1991 through 1999 he provided financial and business consulting services to government and private clients. From 1979 through 1991 he worked for Canadian Helicopters in various financial and operational capacities including VP & General Manager of their overhaul division.

Mr. Rogers is the Chair of the Disclosure Committee.

**ANDREW STEEDMAN**  
Age 50  
VP Operations since December 2005

Mr. Steedman joined NXT in December 2005 as Vice President of Operations. Mr. Steedman holds a B.Sc. in Electrical Engineering and an MBA, both from the University of Calgary.

Prior to joining NXT, Mr. Steedman was the president of his own management consulting firm. From 2001 to 2003 he was President and CEO of Wireless Networks and was responsible for the overall strategic direction of the company. From 1999 to 2001, he was Senior Manager of Business Development with Nortel Networks. In

this role he was responsible for developing Nortel's unlicensed wireless strategy, identifying strategic partners, developing relationships with key customers and negotiating OEM agreements with key partners. From 1994 to 1999, Mr. Steedman held various positions within Nortel including product management, project management, international business development and marketing. From 1991 to 1994, Mr. Steedman consulted in Bangkok to the Telephone Organization of Thailand (TOT). He was responsible for the construction of a network management center that would monitor the TOT's national network.

**SUZANNE LOOV**

Age 43

Corporate Secretary since December 2009

Ms. Loov is a lawyer with a Bachelor of Laws degree from the University of British Columbia which she obtained in 1993. From May 1994 to July 2002 Ms. Loov practiced law with Armstrong Perkins Hudson LLP ("APH") (formerly Ogilvie & Company LLP), a boutique securities law firm, first as an associate and later as a partner. Following the merger of APH and Borden Ladner Gervais LLP ("BLG"), Ms. Loov joined BLG as a partner in the firm's corporate finance group and worked there until October 2005. While practicing law Ms. Loov has been an officer and director of several public and private companies.

None of our executive officers or directors have been involved in any bankruptcy proceedings within the last five years, been convicted of or have pending any criminal proceeding, been subject to any order, judgment or decree enjoining, barring, suspending or otherwise limiting involvement in any type of business, securities or banking activity or been found to have violated any federal, state or provincial securities or commodities laws.

Messrs. Rowe, Kohlhammer, Abougoush, Valentine and Selby and Ms. Loov are considered "independent" within the meaning of Canadian National Instrument 58-101.

**B. Compensation**

Executive Compensation

The following table sets out certain information regarding the annual and long-term compensation of the Chief Executive Officer, the Chief Financial Officer and the other four most highly compensated executive officers serving as executive officers at December 31, 2010, as well as any additional individuals for whom disclosure would have been provided pursuant to the above criteria except that the individual was not serving as an officer of the company at the end of 2010. All officers of the company are located in Canada and are paid in Canadian funds.

Summary compensation table for the year ended December 31, 2010:

<u>Name and Principal Position</u>	<u>Salary</u>	<u>Bonus</u> <sup>(2)</sup>	<u>Other</u> <sup>(1)</sup>
George Liszicasz, Chief Executive Officer	\$252,176	\$ -	\$7,346
Ken Rogers, VP Finance & Chief Financial Officer	179,603	-	1,783
Murray Christie, Sr VP & Chief Operating Officer	106,667	-	4,607
Andrew Steedman, VP Operations	154,002	-	7,283

(1) Taxable benefits, consisting of life insurance, wellness, parking.

(2) NXT has an intention of paying a bonus to officers upon the company becoming profitable at the sole discretion of the Compensation Committee.

(3) There were no stock options issued to executive officers in 2010.

(4) Mr. Christie left his position on August 31, 2010.

(See Item 6.E "Share Ownership" for details regarding stock options granted to officers).

No amount is set aside or accrued by the company or its subsidiaries to provide pension, retirement or similar benefits to officers or directors.

Director Compensation

We compensate directors for serving on our board by paying a cash retainer as well granting common stock options. In 2010 and 2009 each director receives \$30,000 per annum and the chairman of the board and the chair-

man of the audit committee both receive an additional \$5,000 per annum. The company did not pay a cash retainer to directors prior to 2009.

In addition Directors receive common shares stock options as compensation for their services. The amount and terms of stock option grants are determined by the board of directors. We do not provide additional compensation for committee participation or special assignments of the board of directors. (See Item 6.E "Share ownership" for details regarding stock options granted to directors).

The company reimburses directors for out-of-pocket expenses for attending board and committee meetings. We do not provide termination benefits for directors.

### **C. Board practices**

#### Expiration Dates

No director or member of our administrative, supervisory or management bodies has an expiration date of the current term of office. Directors are elected by shareholders at the annual meeting of shareholders and hold the position either until the next annual shareholders' meeting or until a successor is appointed. The period during which each individual has served as a director is set out in the table under Item 6.A – "Directors and senior management".

#### Service Contracts

No directors have service contracts with the company or any of its subsidiaries that provide benefits upon termination of employment.

#### Board of Directors Mandate

The principal role of the Board of Directors of NXT (the "Board") is stewardship of the company through the creation of shareholder value, including the protection and enhancement of the value of its assets, as the fundamental objective. The stewardship responsibility means that the Board oversees the conduct of the business and management, which is responsible for the day-to-day conduct of the business. The Board must assess and ensure systems are in place to manage the risks of the company's business with the objective of preserving the company's assets. The Board, through the Chief Executive Officer, sets the attitude and disposition of the company towards compliance with applicable laws, environmental, safety and health policies, financial practices and reporting. In addition to its primary accountability to shareholders, the Board is also accountable to employees, government authorities, other stakeholders and the public. The Board of Directors Mandate is posted on the company website and may viewed at [www.nxtenergy.com](http://www.nxtenergy.com) or you may request a copy be mailed to you by writing to our offices at #1400, 505 – 3 Street SW, Calgary, Alberta, Canada T2P 3E6.

#### Board Committees

### **CORPORATE GOVERNANCE COMMITTEE**

The company and the Board recognize the importance of corporate governance to the effective management of the company and to its shareholders. The company's approach to significant issues of corporate governance is designed with a view to ensuring that the business and affairs of the company are effectively managed so as to enhance shareholder value. The Corporate Governance Committee Mandate is posted on the company website and may be viewed at [www.nxtenergy.com](http://www.nxtenergy.com) or you may request a copy be mailed to you by writing to our offices at #1400, 505 – 3 Street SW, Calgary, Alberta, Canada T2P 3E6.

The Board and management endorse the need to establish forward-looking governance policies and to continuously evaluate and modify them to ensure their effectiveness.

#### Composition of the Corporate Governance Committee

Messrs. Valentine (Chair), Abougoush and Kohlhammer are members of the Corporate Governance Committee. All members of the Corporate Governance Committee are independent.

#### Responsibilities of the Corporate Governance Committee

The Corporate Governance Committee's duties, as outlined in its charter, are to deal with the company's approach to corporate governance and the promotion of compliance with industry and regulatory standards. The committee is responsible for overseeing and assessing the functioning of the Board and the committees of the Board and for the development, recommendation to the Board, implementation and assessment of effective corporate governance principles and guidelines. The Committee's responsibilities also include identifying candidates for director and recommending that the Board select qualified director candidates for election at the next annual meeting of shareholders.

#### **DISCLOSURE COMMITTEE**

##### Composition of the Disclosure Committee

The Disclosure Committee consists of Messrs. Selby, Kohlhammer and Rogers (Chair), and Ms. Loov. Messrs. Selby, Kohlhammer and Ms. Loov are independent.

##### Responsibilities of the Disclosure Committee

The Disclosure Committee's duties are to ensure the company provides timely, accurate and balanced disclosure of all material information about the company and to provide fair and equal access to such information. All news releases, including but not limited to releases of material information, are managed by the Disclosure Committee. If the information has been determined by the Disclosure Committee to be material, news releases will be prepared, reviewed and then disseminated through a news-wire service that provides simultaneous service to widespread news services and financial media. Additionally, the Committee is responsible for ensuring public disclosure through filing these news releases on SEDAR, EDGAR as well as the company's webpage.

#### **AUDIT COMMITTEE**

##### Composition of the Audit Committee

The Audit Committee consists of Messrs. Kohlhammer (Chair), Abougoush and Selby. All members of the Audit Committee are independent and each member is financially literate. The company's Audit Committee Charter is posted on the company website and may be viewed at [www.nxtenergy.com](http://www.nxtenergy.com) or you may request a copy be mailed to you by writing to our offices at #1400, 505 – 3 Street SW, Calgary, Alberta, Canada T2P 3E6.

##### **Brian Kohlhammer, C.A.**

Mr. Kohlhammer has a Bachelor of Commerce, Accounting major from the University of Saskatchewan and received his designation as a Chartered Accountant in February 1990 while articling at KMPG LLP (formerly Peat Marwick Mitchell & Co.) in Calgary, Alberta.

Mr. Kohlhammer has over 20 years of experience in financial and management analysis and reporting, budgets, corporate planning and treasury. He is currently Vice President Finance and Chief Financial Officer for a Toronto Stock Exchange listed oil and gas company, a role he has had with three previous public companies.

Over the years, Mr. Kohlhammer's role as Vice President Finance for various entities has provided him with a sound understanding of generally accepted accounting principles and the application of those principles, the ability to perform analysis of financial statements and an understanding of the internal controls necessary to prepare timely and accurate financial statements. He has also presented to the Board of Directors and Audit Committee of most companies with which he has been employed and has a good knowledge of the roles and responsibilities of the Board of Directors and committees.

**M. S. (Mickey) Abougoush**

Mr. Abougoush holds a B.Sc. Chemical Engineering degree from the University of Alberta and has completed the director's education program sponsored by the Institute of Corporate Directors. Previously he served as audit chair of a publicly traded company.

**Charles Selby**

Mr. Selby is both a lawyer and Professional Engineer, holding B.Sc. (Hons) and LL.B degrees. Mr. Selby served as the Chief Financial Officer of Montana Exploration Co. an Oil and Gas company listed on the TSX-V from 1998 until May 2006. Additionally, Mr. Selby is the former Vice President and Corporate Secretary of Pengrowth Corporation, the administrator of Pengrowth Energy Trust. Mr. Selby is the Chairman of the audit committee for Bridge Resources Limited.

All members of the Audit Committee have the educational background and experience that provides them with the knowledge and ability to fulfill their duties and responsibilities as an audit committee member.

Audit Committee Oversight - The company's Board adopted all recommendations by the Audit Committee with respect to the nomination and compensation of the external auditor.

Pre-Approval Policies and Procedures - The Audit Committee has adopted a formal policy requiring the pre-approval of all audit and non-audit related services to be provided by the company's principal auditor prior to the commencement of the engagement, subject to the following:

- the Audit Committee will review annually a list of audit, audit related, recurring tax and other non-audit services and recommend pre-approval of those services for the upcoming year. Any additional requests will be addressed on a case-by-case specific engagement basis;
- for engagements not on the pre-approved list, the Audit Committee has delegated to the Chair of the Committee the authority to pre-approve individual non-audit service engagements with expected costs of up to \$10,000 subject to reporting to the Audit Committee, at its next scheduled meeting; and
- for engagements not on the pre-approved list and with expected costs greater than \$10,000, the entire Audit Committee must approve this service, generally at its next scheduled meeting.

**COMPENSATION COMMITTEE****Composition of the Compensation Committee**

Messrs. Rowe, Valentine, Abougoush and Selby are members of the Compensation Committee. Mr. Rowe is the Chair of the Compensation Committee. All members of the Compensation Committee are independent. The Compensation Committee Mandate is posted on the company website and may viewed at [www.nxtenergy.com](http://www.nxtenergy.com) or you may request a copy be mailed to you by writing to our offices at #1400, 505 – 3 Street SW, Calgary, Alberta, Canada T2P 3E6.

**Responsibilities of the Compensation Committee**

The Compensation Committee's duties, as outlined in its charter, are to deal with the assessment of management and succession to key positions and compensation within the company. The Committee shall assist the Board in discharging the Board's oversight responsibilities relating to the compensation and retention of key senior management employees, and in particular the Chief Executive Officer, with the skills and expertise needed to enable the company to achieve its goals and strategies at fair and competitive compensation and appropriate performance incentives. In discharging its responsibilities, the Committee will report and, where appropriate, make recommendations to the Board in respect of the matters identified in the charter. In addition, the Committee is responsible for producing an annual report on executive compensation for inclusion in the company's annual proxy circular in accordance with applicable securities laws.

#### D. Employees

As of December 31, 2010 we had 9 employees and 2 full time contractors. All persons work in either management, technical or administrative positions. There are no employees of the company that are members of a labor union.

The following summarizes the approximate number of employees and independent contractors by function:

<u>Function</u>	<u>Employees</u>	<u>Contractors</u>	<u>Total</u>
Senior Management Team	3	-	3
Finance and Administration	3	-	3
Technical Development	1	2	3
Survey Support	2	-	2
Total	9	2	11

Fiscal year ended December 31, 2010

As at December 31, 2010 we had a staff of 11 consisting of 9 full-time employees and two contractors. 10 persons are based in Calgary, Canada and one in Bogota, Colombia. Our staff consists of a three members senior management team, three finance and administrative persons, including one senior administrator in Colombia, five operations staff consisting of three electronics engineers including one research scientist holding a Ph.D., one geophysicist, and one technical staff person. We engaged throughout the year other technical and administrative contract personnel as required on a project basis. The reduction of total number of employees in 2010 as compared with 2009 is the result of the company's cost cutting measures in response to reduced revenue in 2010.

Fiscal year ended December 31, 2009

As at December 31, 2009 we had a staff of 15 consisting of 13 full-time employees and two contractors which included four members of the senior management team, two financial staff, five operations staff, one electronics engineer, one geophysicist, one research scientist holding a Ph.D. and one administrative staff.

Fiscal year ended December 31, 2008

As at December 31, 2008 we had a staff of 13 consisting of 12 full-time employees and one contractor which included three members of the senior management team, two financial staff, five operations staff, one electronics engineer, one research scientist holding a Ph.D. and one administrative staff.

#### E. Share ownership

Information on the ownership of our common shares is given under Item 7, Major Shareholders and Related Party Transactions.

#### Summary of Stock Options and Stock Appreciation Rights Granted To Executive Officers and Directors

All stock options have been granted pursuant to the Option Plan (the "Plan") or predecessor plans with substantially the same terms. The Plan is approved by shareholders annually at the company's annual general meeting. The Plan approved at the company's annual general meeting on December 8, 2010 was incorporated by reference into this Form 20-F as Exhibit No. 2.16. Pursuant to this Plan all option grants must be approved by the board of directors of the company. Stock options may be granted to the directors, officers and employees of NXT and to consultants retained by the company. The aggregate number of common shares reserved for issuance under this Plan, and any other plan of the Corporation, shall not, at the time of the stock option grant, exceed ten percent of the total number of issued and outstanding shares (calculated on a non-diluted basis) unless the company receives the permission of the stock exchange or exchanges on which the shares are then listed to exceed such threshold. No

option shall be exercisable for a period exceeding five (5) years from the date the option is granted unless the company receives the permission of the stock exchange or exchanges on which the shares are then listed and as specifically provided by the board and as permitted under the rules of any stock exchange or exchanges on which the shares are then listed, and in any event, no option shall be exercisable for a period exceeding ten (10) years from the date the option is granted. Options are generally issued with a three year vesting period wherein one third of the options granted vest at the end of each of the first three years following the grant date. The exercise price for an option grant is set at the last trade price on the day of grant or some higher price at the discretion of the board.

The following options were granted to our executive officers in 2010, 2009 and 2008.

2010 No options were issued to our executive officers.

In 2010 Company re-priced 1,615,000 options that were previously issued to insiders. This repricing was approved by disinterested shareholders at the Company's Annual General Meeting held on December 8, 2010 and subsequently the Company's submission was accepted for filing by the TSX Venture Exchange. All re-priced options are now exercisable at a price of Cdn. \$0.63 per share. All other terms of these option grants remain unchanged.

2009 570,000 options were issued at exercise prices ranging from US \$0.40 to US \$1.30.

In 2009 100,000 options in aggregate were issued to two directors at an exercise price of U.S. \$0.80, 150,000 options were issued to the company's Senior Vice President and COO upon being hired in January 2009 at a strike price of U.S. \$0.40 and 320,000 options were made to eight different officers and directors at a strike price of U.S. \$1.30.

