

For the period ending
October 31, 2007

Annual
information
form



Science advancing health

MDS INC.
ANNUAL INFORMATION FORM
FOR THE YEAR ENDED OCTOBER 31, 2007

January 25, 2008
Toronto, Canada

MDS INC.
ANNUAL INFORMATION FORM

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The following are registered trademarks of MDS Inc. or its subsidiaries:

MDS; Nordion; Sciex; ELAN®; API 5000™; API 4000™; API 3200™; API 2000™; QSTAR® Elite; QSTAR® XL Hybrid; 4000 Q TRAP®; 3200 Q TRAP®; 4800 MALDI TOF/TOF™; GenePix®; MetaMorph®; SpectraMax®; FlexStation®; FLIPR®.

The following are registered trademarks belonging to the companies indicated:

ZEVALIN® Molecular Insight Pharmaceuticals, Inc.
BEXXAR® GlaxoSmithKline

MDS INC.
ANNUAL INFORMATION FORM

INTERPRETATION

In this Annual Information Form (“AIF”), “we”, “us”, “our”, “MDS”, and “the Company” are used to refer to MDS Inc., its subsidiaries and joint ventures. In this AIF, all references to specific years are references to the fiscal year ended October 31. All references to “\$” or “dollars” are references to US dollars, unless otherwise specified.

Certain terms and abbreviations used in this AIF are defined in Appendix II - Definitions.

ITEMS AFFECTING THE COMPARABILITY OF FINANCIAL INFORMATION OF PRIOR YEARS

All financial references in this document exclude our discontinued generic radiopharmaceuticals operations, our U.S. and Canadian laboratory operations, certain early-stage pharmaceutical research services operations, and our interests in Source Medical Corporation (Source) unless otherwise indicated. All financial references for the prior years have been restated to reflect this treatment.

MDS historically prepared its consolidated financial statements in accordance with Canadian GAAP and provided reconciliation to US GAAP. The Company has now adopted US GAAP effective with the reporting of its fiscal 2007 annual results as its primary reporting standard for its consolidated financial statements. MDS has adopted US GAAP to improve the comparability of its financial information with that of its competitors, the majority of whom are US-based multinational companies. All figures for prior years have been revised to reflect the adoption of US GAAP as our reporting standard. All financial statements and Management’s Discussion and Analysis (MD&A) previously filed by the Company including those filed for interim reporting purposes during 2007, were prepared under Canadian GAAP.

DOCUMENTS INCORPORATED BY REFERENCE

The following sections of the MDS 2007 Annual Report Financial Review (2007 Financial Review) are incorporated by reference into this AIF:

1. The audited consolidated financial statements of MDS Inc. for the years ended October 31, 2007, October 31, 2006 and October 31, 2005, reported on by Ernst & Young LLP, Chartered Accountants (2007 Financial Statements) on pages 30 to 37 of the 2007 Financial Review; and
2. Management’s Discussion and Analysis of financial condition and results of operations of MDS Inc. for the fiscal year ended October 31, 2007 (2007 MD&A) contained on pages 1 to 29 of the 2007 Financial Review.
3. Management’s Proxy Circular dated January 7, 2008 with respect to the March 6, 2008 Annual Shareholders meeting.

CAUTION REGARDING FORWARD-LOOKING INFORMATION

From time to time, we make written or oral forward-looking statements within the meaning of certain securities laws, including the Securities Act (Ontario) and the “safe harbour” provisions of the United States Private Securities Litigation Reform Act of 1995. This document contains such statements, and we may make such statements in other filings with Canadian regulators or the United States Securities and Exchange Commission (SEC), in reports to shareholders or in other communications, including public presentations. These forward-looking statements include, among others, statements with respect to our objectives for 2008, our medium-term goals, and strategies to achieve those objectives and goals, as well as statements with respect to our beliefs, plans, objectives, expectations, anticipations, estimates and intentions. The words “may”, “could”, “should”, “would”, “suspect”, “outlook”, “believe”, “plan”, “anticipate”, “estimate”, “expect”, “intend”, “forecast”, “objective”, “optimistic”, and words and expressions of similar import are intended to identify forward-looking statements.

By their very nature, forward-looking statements involve inherent risks and uncertainties, both general and specific, which give rise to the possibility that predictions, forecasts, projections and other forward-looking statements will not be achieved. We caution readers not to place undue reliance on these statements as a number of important factors could cause our actual results to differ materially from the beliefs, plans, objectives, expectations, anticipations, estimates and intentions expressed in such forward-looking statements. These factors include, but are not limited to: management of operational risks; the strength of the Canadian and United States’ economies and the economies of other countries in which we conduct business; our ability to secure a reliable supply of raw materials, particularly cobalt and critical medical isotopes; the impact of the movement of the US dollar relative to other currencies, particularly the Canadian dollar and the euro; changes in interest rate policies of the Bank of Canada and the Board of Governors of the Federal Reserve System in the United States; the effects of competition in the markets in which we operate; the timing and technological advancement of new products introduced by us or by our competitors; the impact of changes in laws, trade policies and regulations, and enforcement thereof; judicial judgments and legal proceedings; our ability to successfully realign our organization, resources and processes; our ability to complete strategic acquisitions and joint ventures and to integrate our acquisitions and joint ventures successfully; new accounting policies and guidelines that impact the methods we use to report our financial condition; uncertainties associated with critical accounting assumptions and estimates; the possible impact on our businesses from natural disasters, public health emergencies, international conflicts and other developments including those relating to terrorism; and our success in anticipating and managing the foregoing risks.

We caution that the foregoing list of important factors that may affect future results is not exhaustive. When relying on our forward-looking statements to make decisions with respect to the Company, investors and others should carefully consider the foregoing factors and other uncertainties and potential events. We do not undertake to update any forward-looking statement, whether written or oral, that may be made from time to time by us or on our behalf.

1. CORPORATE STRUCTURE

1.1 Jurisdiction of Incorporation

The Company was incorporated on April 17, 1969 under the laws of the Province of Ontario under the name Medical Data Sciences Limited. The Company changed its name to MDS Health Group Limited in April of 1973 and to MDS Inc. in November 1996. The Company was continued under the *Canada Business Corporations Act* (CBCA) in October 1978 and remains subject to that statute.

The head office of MDS, and its principal place of business, is located at 2700 Matheson Boulevard East, Suite 300, West Tower, Mississauga, Ontario, Canada, L4W 4V9.

1.2 Current Organization

Significant operating subsidiaries and partnerships are defined as those companies/partnerships that contribute 10% or more of the consolidated revenues or consolidated operating income of the Company or account for 10% or more of the consolidated total assets of the Company. The significant operating subsidiaries and partnerships of the Company are set forth below.

- MDS (Canada) Inc., a Canadian (CBCA) corporation;
- MDS Analytical Technologies (US) Inc., a Delaware corporation;
- MDS Pharma Services (US) Inc., a Nebraska corporation;
- MDS Pharma Services Central Lab S.A.S., a French corporation;
- MDS Pharma Services S.A.S., a French corporation;
- MDS Pharma Services France S.A.S., a French corporation;
- MDS Pharma Services GB Limited, a UK corporation;
- MDS Pharma Services Switzerland AG, a Swiss corporation;
- Molecular Devices Limited, a UK corporation;
- PerkinElmer Sciex Instruments partnership, an Ontario partnership; and
- Applied Biosystems/MDS Analytical Technologies partnership, an Ontario partnership.

With the exception of the two partnerships in which MDS has a 50% interest, MDS beneficially owns, directly or indirectly, 100% of the shares of the above named subsidiaries.

The entities outlined above are consolidated in the financial statements of MDS and are referred to hereafter as subsidiaries, with the exception of PerkinElmer Sciex Instruments and Applied Biosystems/MDS Analytical Technologies, each of which is accounted for on an equity basis.

In addition to the active operations described above:

As at October 31, 2005, the Company owned a 50% interest in Source, a Canadian corporation. On November 22, 2005 the Company sold its 50% interest in Source to its partner, Cardinal Health Inc. (see Section 2.1 - General Development of the Businesses of MDS: Overview).

Until February 26, 2007, the Company conducted the majority of its diagnostics business through the following partnerships:

- MDS Laboratory Services, L.P., a partnership established under the laws of Ontario in which MDS held an indirect 99.6% interest, and
- Metro-McNair Clinical Laboratories Limited Partnership (Metro-McNair), a limited partnership established under the laws of British Columbia in which MDS held a 75% interest.

On February 26, 2007, the Company sold its interest in its diagnostics business, including its interest in these partnerships, to Borealis Infrastructure Management Inc. (see Section 2.1 - General Development of the Businesses of MDS: Overview)

In addition to its subsidiaries, the Company owns a 99.6% non-controlling equity interest in LPBP Inc., an Ontario corporation, through which it held its former indirect interest in the Ontario businesses of MDS Diagnostic Services and a 45% interest in Lumira Capital Corp. (formerly MDS Capital Corp.). Lumira Capital Corp. is described under the heading 3.6 - Significant Investees.

2. GENERAL DEVELOPMENT OF THE BUSINESSES OF MDS

2.1 Overview

MDS is a global life sciences company that provides market-leading products and services that our customers need for the development of drugs and the diagnosis and treatment of disease. We are a leading global provider of pharmaceutical research services, medical isotopes for molecular imaging, sterilization, radiotherapeutics, and analytical instruments.

MDS operates in three business units within the life sciences industry: MDS Pharma Services; MDS Nordion, and MDS Analytical Technologies.

In September 2005, we announced our strategic plan to pursue growth in the global life sciences market and dispose of assets that do not contribute to the Company's areas of focus. The announcement also referred to our restructuring plan to reduce overhead and better align resources and infrastructure costs.