2008 No options were issued.

The following table sets forth information regarding outstanding stock options granted to our directors and officers as of June 1, 2011. All options are issued at an exercise price set at the last trade price on the day of grant except for the repricing of options as noted above in this section. Each option entitles the option holder to acquire one common share.

Issued and Outstanding Director and Officer Options

Name and Position	Strike Price	Grant Price	Expiry Date	Total	% Outstanding Options
<b>Andrew Steedman</b>	\$0.53	28-Feb-11	28-Feb-14	150,000	
VP Operations	\$0.63	13-Feb-07	13-Feb-12	75,000	
	\$0.63	2-Dec-09	2-Dec-14	<u>60,000</u>	
				<b>285,000</b>	<b>14%</b>
<b>Brian Kohlhammer</b>	\$0.63	13-Feb-07	13-Feb-12	90,000	
Director	\$0.63	2-Dec-09	2-Dec-14	<u>30,000</u>	
				<b>120,000</b>	<b>6%</b>
<b>Charles Selby</b>	\$0.63	13-Feb-07	13-Feb-12	150,000	
Director	\$0.63	2-Dec-09	2-Dec-14	<u>30,000</u>	
				<b>180,000</b>	<b>9%</b>
<b>Douglas Rowe</b>	\$0.63	13-Feb-07	13-Feb-12	100,000	
Director	\$0.63	2-Dec-09	2-Dec-14	<u>30,000</u>	
				<b>130,000</b>	<b>6%</b>
<b>George Liszicasz</b>	\$0.63	13-Feb-07	13-Feb-12	55,000	
CEO & Director	\$0.63	2-Dec-09	2-Dec-14	<u>50,000</u>	
				<b>105,000</b>	<b>5%</b>
<b>Ken Rogers</b>	\$0.63	13-Feb-07	13-Feb-12	75,000	
CFO	\$0.63	2-Dec-09	2-Dec-14	<u>60,000</u>	
				<b>135,000</b>	<b>6%</b>
<b>Mickey Abougoush</b>	\$0.63	12-Dec-07	12-Dec-12	150,000	
Director	\$0.63	14-Apr-09	14-Apr-14	50,000	
	\$0.63	2-Dec-09	2-Dec-14	<u>30,000</u>	
				<b>230,000</b>	<b>11%</b>
<b>Thomas Valentine</b>	\$0.63	12-Dec-07	12-Dec-12	150,000	
Director	\$0.63	14-Apr-09	14-Apr-14	50,000	
	\$0.63	2-Dec-09	2-Dec-14	<u>30,000</u>	
				<b>230,000</b>	<b>11%</b>
<b>Total number of options held by officers and directors</b>				<b>1,415,000</b>	<b>68%</b>

**ITEM 7. MAJOR SHAREHOLDERS AND RELATED PARTY TRANSACTIONS**

**A. Major shareholders**

The following table sets forth information concerning the beneficial ownership of our common shares as of June 1, 2011 by persons who beneficially own 5% or more of the outstanding common shares of our company, each person who is a director of our company, each executive officer named in this Form 20-F, each individual referenced in Item 6.D above and all directors and executive officers as a group. For the purposes of this Form 20-F, a person is considered to be a "beneficial owner" of common shares in the company if that person has, or shares with another person, the power to direct the vote or disposition of the common shares or to receive the economic benefit of ownership of the common shares. A person is also deemed to be a beneficial owner of a common share if that person has the right to acquire the share within 60 days by option or other agreement (whether or not, in the case of a stock option, the current market price of the underlying common share is below the stock option exercise price). Therefore, the table also reflects, for each such beneficial owner, the number of options, warrants and preferred shares either exercisable or convertible into common shares within 60 days of June 25, 2010 that are owned

by each beneficial owner, but, in determining the percentage ownership and general voting power of such person, does not assume the exercise of options or the conversion of securities owned by any other person. We believe the beneficial owners of common shares listed below, based on information they furnished, have sole voting and investment power over the number of shares listed opposite their names. Percentage of beneficial ownership is based on 30,751,796 common shares outstanding as of June 25, 2010. This total excludes any share's underlying options and warrants exercisable within 60 days that are deemed to be owned for purposes of calculating the beneficial ownership of securities by the holder of such options and/or warrants.

<b>Beneficial Ownership of Officers and Directors</b>	<b>Beneficially Owned at June 1, 2011</b>	<b>Percent of Class of Share</b>
<b>Directors and Officers:</b>		
George Liszicasz <sup>1 &amp; 2</sup>	7,308,157	21%
Charles Selby <sup>1</sup>	613,718	2%
Douglas J. Rowe <sup>1</sup>	215,000	* <sup>3</sup>
Brian Kohlhammer <sup>1</sup>	135,000	* <sup>3</sup>
M. S. Abougoush <sup>1</sup>	176,667	* <sup>3</sup>
Thomas E. Valentine <sup>1</sup>	176,667	* <sup>3</sup>
Andrew Steedman <sup>2</sup>	390,534	1%
Ken Rogers <sup>2</sup>	125,400	* <sup>3</sup>
Total D & O Common Shares	9,141,142	27%
<b>Major Shareholders:</b>		
Goodman & Company, Investment Counsel Ltd.	1,559,387	5%
Mork Capital Management, MCAPM, L.P., & Michael Mork	2,054,394	6%

<sup>1</sup> Director of NXT

<sup>2</sup> Officer of NXT

<sup>3</sup> Beneficially owns less than one percent of common shares

Major changes in percentage ownership of persons who beneficially own 5% or more of the outstanding common shares of NXT in the last 3 years:

- Michael Mork acquired 200,000 common shares through participation in the company's private placement that closed on February 17, 2011.
- George Liszicasz acquired 20,000 common shares through participation in the company's private placement that closed on February 17, 2011.

The following information is taken from the records of Olympia Trust Company located in Calgary, Alberta, Canada, the company's transfer agent for its common stock. As of May 31, 2011 there were 178 registered holders of record of the company's common stock including 81 in the United States who collectively held 17,813,844 common shares, representing 52% of the total issued and outstanding shares of 34,002,396 common shares.

As of June 27, 2011 the company is a foreign private issuer. All of the company's executive officers and directors are Canadian citizens who reside in Canada and the majority of company assets are in Canada. The company's major shareholders in common shares have the same voting rights as other holders of common shares. The company is not directly or indirectly owned or controlled by another corporation, a foreign government or any other natural or legal persons severally or jointly. There are no arrangements known to the company which may result in a change of control of the company.

**B. Related party transactions**

Summarized below are certain transactions and business relationships between NXT and persons who are related parties, as described in Item 7.B of Form 20-F, since January 1, 2009:

	<b>In the year ended December 31, 2010</b>
Collective wages, fees and benefits paid to executive officers of the company who were also directors of the company	<b>\$259,522</b>

Mr. Selby, a director of NXT, is a former officer for Pengrowth Corporation. We recorded revenue with Pengrowth Corporation of \$1,200,000 for the year ended December 31, 2008 when Mr. Selby was an officer of this client. At December 31, 2010 there was no amount due from this client.

In the year ended December 31, 2008, 110,000 shares were issued to officers and directors pursuant to the exercise of options at a strike price of U.S. \$0.14 - \$0.43.

In the year ended December 31, 2008, 5,000 shares were issued to the spouse of an officer of the company pursuant to the exercise of warrants at a strike price of U.S. \$2.00.

On January 14, 2009, 150,000 options were issued to an officer of the company at a strike price of U.S. \$0.40 and on April 14, 2009 an additional 100,000 options were issued in aggregate to two directors of the company at a strike price of U.S. \$0.80 and on December 2, 2009 320,000 options were made to eight different officers and directors at a strike price of U.S. \$1.30.

On June 15, 2009, 25,000 shares were issued to the spouse of an officer of the company pursuant to a private placement at a price of U.S. \$2.00 per common share.

On January 22, 2010, 50,000 shares were issued to officers pursuant to the exercise of options at a strike price of U.S. \$0.40.

On December 8, 2010, the company re-priced 1,615,000 options that were previously issued to insiders. This re-pricing was approved by disinterested shareholders at the Company's Annual General Meeting held on December 8, 2010 and subsequently the Company's submission was accepted for filing by the TSX Venture Exchange. All re-priced options are now exercisable at a price of Cdn. \$0.63 per share. All other terms of these option grants remain unchanged.

On February 17, 2011, two officers of the company acquired in aggregate 80,000 common shares and 80,000 warrants through participation in the company's private placement on the same terms as all other participants in the private placement.

On March 31, 2011, the company entered into an SFD® survey contract with a client in the amount of U.S. \$150,000 where the client and NXT have a common board member.

**C. Interests of experts and counsel**

Not applicable – The company is filing this Form 20-F as an annual report.

**ITEM 8. FINANCIAL INFORMATION**

**Consolidated statements and other financial information**

**Index to Consolidated Financial Statements  
December 31, 2010**

**Page**

**No table of contents entries found.**

## INDEPENDENT AUDITORS' REPORT OF REGISTERED PUBLIC ACCOUNTING FIRM

To the Shareholders of NXT Energy Solutions Inc.

We have audited the accompanying consolidated financial statements of NXT Energy Solutions Inc., which comprise the consolidated balance sheets as at December 31, 2010 and 2009 and the consolidated statements of loss and comprehensive loss, shareholders' equity, and cash flows for each of the years in the three-year period ended December 31, 2010, and notes, comprising a summary of significant accounting policies and other explanatory information.

### *Management's Responsibility for the Consolidated Financial Statements*

Management is responsible for the preparation and fair presentation of these consolidated financial statements in accordance with US generally accepted accounting principles, and for such internal control as management determines is necessary to enable the preparation of consolidated financial statements that are free from material misstatement, whether due to fraud or error.

### *Auditors' Responsibility*

Our responsibility is to express an opinion on these consolidated financial statements based on our audits. We conducted our audits in accordance with Canadian generally accepted auditing standards and the standards of the Public Company Accounting Oversight Board (United States). Those standards require that we comply with ethical requirements and plan and perform the audit to obtain reasonable assurance about whether the consolidated financial statements are free from material misstatement.

An audit involves performing procedures to obtain audit evidence about the amounts and disclosures in the consolidated financial statements. The procedures selected depend on our judgment, including the assessment of the risks of material misstatement of the consolidated financial statements, whether due to fraud or error. In making those risk assessments, we consider internal control relevant to the entity's preparation and fair presentation of the consolidated financial statements in order to design audit procedures that are appropriate in the circumstances, but not for the purpose of expressing an opinion on the effectiveness of the entity's internal control. An audit also includes evaluating the appropriateness of accounting policies used and the reasonableness of accounting estimates made by management, as well as evaluating the overall presentation of the consolidated financial statements.

We believe that the audit evidence we have obtained in our audits is sufficient and appropriate to provide a basis for our audit opinion.

### *Opinion*

In our opinion, the consolidated financial statements present fairly, in all material respects, the consolidated financial position of NXT Energy Solutions Inc. as at December 31, 2010 and 2009, and its consolidated results of operations and its consolidated cash flows for each of the years in the three-year period ended December 31, 2010 in accordance with US generally accepted accounting principles.

*Emphasis of Matter*

Without qualifying our opinion, we draw attention to Note 1 in the consolidated financial statements, which indicates the NXT Energy Solutions Inc. has accumulated losses of \$6.9 million and has cash outflows from operating activities of \$5.3 million over the two years ended December 31, 2010. These conditions, along with other matters as set forth in Note 1, indicate the existence of a material uncertainty that may cast significant doubt about the Company's ability to continue as a going concern.

/s/ KPMG LLP

Chartered Accountants

Calgary, Canada

April 29, 2011

**NXT ENERGY SOLUTIONS INC**  
**Consolidated Balance Sheets**  
(Expressed in Canadian dollars except share data)

	<b>December 31, 2010</b>		<b>December 31, 2009</b>
<b>Assets</b>			
Current assets:			
Cash and cash equivalents	\$ 464,583	\$	4,174,145
Short term investments	905,651		-
Accounts receivable	3,071		1,142,380
Prepaid expenses and other	45,941		53,288
	<b>1,419,246</b>		<b>5,369,813</b>
Restricted cash [note 4]	101,856		-
Property and equipment [note 3]	525,804		635,827
	<b>\$ 2,046,906</b>	\$	<b>6,005,640</b>
 <b>Liabilities and Shareholders' Equity</b>			
Current liabilities:			
Trade payables	\$ 443,423	\$	413,997
Accrued liabilities [note 5]	133,165		295,739
Current portion of capital lease obligation	10,684		10,684
	<b>587,272</b>		<b>720,420</b>
Long term liabilities:			
Capital lease obligation	8,153		16,834
Asset retirement obligation [note 6]	54,444		51,254
Derivative liability [note 7]	-		183,815
	<b>649,869</b>		<b>972,323</b>
Commitments and contingencies [note 14]			
Future operations [note 1]			
Subsequent event [note 16]			
Shareholders' equity:			
Preferred shares: - authorized unlimited			
Issued: 10,000,000 [note 9]	3,489,000		3,489,000
Common shares: - authorized unlimited			
Issued: 30,801,796 shares as of December 31, 2010 (2009 - 30,701,796) [note 8]	52,031,435		51,934,360
Contributed capital	4,659,026		3,939,953
Deficit	(59,493,359)		(55,040,931)
Accumulated other comprehensive income	710,935		710,935
	<b>1,397,037</b>		<b>5,033,317</b>
	<b>\$ 2,046,906</b>	\$	<b>6,005,640</b>

Signed "George Liszicasz"  
Director

Signed "Charles Selby"  
Director

The accompanying notes to these consolidated financial statements are  
an integral part of these consolidated balance sheets.

**NXT ENERGY SOLUTIONS INC**  
**Consolidated Statements of Loss and Comprehensive Loss**  
(Expressed in Canadian dollars except share data)

	For the year ended December 31,		
	2010	2009	2008
<b>Revenue</b>			
Survey revenue	\$ 443,011	\$ 3,683,326	\$ 2,944,470
<b>Expense</b>			
Survey cost	466,428	1,587,120	211,237
Administrative	4,256,621	4,241,139	3,678,803
Amortization, depreciation and depletion	164,065	175,900	175,985
	4,887,114	6,004,159	4,066,025
	(4,444,103)	(2,320,833)	(1,121,555)
<b>Other expense</b>			
Interest income	(9,923)	(80,633)	(234,007)
Loss (gain) on foreign exchange	16,509	150,958	(20,242)
Loss (gain) on sale of property	1,074	(1,037)	(20,325)
Accretion of asset retirement obligation	4,092	7,653	210,943
Other expense (income)	(3,427)	7,351	83,367
	8,325	84,292	19,736
<b>Net loss and comprehensive loss</b>	\$ (4,452,428)	\$ (2,405,125)	\$ (1,141,291)
 Net loss per share [note 8]			
Basic and diluted	\$ (0.14)	\$ (0.08)	\$ (0.04)

The accompanying notes to these consolidated financial statements are an integral part of these consolidated statements of loss and comprehensive loss.