During fiscal 2005, we discontinued certain early-stage businesses within our pharmaceutical research services business, a business unit of the life sciences segment, and, consistent with our strategic plan, our interests in Source Medical and Calgary Laboratory Services (CLS) were classified as discontinued operations. In November 2005, the Company sold its interest in Source to Cardinal Health Inc. for C\$79 million, and in April 2006, the Calgary Health Region exercised

its option to acquire the Company's partnership interest in CLS for C\$21 million, (see Section 2.4.3 - Divestitures and Discontinuances).

On February 26, 2007, the Company completed another significant step in this strategic plan by selling its remaining Canadian diagnostics businesses to Borealis Infrastructure Management Inc. for gross proceeds of C\$1.3 billion, (see Section 2.4.3 - Divestitures and Discontinuances)

In line with the Company's strategic plan, on March 20, 2007, MDS finalized the acquisition of Sunnyvale, California-based Molecular Devices Corporation (MDC), a leading provider of high-performance measurement tools for high-content screening, cellular analysis, and biochemical testing for \$621 million (see Section 2.4.2 - Acquisitions).

In the first half of fiscal 2007, MDS initiated efforts to further optimize the global footprint of MDS Pharma Services. During 2007, the Company finalized the sale of its Phase I clinical facility in Hamburg, Germany, transferred its LCMS bioanalytical, and drug metabolism and pharmacokinetics (DMPK) operations from Montreal, Canada to its Lincoln, USA and Bothell, USA sites, respectively. The Company also consolidated central laboratory operations from Hamburg, Germany into Baillet, France and transferred bioanalytical operations from Sittingbourne, UK to its Zurich, Switzerland site. To further accelerate growth, the Company has invested in new customer-facing IT systems, expanded central laboratory operations in Beijing, China and initiated a 300-bed expansion at its Phase I facility in Phoenix, USA. The latter opened in January 2008.

2.1.1 Life Sciences

The Company has three life sciences business units: MDS Pharma Services, which provides pharmaceutical research services; MDS Nordion, which provides molecular imaging, sterilization and radiotherapeutics; and MDS Analytical Technologies, which designs, manufactures and sells analytical instruments and combines newly acquired Molecular Devices (MDC) with the Sciex division of MDS.

In 1981, MDS entered the analytical instruments business with the acquisition of SCIEX (acronym for SCientific EXport). In 2007, MDS expanded its analytical instruments business with the 100% acquisition of MDC.

In 1992, MDS acquired an initial 83% interest in Nordion International Inc. (Nordion) from the Canadian Development Investment Corporation pursuant to a privatization initiative by Atomic Energy of Canada Limited (AECL), thereby expanding its operations into medical isotope manufacturing and distribution. Commencing in 1995, the Company increased its ownership interest in Nordion to 100%.

In 1995, MDS began acquiring pharmaceutical research services organizations and expanded the services offered to the pharmaceutical development industry. Several smaller acquisitions led to the fiscal 2000 acquisition of Phoenix International Life Sciences Inc., a public company based in Montreal, Canada with additional operations in the United States and Europe. These pharmaceutical research services businesses collectively operate globally under the name MDS Pharma Services.

2.1.2 Diagnostics

Until February 2007, the Company also operated in the healthcare industry primarily through its Canadian clinical laboratory operations, MDS Laboratory Services. The Canadian laboratory business was the largest operator of private sector clinical laboratories in Canada. Services provided by the company included clinical laboratory testing for physicians and non-hospital healthcare institutions, management of hospital laboratories under contract and other support services for clinical diagnostics. The sale of the Canadian laboratory business to Borealis Infrastructure Management Inc. was closed on February 26, 2007 as disclosed in Section 2.4.3 – Divestitures and Discontinuances.

2.1.3 Customers

Customers of the Company's life sciences businesses include a broad range of manufacturers of medical products including pharmaceutical manufacturers, biotechnology companies, manufacturers of medical supplies and devices, plus academic and government institutions. These customers are located in virtually all major international markets.

Through its former Canadian diagnostics business, the Company provided products and services directly to healthcare providers, including physicians and hospitals.

No single customer accounted for more than 10% of the consolidated revenues of the Company for the fiscal year ended October 31, 2007.

The Company's business and customer base are global. Revenues earned outside of Canada, reflecting export sales, along with revenues earned by operating units based outside of Canada, made up approximately 90% of net revenues for 2007. Export sales from Canada alone made up 41% of net revenues for 2007.

2.1.4 Employees

As at October 31, 2007, MDS had approximately 5,500 employees in 29 countries.

2.2 Recent Industry Developments

MDS has benefited from the significant and rapid changes that are affecting the life sciences industry. These changes include:

- (i) rising healthcare costs;
- (ii) intensifying cost containment pressures;
- (iii) rapid growth in demand for services due to aging population bases;
- (iv) rapid innovation in technology, increasing the availability of sophisticated treatment options;
- (v) greater productivity in drug discovery and development;

- (vi) growing consumer awareness of healthcare choices; and
- (vii) growing awareness within emerging and developing countries of the benefits of adequate healthcare systems and the improving ability to pay for improved healthcare solutions.

New technologies have profoundly affected the life sciences market. These new technologies, in part, have led to more focused research spending and continued corporate mergers of significant size within the pharmaceutical industry, as pharmaceutical companies strive to maintain or obtain a competitive edge by providing new and improved services or by introducing new products to market. Consolidation of this industry is expected to continue, and is likely expected to affect product development budgets and may lead to more focused research spending by the merged entities, including more concentration of spending budgets within therapeutics areas.

These mergers are, at least in part, a response to the loss of patent protection on a significant number of large market drugs expected over the next few years. Off-patent drugs often lose more than half of their market share to generic alternatives in less than one year. To replace these lost revenues and sustain the levels of growth enjoyed in the past, pharmaceutical companies must either increase research and development spending or improve the effectiveness of existing spending. Major pharmaceutical companies are also acting aggressively to protect existing patent positions and to extend patent coverage to different formulations.

A string of recent adverse events affecting a number of large market pharmaceutical products has placed added scrutiny on the drug approval process in the US. There are increasing calls for more regulation of the approval process as a result. The impact of this on the rate and cost of drug innovation is uncertain.

There is growing activity between pharmaceutical companies having large research budgets and smaller biotechnology companies that have smaller budgets but rich pipelines of possible new discoveries. Advances in biotechnology, genomics, and proteomics have created a better understanding of how diseases function both at a molecular level and as part of a biological system that biotechnology companies are seeking to exploit. Large pharmaceutical companies are increasingly providing funding to these smaller companies in return for rights to further develop and market products resulting from these discoveries, or buying these smaller companies outright.

The surge in development activity, coupled with a drive to reduce costs and accelerate development time, has driven growth in outsourcing of research activities by pharmaceutical manufacturers to specialized pharmaceutical research services organizations and an increased use of new analytical technologies that seek to provide improved efficiency and results. High throughput screening, and the technologies that make this possible, increase the number of new drug leads that can be investigated, enabling drug companies to identify promising candidates earlier. More importantly, researchers can eliminate an unpromising candidate before a large investment is made in further development.

It is anticipated that these technological advances may lead to more targeted, personalized and effective medicines. In addition, these technologies are expected to lead to more accurate

diagnosis at an earlier disease stage, which will in turn lead to treatment that is more effective. A number of new developments also promise better disease prevention alternatives.

2.3 Business Strategy of MDS

The Company's strategy is to focus on the global life sciences markets to drive growth and deliver value to customers and shareholders. The life sciences markets are some of the fastest growing markets in the world, driven by long term trends in population demographics and the way therapeutics are developed and disease is treated. The Company is focused in the areas of pharmaceutical research services through MDS Pharma Services, molecular imaging, sterilization and radiotherapeutics through MDS Nordion, and life sciences instruments and tools through MDS Analytical Technologies. MDS expects to supplement organic growth in its three life sciences businesses with selected technology and business acquisitions.

MDS Pharma Services (see Section 3.2) is growing its global pharmaceutical research services capability with a focus on building global scale and uniform quality and procedures. The segment is the sixth largest contract research organization (CRO) globally, and one of the largest CROs in early-stage research (Discovery through Phase IIa). The current focus of MDS Pharma Services is on improving the growth and profitability of this segment across its businesses and regions.

MDS Nordion (see Section 3.3) is the largest global provider of nuclear isotopes used in molecular imaging and sterilization. Securing reliable sources of supply for key isotopes and building safe, dependable logistics capability are key strategic objectives for this core business. MDS Nordion is also focused on identifying new uses for medical isotopes and building the necessary manufacturing and development capabilities to be the provider of choice for companies that are developing new products with isotopic applications.

MDS Analytical Technologies (see Section 3.4) is focused on developing and providing customers with state-of-the-art life sciences tools. This segment relies heavily on leading-edge research and engineering as well as extensive expertise in molecular and cell biology and chemistry to develop instruments that have a clear advantage over competitive offerings. MDS Analytical Technologies consist of two channel brands, Sciex and Molecular Devices (MDC). Sciex, focused on high-end mass spectrometers, takes its products to market predominantly through partnerships with companies who have primary responsibility for marketing, sales, and after-sales support. MDC markets its high-performance bioanalytical measurement systems through its global sales channel, which added important distribution capability to MDS during 2007.

2.4 Financial and Other Developments

Factors affecting the comparability of the Company's financial data for fiscal years 2005 through 2007 include the following:

2.4.1 Capital Structure

- In December 2002, the Company completed a private placement of \$311 million of senior unsecured notes (Senior Unsecured Notes). The Senior Unsecured Notes bear interest at

rates between 5.15% and 6.19% per annum and have maturities ranging from December 2007 to December 2012.

- In 2005, the Company negotiated a new C\$500 million, five-year committed, revolving credit facility which replaced the Company's previous C\$225 million credit facility. As at October 31, 2007, the facility was undrawn.
- On April 9, 2007, MDS completed a substantial issuer bid and repurchased approximately 22.8 million Common shares for \$441 million at a price of C\$21.90 per share. As a result of this issuer bid, MDS reduced the number of Common shares outstanding from approximately 144 million to 122 million.