**NXT ENERGY SOLUTIONS INC**  
**Consolidated Statements of Cash Flow**  
(Expressed in Canadian dollars)

	For the year ended December 31,		
	2010	2009	2008
<b>Operating activities</b>			
Net loss	\$ (4,452,428)	\$ (2,405,125)	\$ (1,141,291)
Amortization, depreciation and depletion	164,065	175,900	175,985
Accretion of asset retirement obligation	4,092	7,653	210,943
Stock-based compensation expense	577,815	672,060	653,042
Loss (gain) on sale of property	1,074	(1,037)	(20,325)
Asset retirement obligations paid	(902)	(5,396)	(161,946)
Changes in non-cash working capital			
Accounts receivable	1,139,309	(1,121,811)	818,968
Prepaid expenses and other	7,347	3,871	65,132
Unearned revenue	-	-	(2,232,470)
Trade payables	29,426	54,462	(156,697)
Accrued liabilities	(162,574)	39,115	(27,491)
Net cash used by operating activities	(2,692,776)	(2,580,308)	(1,816,150)
<b>Financing activities</b>			
Repayment of capital lease	(8,681)	(7,977)	(7,329)
Repayment of registration penalty	-	-	(178,540)
Issue of common shares, net of issuance costs	-	50,239	-
Exercise of options and warrants	54,518	-	1,499,853
Net cash generated by financing activities	45,837	42,262	1,313,984
<b>Investing activities</b>			
Invested in property and equipment	(55,516)	(184,035)	(292,026)
Proceeds on the sale of property	400	2,056	47,400
Increase in restricted cash	(101,856)	-	-
Decrease (increase) in short term investments	(905,651)	6,748,105	(1,095,439)
Net cash generated (used) by investing activities	(1,062,623)	6,566,126	(1,340,065)
<b>Net cash inflow (outflow)</b>	(3,709,562)	4,028,080	(1,842,231)
<b>Cash and cash equivalents, beginning of year</b>	<b>4,174,145</b>	<b>146,065</b>	<b>1,988,296</b>
<b>Cash and cash equivalents, end of year</b>	<b>\$ 464,583</b>	<b>\$ 4,174,145</b>	<b>\$ 146,065</b>
Cash interest paid	\$ 2,003	\$ 2,707	\$ 3,354

The accompanying notes to these consolidated financial statements are an integral part of these consolidated statements of cash flow.

**NXT ENERGY SOLUTIONS INC**  
**Consolidated Statements of Shareholders' Equity**  
(Expressed in Canadian dollars except share data)

	For the year ended December 31,		
	2010	2009	2008
<b>Common Shares</b>			
Balance at the beginning of year	\$ 51,934,360	\$ 51,884,121	\$ 49,789,695
Issued upon exercise of stock options and warrants	97,075	-	2,050,030
Issued through private placement; net of issue costs	-	50,239	-
Issued for services	-	-	44,396
Balance at end of year	<u>52,031,435</u>	<u>51,934,360</u>	<u>51,884,121</u>
<b>Preferred Shares</b>			
Balance at the beginning and end of year	<u>3,489,000</u>	<u>3,489,000</u>	<u>3,489,000</u>
<b>Contributed Capital</b>			
Balance at the beginning of year	3,939,953	3,519,072	3,416,207
Opening balance adjustment upon adoption of change in accounting policy [note2]	-	(108,779)	-
Option and warrant compensation costs	761,630	529,660	653,042
Contributed capital transferred to common shares pursuant to exercise of options and warrants	(42,557)	-	(550,177)
Balance at end of year	<u>4,659,026</u>	<u>3,939,953</u>	<u>3,519,072</u>
<b>Deficit</b>			
Balance at the beginning of year	(55,040,931)	(52,703,170)	(51,561,879)
Opening balance adjustment upon adoption of change in accounting policy [note 2]	-	67,364	-
Net loss for the year	(4,452,428)	(2,405,125)	(1,141,291)
Balance at end of year	<u>(59,493,359)</u>	<u>(55,040,931)</u>	<u>(52,703,170)</u>
<b>Accumulated Other Comprehensive Income</b>			
Balance at beginning and end of year	<u>710,935</u>	<u>710,935</u>	<u>710,935</u>
<b>Total Shareholders' Equity end of year</b>	<u>\$ 1,397,037</u>	<u>\$ 5,033,317</u>	<u>\$ 6,899,958</u>

The accompanying notes to the consolidated financial statements are an integral part of the condensed consolidated statements of shareholders' equity.

**NXT ENERGY SOLUTIONS INC**  
**Notes to the Consolidated Financial Statements**  
**As at and for the year ended December 31, 2010**  
**(Expressed in Canadian dollars)**

## **1. Organization and Ability to Continue Operations**

NXT Energy Solutions Inc ("we", "company" or "NXT") was incorporated under the laws of the State of Nevada on September 27, 1994. NXT was continued from the State of Nevada to the Province of Alberta, Canada on October 24, 2003.

We own a proprietary technology called Stress Field Detection ("SFD®"). SFD® is a remote sensing airborne survey system that is designed to identify areas with oil and natural gas reserve potential. This technology was acquired from NXT's current CEO and President on December 31, 2005 following a ten year period wherein the company controlled the technology through a series of licensing agreements.

For the ten year period prior to 2006 the company had engaged in extensive activities to develop, validate and obtain industry acceptance of SFD®. These pre-2006 activities included conducting SFD® surveys for oil and gas industry partners on a cost recovery basis and participating as a joint venture partner in SFD® identified exploration wells. By December 31, 2005 the company had accumulated approximately \$47.6 million of deficits in conducting these activities.

This early period was effective in developing the technology to a stage where SFD® was both technically ready and had the required industry validation to embark on the commercial phase of the company. In 2006 the company began this commercialization phase and began offering SFD® survey services to the oil and gas clients engaged in exploration activities with a focus on potential clients operating in the Canadian western sedimentary basin. In the period 2006 through to the end of 2008 the company earned in Canada \$9.8 million of survey revenue, accumulated an additional \$5.1 million in deficits, yet generated \$0.9 million of cash in operating activities and invested \$0.8 million in property and equipment.

The financial crisis of 2008 that affected a number of markets resulted in a dramatic decline in the company's Canadian market opportunities and caused the company to re-focus its sales activities towards international markets in 2009. In 2009 the company commenced operations in Colombia. Since the beginning of 2009 until the end of 2010 the company earned \$4.1 million of survey revenue in Colombia with \$3,683,326 earned in 2009 and \$443,011 in 2010. In this two year period the company accumulated an additional \$6.9 million in deficits, used \$5.3 million of cash in operating activities and invested \$0.2 million in property and equipment.

Despite having provided services to clients for five years, the company is still in the early stage of commercializing its SFD® technology. The generation of positive cash flow from operations in the future will depend largely on its ability to demonstrate the value of our survey system to a larger client base than the current number of clients serviced by the company and to increase its revenues as contemplated by our business plan. Management recognizes that this early commercialization phase can last for several years. While the company is in this early stage of commercialization, the company's financial position is materially impacted by the loss or gain of any one client. The company's ability to continue operations is dependent on obtaining financing and attracting future customers through demonstrating the value that the company can bring to their exploration activities.

These consolidated financial statements have been prepared on a going concern basis in accordance with United States generally accepted accounting principles. The going concern basis of presentation assumes that the company will continue in operation for the foreseeable future and be able to realize its assets and discharge its liabilities and commitments in the normal course of business. There is significant doubt about the appropriateness of the use of the going concern assumption because the company has experienced losses and negative cash flow from operations over the past several years and has working capital as at December 31, 2010 of \$0.8 million that management believes is not sufficient to support the company's operations for the next twelve months without additional revenue or capital.

The company anticipates generating both net income and cash from operations in future years with its business model; however, the occurrence and timing of this outcome cannot be predicted with certainty.

These consolidated financial statements do not include any adjustments to amounts and classifications of assets and liabilities or reported expenses that would be necessary should we be unable to generate sufficient net income and cash from operations as required in future years to continue as a going concern.

## **2. Significant Accounting Policies**

### **Basis of Presentation**

These consolidated financial statements for the year ended December 31, 2010 have been prepared by management in accordance with generally accepted accounting principles of the United States of America in accordance with the same accounting policies and methods used in preparing the consolidated financial statements for the years ended December 31, 2009 and 2008.

### **Estimates and Assumptions**

The preparation of these consolidated financial statements requires management to make estimates and assumptions. These estimates and assumptions affect the reported amounts of assets and liabilities, including the disclosure of contingent assets and liabilities, at the date of these consolidated financial statements as well as revenues and expenses recorded during the reporting periods.

Estimates include allowances for doubtful accounts, estimated useful lives of assets, provisions for contingent liabilities, measurement of stock-based compensation, valuation of future tax assets and valuation of preferred shares including the likelihood that the conversion feature of the preferred shares will be achieved. The estimates and assumptions used are based upon management's best estimate. Estimates and assumptions are reviewed periodically and the effects of revisions are reflected in the period when determined. Actual results may differ from those estimates.

### **Cash and Cash Equivalents**

Cash and cash equivalents consist of cash on hand and short term securities with original maturity less than 90 days at the date of acquisition.

### **Short Term Investments**

Short term investments include short term securities, held by a major Canadian chartered bank, with original maturities greater than 90 days and less than one year. Investments are recorded at fair value.

### **Revenue Recognition**

We recognize revenue on SFD® survey contracts on a completed contract basis, net of government sales tax. All money received or invoiced in advance of completion of the contract is reflected as unearned revenue and treated as a current liability on our balance sheet. All survey expenditures and obligations related to SFD® survey contracts are reflected as work-in-progress and treated as a current asset on our balance sheet. Upon completion of the related contract, unearned revenue and the work-in-progress is moved as appropriate to the statement of earnings (loss) as either revenue or survey cost. Sales commissions are included in survey costs. Survey cost does not include any amortization or depreciation of property and equipment.

### **Fair Value of Financial Instruments**

Our financial instruments consist of cash equivalents, short term investments, restricted cash, accounts receivable, trade payables and accrued liabilities. The carrying value of these financial instruments approximates their fair values due to their short term to maturity. We are not exposed to significant interest or credit risks arising from these financial instruments. We are exposed to foreign exchange risk as a result of holding U.S. and Colombian denominated financial instruments.

### **Derivative Liability**

Derivatives are recognized on the balance sheet at fair value with realized and unrealized gains (losses) recognized in the Consolidated Statement of Loss. Derivatives are included into one of three categories based on a fair value hierarchy (Note 7). The company does not apply hedge accounting to any of its derivatives.

## Property and Equipment

We carry our property and equipment at cost and depreciate or amortize them over their estimated service lives using the declining balance method, except for leasehold improvements where we use the straight line method, in accordance with the following annual rates:

- Computer hardware	30%
- Computer software	100%
- Furniture and other equipment	20%
- Leasehold improvements	over the remaining term of lease

Management periodically reviews the carrying value of our property and equipment to ensure that any impairment in value is recognized and reflected in our results of operations.

## Research and Development Expenditures

We expense all research and development expenditures we incur to develop, improve and test our SFD® survey system and related components. Any intellectual property acquired for the purpose of enhancing research and development projects, if there is no alternative use for the intellectual property, is expensed in the period acquired.

## Foreign Currency Translation

The company's functional currency is the Canadian dollar. Revenues and expenses denominated in foreign currencies are translated into Canadian dollars at the average exchange rate for the applicable period. Shareholders' equity accounts are translated into Canadian dollars using the exchange rates in effect at the time of the transaction. Monetary assets and liabilities are translated into Canadian dollars at the exchange rate in effect at the end of the applicable period. Exchange gains and losses resulting from these translations are included in the determination of net income.

Foreign currency translation adjustments resulting from these translations are included in net income.

Historically, the company had subsidiaries with the U.S. dollar as their functional currency. Foreign currency translation adjustments related to the consolidation of these subsidiaries is the only component of accumulated other comprehensive income.

## Income Taxes

We follow the asset and liability method of accounting for income taxes. This method recognizes income tax assets and liabilities at the rates when the temporary differences are reversed or realized, based on temporary differences in reported amounts for financial statement and tax purposes. The effect of a change in income tax rates on future income tax assets and future income tax liabilities is recognized in income when enacted. Valuation allowances are provided when necessary to reduce future tax assets to an amount that is more likely than not to be realized.

## Share-Based Payments

The company follows the fair value method of accounting for stock options. Under this method, an estimate of the fair value of the cost of all stock options granted to employees, directors and consultants is calculated using the Black Scholes option pricing model and charged to income over the vesting period of the option, with a corresponding increase recorded in contributed surplus. Upon exercise of the stock option, the consideration received by the company and the amount previously recorded in contributed surplus, is recorded as an increase to the share capital of the company.

Stock-based compensation for non-employees is periodically re-measured until the non-employees' performance is complete, or the amortization period is complete. Changes to the re-measured compensation are recognized in the period of change and amortized over the remaining life of the vesting period in the same manner as the original option.

## Change in Accounting Policies and Recent Accounting Pronouncements

In June 2008, the FASB issued new guidance in assessing whether an equity-linked financial instrument (or embedded feature) is indexed to an entity's own stock for purposes of determining whether the instrument falls outside the scope of the FASB's standard for accounting for derivative instruments. This guidance became effective for all fiscal year ends beginning after December 15, 2008 and required the cumulative effect resulting from the change in the accounting principle to be recognized as an adjustment to the opening balance of retained earnings.

In accordance with this new guidance, vested stock options that had been granted in U.S. dollars to contractors were considered not to be indexed to the company's own equity and therefore, are a derivative liability that must be recorded at fair value on a recurring basis. We have classified this derivative liability as level II where the fair value is determined by using valuation techniques that refer to observable market data. This change resulted in the company reducing contributed capital on January 1, 2009 by \$108,779, representing the historical value attributed to certain options and then recording these options as a derivative liability at their fair market value of \$41,415. The cumulative effect of this change in accounting principle of \$67,364 was recognized as a reduction to the opening balance of Accumulated Loss for the year ended December 31, 2009. These options will be revalued to market at each reporting period and the change in the liability value will be charged or credited to the Statement of Loss.

### Consolidation

We have consolidated the accounts of our wholly owned subsidiaries in the course of preparing these consolidated financial statements. All significant inter-company balances and transactions amongst NXT and its subsidiaries have been eliminated and are therefore not reflected in these consolidated financial statements. As of December 31, 2010 and 2009, the company consisted of NXT Energy Solutions Inc., and two inactive subsidiaries in the United States.

### 3. Property and Equipment

	As at December 31,	
	2010	2009
Survey equipment	\$ 605,751	\$ 569,929
Furniture and other equipment	526,105	526,105
Computers and software	1,014,455	999,153
Leasehold improvements	67,213	67,213
Other	-	5,000
	<u>2,213,524</u>	<u>2,167,400</u>
Less accumulated depreciation, amortization and impairment	(1,687,720)	(1,531,573)
Net property and equipment	<u>\$ 525,804</u>	<u>\$ 635,827</u>

Included in other property and equipment are assets acquired under capital lease arrangements with future minimum lease payments of \$8,874 through 2012. Amortization of these assets is included in amortization and depreciation on the Statement of Loss. At December 31, 2010 the net book value of the leased assets is \$16,215 (2009 - \$19,908) and related accumulated amortization is \$18,785 (2009 - \$15,092).

The company is entitled to gross overriding royalties in Canada related to some previous SFD® surveys. In the three year period ended December 31, 2010 royalty revenue was included in Other Income within the Consolidated Statements of Loss.

### 4. Restricted Cash

Restricted cash consists of U.S. dollar money market securities deposited by the company with two financial institutions to provide security for the institutions to issue bank letters of credit for the benefit of third parties to satisfy the company's contractual commitments. The first deposit consists of \$42,179 (U.S. \$42,408) held on deposit in a Barbados bank to satisfy contractual requirements related to ongoing SFD® survey services in Colombia. These funds are encumbered until 2012. The second balance consists of \$59,676 (U.S. \$60,000) held on deposit in a Canadian chartered bank to satisfy a bid bond requirement for a SFD® survey scheduled to be completed in Asia in 2011. Carrying value consists of principle balance plus accrued interest.

### 5. Accrued Liabilities

	As at December 31,	
	2010	2009
Legal and accounting	\$ 118,065	\$ 162,752
Commission on sales	-	30,958
Consultant fees	15,100	25,000
Survey costs	-	77,029
	<u>\$ 133,165</u>	<u>\$ 295,739</u>

## 6. Asset Retirement Obligation

Asset retirement obligations relate to wells where the company has outstanding abandonment and reclamation obligations in accordance with government regulations. The company's obligation relates to 8 gross (1.1 net) wells drilled in the years 2000 through 2004 that still require abandonment. Management has determined the asset retirement obligation based upon estimates of the costs to remediate, reclaim and abandon the wells and the estimated timing of the costs to be incurred. These obligations are estimated to have a future liability of approximately \$61,000 to be settled within the next four years. The present value of this asset retirement obligation has been calculated using an inflation rate of 3.4% and discounted using a credit-adjusted risk-free interest rate of 10.0%.

The following table reconciles the asset retirement obligations:	For the year ended December 31,		
	2010	2009	2008
Asset retirement obligation, beginning of year	\$ 51,254	\$ 48,997	\$ -
Additions in the year	-	4,753	208,307
Accretion	4,092	2,900	2,636
Costs incurred	(902)	(5,396)	(161,946)
Asset retirement obligation, end of year	<u>\$ 54,444</u>	<u>\$ 51,254</u>	<u>\$ 48,997</u>

## 7. Derivative Liability

The company previously issued U.S. dollar denominated contractor stock options. As described in note 2, the vested portion of these options met the criteria of a derivative instrument and were recognized at fair value. Under the FASB's fair value measurement standards, financial instruments that are recorded at fair value on a recurring basis are required to be classified into one of three categories based upon a fair value hierarchy. We classified our derivative instruments as level II where the value is determined by using valuation techniques that refer to market data.

All adjustments arising from a recurring market revaluation of the derivative instruments are reflected as either an increase or decrease to the line item 'Administrative' on the company's consolidated statement of loss. At December 31, 2010 the company had no outstanding derivative liabilities.

The following table outlines the change in the derivative liability values:

	For the year ended December 31,	
	2010	2009
Balance as at beginning of year	\$ 183,815	\$ -
Adjustment to opening balance upon adoptions of change in accounting policy [note 2]		41,415
Increase (decrease) in value	(183,815)	142,400
Balance at the end of the year	<u>\$ -</u>	<u>\$ 183,815</u>

## 8. Common Shares

The company has an unlimited number of shares authorized.

The following table provides a continuity since January 1, 2008 of common shares. The value attributed to issued common shares includes cash consideration plus, where applicable, the value related to exercised warrants and option.

	Common Shares	
	Shares	Amount
As at January 1, 2008	29,713,381	\$ 49,789,695
Transactions during the year ended December 31, 2008		
Issued to discharge accrued liabilities	9,205	44,396
Issued on exercise of options	276,667	182,099
Issued on exercise of warrants	677,543	1,867,931
As at December 31, 2008	30,676,796	\$ 51,884,121
Transactions during the year ended December 31, 2009		
Issued for cash	25,000	50,239
As at December 31, 2009	30,701,796	\$ 51,934,360
Transactions during the year ended December 31, 2010		
Issued on exercise of options	100,000	97,075
<b>As at December 31, 2010</b>	<b>30,801,796</b>	<b>\$ 52,031,435</b>

### Reconciliation of Earnings per Share Calculations

For the year ended December 31, 2010

	Net Loss	Weighted Average Shares Outstanding	Per Unit
Basic and diluted	\$ (4,452,428)	30,774,974	\$ (0.14)

For the year ended December 31, 2009

	Net Loss	Weighted Average Shares Outstanding	Per Unit
Basic and diluted	\$ (2,405,125)	30,690,426	\$ (0.08)

For the year ended December 31, 2008

	Net Loss	Weighted Average Shares Outstanding	Per Unit
Basic and diluted	\$ (1,141,291)	30,369,586	\$ (0.04)

### 9. Preferred Shares

The company committed to the issue of 10,000,000 series 1 preferred shares to its chief executive officer, president and director on December 31, 2005 pursuant to a 10 year license agreement for the SFD® technology. This 2005 license agreement was superseded on December 31, 2006 by the execution of the Technical Transfer Agreement ("2006 TTA") wherein the company issued the 10,000,000 series 1 preferred shares and purchased outright the SFD® technology. The company is authorized to issue an unlimited number of preferred shares and has authorized the issuance of 10,000,000 series 1 preferred shares.

The 10,000,000 series 1 preferred shares have the following attributes:

- Series 1 preferred shares are conditionally convertible into common shares.
- 2,000,000 of the series 1 preferred shares became convertible into common shares upon issue.
- The remaining 8,000,000 series 1 preferred shares may become convertible into common shares in four 2,000,000 share increments should the company achieve specified cumulative revenue thresholds prior to December 31, 2015. These cumulative revenue thresholds are at U.S. \$50 million, U.S. \$100 million, U.S. \$250 million and U.S. \$500 million.
- Cumulative revenue is defined as the sum of total revenue earned plus proceeds from the sale of assets accumulated since January 1, 2007, all denominated in United States dollars, and calculated in accordance with generally accepted accounting principles.
- In the event that the final cumulative revenue threshold of U.S. \$500 million is not achieved prior to December 31, 2015, the company has the option to either redeem any unconverted preferred shares for a price of \$0.01 per share and forfeit the SFD® technology, or retain the ownership of the SFD® technology by making all remain series 1 preferred shares convertible into common shares.
- Series 1 preferred shares shall not be transferable except with the consent of the board of directors.

- Series 1 preferred shares do not participate in dividends.

At December 31, 2010, the company had generated cumulative revenue of approximately U.S. \$12 million that is eligible to be applied to the conversion thresholds above.

## 10. Employee, Officers, Directors and Contractor Options

Summarized below are all outstanding options under the Plans as of December 31, 2010:

	Outstanding options	Weighted average exercise price of outstanding options	Options exercisable	Weighted average exercise price of exercisable options
Under \$0.50	171,600	\$ 0.45	166,600	\$ 0.45
\$0.50 - \$0.99	1,963,204	\$ 0.63	1,571,037	\$ 0.63
Total sum of outstanding	2,134,804	\$ 0.62	1,737,637	\$ 0.61

  

	Weighted average remaining contractual life
Range of exercise prices	
Under \$0.50	4.7
\$0.50 - \$0.99	2.0
Total sum of outstanding	2.2

Continuity of options for the years ended December 31, 2010, 2009 and 2008 :

	For the year ended December 31, 2010	
	# of options	Weighted average exercise price
Outstanding as at beginning of year	2,757,204	\$ 1.76
Granted (including 2,113,204 options re-priced)	2,362,104	\$ 0.62
Cancelled for re-pricing	(2,113,204)	\$ 1.94
Forfeited	(431,300)	\$ 1.48
Expired	(340,000)	\$ 0.66
Exercised	(100,000)	\$ 0.55
Options outstanding as at end of year	2,134,804	\$ 0.62
Exercisable as at end of year	1,737,637	\$ 0.61

  

	For the year ended December 31, 2009		For the year ended December 31, 2008	
	# of options	Weighted average exercise price	# of options	Weighted average exercise price
Outstanding as at beginning of year	2,270,204	\$ 2.31	2,348,371	\$ 1.71
Granted	730,000	\$ 1.20	403,500	\$ 2.34
Forfeited	(40,000)	\$ 2.39	(150,000)	\$ 2.04
Expired	(203,000)	\$ 2.18	(55,000)	\$ 2.30
Exercised	-	\$ -	(276,667)	\$ 0.44
Options outstanding as at end of year	2,757,204	\$ 1.76	2,270,204	\$ 2.31
Exercisable as at end of year	1,594,038	\$ 1.85	1,176,370	\$ 1.90

On December 8, 2010 the company re-priced 2,113,204 previously issued options with an average strike price of U.S. \$2.04. Upon being re-priced all these options became exercisable at a price of Cdn. \$0.63 per share. All other terms of these re-priced options remained unchanged. These re-priced options were treated for accounting purposes as a modification of the previously issued options. Included in this re-priced option total are 1,615,000 options issued to directors and officers with an original average strike price of U.S. \$2.35 per share. The re-pricing of officers and directors options was approved by disinterested shareholders at the company's annual general meeting held on December 8, 2010.

The Stock Option Plan is approved annually by shareholders at the Annual General Meeting. The Stock Option Plan sets forth terms and conditions whereby options to purchase common shares of the company can be issued to directors, officers and employees of the company and to consultants retained by the company. The aggregate number of common shares reserved for issuance under this Plan, or any other prior Plan of the company shall not, at time of the stock option grant, exceed ten percent of the total number of issued and outstanding common shares (calculated on a non-diluted basis) unless the company receives permission of the stock exchange or exchanges on which the shares are then listed to exceed such threshold.

Issuance of options to any one participant shall not exceed five percent of the total number of issued and outstanding common shares in any 12 month period with consultants retained for investor relations duties further restricted to two percent in any 12 month period without permission of the stock exchange or exchanges on which the common shares of the company are listed. Furthermore, shareholder approval is required for grants of options to insiders of options that exceed ten percent of the issued common shares within any 12 month period. No options shall be granted for a term exceeding five years without permission of the stock exchange or exchanges on which the shares of the company are listed. All options issued under Plans are issued from treasury.

Options vest generally over the three year period starting from the date of grant subject to the continued provision of services whereby the options vest one-third at the end of each of the first three years following the grant date. Options generally expire, if unexercised, five years from the date of vesting. Some options at the discretion of the board are issued with early vesting periods and shorter expiry terms.

#### Compensation Expense Associated with Grant of Options

In the years ended December 31, 2010, 2009 and 2008 the company recorded stock-based compensation expense of \$577,815, \$672,060 and \$653,042 respectively.

The grant date fair value is calculated in U.S. dollars using the Black Scholes option valuation model utilizing the following weighted average assumptions:

	For the year ended December 31,		
	2010	2009	2008
Expected dividends paid per common share	Nil	Nil	Nil
Expected life (years)	1.8	3	3
Expected volatility in the price of common shares (%)	92%	103%	88%
Risk free interest rate (%)	1.5%	1.5%	4.0%
Weighted average grant date fair market value per share	\$ 0.27	\$ 0.70	\$ 1.45
Intrinsic value of options exercised	\$ 0.53	\$ -	\$ 2.66

As of December 31, 2010, 2009 and 2008 there were \$311,315, \$865,242 and \$985,473 respectively of total unrecognized compensation cost related to non-vested share-based compensation awards granted under the stock option plans. This cost is recognized over the remaining vesting period.

#### 11. Warrants

The company had no warrants outstanding in the year ended December 31, 2010.

Continuity of warrants for the year ended December 31, 2009:

	As at December 31, 2009		As at December 31, 2008	
	# of warrants	Weighted average exercise price	# of warrants	Weighted average exercise price
Outstanding as at beginning of the year	150,000	\$ 2.20 Cdn	2,776,560	\$ 1.96 U.S.
Exercised	-	-	(702,543)	\$ 2.00 U.S.
Expired	(150,000)	\$ 2.20 Cdn	(1,924,017)	-
Outstanding as at end of the year	-	\$ -	150,000	\$ 2.20 Cdn

On June 30, 2007 NXT entered into agreements with a member dealer of the TSX Venture Exchange ("TSX-V") to act as sponsoring dealer for NXT's listing application to the TSX-V. Pursuant to the agreement, NXT issued 150,000 common share warrants to the dealer upon becoming listed on the TSX-V on December 3, 2007. The fair market value of these warrants was estimated at \$482,750. The warrants had an exercise price of \$2.20 and expired on December 3, 2009.

## 12. Income Taxes

Our income tax for accounting purposes is different from the amount computed by applying the statutory Canadian federal and provincial income tax rate to income or loss before taxes.

	For the year ended December 31,		
	2010	2009	2008
Canadian statutory income tax rate	28.0%	29.0%	29.5%
Income tax recovery at statutory rate	\$ (1,246,680)	\$ (697,486)	\$ (336,681)
Impact of non deductible expenses on income tax			
Stocked-based compensation	161,788	194,898	192,648
Forfeited in year	205,156	111,038	108,133
Exchange adjustment	103,007	339,527	(449,071)
Rate reduction	842,818	87,072	(85,122)
Other	12,226	(70,771)	(3,203)
Valuation allowance	(78,315)	35,722	573,296
	<u>\$ -</u>	<u>\$ -</u>	<u>\$ -</u>

	For the year ended December 31,		
	2010	2009	2008
Deferred income tax assets:			
Net operating loss carry forward USA (expiration dates: 2011-2028)	\$ 1,970,205	\$ 2,073,212	\$ 2,412,739
Net operating loss carry forward Canada (expiration dates: 2011-2029)	3,410,240	3,095,143	2,749,895
Property and equipment	2,051,012	2,341,417	2,311,416
Valuation reserve	(7,431,457)	(7,509,772)	(7,474,050)
	<u>\$ -</u>	<u>\$ -</u>	<u>\$ -</u>

We have not recognized current or deferred U.S. or Canadian federal, state or provincial income taxes credits for the years ended December 31, 2010, 2009 and 2008 and have provided a full valuation allowance on the deferred tax asset because of uncertainty regarding their realization. These assets consist primarily of net operating loss carry forwards and timing differences on property and equipment.

Prior to and including 2010, the company and its subsidiaries incurred losses since incorporation. These losses have not been assessed by tax authorities and accordingly, all taxation years remain subject to review by tax authorities.

## 13. Related Party Transactions

In the second quarter of 2009 a private placement for 25,000 common shares was issued to an officer of the company to fulfill an obligation.

In the year ended December 31, 2008 we earned \$1,200,000 of revenue from a client when a director of NXT was also at the time an officer of the client.

## 14. Commitments and Contingencies

On March 18, 2003 we were served a statement of claim and named as one of several defendants. The plaintiffs alleged that all defendants were in breach of an aircraft ferry flight contract where an aircraft crashed enroute. The plaintiffs are seeking damages in the amount of Cdn. \$450,000. The Plaintiffs have not pursued their claim against NXT for over five years. NXT was not a party to the ferry flight contract and accordingly management believes the claim is without merit. The outcome of the claim is not determinable.

The company has a lease agreement for its current office space through October 31, 2012. The monthly lease payments are \$31,871.

### **15. Comparative Figures**

Certain amounts in the consolidated financial statements have been reclassified in the comparative periods to conform to the current year's presentation.

### **16. Subsequent Event**

On February 16, 2011 the company closed a non-brokered private placement for aggregate proceeds of \$1,600,300 (net \$1,497,279) including \$40,000 received from officers of the company. At the closing NXT issued 3,200,600 units at a price of \$0.50 per unit, each unit consisting of one common share and one warrant. Each warrant entitles the holder to acquire an additional common share at a price of \$0.60 per share on or before February 16, 2012, subject to certain acceleration terms. In connection with this closing the company paid a finder's fee of \$72,660 and issued 145,320 finder's warrants. Following this closing, NXT had 34,002,396 shares issued and outstanding.

In the first quarter of 2011 the company announced two contract awards to conduct SFD® surveys in 2011. The first contract is for a U.S. \$150,000 SFD® survey to be conducted in the United States and the second contract is for a U.S. \$2,660,000 SFD® survey to be conducted in South Asia. Pursuant to the terms of the contract in South Asia the company has deposited U.S. \$266,000 with a Canadian chartered bank to provide security for a performance bond. These funds shall be accounted for as Restricted Cash.

## ITEM 9. THE OFFER AND LISTING

### A. Offer and listing details

The following tables set forth the price history of the company's common stock listed on the OTCBB in the United States and the TSX-V in Canada.<sup>1</sup>

Period	OTCBB US\$ per share	
	High	Low
Year ended- December 31, 2010	\$1.30	\$0.23
Year ended- December 31, 2009	\$1.39	\$0.30
Year ended- December 31, 2008	\$4.87	\$0.35
Year ended- December 31, 2007	\$5.89	\$1.05
Year ended- December 31, 2006	\$1.75	\$0.70
Quarter ended March 31, 2011	\$0.66	\$0.40
Quarter ended December 31, 2010	\$0.81	\$0.35
Quarter ended September 30, 2010	\$0.99	\$0.23
Quarter ended June 30, 2010	\$1.30	\$0.56
Quarter ended March 31, 2010	\$1.30	\$0.77
Quarter ended December 31, 2009	\$1.39	\$0.90
Quarter ended September 30, 2009	\$1.13	\$0.70
Quarter ended June 30, 2009	\$1.25	\$0.60
Quarter ended March 31, 2009	\$0.99	\$0.30
Month ended May 31, 2011	\$0.63	\$0.43
Month ended April 30, 2011	\$0.63	\$0.44
Month ended March 31, 2011	\$0.60	\$0.48
Month ended February 28, 2011	\$0.66	\$0.48
Month ended January 31, 2011	\$0.56	\$0.40
Month ended December 31, 2010	\$0.73	\$0.38

Period	TSX-V Cdn\$ per share	
	High	Low
Year ended- December 31, 2010	\$1.35	\$0.31
Year ended- December 31, 2009	\$1.48	\$0.41
Year ended- December 31, 2008	\$4.90	\$0.49
Quarter ended- March 31, 2011	\$0.60	\$0.40
Quarter ended- December 31, 2010	\$0.83	\$0.31
Quarter ended- September 30, 2010	\$0.95	\$0.31
Quarter ended- June 30, 2010	\$1.04	\$0.66
Quarter ended- March 31, 2010	\$1.35	\$0.86
Quarter ended- December 31, 2009	\$1.43	\$0.87
Quarter ended- September 30, 2009	\$1.25	\$0.76
Quarter ended- June 30, 2009	\$1.48	\$0.80
Quarter ended- March 31, 2009	\$1.20	\$0.41
Month ended- May 31, 2011	\$0.65	\$0.45
Month ended- April 30, 2011	\$0.60	\$0.29
Month ended- March 31, 2011	\$0.55	\$0.48
Month ended- February 28, 2011	\$0.60	\$0.48
Month ended- January 31, 2011	\$0.55	\$0.40
Month ended- December 31, 2010	\$0.71	\$0.40

<sup>1</sup> The company's common stock began trading on the TSX-V on December 3, 2007.