2.4.2 Acquisitions

- During 2005, MDS acquired SkeleTech Inc., a therapeutically focused CRO providing pre-clinical discovery and development services in bone and central nervous systems biologics, for consideration of \$6 million. The purchase agreement included a provision for contingent consideration of \$2 million, payable to the vendors if certain profitability levels were attained in fiscal 2006. During 2006, a payment for \$1 million was made to the vendors under this agreement.
- On March 20, 2007, MDS finalized the acquisition of Sunnyvale, California-based Molecular Devices Corporation (MDC), a leading provider of high-performance measurement tools for high-content screening, cellular analysis, and biochemical testing. The total cost of the acquisition was \$621 million, including the cost of the tender offer, the cost to acquire outstanding in-the-money options held by MDC employees, and transaction costs. Upon completion of this acquisition, MDS established a new business unit, MDS Analytical Technologies, which combines MDS Sciex with MDC. MDS filed a form 51-102F4 with respect of this acquisition on June 4, 2007.

2.4.3 Divestitures and Discontinuances

- In 2005, the Company's management announced its commitment to a plan to divest a number of business operations that were no longer core to the Company's strategy. During 2005, the Company's interest in Source was classified as a discontinued operation, and as stated previously, in November, 2005, the Company disposed of its interest in Source. In addition, during 2006, the Company's partner in CLS exercised its right to buy out the Company's partnership interest.
- In 2005, the Company approved a plan to divest of its Pharmaceuticals, Fermentation Biopharmaceuticals/Biosafety, and *in vitro* Pharmacology operations within the MDS Pharma Services business unit. These businesses have also been classified as discontinued operations. During 2006, these businesses were either sold or shut down.
- In February 2006, MDS and AECL reached an agreement on disputes related to the MAPLE facilities (Facilities), which resulted in MDS exchanging its interest in the Facilities for a

long-term isotope supply contract (See Section 3.3. – MDS Nordion; NRU and MAPLE Facilities)

- On October 5, 2006, the Company entered into a series of agreements to sell its remaining Canadian diagnostics businesses, MDS Diagnostic Services, to Borealis Infrastructure Management Inc. for gross proceeds of C\$1.3 billion. The sale was completed on February 26, 2007.
- Subsequent to fiscal 2007 year-end, on November 29, 2007, MDS Nordion signed an agreement with Best Medical International Inc. to divest its external beam therapy and self-contained irradiator product lines.

3. NARRATIVE DESCRIPTION OF THE BUSINESSES OF MDS

3.1 Reportable Industry Segments

The Company operates under the following three business units:

MDS Pharma Services	This business unit provides research services and is one of the world leaders in pharmaceutical research services, from pre-clinical development to Phase IV clinical trials, for innovative and generic pharmaceutical companies and for biotechnology companies, as well as consumer product and drug delivery companies.
MDS Nordion	This business unit is a leading global provider of medical isotopes for molecular imaging, technologies for the sterilization of medical and other products as well as contract manufacturing for the radiotherapeutics industry.
MDS Analytical Technologies	This business unit focuses on the research, design, manufacture and marketing of state-of-the-art life sciences tools such as high-end mass spectrometers through its Sciex brand and high-performance bioanalytical measurement systems through its Molecular Devices brand.

Prior to February 26, 2007, as disclosed in Section 2.4.3 – Divestitures and Discontinuances, the Company was, through various operating business units, the leading provider of diagnostic laboratory services in Canada.

Prior to the sale of Source Medical in November 2005, as disclosed in Section 2.4.3 – Divestitures and Discontinuances, the Company was a partner in the largest provider of distribution services for medical products in Canada, supplying hospitals and alternative care sites.

3.2 MDS Pharma Services

MDS operates as a global contract research organization (CRO) through MDS Pharma Services. MDS Pharma Services is one of the top global CROs and has been highly rated for customer service and quality by CenterWatch, a leading industry publication. MDS Pharma Services is a full-service provider of drug discovery and development services to the pharmaceutical, biotechnology and generic industries. MDS Pharma Services operates as a CRO in 28 countries.

Industry Background

During the 1970's, integrated pharmaceutical companies conducted the majority of research leading up to development of pharmaceutical products in-house. At that time, the only significant function that was contracted out was pre-clinical toxicology screening.

The drug development process is extremely expensive due to the cost of the infrastructure required to support the full range of processes necessary for drug development and the long period of time required to achieve full regulatory approval of a new compound. On average, it takes 10 to 12 years and over \$800 million to bring a new pharmaceutical from discovery through Phases I to III of clinical trials and make it available to consumers. Since patent protection for new products extends for only 17 to 20 years, the profitability of a new compound can be greatly enhanced by reducing the total cost of development and by shortening the elapsed period over which development occurs.

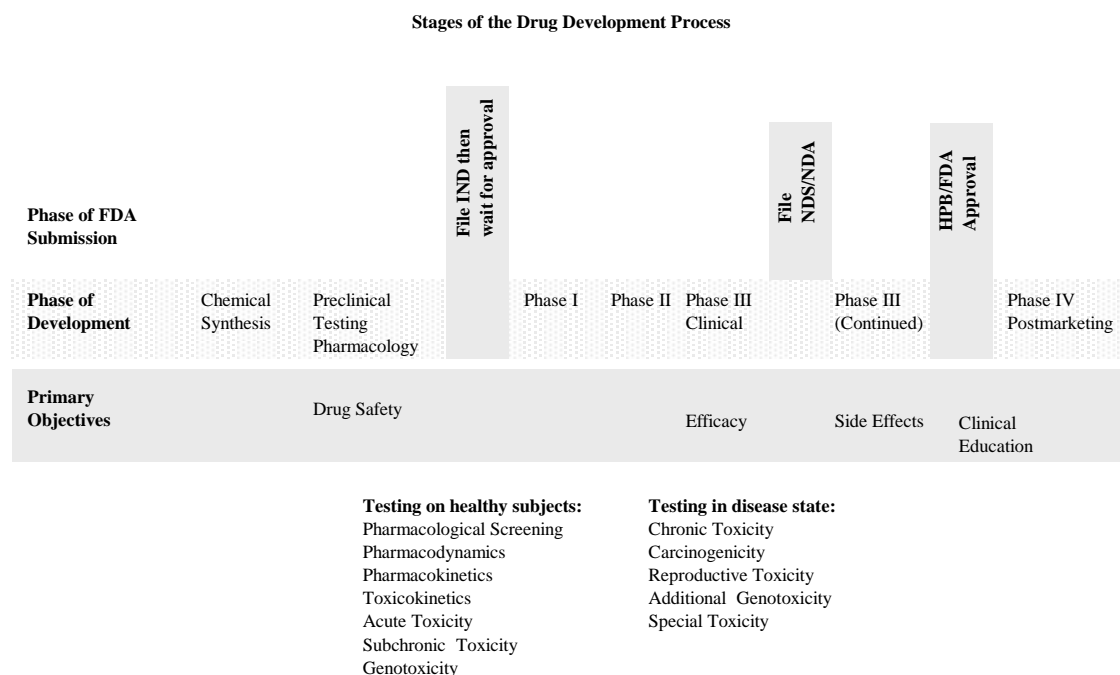
As a result, companies began to outsource to meet the occasional surge in internal demand that could not be addressed with in-house capabilities. In an effort to reduce both time and costs, major drug companies began outsourcing portions of the development work to companies that provide specialized research services. These companies have become known as Contract Research Organizations or CROs. Individual CROs tend to specialize in particular stages of the drug development process and, therefore, develop expertise in those areas. Reliance on CRO expertise can enable the pharmaceutical companies to achieve cost efficiencies and to shorten the research time for that stage of the development process while avoiding capital investments.

The decision by MDS to enter the CRO business in 1995 was influenced by a number of key trends that were beginning to affect the industry. The Company believes that these trends remain in place. In particular, corporate mergers and cost containment pressures at pharmaceutical companies are expected to continue to lead to downsizing of in-house research and development capabilities and pharmaceutical companies are anticipated to continue to focus increasingly on marketing and product distribution. Outside suppliers will increasingly be relied upon to provide services previously secured from in-house departments. Aside from reducing infrastructure costs for the pharmaceutical companies, outsourcing is expected to lead to reduced cycle time for development. Outsourcing this activity may also lead to development of drug candidates which have a small market and might have been ignored by larger pharmaceutical companies which require large-market drugs to cover the costs of their marketing and distribution channels.

Globalization of pharmaceutical markets driven by ongoing mergers of major international pharmaceutical companies has influenced the selection of a CRO. Those with an international presence and the ability to conduct trials in multiple jurisdictions have greater chances of becoming preferred suppliers. The growth of the biotechnology industry is also significantly

influencing the growth of CROs, as many smaller biotechnology companies elect not to build the infrastructure to conduct the various phases of the development of their products in-house.

A general overview of the drug development process is provided in the diagram below:



Overview of Business

Headquartered in King of Prussia, Pennsylvania, MDS Pharma Services is focused on being a full-service provider of drug discovery and development services to the pharmaceutical, biotechnology, and generic industries. MDS has provided services to pharmaceutical manufacturers since 1992, beginning as a centralized support laboratory providing testing services in connection with Phase III clinical trials. MDS is now one of the largest and most integrated CROs in the pre-clinical and early clinical segment of the market and a developing competitor in late-stage clinical trials.

The pharmaceutical research process can be broken down into three primary components: laboratory-based research, clinic-based testing, and out-patient based testing. MDS includes most laboratory-based research and clinic-based research in early-stage and the Company has been the leading competitor in this phase of research based on the installed base of mass spectrometers and on the number of available clinic beds. The Company's significant capacity in each of these areas enables it to take on client work on very short notice and to develop the necessary expertise in these fields to participate in the most complex studies.