**B. Plan of distribution**

Not applicable – The company is filing this Form 20-F as an annual report.

**C. Markets**

Our common shares are quoted in the United States on the OTCBB under the symbol “NSFDF.OB”, in Canada on the TSX-V under the symbol “SFD.V” and in Europe on the Frankfurt and Berlin Exchanges under the symbol “EFW”. The company’s common shares commenced trading on the OTCBB pursuant to a reverse takeover in 1996, and were approved for listing on the Frankfurt and Berlin Exchanges in January 2004 and the TSX-V in December 2007.

**D. Selling shareholders**

Not applicable – The company is filing this Form 20-F as an annual report.

**E. Dilution**

Not applicable – The company is filing this Form 20-F as an annual report.

**F. Expenses of the issue**

Not applicable – The company is filing this Form 20-F as an annual report.

**ITEM 10. ADDITIONAL INFORMATION**

**A. Share capital**

Not applicable – The company is filing this Form 20-F as an annual report.

**B. Memorandum and articles of association**

NXT was incorporated in the State of Nevada. With respect to the foregoing items, the law applicable to NXT in the Province of Alberta is not significantly different from that in the State of Nevada. NXT was established in Alberta pursuant to a Certificate of Continuance issued October 24, 2003 by the Registrar of Corporations of the Province of Alberta. NXT’s Alberta Corporate Access Number is 2010730915. The Articles of Continuance of NXT were amended to create the Series 1 Shares on December 28, 2006. The Articles provide that there are no restrictions on the nature of the business that may be carried on by NXT. On September 19, 2008 pursuant to Articles of Amendment the name of the company was changed from Energy Exploration Technologies Inc to NXT Energy Solutions Inc.

**Quorum**

The board of directors of NXT may fix the quorum for meetings of the board of directors or of a committee of the board of directors, but unless so fixed, a majority of the directors or of a committee of directors holding office at the time of the meeting constitutes a quorum provided that no business may be transacted unless at least half of the directors present are resident Canadians. Business cannot be transacted without a quorum. A quorum of directors may vote on any matter of business properly brought before the meeting provided that where a director is a party to a material contract or proposed material contract or is a director or an officer of or has a material interest in any person who is a party to a material contract or proposed material contract with NXT, such director must disclose his or her interest at the earliest possible date, request the conflict be noted in the minutes of the meeting and, with few exceptions, refrain from voting on the matter in which the director has a conflict of interest. There is no limitation on the board of directors to vote on matters of their remuneration as a director, officer, employee or agent of NXT or of an affiliate of NXT.

#### Borrowing Powers

The board of directors may, without authorization of the shareholders of NXT:

- (a) borrow money on the credit of NXT;
- (b) issue, reissue, sell or pledge debt obligations of NXT;
- (c) subject to restrictions respecting financial assistance prescribed in the ABCA, guarantee, on behalf of NXT, the performance of an obligation of any person; and
- (d) mortgage, hypothecate, pledge or otherwise create a security interest in all or any property of NXT, owned or subsequently acquired, to secure any obligation of NXT.

The board of directors of NXT may, by resolution, delegate to a director, a committee of directors or an officer all or any of the foregoing borrowing powers.

#### Directors

A person is qualified to be or stand for election as a director provided such person is at least 18 years of age, is not bankrupt and is not mentally incapacitated pursuant to applicable mental health legislation of the Province of Alberta or pursuant to an order of the courts of the Province of Alberta. There is no provision in NXT's Articles or By-Laws relating to the retirement or non-retirement of directors under an age limit requirement. There is also no requirement in NXT's Articles or By-Laws for a director to hold securities of NXT.

Pursuant to the ABCA, a director or officer shall not be disqualified by his office, or be required to vacate his office, by reason only that he is a party to, or is a director or officer or has a material interest in any person who is a party to, a material contract or proposed material contract with NXT or subsidiary thereof. Such a director or officer shall, however, disclose the nature and extent of his interest in the contract at the time and in the manner provided by the ABCA. Any such contract or proposed contract shall be referred to the board of directors of NXT or shareholders for approval even if such contract is one that in the ordinary course of NXT's business would not require approval by the board or shareholders. Subject to the provisions of the ABCA, a director shall not by reason only of his office be accountable to NXT or to its shareholders for any profit or gain realized from such a contract or transaction, and such contract or transaction shall not be void or voidable by reason only of the director's interest therein, provided that the required declaration and disclosure of interest is properly made, the contract or transaction is approved by the directors or shareholders, and it is fair and reasonable to NXT at the time it was approved and, if required by the ABCA, the director refrains from voting as a director on the contract or transaction and absents himself from the director's meeting at which the contract is authorized or approved by the directors, except attendance for the purpose of being counted in the quorum.

#### Rights Attached to Common Shares

The holders of the common shares are entitled to dividends as and when declared by the directors of NXT, to one vote per share at meetings of shareholders of NXT, and upon liquidation, subject to the rights of the holders of preferred shares, are entitled to share rateably with the holders of the common shares in all distributions of assets of NXT.

#### Rights Attached to Preferred Shares

Preferred shares may be issued from time to time in one or more series. The board of directors of NXT is expressly authorized to provide by resolution duly adopted prior to issuance, for the creation of each such series and to fix the designation, rights, privileges, restrictions and conditions attached to the shares of each such series, including the rate or amount of dividends or the method of calculating dividends, the dates of payment of dividends, the redemption, purchase and/or conversion prices and terms and conditions of redemption, purchase and/or conversion, and any sinking fund or other provisions.

The preferred shares of each series shall, with respect to the payment of dividends and the distribution of assets or return of capital in the event of liquidation, dissolution or winding-up of NXT, whether voluntary or involuntary, or any other return of capital or distribution of the assets of NXT among its shareholders for the purpose of winding up its affairs, rank on a parity with the preferred shares of every other series and be entitled to preference over the common shares and over any other shares of NXT, if any, ranking junior to the preferred shares. The preferred shares of any series may also be given other preferences, not inconsistent with the articles of continuance of NXT (the "Articles"), over the common shares and any other shares of NXT ranking junior to the preferred shares of a series as may be fixed by the board of directors of NXT.

If any cumulative dividends or amounts payable on the return of capital in respect of a series of preferred shares are not paid in full, all series of preferred shares shall participate ratably in respect of accumulated dividends and return of capital.

Unless the board of directors of NXT otherwise determine in the articles of amendment designating a series of preferred shares, the holder of each share of a series of preferred shares shall not, as such, be entitled to receive notice of or vote at any meeting of shareholders, except as otherwise specifically provided in the ABCA.

#### Rights Attached to Preferred Shares - Series 1 Shares

NXT is authorized to issue up to 10,000,000 Series 1 Shares. As at December 31, 2006 10,000,000 Series 1 Shares were issued and outstanding, with the following material attributes.

#### Voting Rights

Subject to applicable law, the holders of the Series 1 Shares shall not be entitled to any voting rights or to receive notice of or to attend any meeting of the shareholders of NXT.

#### Dividends

The holders of the Series 1 Shares shall not be entitled to receive any dividends on the Series 1 Shares.

#### Conversion

The Series 1 Shares are convertible as follows:

- (a) as to 20% of the total issued Series 1 Shares on December 31, 2006;
- (b) as to 20% of the total issued Series 1 Shares on the date that gross cumulative aggregate revenues of NXT reach \$50 million;
- (c) as to 20% of the total issued Series 1 Shares on the date that gross cumulative aggregate revenues of NXT reach \$100 million;
- (d) as to 20% of the total issued Series 1 Shares on the date that gross cumulative aggregate revenues of NXT reach \$250 million; and
- (e) as to 20% of the total issued Series 1 Shares on the date that gross cumulative aggregate revenues of NXT reach \$500 million.

Upon a change of control of NXT, as to the amount of Series 1 Shares not yet expired, converted or redeemed, as the case may be, in accordance with the terms thereof, the Series 1 Shares shall become convertible as follows:

- (a) as to all of the total issued Series 1 Shares if the sale price per common share paid by an acquirer on transaction constituting a change of control of NXT or the per share amount received by the holders of common shares on a liquidation of the assets of NXT or the winding-up or re-arrangement of NXT's business is equal to or exceeds \$10;
- (b) as to 60% of the total issued Series 1 Shares if the sale price per common share paid by an acquirer on transaction constituting a change of control of NXT or the per share amount received

by the holders of common shares on a liquidation of the assets of NXT or the winding-up or re-arrangement of NXT's business is equal to or exceeds \$5; and

- (c) as to 20% of the total issued Series 1 Shares regardless of the sale price per common share paid by an acquirer on transaction constituting a change of control of NXT or the per share amount received by the holders of common shares on a liquidation of the assets of NXT or the winding-up or re-arrangement of NXT's business.

The Series 1 Shares specified above held by the holder shall be convertible at the option of the holder, subject to the terms and provisions hereof, into common shares at the rate of one common share per each Series 1 Share, without payment of any additional consideration.

Upon a change of control, a holder shall be entitled to convert, in full or in part, the Series 1 Shares specified above, until the expiration of ninety (90) days after the date on which the holder of the Series 1 Shares gives or receives notice that such holder will no longer be providing services to NXT, or the date on which such holder is terminated by NXT.

The conversion of Series 1 Shares into common shares shall be evidenced by the holder delivering at any time during usual business hours at the head office of NXT:

- (a) written notice, signed by the holder, specifying the number of Series 1 Shares to be converted; and
- (b) the certificate or certificates representing the Series 1 Shares to be converted.

The rights of the holder of such Series 1 Shares, as the holder thereof, shall cease at the date of conversion into common shares and the person or persons entitled to receive common shares upon such conversion shall be treated for all purposes as having become the holder or holders of record of such common shares at such time.

The registered holder of any common shares resulting from any such conversion shall be entitled to rank equally with the registered holders of all other common shares in respect of all dividends declared payable to holders of common shares of record on any date after the date of conversion into common shares.

The board of directors shall have the right at any time to cause the conversion of all or a portion of the Series 1 Shares in the discretion of the board of directors.

NXT shall be entitled to make all tax withholdings, if any, as required by law, with respect to a conversion of Series 1 Shares for common shares.

#### Redemption

Subject to applicable law and subject to NXT's right to force the conversion of the Series 1 Shares, NXT shall be required to redeem and shall be deemed to have redeemed all of the Series 1 Shares held by the holder on December 31, 2015 at a price of \$0.001 per Series 1 Share ("Redemption Price").

On any redemption of Series 1 Shares, NXT shall give a notice in writing of its redemption of the Series 1 Shares (the "Redemption Notice") to each person who at the date of giving of such notice is a registered holder of Series 1 Shares to be redeemed, setting out the date the Series 1 Shares are to be redeemed or are deemed to have been redeemed (the "Redemption Date") and the number of Series 1 Shares which are to be redeemed or are deemed to have been redeemed.

#### Liquidation

The holders of Series 1 Shares shall not be entitled in the event of any liquidation, dissolution or winding up of NXT, whether voluntary or involuntary, or any other distribution of the assets of NXT among its shareholders for the purpose of winding up its affairs to any return of capital other than payment of the Redemption Price for each Series 1 Share in preference to the holders of common shares.

After payment to the holders of the Series 1 Shares of the amounts so payable to them, the holders of Series 1 Shares shall not be entitled to share in any further distribution of the property or assets of NXT.

#### Alteration of the Rights of Shareholders

Under the ABCA, any substantive change to the Articles (including, but not limited to, change of any maximum number of shares that NXT is authorized to issue, creation of new classes of shares, add, change or remove any rights, privileges, restrictions and conditions in respect of all or any of its shares, whether issued or unissued, change the shares of any class or series, whether issued or unissued, into a different number of shares of the same class or series or into the same or a different number of shares of other classes or series) or other fundamental changes to the capital structure of NXT, including a proposed amalgamation or continuance of NXT out of the jurisdiction, requires shareholder approval by not less than 2/3 of the votes cast by shareholders voting in person or by proxy at a shareholders' meeting called for that purpose. In certain prescribed circumstances, holders of shares of a class or of a series are entitled to vote separately as a class or series on a proposal to amend the Articles whether or not shares of a class or series otherwise carry the right to vote. The holders of a series of shares of a class are entitled to vote separately as a series only if the series is affected by an amendment in a manner different from other shares of the same class.

#### Meetings of Shareholders

NXT's By-Laws provide that the board of directors shall call an annual meeting of shareholders to be held not later than eighteen months after the date of incorporation and subsequently, not later than fifteen months after holding the last preceding annual meeting. NXT's By-Laws provide that the board of directors may at any time call a special meeting of shareholders. Only the registered holders of shares are entitled to receive notice of and vote at annual and special meetings of shareholders, except to the extent that:

- (a) if a record date is fixed, the person transfers ownership of any of the person's shares after the record date; or
- (b) if no record date is fixed, the person transfers ownership of any of the person's shares after the date on which the list of shareholders is prepared; and
- (c) the transferee of those shares;
  - produces properly endorsed share certificates; or
  - otherwise establishes ownership of the shares; and
  - demands, not later than ten (10) days before the meeting, that the transferee's name be included in the list before the meeting;

in which case the transferee is entitled to vote the shares.

The ABCA also permits the holders of not less than 5% of the issued voting securities of NXT to give notice to the board of directors requiring them to call and hold a meeting of NXT.

The only persons entitled to be present at a meeting of shareholders are:

- (a) the shareholders entitled to vote at the meeting;
- (b) the board of directors of NXT;

- (c) the external auditor of NXT; and
- (d) any others who, although not entitled or required under the provision of the ABCA, any unanimous shareholder agreement, the Articles or the By-Laws to be present at the meeting.

Any other person may be admitted only on the invitation of the Chairperson of the meeting or with the consent of the meeting.

There are no restrictions in NXT's Articles or By-Laws as to the number of shares that may be held by non-residents other than restrictions set out in the *Investment Canada Act* (the "ICA") (Canada), as further described under Item 10.D – "Exchange Controls" below.

#### Change of Control

There are no specific provisions in the Articles or By-Laws of NXT that have the effect of delaying, deferring or preventing a change of control of NXT and that would operate only with respect to a merger, acquisition or corporate restructuring involving NXT (or any of its subsidiaries). Notwithstanding this, the board of directors, under the general powers conferred to it under NXT's By-Laws, have the authority to approve and invoke a shareholders rights plan that will protect shareholders from unfair, abusive or coercive take-over strategies, including the acquisition or control of NXT by a bidder in a transaction or series of transactions that does not treat all shareholders equally or fairly or that does not afford all shareholders an equal opportunity to share in any premium paid upon an acquisition of control. NXT has not adopted such a plan.

#### Shareholder Ownership Disclosure

There are no provisions in NXT's By-Laws regarding public disclosure of individual shareholdings.

### C. Material contracts

Each material contract, other than contracts entered into in the ordinary course of business, to which the company has been a party, for the two years immediately preceding publication of this annual report, is listed as an exhibit to this annual report and is summarized elsewhere herein.

### D. Exchange controls

There are no governmental laws, decrees or regulations in Canada relating to restrictions on the export or import of capital, or affecting the remittance of interest, dividends or other payments to non-residents. Dividends paid to U.S. residents, however, are subject to a 15% withholding tax or a 5% withholding tax for dividends if the shareholder is a corporation owning at least 10% of the outstanding voting shares of NXT pursuant to Article X of the reciprocal tax treaty between Canada and the U.S.