Key service lines for this business include:

- Preclinical, in which the Company's vast library of assays is applied to study the effects of compounds on living organisms and in-vitro targets and in which advanced understanding of drug safety and toxicology is obtained under strict Good Laboratory Practices (GLP) regulated conditions.

- Bioanalysis in which advanced technology and analytical science is applied to biological fluids to gain an understanding of the drug's absorption, distribution, metabolism and elimination.
- Early-stage clinical or first-in-man testing (Phase I), in which new investigational drugs are tested for the first time in healthy volunteers to assess drug safety and to determine how the drugs are processed by the body.
- Late-stage clinical or traditional clinical trials (Phase II – IV), in which investigational drugs are tested in volunteers exhibiting the condition the drug is intended to determine the relative efficacy of the drug under study.
- Central laboratory, a support service for late-stage trials, through which samples taken from study participants are run against standard assays to determine the safety and effectiveness of the drug.

Significant pre-clinical and early clinical operations are in Montreal, Canada; Lincoln, USA; Phoenix, USA; Bothell, USA; Belfast, Northern Ireland; Zurich, Switzerland; Lyon, France and Taipei, Taiwan. These facilities include clinic locations and laboratories, as well as other development facilities.

Management of late-stage clinical trials on behalf of clients is conducted globally. Significant clinical offices include King of Prussia, USA; Irvine, USA; Paris, France and Winnersh, United Kingdom, along with smaller offices in a number of other countries. In addition, the Company has central laboratory locations in Toronto, Canada; Neptune, USA; Baillet, France; Beijing, China and Singapore.

MDS Pharma Services is dependent on staff with highly specialized skills. Individuals with requisite the credentials are recruited on a global basis. Globally, approximately 3,400 employees work in MDS Pharma Services.

Strategy

MDS Pharma Services is currently one of the leading CROs in the world. Management expects to continue to expand its global capabilities through organic growth and through acquisition while expanding profitability and enhancing the ability to serve customers through LeanSigma and other operational improvements. The acquisition strategy of the Company is to focus on targets that extend leadership in key fields and build on existing strengths in order to enhance the services we offer our customers. Acquisitions may add capabilities, scale or geographic reach in our key lines of business. Where operations do not meet the Company's expected returns, or they do not fit with the strategic markets in which the Company has chosen to compete, MDS has sought to divest these businesses. During 2006, MDS sold or closed a number of smaller, non-strategic lines of business.

Competition

The growth of the pharmaceutical research services industry has been dependent on the increase in outsourcing by pharmaceutical and biotechnology companies. The market has experienced

high growth rates and has become highly competitive. Competition for individual research contracts often includes in-house research departments of pharmaceutical and biotechnology companies, as well as universities, teaching hospitals, and other CROs. Industry consolidation and globalization have affected pharmaceutical companies as well as CROs resulting in the use of fewer, larger CROs. The Company believes that outsourcing will continue to grow as an economically attractive alternative to in-house research.

Companies active in this industry, including MDS, may improve their competitive position by building scale, which enhances the ability to service clients with consistent global quality in their preferred location or in a more timely fashion, and internal operating efficiencies, which translates into sound and predictable execution and opportunity to expand profitability. In addition, we believe that our expertise and capabilities result in a unique offering that contributes to our competitive position. MDS Pharma Services' strength in Pharmacology, Phase I and Bioanalytical Sciences and its broad configuration, allows it to integrate its offerings under complete drug development programs to help biotech firms move their compounds through the development stages more rapidly by having one provider take compounds through multiple stages of development.

The majority of competitors have been focused primarily on later stages of the drug development process (Phase II-IV clinical research). Late-stage competitors include several multinational companies such as Quintiles Transnational Corp., Parexel International, Corp., PPD, Inc., and PharmaNet Development Group, Inc. Early-stage (preclinical to Phase IIa) competitors include Covance, Inc. and Charles River Laboratories Inc. Some of the Company's CRO competitors are significantly larger than MDS and may have greater financial and technical resources.

3.3 MDS Nordion

Through MDS Nordion, MDS is a world leader in medical isotopes for molecular imaging, development and manufacturing of radiotherapeutics and sterilization. Exports of these materials to over 60 countries account for more than 95% of total sales by this business.

Industry Background

In molecular imaging, isotopes are used because of their ability to assist in diagnostic procedures such as single photon emission computed tomography (SPECT) and positron emission tomography (PET). When formulated with chemical compounds that are attracted to or accumulate in particular types of tissue, these isotopes can aid physicians in the identification and treatment of certain diseases. Certain other isotopes can be used to deliver direct radiation therapy to cancerous cells using the same principles of targeted therapy.

Entry into both the molecular imaging and sterilization businesses require significant capital investment, extensive process development and access to limited supplies of raw materials. The manufacture of raw isotopes is dependent upon the availability of capacity in acceptable types of nuclear reactors and cyclotrons. Processing facilities such as those operated by MDS are centralized, capital intensive, and expensive to operate. In addition, due to the nature of the materials handled by the facilities, government and environmental regulation are significant factors in the business.

Processing raw isotopes into a form suitable for the intended use is highly complex. Many isotopes used for molecular imaging have a limited half-life. This imposes constraints on the manufacturing process and the logistics procedures needed to deliver refined product to an end-user. Security of supply is a key customer concern due to the short lifespan of the products; hence, efficient and safe transportation systems are vital components of the business. The logistics system at MDS can process isotopes, deliver them to manufacturers and then on to hospitals or treatment centres within only a few days.

Molecular imaging is a growing market. Aging populations worldwide are expected to increase demand for the procedures which medical isotopes make possible. In addition, considerable research is underway to identify new uses for existing isotopes.

Sterilization of medical products is a relatively mature industry with 4%-7% market growth. Alternate applications for this technology are continuously under investigation. The United States Food and Drug Administration (FDA) has approved the use of irradiation for microbial control of pathogens (e.g.: *E.coli*) and as a quarantine treatment for fruit and vegetables to eliminate agricultural pests. To date, the commercial use of irradiation has largely been limited to spices, some red meat, poultry and certain fresh fruits and vegetables.

Overview of Business

MDS manufactures, processes and repackages isotopes to produce products that include:

- medical isotopes that are used alone or coupled to target molecules for use in clinical research, diagnosis of cardiac function and other diseases and treatment of diseases such as cancer;
- medical isotopes for the treatment of cancer; and
- industrial isotopes for the sterilization of disposable medical products and for treating food.

In addition, the Company manufactures and sells products and equipment, such as large scale production irradiators, for the sterilization of disposable medical products and food.

MDS is the world's principal supplier of Cobalt-60 (Co^{60}). The majority of raw Co^{60} material is produced under long-term supply contracts with nuclear power suppliers such as Bruce Power, Quebec Hydro, Ontario Power Generation and Rosenergoatom (the utility operator responsible for Russia's nuclear power plants). MDS further processes the raw Co^{60} into a finished form for commercial use at its Ottawa, Canada facilities. The resulting processed material, or gamma source, is delivered to customers using approved transport containers and procedures. Customers include major sterilization contractors, as well as large medical product manufacturers who maintain their own in-house sterilization facility.

MDS also markets related equipment and services such as industrial scale irradiators. Delivery or construction of this equipment is usually accompanied by an initial shipment ("loading") of a gamma source. Resupply or replenishment of the gamma source is required from time to time as the radioactivity level of the initial loading declines over time at a rate of approximately 12% per year.

Isotopes used for molecular imaging are handled and processed in much smaller quantities than those used for industrial irradiation. MDS purchases reactor-produced isotopes, principally from

AECL, such as Molybdenum-99 (Mo^{99}), Iodine-131 (I^{131}), Iodine-125 (I^{125}) and Xenon-133 (Xe^{133}) in an unfinished, non-purified form, and transports them to its own facilities in Ottawa, Canada for further processing. MDS also manufactures cyclotron-produced isotopes such as Iodine-123 (I^{123}), Thallium-201 (Tl^{201}), Palladium-103 (Pd^{103}) and Yttrium-90 (Y^{90}) at its facilities in Vancouver, Canada and Fleurus, Belgium, and refines these materials in its adjacent processing facilities. In addition, MDS also has a joint venture with the University of Liege in Belgium to manufacture and distribute an isotope used in PET imaging.

The purified forms of these isotopes are incorporated by pharmaceutical companies into radiopharmaceuticals used to diagnose and treat numerous serious disease states, such as coronary artery disease and cancer. Mo^{99} decays into Technetium-99 ($\text{Tc}^{99\text{m}}$), which is the most widely used diagnostic isotope in the world. Approximately 18 million scans are performed each year and 80% use a $\text{Tc}^{99\text{m}}$ radiopharmaceutical. This number is expected to grow as the population in developed countries ages and as the use of molecular imaging in the management of coronary artery disease expands. MDS is the world's leading supplier of Mo^{99} .

NRU and MAPLE Facilities

The Company's principal source of Mo^{99} is the existing NRU reactor located in Chalk River, Canada, which is owned and operated by AECL. To provide greater security for the future supply of Mo^{99} and other reactor-produced radioisotopes commonly used in nuclear medicine, MDS contracted with AECL in 1996 for the construction and operation of two dedicated reactors and a processing facility (Facilities) to produce such isotopes. Under the original agreement, MDS would have owned the reactors and, once completed, AECL would have operated them on a fee per service basis for MDS.

As a result of construction deficiencies, cost overruns and other technical regulatory issues, completion of the Facilities has been delayed significantly. The deficiencies, regulatory issues, significant delays, and cost overruns led to a dispute between the Company and AECL. Both MDS and AECL agreed to a mediation process to resolve the dispute and a mediator was appointed in February of 2005.

The mediation process between the parties was successful and in early 2006 the Company entered into an agreement with AECL related to the MAPLE Project. The agreement reached with AECL provides the basis for a productive ongoing relationship and enables AECL to move forward to successfully complete the project. Under the Agreement, ownership of the Facilities was transferred to AECL, along with certain associated inventories, for C\$25 million in cash, a non-interest bearing note due over four years beginning in 2008, and a 40-year supply agreement containing terms that are similar to those contained in the existing supply agreement with AECL related to the NRU reactor.

Since AECL has now assumed full ownership of the Facilities, they are responsible for capital costs associated with completing the project and commissioning the reactors for future operating costs. MDS has retained a commitment to assist AECL to defray the costs of any material and unusual regulatory changes, should such a change occur during the life of the supply agreement. This commitment extends to cover any changes required by international agreements or treaties related to the procurement of highly enriched uranium in the reactors. The Company has also

retained certain legal rights in the event that the Facilities have not met certain performance criteria by October 31, 2008, including regulatory approvals and operating requirements.

Final completion and commissioning of the Facilities will entail an extended regulatory and quality control review process for our customers, including steps to determine that the products produced in the new facility meet the same quality standards as those produced in NRU.

The new Facilities, once operational, should enable MDS to provide its customers with a stable and secure supply of key medical isotopes and strengthen MDS's competitive position in medical isotope supply, as they are the only reactors dedicated solely to medical isotope production. All other reactors engaged in medical isotope production are multipurpose reactors. Our current agreement with AECL, as well as limited back-up supply arrangements, are intended to provide a secure supply of isotopes to our customers.

In August 2006 the Canadian Nuclear Safety Commission (CNSC) granted a new operating license for the Chalk River facilities that extends to October 31, 2011. Continued sourcing from the NRU reactor is intended to provide a stable and secure supply of these key isotopes while the new Facilities are being completed.

Facilities that are able to handle and process isotopes in the manufacture of radiopharmaceuticals are complex and strictly regulated. MDS has added an 80,000 square foot manufacturing facility at its Ottawa, Canada site that is utilized on a partnership basis in the development, and later, the direct manufacture of radiotherapeutics. Examples include ZEVALIN® and BEXXAR® Both products are based on monoclonal antibodies and are used to treat non-Hodgkin's Lymphoma (NHL). ZEVALIN uses Y^{90} as the active agent while BEXXAR uses I^{131} . Growth of development and manufacturing opportunities is expected, since drug manufacturers may not wish to incur the capital cost or regulatory delays associated with building their own facilities. MDS also manufactures and distributes radiation therapy equipment and Co^{60} is the radiation source for this equipment.

MDS Nordion is dependent on staff with specialized skills and knowledge necessary to operate a highly regulated processing facility for radioactive materials. Some technical and production employees of MDS belong to the Public Service Alliance of Canada, a collective bargaining agent representing, among others, certain employees of the Government of Canada. Certain other employees belong to the Communications, Energy and Paperworkers Union of Canada. Labour relations are judged to be good with both unions. Globally, MDS Nordion employs approximately 760 people.

Strategy

MDS has a leading position as an international supplier of key isotopes. Revenue growth for isotopes generally has historically been in line with the overall increase in healthcare spending and population growth, both of which have an impact on the growth in the utilization of diagnostic tests and the use of disposable medical products. Sales of medical isotopes do not follow any notable seasonal or other cycles and demand is relatively constant. The short half-life of the isotopes used for medical purposes limits the ability of any market participant to build significant inventories.

Security of supply is a significant objective for the majority of the Company's customers. The Company has developed a strong supply and logistics network to meet these demands. Current

activity and investment by AECL in the NRU and the MAPLE Facilities, are intended to solidify the Company's position as a reliable source of supply. In addition, the Company is developing new and complementary lines of business based on its expertise with isotopes. For example, the cancer treatment market is expected to develop rapidly over the next several years, particularly in emerging economies. Many of these countries are now able to afford modern cancer therapies and are expected to make significant investments in this technology as their healthcare systems develop.

Competition

There are significant capital and logistics investments required to successfully compete in the molecular imaging market, making the Company's established position a competitive advantage. Since Mo⁹⁹ is the most significant isotope on world markets, the majority of competition faced by the Company is in this product. Major competitors are Institute National des Radioelements (IRE) of Belgium, the NTP Radioisotopes (Pty) Ltd. (a wholly owned subsidiary of Nuclear Energy Corporation of South Africa) and the Nuclear Research and Consultancy Group of the Netherlands.

Competition in the sterilization market is different from the medical isotopes market due to the substantially different half-life of the products. Co⁶⁰ is often bought and sold in large quantities and can be produced by any of several nuclear power reactors around the world. While delivery and logistics expertise remains an MDS advantage, the most significant competition in the sterilization market and Co⁶⁰ supply comes from Revis Services Ltd. which acquires cobalt from Russian sources. Competition for sterilization spending also comes from alternative technologies, the most significant of which are Ethylene Oxide (EtO) and electron-beam. The Company believes that gamma-based sterilization technologies continue to enjoy advantages over these competitive technologies in some applications. In addition, there is a significant installed base of industrial irradiators that should ensure that gamma irradiation remains a key technology in this market.

Isotopes used for sterilization tend to be somewhat more cyclical, due primarily to the length of time required to convert Cobalt-59 (Co⁵⁹) into Co⁶⁰ and the limited number of facilities in which this can be done economically. During 2007, the Company took steps to increase its supply of cobalt, signing an extension to its 2005 long-term contract with Rosenergoatom. This 17-year extension should provide for a 30% increased supply of Co⁶⁰ to MDS Nordion by 2016.

3.4 MDS Analytical Technologies

MDS provides life sciences tools through its MDS Analytical Technologies business unit. This business unit consists of two highly recognized brands, Sciex and Molecular Devices (MDC). Sciex designs and manufactures high-end mass spectrometers and MDC designs, manufactures and markets high-performance bioanalytical measurement systems.

Industry Background

In recent years, research in the life sciences industry has accelerated. This expansion of research activity has yielded discoveries that are currently fuelling a revolution in our understanding of human health and disease. With a better understanding of biology at the level of genes, proteins and cells, researchers hope to discover the underlying causes of human disease and determine ways to treat them.

Drugs typically fight illness by binding to proteins, known as “targets”, and modify their behaviour to reduce their disease-causing effects. Once a protein’s link to a disease is understood, the task of finding a drug that acts on the protein and treats the disease is undertaken primarily by pharmaceutical and biotechnology companies. Drug manufacturers typically own libraries of potential drug candidates comprising hundreds of thousands, or even millions, of chemical compounds from which they screen against known targets. As life sciences research continues to unveil new targets, the task of screening large libraries of compounds against these targets represents both a great opportunity and a technological challenge for pharmaceutical and biotechnology companies.

Drug compounds that progress and become potential drug candidates for in-man use are rigorously tested, among other factors, for safety, absorption, distribution, metabolism and excretion (ADME), efficacy and pharmacokinetics. High sensitivity as well as high resolution instruments are necessary to quantify and analyze the physical and biological properties of substances and metabolites.

In the race to develop new and improved drugs to treat diseases, our customers are constantly looking for the latest in instruments, software, consumables and services to increase productivity and provide high-quality data that enables decision-making in the high-cost drug discovery and development process.

Overview of Business

MDS first entered the analytical instruments industry in 1981 with the acquisition of Sciex, and in 1988 introduced the first liquid chromatography mass spectrometer for use on organic compounds to take advantage of the significant opportunities that exist in drug discovery and pharmaceutical research services outsourcing for drug development companies.

To strengthen its leadership position as one of the top global providers of life sciences solutions, MDS acquired MDC in 2007. MDC brings to MDS a portfolio of high-performance measurement tools for high-content screening, cellular analysis, and biochemical testing. MDC’S flagship product lines such as SpectraMax® and FLIPR® are considered industry standard instruments in liquid handling and high throughput screening respectively.

MDS supplies the life sciences industry with high-sensitivity mass spectrometers under the Sciex brand name. Sciex mass spectrometers are marketed through partnerships with Applied Biosystems (Canada) Limited (Applied Biosystems) and PerkinElmer Canada Inc. (PerkinElmer) to a global customer base; sales outside of Canada account for more than 95% of revenues from MDS’s Sciex products. Total revenues earned from these partnerships during 2007 were \$205 million. For both partnerships, MDS Analytical Technologies is responsible for manufacturing and has primary responsibility for research and development. The Company’s partners are responsible for marketing, sales and service. The partnerships are structured so that each partner shares equally in the full profit margin generated once a piece of equipment is sold to an end-user.

MDS has been a major innovator of technologically sophisticated mass spectrometry instrumentation. In each of its product lines, MDS has been a pioneer. Accomplishments include the introduction of the first triple-quad mass spectrometers, inductively coupled plasma mass

spectrometers, and techniques for detecting ultra-trace amounts of small or large molecules by atmospheric pressure ionization (electrospray). Most of these products have evolved through multiple generations and continue to hold significant shares of their market segments.

The pharmaceutical and biotechnology markets are the major users of technology based on the principles of liquid chromatography coupled with mass spectrometry (LC/MS) for detecting organic compounds. Early models of this equipment revolutionized many of the processes that were fundamental limitations in the search for new drugs or biotechnology products. Productivity and sensitivity improvements remain the primary basis for product differentiation for MDS equipment.

MDS Analytical Technologies and its partner Applied Biosystems are the market leader in high-sensitivity LC/MS equipment and have consistently delivered technological innovation within this industry. This innovation is a result of significant research and development spending each year.

A smaller portion of the Company's mass spectrometry market is outside of the pharmaceutical industry and relies on similar equipment for the detection of inorganic compounds. For this group of customers, the Company produces the ELAN® Inductively Coupled Plasma Mass Spectrometer (ICP/MS) that provides high sensitivity with extremely high specificity for a wide range of elements in the analysis of a single sample. The range of market areas that are addressed with the ELAN® is broad and includes environmental monitoring (drinking and wastewater analysis), toxicology (role of trace metals in human disorders), semiconductors (trace impurities), and the nuclear industry (impurities in uranium). These machines are marketed on a worldwide basis through a partnership with PerkinElmer.