Except as provided in the ICA, which has provisions that restrict the holding of voting shares by non-Canadians, there are no limitations specific to the rights of non-Canadians to hold or vote the common shares under the laws of Canada or the Province of Alberta, or in the charter documents of NXT or its subsidiaries.

Management of NXT believes that the following summary fairly describes those provisions of the ICA pertinent to an investment in NXT by a person who is not a Canadian resident (a "non-Canadian").

The ICA requires a non-Canadian making an investment which would result in the acquisition of control of a Canadian business (i.e. the gross value of the assets of which exceed a certain monetary threshold) to identify, notify, or file an application for review with the Investment Review Division of Industry Canada ("IRD").

The notification procedure involves a brief statement of information about the investment on a prescribed form which is required to be filed with the IRD by the investor at any time up to 30 days following implementation of the investment. It is intended that investments requiring only notification will proceed without government interven-

tion unless the investment is in a specific type of business activity related to Canada's cultural heritage and national identity.

If an investment is reviewable under the ICA, an application for review in the form prescribed is normally required to be filed with the IRD prior to the investment taking place and the investment may not be implemented until the review has been completed and the Minister of Industry Canada (the "Minister") (the Minister responsible for Investment Canada) is satisfied that the investment is likely to be of net benefit to Canada. The Minister has up to 75 days to make this determination. If the Minister is not satisfied that the investment is likely to be of net benefit to Canada, the non-Canadian must not implement the investment or, if the investment has been implemented, may be required to divest himself of control of the business that is the subject of the investment.

The following investments by non-Canadians are subject to notification under the ICA:

1. An investment to establish a new Canadian business; and
2. An investment to acquire control of a Canadian business that is not reviewable pursuant to the Act.

The following investments by a non-Canadian are subject to review under the ICA:

1. An investment is reviewable if there is an acquisition of a Canadian business and the asset value of the Canadian business being acquired equals or exceeds the following thresholds:
  - (a) For non-World Trade Organization ("WTO") investors, the threshold is \$5 million for a direct acquisition and \$50 million for an indirect acquisition; the \$5 million threshold will apply however for an indirect acquisition if the asset value of the Canadian business being acquired exceeds 50% of the asset value of the global transaction;
  - (b) Except as specified in paragraph (c) below, a threshold is calculated annually for reviewable direct acquisitions by or from WTO investors. The threshold for 2004 is \$227 million. Pursuant to Canada's international commitments, indirect acquisitions by or from WTO investors are not reviewable;
  - (c) The limits set out in paragraph (a) apply to all investors for acquisitions of a Canadian business that:
    - (i) engages in the production of uranium and owns an interest in a producing uranium property in Canada;
    - (ii) provides any financial service;
    - (iii) provides any transportation services; or
    - (iv) is a cultural business.

Notwithstanding the above, any investment which is usually only notifiable, including the establishment of a new Canadian business, and which falls within a specific business activity, including the publication and distribution of books, magazines, newspapers, film or video recordings, audio or video music recordings, or music in print or machine-readable form may be reviewed if an Order-in-Council directing a review is made and a notice is sent to the investor within 21 days following the receipt of a certified complete notification.

Generally speaking, an acquisition is direct if it involves the acquisition of control of the Canadian business or of its direct or indirect Canadian parent and an acquisition is indirect if it involves the acquisition of control of a non-Canadian direct or indirect parent of an entity carrying on the Canadian business. No change of voting control will be deemed to have occurred if less than one-third of the voting control of a Canadian corporation is acquired by an investor.

A WTO investor, as defined in the ICA, includes an individual who is a national of a member country of the WTO or who has the right of permanent residence in relation to that WTO member, a government or government agency

of a WTO investor-controlled corporation, a limited partnership, trust or joint venture that is neither WTO-investor controlled or Canadian controlled of which two-thirds of its board of directors, general partners or trustees, as the case may be, are any combination of Canadians and WTO investors.

The ICA exempts certain transactions from the notification and review provisions of ICA, including, among others, (a) an acquisition of voting shares if the acquisition were made in the ordinary course of that person's business as a trader or dealer in securities; (b) an acquisition of control of the company in connection with the realization of a security interest granted for a loan or other financial assistance and not for any purpose related to the provisions of the ICA; (c) the acquisition of voting interests by any person in the ordinary course of a business carried on by that person that consists of providing, in Canada, venture capital on terms and conditions not inconsistent with such terms and conditions as may be fixed by the Minister; and (d) acquisition of control of the company by reason of an amalgamation, merger, consolidation or corporate reorganization, following which the ultimate direct or indirect control in fact of the company, through the ownership of voting interests, remains unchanged.

#### **E. Taxation**

##### **Certain United States Federal Income Tax Considerations**

The following is a general summary of certain material U.S. federal income tax considerations applicable to a U.S. Holder (as defined below) arising from and relating to the acquisition, ownership, and disposition of common shares of the company.

This summary is for general information purposes only and does not purport to be a complete analysis or listing of all potential U.S. federal income tax considerations that may apply to a U.S. Holder arising from and relating to the acquisition, ownership, and disposition of common shares. In addition, this summary does not take into account the individual facts and circumstances of any particular U.S. Holder that may affect the U.S. federal income tax consequences to such U.S. Holder, including specific tax consequences to a U.S. Holder under an applicable tax treaty. Accordingly, this summary is not intended to be, and should not be construed as, legal or U.S. federal income tax advice with respect to any U.S. Holder. Each U.S. Holder should consult its own tax advisor regarding the U.S. federal, U.S. federal alternative minimum, U.S. federal estate and gift, U.S. state and local, and foreign tax consequences relating to the acquisition, ownership and disposition of common shares.

No legal opinion from U.S. legal counsel or ruling from the Internal Revenue Service (the "IRS") has been requested, or will be obtained, regarding the U.S. federal income tax consequences of the acquisition, ownership, and disposition of common shares. This summary is not binding on the IRS, and the IRS is not precluded from taking a position that is different from, and contrary to, the positions taken in this summary. In addition, because the authorities on which this summary is based are subject to various interpretations, the IRS and the U.S. courts could disagree with one or more of the positions taken in this summary.

##### **Scope of this Summary**

##### **Authorities**

This summary is based on the Internal Revenue Code of 1986, as amended (the "Code"), Treasury Regulations (whether final, temporary, or proposed), published rulings of the IRS, published administrative positions of the IRS, U.S. court decisions, the Convention Between Canada and the United States of America with Respect to Taxes on Income and on Capital, signed September 26, 1980, as amended (the "Canada-U.S. Tax Convention"), and U.S. court decisions that are applicable and, in each case, as in effect and available, as of the date of this document. Any of the authorities on which this summary is based could be changed in a material and adverse manner at any time, and any such change could be applied on a retroactive or prospective basis which could affect the U.S. federal income tax considerations described in this summary. This summary does not discuss the potential effects, whether adverse or beneficial, of any proposed legislation that, if enacted, could be applied on a retroactive or prospective basis.

#### U.S. Holders

For purposes of this summary, the term "U.S. Holder" means a beneficial owner of common shares that is for U.S. federal income tax purposes:

- an individual who is a citizen or resident of the U.S.;
- a corporation (or other entity taxable as a corporation for U.S. federal income tax purposes) organized under the laws of the U.S., any state thereof or the District of Columbia;
- an estate whose income is subject to U.S. federal income taxation regardless of its source; or

a trust that (a) is subject to the primary supervision of a court within the U.S. and the control of one or more U.S. persons for all substantial decisions or (b) has a valid election in effect under applicable Treasury regulations to be treated as a U.S. person.

#### Non-U.S. Holders

For purposes of this summary, a "non-U.S. Holder" is a beneficial owner of common shares that is not a U.S. Holder. This summary does not address the U.S. federal income tax consequences to non-U.S. Holders arising from and relating to the acquisition, ownership, and disposition of common shares. Accordingly, a non-U.S. Holder should consult its own tax advisor regarding the U.S. federal, U.S. federal alternative minimum, U.S. federal estate and gift, U.S. state and local, and foreign tax consequences (including the potential application of and operation of any income tax treaties) relating to the acquisition, ownership, and disposition of common shares.

#### U.S. Holders Subject to Special U.S. Federal Income Tax Rules Not Addressed

This summary does not address the U.S. federal income tax considerations applicable to U.S. Holders that are subject to special provisions under the Code, including the following U.S. Holders: (a) U.S. Holders that are tax-exempt organizations, qualified retirement plans, individual retirement accounts, or other tax-deferred accounts; (b) U.S. Holders that are financial institutions, underwriters, insurance companies, real estate investment trusts, or regulated investment companies; (c) U.S. Holders that are dealers in securities or currencies or U.S. Holders that are traders in securities that elect to apply a mark-to-market accounting method; (d) U.S. Holders that have a "functional currency" other than the U.S. dollar; (e) U.S. Holders that own common shares as part of a straddle, hedging transaction, conversion transaction, constructive sale, or other arrangement involving more than one position; (f) U.S. Holders that acquired common shares in connection with the exercise of employee stock options or otherwise as compensation for services; (g) U.S. Holders that hold common shares other than as a capital asset within the meaning of Section 1221 of the Code (generally, property held for investment purposes); (h) partnerships and other pass-through entities (and investors in such partnerships and entities); or (i) U.S. Holders that own or have owned (directly, indirectly, or by attribution) 10% or more of the total combined voting power of the outstanding shares of the company. This summary also does not address the U.S. federal income tax considerations applicable to U.S. Holders who are: (a) U.S. expatriates or former long-term residents of the U.S.; (b) persons that have been, are, or will be a resident or deemed to be a resident in Canada for purposes of the Income Tax Act (Canada) (the "Tax Act"); (c) persons that use or hold, will use or hold, or that are or will be deemed to use or hold common shares in connection with carrying on a business in Canada; (d) persons whose common shares constitute "taxable Canadian property" under the Income Tax Act (Canada) (the "Tax Act"); or (e) persons that have a permanent establishment in Canada for the purposes of the Canada-U.S. Tax Convention. U.S. Holders that are subject to special provisions under the Code, including U.S. Holders described immediately above, should consult their own tax advisor regarding the U.S. federal, U.S. federal alternative minimum, U.S. federal estate and gift, U.S. state and local, and foreign tax consequences relating to the acquisition, ownership and disposition of common shares.

If an entity that is classified as a partnership (or pass-through entity) for U.S. federal income tax purposes holds common shares, the U.S. federal income tax consequences to such partnership and the partners of such partnership generally will depend on the activities of the partnership and the status of such partners. This summary does not discuss the U.S. federal tax consequences to partners of entities that are classified as partnerships. Partners of entities that are classified as partnerships for U.S. federal income tax purposes should consult their own tax advisor.

sor regarding the U.S. federal income tax consequences arising from and relating to the acquisition, ownership, and disposition of common shares.

#### Tax Consequences Not Addressed

This summary does not address the U.S. federal, U.S. federal alternative minimum, U.S. federal estate and gift, U.S. state and local, and foreign tax consequences to U.S. Holders of the acquisition, ownership, and disposition of common shares. Each U.S. Holder should consult its own tax advisor regarding the U.S. federal, U.S. federal alternative minimum, U.S. federal estate and gift, U.S. state and local, and foreign tax consequences of the acquisition, ownership, and disposition of common shares.

#### **U.S. Federal Income Tax Consequences of the Acquisition, Ownership, and Disposition of Our Common Shares**

The following discussion is subject to the rules described below under the heading “Passive Foreign Investment Company Rules.”

#### Distributions on Common Shares

A U.S. Holder that receives a distribution, including a constructive distribution, with respect to a common share will be required to include the amount of such distribution in gross income as a dividend (without reduction for any Canadian income tax withheld from such distribution) to the extent of the current or accumulated “earnings and profits” of the company, as computed for U.S. federal income tax purposes. A dividend generally will be taxed to a U.S. Holder at ordinary income tax rates. To the extent that a distribution exceeds the current and accumulated “earnings and profits” of the company, such distribution will be treated first as a tax-free return of capital to the extent of a U.S. Holder’s tax basis in the common shares and thereafter as gain from the sale or exchange of such common shares (see “Sale or Other Taxable Disposition of Common Shares” below). However, the company does not intend to maintain the calculations of earnings and profits in accordance with U.S. federal income tax principles, and each U.S. Holder should therefore assume that any distribution by the company with respect to the common shares will constitute ordinary dividend income. Dividends received on common shares generally will not be eligible for the “dividends received deduction.”

For taxable years beginning before January 1, 2013, a dividend paid by the company generally will be taxed at the preferential tax rates applicable to long-term capital gains if (a) the company is a “qualified foreign corporation” (as defined below), (b) the U.S. Holder receiving such dividend is an individual, estate, or trust, and (c) certain holding period requirements are met. The company generally will be a “qualified foreign corporation” under Section 1(h)(11) of the Code (a “QFC”) if (a) the company is eligible for the benefits of the Canada-U.S. Tax Convention, or (b) common shares of the company are readily tradable on an established securities market in the U.S. However, even if the company satisfies one or more of such requirements, the company will not be treated as a QFC if the company is a PFIC for the taxable year during which the company pays a dividend or for the preceding taxable year. (See the section below under the heading “Passive Foreign Investment Company Rules”).

If the company is a QFC, but a U.S. Holder otherwise fails to qualify for the preferential tax rate applicable to dividends discussed above, a dividend paid by the company to a U.S. Holder, including a U.S. Holder that is an individual, estate, or trust, generally will be taxed at ordinary income tax rates (and not at the preferential tax rates applicable to long-term capital gains). The dividend rules are complex, and each U.S. Holder should consult its own tax advisor regarding the dividend rules.

#### Sale or Other Taxable Disposition of Common Shares

A U.S. Holder will recognize gain or loss on the sale or other taxable disposition of common shares in an amount equal to the difference, if any, between (a) the amount of cash plus the fair market value of any property received and (b) such U.S. Holder’s tax basis in such common shares sold or otherwise disposed of. Any such gain or loss generally will be capital gain or loss, which will be long-term capital gain or loss if, at the time of the sale or other disposition, such common shares are held for more than one year.

Gain or loss recognized by a U.S. Holder on the sale or other taxable disposition of common shares generally will be treated as "U.S. source" for purposes of applying the U.S. foreign tax credit rules unless the gain is subject to tax in Canada and is sourced as "foreign source" under the Canada-U.S. Tax Convention and such U.S. Holder elects to treat such gain or loss as "foreign source."

Preferential tax rates apply to long-term capital gains of a U.S. Holder that is an individual, estate, or trust. There are currently no preferential tax rates for long-term capital gains of a U.S. Holder that is a corporation. Deductions for capital losses are subject to significant limitations under the Code.

#### Recent Legislative Developments

Newly enacted legislation requires certain U.S. Holders who are individuals, estates or trusts to pay up to an additional 3.8% tax on, among other things, dividends and capital gains for taxable years beginning after December 31, 2012.

#### Receipt of Foreign Currency

The amount of any distribution paid in foreign currency to a U.S. Holder in connection with the ownership of common shares, or on the sale, exchange or other taxable disposition of common shares, generally will be equal to the U.S. dollar value of such foreign currency based on the exchange rate applicable on the date of receipt (regardless of whether such foreign currency is converted into U.S. dollars at that time). A U.S. Holder that receives foreign currency and converts such foreign currency into U.S. dollars at a conversion rate other than the rate in effect on the date of receipt may have a foreign currency exchange gain or loss, which generally would be treated as U.S. source ordinary income or loss. If the foreign currency received is not converted into U.S. dollars on the date of receipt, a U.S. Holder will have a basis in the foreign currency equal to its U.S. dollar value on the date of receipt. Any U.S. Holder who receives payment in foreign currency and engages in a subsequent conversion or other disposition of the foreign currency may have a foreign currency exchange gain or loss that would be treated as ordinary income or loss, and generally will be U.S. source income or loss for foreign tax credit purposes. Each U.S. Holder should consult its own U.S. tax advisor regarding the U.S. federal income tax consequences of receiving, owning, and disposing of foreign currency.

#### Foreign Tax Credit

A U.S. Holder who pays (whether directly or through withholding) Canadian income tax with respect to dividends paid on common shares generally will be entitled, at the election of such U.S. Holder, to receive either a deduction or a credit for such Canadian income tax paid. Generally, a credit will reduce a U.S. Holder's U.S. federal income tax liability on a dollar-for-dollar basis, whereas a deduction will reduce a U.S. Holder's income subject to U.S. federal income tax. This election is made on a year-by-year basis and applies to all foreign taxes paid (whether directly or through withholding) by a U.S. Holder during a year.