The following table summarizes the mass spectrometers offered by the Applied Biosystems/MDS Analytical Technologies and PerkinElmer Sciex Instruments joint ventures

<u>Instrument Name</u>	<u>Joint Venture Partner</u>
API 5000™ LC/MS/MS System	Applied Biosystems
API 4000™ LC/MS/MS System	Applied Biosystems
API 3200™ LC/MS/MS System	Applied Biosystems
API 2000™ LC/MS/MS System	Applied Biosystems
QSTAR® Elite LC/MS/MS System	Applied Biosystems
QSTAR® XL Hybrid LC/MS/MS System	Applied Biosystems
4000 Q TRAP® LC/MS/MS System	Applied Biosystems
3200 Q TRAP® LC/MS/MS System	Applied Biosystems
4800 MALDI TOF/TOF™ Analyzer	Applied Biosystems
ELAN® DRC II ICP-MS System	PerkinElmer

ELAN® DRC-e ICP-MS System	PerkinElmer
ELAN® 9000 ICP-MS System	PerkinElmer

MDS also offers a full range of high-performance bioanalytical tools including automated systems for pharmaceutical screening and a variety of general-purpose research instruments under the MDC brand, which are grouped into two families; bioresearch and drug discovery.

Bioresearch products include: microplate detection products, GenePix®, MetaMorph®, Laser Capture Microdissection, Cellular Neurosciences, Liquid Handling and Threshold® product lines. Our microplate detection products consist of the SpectraMax® and FlexStation® lines of advanced microplate readers; they address the increasing need for the acquisition and processing of large quantities of biochemical and biological data. The GenePix® family of products is a complete line of instruments and software for analyzing Microarrays, which enable the high-throughput identification of large number of genes. Our laser capture microdissection products help researchers to visualize and extract individual cells or groups of cells from tissue samples with minimal damage. For cellular neurosciences research, the Company offers a range of products for voltage recording, current and voltage clamping and patch clamping. As well, our liquid handling systems offer a complete line of state-of-the-art microplate washers and other related tools, including cell harvesters, to the bioresearch product family. The Threshold® system emerged from a need by biopharmaceutical companies for more sensitive and reproducible methods to detect contaminants in biopharmaceuticals during the manufacturing and quality control process.

Our drug discovery products are used to screen large numbers of chemical compounds to assess their effects on disease targets. Drug discovery products include: FLIPR® system and reagent kits, automated electrophysiology systems, high-throughput imaging systems and the Analyst system and reagent kits. Since its introduction in 1995, the FLIPR system has become the industry standard for the automated testing of compounds in live cells. FLIPR instrumentation is complemented by FLIPR reagent kits, which use a proprietary technology to reduce the number of steps involved in live cell testing. Automated electrophysiology products are automated systems that obtain the same high-quality information from cells as conventional patch clamping, but at a much faster rate and requiring far less operator skill. To efficiently visualize cellular events, our high-throughput imaging systems provide automation of image capture and analysis to allow tens of thousands of microscopic cellular assays to be performed in a single day. The Analyst family of products provides industry-leading flexibility and throughput for a wide range of biochemical assays.

MDC also provides services to its installed base of customers on both a contract and time and materials basis as well as a variety of post-warranty contract options for all instrument offerings.

MDS Analytical Technologies' business is dependent on a staff with highly specialized skills and knowledge in various branches of physics, chemistry and biology. Individuals with the requisite credentials are recruited on a global basis and their knowledge is further developed by in-house training. Over 1,200 people work at MDS Analytical Technologies globally.

Strategy

The Company's strategy is to be the leading global provider of top-of-line life sciences research and analysis solutions, with a particular focus on the application of this technology within the drug discovery and development process.

MDS Analytical Technologies' products are designed to outperform competitive products based on sensitivity and speed. We invest in research and development to continually fuel our pipeline of new innovative products to help accelerate the complex process of discovering and developing new drug compounds. Expertise in engineering, molecular and cell biology and chemistry contributes to the recognition of strong brands.

MDS Analytical Technologies' products are sold into global markets. The Sciex brand products are also sold globally but through our partnerships with Applied Biosystems and PerkinElmer. The current key markets are the US, Western Europe and Japan, reflecting the sophistication of the drug development industry in each of those areas. The fastest growing global markets include China and India.

Competition

The Company's principal competitors in the life sciences tools market include Waters Corporation, Thermo Fisher Scientific, Inc., Bruker Daltonics, Inc., Agilent Technologies, Inc. and Invitrogen Corp., all of which operate in the global market. Competition includes other manufacturers selling similar technology and also companies that sell competing but different technologies for certain applications.

Since technological superiority is a key product differentiator, MDS Analytical Technologies, along with our partners, takes all necessary actions to protect and defend our intellectual property. The Company owns numerous United States, Canadian and foreign patents and have patent applications pending in the United States, Canada and abroad. In addition to our patent portfolio, we possess a wide array of unpatented proprietary technology and know-how. We also own numerous United States, Canada and foreign trademarks and trade names for a variety of our product names, and have applications for the registration of trademarks and trade names pending in the United States, Canada and abroad. We believe that patents and other proprietary rights are important to develop and maintain the competitive position of our business.

In 2006, MDS leased and built out a 10,000 square foot manufacturing facility in Singapore in an effort to improve the cost base of its instrumentation and materials and position the Company to take advantage of the increasing importance of the Asian market with respect to future sales growth. To date, the manufacturing of three high volume mass spectrometer product lines have been transferred to Singapore and the site has been expanded to 20,000 square feet.

The majority of MDS Analytical Technologies' infrastructure, manufacturing and research and development reside in North America: Concord, Canada and Sunnyvale, USA. However, in addition to the Singapore facility the Company has manufacturing operations in Shanghai, China as well as a global network of sales offices throughout Europe, Asia and Latin America.

The operations of MDS Analytical Technologies to a certain degree have been and could be impacted by the cyclical nature of the pharmaceutical industry, the investment cycle in the biotech industry and the government regulation of environmental issues.

3.5 Diagnostics

Until 2006, the Company also operated in the healthcare industry primarily through its Canadian clinical laboratory operations, MDS Diagnostic Services. The Canadian laboratory business was the largest operator of private sector clinical laboratories in Canada. Services provided by the company included clinical laboratory testing for physicians and non-hospital healthcare institutions, management of hospital laboratories under contract and other support services for clinical diagnostics.

The Canadian diagnostics business was determined not to be consistent with the Company's strategic focus and was sold to Borealis Investment Management. This transaction was completed on February 26, 2007 as disclosed under "2.4.3 – Divestitures and Discontinuances".

3.6 Significant Investees

3.6.1 Lumira Capital Corp. (formerly MDS Capital Corp.)

Lumira Capital Corp., in which MDS has a 45% interest, is a venture capital and fund management company focused on the healthcare and life sciences industry. Lumira Capital Corp. earns management fees from the management of investment funds, including incentive fees based on the overall success of the funds. In 2006, Lumira Capital Corp. sold its retail funds management business.

3.7 Principal Facilities

The following were the principal operating facilities of the Company as at October 31, 2007:

<u>Location of Facility</u>	<u>Type of Facility</u>	<u>Owned/ Leased</u>	<u>Business Unit</u>	<u>Approx. Sq. Footage</u>
Ottawa, Canada	Manufacturing Plant	Owned	MDS Nordion	483,300
Montreal, Canada	Research Laboratory and Clinical Trials Facility	Leased	MDS Pharma Services	321,500
Concord, Canada	Manufacturing Plant	Owned	MDS Analytical Technologies	147,500
Lyon, France	Research Facility	Owned	MDS Pharma Services	134,200
Lincoln, USA	Clinical Trials Facility	Owned	MDS Pharma Services	130,200
Sunnyvale, USA	Manufacturing/Office	Leased	MDS Analytical Technologies	114,600
Tempe, USA	Clinical Trials Facility	Owned	MDS Pharma Services	104,500
Bothell, USA.	Research Laboratory	Leased	MDS Pharma Services	95,600

Mississauga, Canada	Corporate Offices	Leased	MDS Corporate	84,800
Union City, USA	Manufacturing /Office	Leased	MDS Analytical Technologies	76,200
Mississauga, Canada	Clinical Trials Facility	Leased	MDS Pharma Services	63,000
Vancouver, Canada	Manufacturing Plant	Leased	MDS Nordion	54,800
Phoenix, USA	Clinical Trials Facility	Owned	MDS Pharma Services	51,100
King of Prussia, USA	Corporate Office	Leased	MDS Pharma Services	47,100
Zurich, Switzerland	Clinical Trials Facility	Leased	MDS Pharma Services	40,200
Neptune, USA	Clinical Trials Facility	Leased	MDS Pharma Services	39,700
Taipei, Taiwan	Research Laboratory	Owned	MDS Pharma Services	39,500
Irvine, USA	Corporate Office	Leased	MDS Pharma Services	39,100
Paris, France	Clinical Trials Facility	Leased	MDS Pharma Services	37,600
Fleurus, Belgium	Manufacturing Plant	Leased	MDS Nordion	36,200
Hamburg, Germany	Clinical Trials Facility	Leased	MDS Pharma Services	30,500
Belfast, N. Ireland	Clinical Trials Facility	Owned	MDS Pharma Services	28,500
Downingtown, USA	R&D	Leased	MDS Analytical Technologies	27,900
Baillet, France	Clinical Trials Facility	Leased	MDS Pharma Services	26,400
Beijing, China	Clinical Trials Facility	Leased	MDS Pharma Services	24,200
Baillet, France	Clinical Trials Facility	Owned	MDS Pharma Services	23,091
Singapore	Manufacturing Plant	Leased	MDS Analytical Technologies	20,000
Shanghai, China	Manufacturing	Leased	MDS Analytical Technologies	18,900
Winnersh, UK	Office	Leased	MDS Analytical Technologies	14,000
Blackhorse, USA	Clinical Trials Facility	Leased	MDS Pharma Services	13,500
Mississauga, Canada	Corporate Head Offices	Leased	Corporate	13,400
Winnersh, UK	Clinical Trials Facility	Leased	MDS Pharma Services	12,500

3.8 Research and Development

The Company carries on various research and development (R&D) programs largely focused on product development at MDS Analytical Technologies and to a lesser extent at MDS Nordion. Accounting for R&D is described in Note 3 to the 2007 Financial Statements, which are incorporated by reference into this AIF.

3.9 Environmental Compliance

The Company has established a series of policies to facilitate compliance with applicable environmental laws and regulations. The policies require that business units conduct regular environmental assessments of company activities, establish remedial and contingency plans to deal with any incidents, and establish processes to report to senior corporate management and to the Board through the Environment, Health & Safety Committee of the Board on the environmental status of the Company and its subsidiaries. MDS uses an independent third party environmental auditing firm to conduct regular regulatory audits of MDS operations. MDS believes its approach to environmental compliance meets the regulated requirements and it is not expected that this policy will have a significant impact on capital expenditures, consolidated earnings, or our competitive position.

3.10 Other Business Matters

3.10.1 Risk Factors

The businesses in which MDS operates are subject to a number of risks and uncertainties discussed below and under the heading "Risks and Uncertainties" in the 2007 MD&A on pages 21 to 23. Additional risks and uncertainties not presently known to the Company or that the Company does not currently anticipate will be material, may impair the Company's business operations. If any such risks occur, the Company's business, financial condition and results of operation could be materially adversely affected.

If we do not introduce new products in a timely manner, our products could become obsolete and our business, financial condition and results of operation would suffer.

We sell many of our products in industries characterized by rapid technological change, frequent new product and service introductions, and evolving industry standards. Without the timely introduction of new products and enhancements, our products could become technologically obsolete over time, in which case our business, financial condition and results of operation would suffer. Our new product offerings will not succeed if we are unable to:

- accurately anticipate customer needs;
- innovate and develop new technologies and applications;
- successfully commercialize new technologies in a timely manner;
- price our products competitively;
- source, manufacture and deliver high quality products in sufficient volumes and on time; or

- differentiate our product offerings from our competitors' product offerings.

Developing new products may require significant investments before we can determine the commercial viability of the new product. If we fail to accurately anticipate our customers' needs and future activities, we may invest heavily in research and development of products that do not become commercially viable.

In addition, some of our licensed technology is subject to contractual restrictions, limiting our ability to develop or commercialize products for some applications. For example, some of our license agreements are limited to the field of life sciences research, and exclude clinical diagnostics applications.

Changes in trends in the pharmaceutical and biotechnology industries could adversely affect our operating results.

Industry trends and economic and political factors that affect pharmaceutical and biotechnology companies and academic and government entities that sponsor clinical research, also affect our business. For example, the practice of many companies in these industries and government organizations has been to hire companies to conduct large development projects. Research and development budgets fluctuate due to changes in available resources, mergers of pharmaceutical and biotechnology companies, spending priorities and institutional budgetary policies. Our business could be adversely affected by any significant decrease in life sciences research and development expenditures by pharmaceutical and biotechnology companies, as well as by academic institutions, government laboratories or private foundations. In addition, numerous governments have undertaken efforts to control growing healthcare costs through legislation, regulation and voluntary agreements with medical care providers and pharmaceutical companies. If future regulatory cost-containment efforts limit the profits that can be derived on new drugs, our clients might reduce their drug discovery and development spending, which could reduce our revenue and have a material adverse effect on our results of operations.

Our business, financial condition, and results of operation could be subject to significant fluctuation, and we may not be able to adjust our operations to effectively address changes we do not anticipate.

We cannot reliably predict future sales and profitability. Changes in competitive, market and economic conditions may require us to adjust our operations, and we may not be able to make those adjustments or to make them quickly enough to adapt to changing conditions. A high proportion of our costs are fixed and thus, small declines in sales could disproportionately affect our business, financial condition, and results of operation in any particular quarter. Factors that may negatively affect our quarterly sales and operating results include:

- lack of demand for, or market acceptance of, our products;
- competitive pressures resulting in lower selling prices;
- adverse changes in the level of economic activity in regions in which we do business;
- adverse changes in industries on which we are dependent, such as the pharmaceutical and biomedical industries;

- changes in the portions of our sales represented by our various products and customers;
- delays or problems in the introduction of new products;
- our competitors' announcement or introduction of new products, services or technological innovations;
- increased costs of raw materials or supplies;
- delays or problems sourcing product inputs, especially in circumstances where there are limited suppliers; or
- changes in the volume or timing of product orders.

We may not be able to successfully execute acquisitions or license technologies, integrate acquired businesses or licensed technologies into our existing business, or make acquired businesses or licensed technologies profitable.

We may be unable to complete the acquisition of promising business acquisitions or license technologies for many reasons, including:

- competition among buyers and licensees,
- the need for regulatory and other approvals,
- our inability to raise capital to fund these acquisitions,
- the high valuations of businesses and technologies, or
- restrictions in the instruments governing our indebtedness, our Senior Unsecured Notes and our credit facility.

In addition, any business we may seek to acquire or technology we may seek to license may be unprofitable. Accordingly, the earnings or losses of any such business that is acquired or technology that is licensed may dilute our earnings. We may also encounter other difficulties in integrating acquired businesses or licensed technologies into our existing operations, such as incompatible management, difference in information or other systems or cultural differences.

We may not be able to successfully obtain financing to fund potential acquisitions

Our rate of growth may be limited by the pricing and availability of any proposed acquisition target and other factors not within our control. To finance our acquisitions, we may have to raise additional funds, either through public or private financings. If we are unable to obtain such funding or can do so only on terms unacceptable to us, we may miss opportunities to grow.

If we are unable to renew our licenses or otherwise lose our licensed rights, we may have to stop selling products or we may lose a competitive advantage.

If we lose the rights to a patented or other proprietary technology, we may be forced to stop selling products incorporating that technology and possibly other products. We may need to

redesign our products, thereby losing a competitive advantage. Competitors could in-license technologies that we fail to license and erode our market share.

Our licenses typically subject us to various economic and commercialization obligations. If we fail to comply with these obligations, we could lose important rights under a license, such as the right to exclusivity in a market. In some cases, we could lose all rights under the license. In addition, rights granted under the license could be lost for reasons out of our control. For example, the licensor could lose patent protection for a number of reasons, including invalidity of the licensed patent, or a third party could obtain a patent that curtails our freedom to operate under one or more licenses.

If we do not compete effectively, our business will be harmed.

We encounter aggressive competition from numerous competitors in many areas of our businesses. The basis of this competition includes, but is not limited to, the following:

- reputation for on-time quality performance and regulatory compliance;
- expertise and experience in specific areas;
- scope of service offerings;
- strengths in various geographic markets;
- price;
- technological expertise and efficient drug development processes;
- quality of facilities;
- ability to acquire, process, analyze and report data in an accurate manner;
- ability to manage large-scale clinical trials both domestically and internationally;
- expertise and experience in market access services; or
- size.

If we do not compete effectively our business will be harmed. In addition, we anticipate that we may also have to adjust the prices of many of our products to stay competitive.

Changes in governmental regulations may reduce demand for our products or services or increase our expenses.

We compete in markets in which we, or our customers, must comply with federal, state, local, and foreign regulations, such as environmental, health and safety, and food and drug regulations. Because of the high cost to develop, configure, and market our products to meet customer needs created by these regulations, any significant change in these regulations could reduce demand for our products or services or increase our costs of producing these products.

Healthcare reform and changes to government policies related to healthcare spending may reduce demand for our products and services or the prices we are able to charge.

If government reimbursement policies were changed, it could have a significant impact on spending decisions of certain of our customers. In recent years the United States Congress and US state legislatures have considered various types of health care reform in order to control growing health care costs. Similar reform movements have occurred in Europe and Asia. Implementation of healthcare reform legislation containing cost controls could limit the profits that can be made from the development of new drugs. This could adversely affect research and development expenditures by pharmaceutical and biotechnology companies which could in turn decrease the business opportunities available to us both in the United States and abroad.

Patent protection for our proprietary products, processes, and technologies may be difficult and expensive and may not result in sufficient protection for our technology.

We have applied or intend to apply for additional patents to cover our newest products. We may not obtain issued patents from any pending or future patent applications owned by or licensed to us. Of the US and foreign patents we currently hold, the claims allowed may not be broad enough to protect our technology. In addition, competitors may design around our technology or develop competing technologies. Intellectual property rights may also be unavailable or limited in some foreign countries, which could make it easier for some of our competitors to capture increased market position.

Third parties may seek to challenge, invalidate or circumvent issued patents owned by or licensed to us or claim that our products and operations infringe their patent or other intellectual property rights.

In addition to our patents, we possess an array of unpatented proprietary technology and know-how and we license intellectual property rights to and from third parties. The measures that we employ to protect this technology and these rights may not be adequate. Moreover, in some cases, the licensor can terminate a license or convert it to a non-exclusive arrangement if we fail to meet specified performance targets.

We may incur significant expense in any legal proceedings to protect our proprietary rights or to defend infringement claims by third parties. In addition, claims of third parties against us could result in awards of substantial damages or court orders that could effectively prevent us from manufacturing, using, importing or selling our products in the United States or in any other country and could, depending on the quantum of damages awarded, have a significant adverse affect on our financial results.

Our results of operations will be adversely affected if we fail to realize the full value of our intangible assets.

As of October 31, 2007, our total assets included approximately \$583 million of net intangible assets. Net intangible assets consist principally of the value of the long-term isotope supply agreement, acquired technology, brands and licenses, net of accumulated amortization. We test these items on an annual basis for potential impairment by comparing the carrying value to the fair market value of the reporting unit to which they are assigned.