Complex limitations apply to the foreign tax credit, including the general limitation that the credit cannot exceed the proportionate share of a U.S. Holder's U.S. federal income tax liability that such U.S. Holder's "foreign source" taxable income bears to such U.S. Holder's worldwide taxable income. In applying this limitation, a U.S. Holder's various items of income and deduction must be classified, under complex rules, as either "foreign source" or "U.S. source". Generally, dividends paid by a foreign corporation should be treated as foreign source for this purpose, and gains recognized on the sale of stock of a foreign corporation by a U.S. Holder should be treated as U.S. source for this purpose, except as otherwise provided in an applicable income tax treaty, and if an election is properly made under the Code. However, the amount of a distribution with respect to the common shares that is treated as a "dividend" may be lower for U.S. federal income tax purposes than it is for Canadian federal income tax purposes, resulting in a reduced foreign tax credit allowance to a U.S. Holder. In addition, this limitation is calculated separately with respect to specific categories of income. Dividends paid by the company generally will constitute "foreign source" income and generally will be categorized as "passive income."

The foreign tax credit rules are complex, and each U.S. Holder should consult its own tax advisor regarding the foreign tax credit rules.

#### Information Reporting: Backup Withholding Tax for Certain Payments

Under U.S. federal income tax law and regulations, certain categories of U.S. Holders must file information returns with respect to their investment in, or involvement in, a foreign corporation. For example, recently enacted legislation generally imposes new U.S. return disclosure obligations (and related penalties) on U.S. Holders that hold certain specified foreign financial assets in excess of \$50,000. The definition of specified foreign financial assets includes not only financial accounts maintained in foreign financial institutions, but also, unless held in accounts maintained by a financial institution, any stock or security issued by a non-U.S. person, any financial instrument or contract held for investment that has an issuer or counterparty other than a U.S. person and any interest in a foreign entity. U.S. Holders may be subject to these reporting requirements unless their common shares are held in an account at a domestic financial institution. Penalties for failure to file certain of these information returns are substantial. U.S. Holders of common shares should consult with their own tax advisors regarding the requirements of filing information returns.

Payments made within the U.S., or by a U.S. payor or U.S. middleman, of dividends on, and proceeds arising from the sale or other taxable disposition of, common shares generally will be subject to information reporting and backup withholding tax, at the rate of 28% (and increasing to 31% for payments made after December 31, 2012), if a U.S. Holder (a) fails to furnish such U.S. Holder's correct U.S. taxpayer identification number (generally on Form W-9), (b) furnishes an incorrect U.S. taxpayer identification number, (c) is notified by the IRS that such U.S. Holder has previously failed to properly report items subject to backup withholding tax, or (d) fails to certify, under penalty of perjury, that such U.S. Holder has furnished its correct U.S. taxpayer identification number and that the IRS has not notified such U.S. Holder that it is subject to backup withholding tax. However, certain exempt persons, such as corporations, generally are excluded from these information reporting and backup withholding tax rules. Any amounts withheld under the U.S. backup withholding tax rules will be allowed as a credit against a U.S. Holder's U.S. federal income tax liability, if any, or will be refunded, if such U.S. Holder furnishes required information to the IRS in a timely manner. Each U.S. Holder should consult its own tax advisor regarding the information reporting and backup withholding rules.

#### Passive Foreign Investment Company Rules

If the company were to constitute a PFIC (as defined below) for any year during a U.S. Holder's holding period, then certain different and potentially adverse rules will effect the U.S. federal income tax consequences to a U.S. Holder resulting from the acquisition, ownership and disposition of common shares. In addition, in any year in which the company is classified as a PFIC, such holder would be required to file an annual report with the IRS containing such information as Treasury Regulations and/or other IRS guidelines may require.

The company generally will be a PFIC under Section 1297 of the Code if, for a tax year, (a) 75% or more of the gross income of the company for such tax year is passive income (the "income test") or (b) 50% or more of the value of the assets held by the company either produce passive income or are held for the production of passive income, based on quarterly average of the fair market value of such assets (the "asset test"). "Gross income" generally means all revenues less the cost of goods sold, and "passive income" includes, for example, dividends, interest, certain rents and royalties, certain gains from the sale of stock and securities, and certain gains from commodities transactions. Active business gains arising from the sale of commodities generally are excluded from passive income if substantially all of a foreign corporation's commodities are (a) stock in trade of such foreign corporation or other property of a kind which would properly be included in inventory of such foreign corporation, or property held by such foreign corporation primarily for sale to customers in the ordinary course of business, (b) property used in the trade or business of such foreign corporation that would be subject to the allowance for depreciation under Section 167 of the Code, or (c) supplies of a type regularly used or consumed by such foreign corporation in the ordinary course of its trade or business.

In addition, for purposes of the PFIC income test and asset test described above, if the company owns, directly or indirectly, 25% or more of the total value of the outstanding shares of another corporation, the company will be treated as if it (a) held a proportionate share of the assets of such other corporation and (b) received directly a proportionate share of the income of such other corporation. In addition, for purposes of the PFIC income test and

asset test described above, “passive income” does not include any interest, dividends, rents, or royalties that are received or accrued by the company from a “related person” (as defined in Section 954(d)(3) of the Code), to the extent such items are properly allocable to the income of such related person that is not passive income.

Under certain attribution rules, if the company is a PFIC, U.S. Holders will be deemed to own their proportionate share of any subsidiary of the company which is also a PFIC (a “Subsidiary PFIC”), and will be subject to U.S. federal income tax on (i) a distribution on the shares of a Subsidiary PFIC or (ii) a disposition of shares of a Subsidiary PFIC, both as if the holder directly held the shares of such Subsidiary PFIC.

The company does not believe that it was a PFIC during the tax year ending December 31, 2010, and based on current business plans and financial expectations, the company does not believe that it will be a PFIC for the tax year ending December 31, 2011. The determination of whether any corporation was, or will be, a PFIC for a tax year depends, in part, on the application of complex U.S. federal income tax rules, which are subject to differing interpretations. In addition, whether any corporation will be a PFIC for any tax year depends on the assets and income of such corporation over the course of each such tax year and, as a result, cannot be predicted with certainty as of the date of this document. Accordingly, there can be no assurance that the IRS will not challenge any determination made by the company (or a Subsidiary PFIC) concerning its PFIC status or that the company (and each Subsidiary PFIC) was not, or will not be, a PFIC for any tax year. Each U.S. Holder should consult its own tax advisor regarding the PFIC status of the company and each Subsidiary PFIC.

If the company were a PFIC in any tax year and a U.S. Holder held common shares, such holder generally would be subject to special rules with respect to “excess distributions” made by the company on the common shares and with respect to gain from the disposition of common shares. An “excess distribution” generally is defined as the excess of distributions with respect to the common shares received by a U.S. Holder in any tax year over 125% of the average annual distributions such U.S. Holder has received from the company during the shorter of the three preceding tax years, or such U.S. Holder’s holding period for the common shares. Generally, a U.S. Holder would be required to allocate any excess distribution or gain from the disposition of the common shares ratably over its holding period for the common shares. Such amounts allocated to the year of the disposition or excess distribution would be taxed as ordinary income, and amounts allocated to prior tax years would be taxed as ordinary income at the highest tax rate in effect for each such year and an interest charge at a rate applicable to underpayments of tax would apply.

While there are U.S. federal income tax elections that sometimes can be made to mitigate these adverse tax consequences (including, without limitation, the “QEF Election” and the “Mark-to-Market Election”), such elections are available in limited circumstances and must be made in a timely manner. U.S. Holders should be aware that, for each tax year, if any, that the company is a PFIC, the company can provide no assurances that it will satisfy the record keeping requirements of a PFIC, or that it will make available to U.S. Holders the information such U.S. Holders require to make a QEF Election under Section 1295 of the Code with respect to the company or any Subsidiary PFIC. U.S. Holders are urged to consult their own tax advisers regarding the potential application of the PFIC rules to the ownership and disposition of common shares, and the availability of certain U.S. tax elections under the PFIC rules.

**F. Dividends and paying agents**

Not applicable – The company is filing this Form 20-F as an annual report.

**G. Statement by experts**

Not applicable – The company is filing this form 20-F as an annual report.

**H. Documents on display**

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We will furnish our shareholders with annual reports, which will include a review of operations and annual audited consolidated financial statements prepared in conformity with U.S. GAAP. We intend, although we are not obligated to do so, to furnish when requested by our shareholders quarterly reports by mail with the assistance of a corporate services provider, which will include unaudited interim financial information prepared in conformity with U.S. GAAP for each of the three quarters of each fiscal year following the end of each such quarter. We may discontinue providing quarterly reports at any time without prior notice to our shareholders. For additional information on the company, please consult our web page [www.nxtenergy.com](http://www.nxtenergy.com), or the SEDAR webpage <http://sedar.com>.

Our reports and other information, including this annual report and the exhibits hereto, as filed with the SEC in accordance with the Exchange Act, may be inspected and copied at the public reference facilities maintained by the SEC at 100 F Street, Washington, D.C. 20549. In addition, copies of such reports and other information filed with the SEC can be obtained from [www.sec.gov](http://www.sec.gov).

**ITEM 11. QUANTITATIVE AND QUALITATIVE DISCLOSURES ABOUT MARKET RISK**

**Currency Fluctuations**

We currently hold our cash largely in Canadian currency, yet we may earn revenue in U.S. currency and hold certain monetary assets and liabilities in foreign currencies. Any transaction in a currency other than the Canadian dollar exposes us to the impact of exchange rate fluctuations between the Canadian and the foreign currencies. We do not engage in activities to mitigate the effects of foreign currency fluctuation.

At December 31, 2010 we had cash and restricted cash held in U.S. dollars in the amount of \$410,922. Accordingly, a hypothetical 10% change in the value of one U.S. dollar expressed in Canadian dollars during the year ended December 31, 2010 would have had a \$41,092 effect on foreign exchange gain or loss.

**Interest Fluctuations**

At December 31, 2010 we held \$1,472,090 in cash, cash equivalents, short term investments and restricted cash. If all this cash was held in an interest bearing account, an actual 1% change in interest rates during the year ended December 31, 2010 would have resulted in approximately a \$14,721 change in interest income for the year.

**ITEM 12. DESCRIPTION OF SECURITIES OTHER THAN EQUITY SECURITIES**

Not applicable – The company is filing this Form 20-F as an annual report and does not have any American Depository Receipts outstanding.

**PART II**

**ITEM 13. DEFAULTS, DIVIDEND ARREARAGES AND DELINQUENCIES**

There have not been any defaults, dividend arrears or delinquencies.

**ITEM 14. MATERIAL MODIFICATIONS TO THE RIGHTS OF SECURITY HOLDERS AND USE OF PROCEEDS**

There have been no material modifications to the rights of security holders except as outlined in Item 4.B “Key Contract on Which We Rely” within this Form 20-F.

**ITEM 15. CONTROLS AND PROCEDURES**

We maintain a set of disclosure controls and procedures designed to ensure that information required to be disclosed by the company in reports that it files or submits under the Exchange Act, is recorded, processed, summa-

rized and reported within the time periods specified in SEC rules and forms. Disclosure controls and procedures include controls and procedures designed to ensure that information required to be disclosed in our reports is accumulated and communicated to management, to allow timely decisions regarding required disclosure.

The company's Chief Executive Officer and Chief Financial Officer (the "Responsible Officers") are responsible for establishing and maintaining disclosure controls and procedures, or causing them to be designed under their supervision, for the company to provide reasonable assurance that material information relating to the company is made known to the Responsible Officers by others within the organization, particularly during the period in which the company's quarterly and year-end financial statements, Form 20-F and Canadian MD&A are being prepared.

As of December 31, 2010 we carried out an evaluation, under the supervision and with the participation of our management, including our Responsible Officers, of the effectiveness of the design and operation of our disclosure controls and procedures as defined in the Exchange Act Rule 13a-15(e).

Our management, under the supervision of the Responsible Officers, is also responsible for establishing and maintaining adequate internal control over financial reporting as defined in Rule 13a-15(f) of the Exchange Act. Our internal control system was designed to provide reasonable assurance regarding the reliability of financial reporting and the preparation and fair presentation of our consolidated financial statements for external purposes in accordance with generally accepted accounting principles. Our Responsible Officers assessed the effectiveness of our internal control over financial reporting as of December 31, 2010. In making this assessment, they used the criteria established in *Internal Control—Integrated Framework issued by the Committee of Sponsoring Organizations of the Treadway Commission (COSO)*.

Our internal controls over financial reporting were not required to be independently audited. Accordingly, no independent audit was performed over the effectiveness of internal controls as at December 31, 2010 and this annual report does not include an attestation report of the company's registered public accounting firm regarding internal control over financial reporting. Management's report was not subject to attestation by the company's registered public accounting firm pursuant to rules of the SEC that permit the company to provide only management's report in this annual report.

During this process, we identified the following three weaknesses:

- Due to the limited number of staff at the company's Calgary head office, it is not feasible to achieve adequate segregation of incompatible duties. The company mitigated this deficiency by adding management and audit committee review procedures over the areas where inadequate segregation of duties are of the greatest concern;
- The company does not retain staff with the specialized expertise required to prepare, nor does the company employ sufficient staff to adequately review, some complex or highly judgmental accounting issues. These complex areas include income tax accounting, financial reporting and other complex accounting matters. The company mitigates this deficiency by preparing financial statements with their best judgments and estimates of the complex accounting matters and relies on reviews by management, external consultants and the audit committee for quality assurance; and
- During the year ended December 31, 2010 there was a change in the company's internal controls following the formation of a Colombian branch office that processes regional financial transactions. The branch is staffed solely by one senior administrative manager. The company mitigated this deficiency by adding administrative and management procedures in the Calgary head office.

As described above, there has been a change in the company's internal control over financial reporting identified in connection with the evaluation required by Exchange Act Rule 13a-15(d) that occurred during the period covered by this annual report that has materially affected, or is reasonably likely to materially affect, the company's internal control over financial reporting.

Based upon this review the Chief Executive Officer and the Chief Financial Officer have concluded that the company has a material internal control weakness over financial reporting and as a result its disclosure controls and procedures are not effective as at December 31, 2010. The company reached this conclusion based upon their assessment that there is more than a remote likelihood that its internal control over financial reporting will not prevent or detect material misstatements if they should exist in our financial statements.

**ITEM 16A. AUDIT COMMITTEE FINANCIAL EXPERT**

Our board of directors has determined that we have at least one audit committee financial expert (as defined under Item 16.A of Form 20-F) serving on our Audit Committee. Our Audit Committee financial expert is Brian Kohlhammer, a Chartered Accountant and the CFO of a TSX listed company. Mr. Kohlhammer is an “independent” director, as that term is defined under the listing standards of NASDAQ.

**ITEM 16B. CODE OF ETHICS**

We have adopted a Code of Ethics that applies to all of our directors, officers and employees. This Code of Ethics is incorporated in our Employee Handbook which forms an integral part of the employee contract. The Handbook contains sections on Business Ethics, Employee Practices and Conflicts of Interest.

During 2010 the company did not amend its Code of Ethics or grant any waiver, including any implicit waiver, from any provision of the Code of Ethics to any directors, officers or employees. Copies of NXT’s Code of Ethics are available without charge to any person upon request from NXT’s Chief Financial Officer at [nxt\\_info@nxtenergy.com](mailto:nxt_info@nxtenergy.com) or at NXT’s headquarters at Suite 1400, 505 – 3<sup>rd</sup> Street SW, Calgary Alberta, T2P 3E6, Canada.

**ITEM 16C. PRINCIPAL ACCOUNTANT FEES AND SERVICES**

The following table sets forth the aggregate audit fees, audit-related fees, tax fees of our principal accountants and all other fees billed for products and services provided by our principal accountants for each of the fiscal years ended December 31, 2010 and 2009.

	Year ended December 31,	
	<u>2010</u>	<u>2009</u>
Audit fees	\$124,950	\$114,284
Audit fees; Colombian branch	41,663	-
Audit-related fees (20-F review)	10,200	20,320
	<u>176,813</u>	134,604
Tax fees	-	-
All other fees (S-8 registration review / TSX-V listing review)	7,500	1,778
Total fees	<u>\$184,313</u>	<u>\$136,382</u>

**Audit Committee’s Pre-approval Policies and Procedures**

Our Audit Committee nominates and engages our independent auditors to audit our financial statements. Our Audit Committee also requires management to obtain the Audit Committee’s approval on a case-by-case basis before engaging our independent auditors to provide any audit or permitted non-audit services to us or our subsidiaries. All fees shown have been pre-approved by the Audit Committee.

**ITEM 16D. EXEMPTIONS FROM THE LISTING STANDARDS FOR AUDIT COMMITTEES**

Not applicable.

**ITEM 16E. PURCHASES OF EQUITY SECURITIES BY THE ISSUER AND AFFILIATED PURCHASERS**

The company did not directly or through an affiliate purchaser, purchase shares or other units of any class of the issuer's equity securities that is registered by the issuer pursuant to section 12 of the Exchange Act (15 U.S.C. 781).

**ITEM 16F. CHANGE IN REGISTRANT'S CERTIFYING ACCOUNTANT**

Not applicable.

**ITEM 16G. CORPORATE GOVERNANCE**

Not applicable.

**PART III**

**ITEM 17. FINANCIAL STATEMENTS**

The company's consolidated financial statements and related notes are prepared in accordance with U.S. generally accepted accounting principles and included in Item 8 to this annual report.

**ITEM 18. FINANCIAL STATEMENTS**

Not applicable as the company has filed its consolidated financial statements and related notes in accordance with U.S. generally accepted accounting principles.

ITEM 19. EXHIBITS

EXHIBIT INDEX

<u>Exhibit No.</u>	<u>Description</u>
1.1 <sup>(1)</sup>	Articles of Incorporation of Auric Mining Corporation as filed with the Nevada Secretary of State on September 27, 1994
1.2 <sup>(1)</sup>	Amendment to Articles of Incorporation of Auric Mining Corporation as filed with the Nevada Secretary of State on February 23, 1996
1.3 <sup>(1)</sup>	Certificate of Amendment to Articles of Incorporation of Pinnacle Oil International, Inc. as filed with the Nevada Secretary of State on April 1, 1998
1.4 <sup>(3)</sup>	Certificate of Amendment to Articles of Incorporation of Pinnacle Oil International, Inc. as filed with the Nevada Secretary of State on June 13, 2000
1.5 <sup>(1)</sup>	Amended By-laws for Energy Exploration Technologies
1.6 <sup>(4)</sup>	Amended By-laws of Energy Exploration Technologies, - Amended September 20, 2002
1.8 <sup>(11)</sup>	Articles of Amendment of Energy Exploration Technologies Inc as filed with the province of Alberta, Canada on September 22, 2008
2.1 <sup>(1)</sup>	Pinnacle Oil International, Inc. specimen common stock certificate
2.3 <sup>(3)</sup>	Energy Exploration Technologies specimen common stock certificate
2.5 <sup>(1)</sup>	1997 Pinnacle Oil International, Inc. Stock Plan
2.5.1 <sup>(2)</sup>	Amendment No. 1 to 1997 Pinnacle Oil International, Inc. Stock Plan
2.6 <sup>(2)</sup>	Form of Stock Option Certificate for grants to employees under the 1997 Pinnacle Oil International, Inc. Stock Plan
2.8 <sup>(2)</sup>	1999 Pinnacle Oil International, Inc. Executive Stock Option Plan
2.9 <sup>(2)</sup>	Form of Stock Option Certificate for grants under the 1999 Pinnacle Oil International, Inc. Executive Stock Option Plan
2.10 <sup>(8)</sup>	2000 Pinnacle Oil International, Inc. Directors' Stock Plan
2.11 <sup>(8)</sup>	Form of Stock Option Certificate for grants to directors under the 2000 Pinnacle Oil International, Inc. Directors' Stock Plan
2.13 <sup>(6)</sup>	2004 Stock Award and Stock Option Plan
2.14 <sup>(9)</sup>	2006 Stock Option Plan
2.15 <sup>(7)</sup>	Schedule of Series Provisions, Preferred Shares, Series I
2.16 <sup>(12)</sup>	2006 Stock Option Plan, Revision 1
2.17 <sup>(12)</sup>	NXT Energy Solutions Inc. specimen common stock certificate
4.19 <sup>(1)</sup>	Form of Indemnification Agreement between Pinnacle Oil International, Inc. and each Director and Executive Officer
4.36 <sup>(7)</sup>	Second Amended and Restated Technical Services Agreement dated December 31, 2006
4.37 <sup>(7)</sup>	SFD® Technology Ownership Agreement dated December 31, 2006
4.39 <sup>(7)</sup>	Technology Transfer Agreement dated December 31, 2006
4.40 <sup>(11)</sup>	Air Partners Corporation contract dated May 8, 2009
4.41 <sup>(11)</sup>	Pacific Stratus Energy contract dated April 14, 2009
4.42 <sup>(12)</sup>	Form of Indemnity Agreement between NXT Energy Solutions Inc. and Directors and Officers
4.43	Air Partners Corporation contract dated January 11, 2011
4.44	Equicom Agreement dated effective May 26, 2011
8.1 <sup>(10)</sup>	List of Subsidiaries
11.1 <sup>(5)</sup>	Code of Business Code and Ethics
12.1	Rule 13a-14(a)/15d-14(a) Certification of Chief Executive Officer and President
12.2	Rule 13a-14(a)/15d-14(a) Certification of VP Finance and Chief Financial Officer
13.1	Section 1350 Certification of Chief Executive Officer and President
13.2	Section 1350 Certification of VP Finance and Chief Financial Officer
15.2	Consent of KPMG LLP

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- <sup>1</sup> Previously filed by our company as an Exhibit to our Registration Statement on Form 10 filed on June 29, 1998 (U.S. Securities and Exchange Commission File No. 0-24027).
- <sup>2</sup> Previously filed by our company as an Exhibit to our Registration Statement on Form S-8 (U.S. Securities and Exchange Commission File No. 333-89251) as filed on October 18, 1999.
- <sup>3</sup> Previously filed by our company as an Exhibit to our Amendment No. 1 to our Annual Report on Form 10-K for our year ended December 31, 1999 as filed on July 28, 2000.
- <sup>4</sup> Previously filed by our company as an Exhibit to our Annual Report on Form 10-K for the year ended December 31, 2002, as filed on March 31, 2003.
- <sup>5</sup> Previously filed by our company as an Exhibit to our Annual Report on Form 10-K for the year ended December 31, 2003 as filed on April 14, 2004.
- <sup>6</sup> Previously filed by our company as an Exhibit to our Quarterly Report on Form 10-Q for the quarter ended March 31, 2005 as filed on May 23, 2005.
- <sup>7</sup> Previously filed as an Exhibit to Form 6-K as filed on January 12, 2007.
- <sup>8</sup> Previously filed as an Exhibit to Form 10-K for the year ended December 31, 2000 as filed on April 2, 2001.
- <sup>9</sup> Previously filed as Schedule "A" to the Information Circular as at August 28, 2006 furnished on Form 6-K on August 31, 2007.
- <sup>10</sup> See Item 4.C – Organizational Structure.
- <sup>11</sup> Previously filed as by our company as an Exhibit to our Form 20-F for our year ended December 31, 2008 as filed on June 29, 2009.
- <sup>12</sup> Previously filed as by our company as an Exhibit to our Form 20-F for our year ended December 31, 2009 as filed on June 29, 2010.

The registrant hereby certifies that it meets all of the requirements for filing on Form 20-F and that it has duly caused and authorized the undersigned to sign this annual report on its behalf.

NXT Energy Solutions Inc.

By: /s/ George Liszicasz  
George Liszicasz  
Director, Chairman, Chief Executive Officer and President

Dated: June 27, 2011

CERTIFICATION

I, George Liszicasz, certify that:

1. I have reviewed this annual report on Form 20-F of NXT Energy Solutions Inc.;
2. Based on my knowledge, this report does not contain any untrue statement of a material fact or omit to state a material fact necessary to make the statements made, in light of the circumstances under which such statements were made, not misleading with respect to the period covered by this report;
3. Based on my knowledge, the financial statements, and other financial information included in this report, fairly present in all material respects the financial condition, results of operations and cash flows of the company as of, and for, the periods presented in this report;
4. The company's other certifying officer and I are responsible for establishing and maintaining disclosure controls and procedures (as defined in Exchange Act Rules 13a-15(e) and 15d-15(e)) and internal control over financial reporting (as defined in Exchange Act Rules 13a-15(f) and 15d-15(f)) for the company and have:
  - (a) Designed such disclosure controls and procedures, or caused such disclosure controls and procedures to be designed under our supervision, to ensure that material information relating to the company, including its consolidated subsidiaries, is made known to us by others within those entities, particularly during the period in which this report is being prepared;
  - (b) Designed such internal control over financial reporting, or caused such internal control over financial reporting to be designed under our supervision, to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles;
  - (c) Evaluated the effectiveness of the company's disclosure controls and procedures and presented in this report our conclusions about the effectiveness of the disclosure controls and procedures, as of the end of the period covered by this report based on such evaluation; and
  - (d) Disclosed in this report any change in the company's internal control over financial reporting that occurred during the period covered by the annual report that has materially affected, or is reasonably likely to materially affect, the company's internal control over financial reporting; and
5. The company's other certifying officer and I have disclosed, based on our most recent evaluation of internal control over financial reporting, to the company's auditors and the audit committee of the company's board of directors (or persons performing the equivalent functions):
  - (a) All significant deficiencies and material weaknesses in the design or operation of internal control over financial reporting which are reasonably likely to adversely affect the company's ability to record, process, summarize and report financial information; and
  - (b) Any fraud, whether or not material, that involves management or other employees who have a significant role in the company's internal control over financial reporting.

Dated: June 27, 2011

/s/ George Liszicasz  
George Liszicasz,  
Chief Executive Officer and President

CERTIFICATION

I, Ken Rogers, certify that:

1. I have reviewed this annual report on Form 20-F of NXT Energy Solutions Inc.;
2. Based on my knowledge, this report does not contain any untrue statement of a material fact or omit to state a material fact necessary to make the statements made, in light of the circumstances under which such statements were made, not misleading with respect to the period covered by this report;
3. Based on my knowledge, the financial statements, and other financial information included in this report, fairly present in all material respects the financial condition, results of operations and cash flows of the company as of, and for, the periods presented in this report;
4. The company's other certifying officer and I are responsible for establishing and maintaining disclosure controls and procedures (as defined in Exchange Act Rules 13a-15(e) and 15d-15(e)) and internal control over financial reporting (as defined in Exchange Act Rules 13a-15(f) and 15d-15(f)) for the company and have:
  - (a) Designed such disclosure controls and procedures, or caused such disclosure controls and procedures to be designed under our supervision, to ensure that material information relating to the company, including its consolidated subsidiaries, is made known to us by others within those entities, particularly during the period in which this report is being prepared;
  - (b) Designed such internal control over financial reporting, or caused such internal control over financial reporting to be designed under our supervision, to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles;
  - (c) Evaluated the effectiveness of the company's disclosure controls and procedures and presented in this report our conclusions about the effectiveness of the disclosure controls and procedures, as of the end of the period covered by this report based on such evaluation; and
  - (d) Disclosed in this report any change in the company's internal control over financial reporting that occurred during the period covered by the annual report that has materially affected, or is reasonably likely to materially affect, the company's internal control over financial reporting; and
5. The company's other certifying officer and I have disclosed, based on our most recent evaluation of internal control over financial reporting, to the company's auditors and the audit committee of the company's board of directors (or persons performing the equivalent functions):
  - (a) All significant deficiencies and material weaknesses in the design or operation of internal control over financial reporting which are reasonably likely to adversely affect the company's ability to record, process, summarize and report financial information; and
  - (b) Any fraud, whether or not material, that involves management or other employees who have a significant role in the company's internal control over financial reporting.

Dated: June 27, 2011

/s/ Ken Rogers  
Ken Rogers,  
VP Finance and Chief Financial Officer

**Exhibit 13.1**

Certification

Pursuant to 18 U.S.C. Section 1350, as adopted pursuant to  
Section 906 of the Sarbanes-Oxley Act of 2002

Pursuant to Section 906 of the Sarbanes-Oxley Act of 2002 (Chapter 63, Title 18 U.S.C. §§ 1350(a) and (b)), the undersigned hereby certifies in his capacity as an officer of NXT Energy Solutions Inc. (the "company") that the Annual Report of the company on Form 20-F for the year ended December 31, 2010 fully complies with the requirements of Section 13(a) or 15(d) of the Securities Exchange Act of 1934, as amended, and that the information contained in such Report fairly presents, in all material respects, the financial condition and results of operations of the company at the end of and for the periods covered by such Report.

Dated: June 27, 2011

/s/ George Liszicasz  
George Liszicasz,  
Chief Executive Officer and President

The foregoing certification is being furnished solely pursuant to Section 906 of the Sarbanes-Oxley Act of 2002 (Chapter 63, Title 18 U.S.C. §§ 1350(a) and (b)), is not a part of the Form 20-F to which it refers and is, to the extent permitted by law, provided by the above signatory to the extent of his knowledge.

**A SIGNED ORIGINAL OF THIS WRITTEN STATEMENT REQUIRED BY SECTION 906 HAS BEEN PROVIDED TO NXT ENERGY SOLUTIONS INC. AND WILL BE RETAINED BY NXT ENERGY SOLUTIONS INC. AND FURNISHED TO THE SECURITIES AND EXCHANGE COMMISSION OR ITS STAFF UPON REQUEST.**

**Exhibit 13.2**

Certification  
Pursuant to 18 U.S.C. Section 1350, as adopted pursuant to  
Section 906 of the Sarbanes-Oxley Act of 2002

Pursuant to Section 906 of the Sarbanes-Oxley Act of 2002 (Chapter 63, Title 18 U.S.C. §§ 1350(a) and (b)), the undersigned hereby certifies in his capacity as an officer of NXT Energy Solutions Inc. (the "company") that the Annual Report of the company on Form 20-F for the year ended December 31, 2010 fully complies with the requirements of Section 13(a) or 15(d) of the Securities Exchange Act of 1934, as amended, and that the information contained in such Report fairly presents, in all material respects, the financial condition and results of operations of the company at the end of and for the periods covered by such Report.

Dated: June 27, 2011

/s/ Ken Rogers  
Ken Rogers,  
VP Finance and Chief Financial Officer

The foregoing certification is being furnished solely pursuant to Section 906 of the Sarbanes-Oxley Act of 2002 (Chapter 63, Title 18 U.S.C. §§ 1350(a) and (b)), is not a part of the Form 20-F to which it refers and is, to the extent permitted by law, provided by the above signatory to the extent of his knowledge.

**A SIGNED ORIGINAL OF THIS WRITTEN STATEMENT REQUIRED BY SECTION 906 HAS BEEN PROVIDED TO NXT ENERGY SOLUTIONS INC. AND WILL BE RETAINED BY NXT ENERGY SOLUTIONS INC. AND FURNISHED TO THE SECURITIES AND EXCHANGE COMMISSION OR ITS STAFF UPON REQUEST.**

**Exhibit 15.2**

**CONSENT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM**

The Board of Directors  
NXT Energy Solutions Inc.

We consent to the incorporation by reference in the registration statements (No. 333-89251, 333-108465, 333-129803 and 333-146890) on Form S-8 of NXT Energy Solutions Inc. of our report dated April 29, 2011, with respect to the consolidated balance sheets of NXT Energy Solutions Inc. as of December 31, 2010 and 2009 and the related consolidated statements of loss and comprehensive loss, shareholders' equity and cash flows for each of the years in the three-year period ended December 31, 2010, which report appears in the December 31, 2010 annual report on Form 20-F of NXT Energy Solutions Inc.

Our report dated April 29, 2011 contains an explanatory paragraph that states NXT Energy Solutions Inc. is affected by conditions and events which raise substantial doubt about its ability to continue as a going concern. The consolidated financial statements do not include any adjustments that might result from the outcome of that uncertainty.

/s/ KPMG LLP

Calgary, Canada  
June 27, 2011