Adverse changes in our business or the failure to grow our life sciences businesses may result in impairment of our intangible assets, which could adversely affect our results of operations.

Restrictions in our Senior Unsecured Notes and bank credit facilities and other debt instruments may limit our activities.

Our Senior Unsecured Notes issued in fiscal 2003 as well as our credit facility contain restrictive covenants limiting our ability to engage in certain activities. The note purchase agreement governing our Senior Unsecured Notes includes restrictions on our ability and the ability of our subsidiaries to:

- pay dividends on, redeem or repurchase our shares(see Section 4.2 – Dividends);
- sell assets;
- incur obligations that restrict the ability of our subsidiaries to pay dividends or other amounts to us;
- guarantee or secure indebtedness;
- enter into transactions with affiliates; or
- consolidate, merge, or transfer all or substantially all of our assets and the assets of our subsidiaries on a consolidated basis.

We are also required to meet specified financial ratios under the terms of the note purchase agreement relating to our Senior Unsecured Notes. Our failure to comply with these financial restrictions may result in an event of default under the note purchase agreement, which could result in acceleration of our indebtedness under our Senior Unsecured Notes and require us to prepay our Senior Unsecured Notes before their scheduled due date. Future debt instruments to which we may become subject could also contain similar provisions.

Our business could suffer if we are unsuccessful in negotiating new collective bargaining agreements.

Certain Company sites employ personnel subject to collective bargaining agreements. If we are unable to negotiate acceptable agreements with the association(s) representing our employees upon expiration of existing contracts, we could experience strikes or work stoppages. Even if we are successful in negotiating new agreements, the new agreements could call for higher wages or benefits paid to members, which would increase our operating costs and could adversely affect profitability.

The carrying value of our venture capital investments could be in excess of fair value due to market conditions

We have certain venture capital investments in biotechnology companies. We monitor our investees' capacity to raise and spend funds and to develop a commercial market for their products and services as well as their regulatory approval experience. We initially record investments on our books at cost and adjust these values to fair value, when available, by a change to other comprehensive income. There exists a risk that the carrying value of such

investments could be in excess of fair value due to market conditions and this could result in provisions related to these investments.

We are subject to a number of market risks.

We are exposed to market risks, relating to both foreign exchange rates and interest rates. We briefly describe several of the market risks we face below.

Foreign Exchange Risk

As a global company, we are exposed to changes in foreign exchange rates including, but not limited to, the following:

- Because a significant portion of costs from our Canadian-based operations are denominated in Canadian dollars, volatility in exchange rates can have a material impact on our financial results. Costs incurred in foreign currencies, when translated into United States dollars for financial reporting purposes, can fluctuate due to exchange rate movements.
- Our foreign subsidiaries, on occasion, invoice third-party customers in foreign currencies other than the functional currency in which they primarily conduct business. Movements in the invoiced currency, as compared to the functional currency can result in either realized or unrealized transaction losses that directly impact our cash flows and our results of operations.
- Our manufacturing and distribution organization is multinational in nature resulting in a variety of intercompany transactions that are billed and paid in many different currencies. Our cash flows and our results of operations are therefore directly impacted by volatility in these currencies.
- The cash flow needs of each of our foreign subsidiaries vary over time. Accordingly, there may be times when a subsidiary is on the receiving side or the lending side of a short-term advance from either us or another of our subsidiaries. These advances, being denominated in currencies other than a particular entity's functional currency, can expose us to volatility in exchange rates that can adversely impact both our cash flows and results of operations.
- In order to repay debt or take advantage of tax saving opportunities, we may remit cash from our foreign locations to Canada. When this occurs, we are liquidating foreign currency net asset positions and converting them into Canadian or US dollars. Our cash flows and our results of operations may therefore be adversely impacted by these transactions.

Interest Rate Risk

Our Senior Unsecured Notes bear interest at fixed rates between 5.15% and 6.19% per annum and have various terms between five and twelve years. At October 31, 2007, one quarter of our Senior Unsecured Notes is subject to floating rates as a result of interest rate swap agreements that we entered into. Interest rate volatility can have a direct impact on both our short-term cash flows and earnings.

Our insurance coverage may not be adequate in all circumstances and there can be no assurance that such coverage will continue to be available at rates and on terms acceptable to the Company.

We maintain a global liability insurance policy covering all of our operating units. The policy provides coverage for normal operating risks and includes liability coverage of up to C\$35 million for MDS Analytical Technologies and C\$100 million for MDS Pharma Services and MDS Nordion. We also maintain a global policy covering property and business interruption risks with a total insured value of C\$1.8 billion and directors' and officers' insurance having a limit of \$120 million. There is no certainty that the amount of coverage is adequate to protect us in all circumstances or that we will be able to acquire such insurance on an ongoing basis at rates acceptable to us.

From time to time during the normal course of business, the Company and its subsidiaries are subject to litigation.

Material litigation that is not covered by our insurance policies could have a material adverse impact on our results and our financial position.

Our operations may be subject to review by drug approval authorities and the outcome of any such review could lead to corrective action by the Company.

Our facilities devoted to pharmaceutical development are subject to regular inspection by the FDA, Health Canada and other foreign regulatory agencies. Our customers also are subject to periodic review by drug approval authorities, principally the FDA in the United States. In addition, the terms of a typical CRO contract provide that our customers can request that our facilities be subjected to the same levels of review by the authorities. Our clinical laboratories are subject to significant government regulation. In Canada, all laboratories are subject to periodic government inspection and proficiency testing by government agencies.

Our failure, or any of our customers' failure, to pass an inspection conducted by the FDA, Health Canada or any other regulatory body could result in disciplinary action leading to increased cost and/or reduced customer demand that would have a material adverse affect on our business, financial condition or results of operation.

Our operations might be affected if there was a disruption to air or ground transportation

Our business relies heavily on both air and ground transportation, including the highly regulated, time sensitive transport of isotopes. Any material disruption to air or ground transportation systems could have a material adverse effect on our business. Contingency plans might not be effective or sufficient to avert such material adverse effect.

Our business depends on the continued and uninterrupted performance of our information technology systems and the communication systems that support those systems, including the Internet.

Our business depends, in part, on the continued and uninterrupted performance of our information technology systems. Sustained system failures or interruptions could disrupt our ability to perform many of the functions that are critical to our business, including transportation

of our medical isotopes, reporting clinical test results, processing laboratory requisitions and timely billings. Our business, results of operations and financial condition could be adversely affected by a system failure.

Our computer systems are vulnerable to damage from a variety of sources, including telecommunications failures, malicious human acts, and natural disasters. Additionally, unanticipated problems affecting our systems could cause interruption in our information technology systems. Our insurance policies may not adequately compensate us for any losses that may occur due to any failures in our information technology systems.

We are subject to a number of risks due to the fact that we carry on business in several countries.

Our operations are subject to the risks of carrying on business in several countries in North America, Europe, Asia and Latin America. Accordingly, our future results of operations could be adversely affected by a variety of factors including, but not limited to:

- changes in a country's or region's political or economic conditions, particularly in developing or emerging markets;
- possible restrictions on the transfer of funds;
- longer payment cycles of foreign customers and difficulty of collecting receivables in foreign jurisdictions;
- trade protection measures and import or export licensing requirements;
- differing tax laws and changes in those laws including investment tax credits, or changes in the countries in which we are subject to tax;
- differing cultural and business practices associated with foreign operations;
- difficulty in staffing and managing widespread operations;
- differing labor laws, including being subject to certain European regulations relating to work counsels and changes in those laws;
- differing protection of intellectual property and changes in that protection; or
- differing regulatory requirements and changes in those requirements.

We are dependent upon the services of key personnel.

Our success depends, to a significant extent, upon the continued service of our executive officers and key management and technical personnel, particularly our scientific and technical staff, and our ability to continue to attract, retain and motivate qualified personnel. The competition for these employees is intense. The loss of the services of one or more of our key personnel could have a material adverse effect on our operating results. The investment required to retain key staff, including ensuring that compensation packages are competitive, could have an impact on

the profitability of our business. We do not maintain any key person life insurance policy on any of our officers or employees.

If we are unable to attract suitable participants for our clinical trials, our business might suffer.

The clinical research studies we run rely upon the ready accessibility and willing participation of subjects. Our Phase I clinical research activities could be adversely affected if we are unable to attract suitable and willing participants on a consistent basis.

Our cost of research could increase in the event certain tax credits were to become unavailable.

Research and development we conduct in Canada, both for our own account and for defined groups of arm's length customers, is eligible for tax credits. Elimination or significant reduction of these tax credits would have a material impact on the cost of our research and development which would have a material adverse effect on our business, financial condition, or results of operation.

Changes in the regulatory environment could adversely affect our business.

Future regulatory changes could impair our ability to offer the products and services we now provide. Such regulatory changes could make the provision of these services too expensive to be attractive to clients, could hamper the delivery of products or services to clients, or could cause clients to reduce the amount of outsourcing they are prepared to do resulting in a material adverse effect on our business, financial condition, or results of operation.

Certain of our businesses are exposed to attention from special interest groups and are subject to related political risks.

Among our products and services are those that contain or require as raw materials, nuclear materials, and drug safety services. From time to time, these have garnered negative attention from special interest groups and are therefore at risk of disruption as a result of such attention. A significant disruption could have a material adverse effect on our business, financial condition, or results of operation.

Failure to gain FDA acceptance of Study Review could have a continuing material adverse effect on the financial results of MDS Pharma Services bioanalytical operations.

During 2004, 2006 and 2007, MDS Pharma Services received written communication from the FDA related to certain generic bioequivalence studies carried out at MDS Pharma Services' bioanalytical laboratory facilities in Montreal, Canada.

The communication resulted from inspections carried out by the FDA in 2003 and 2004, a subsequent FDA audit in March 2006, and the FDA's review of our responses to the audit and related communications. The communications from the FDA outlined concerns in certain studies about unexpected results in a limited number of study samples, the standard procedures in place at that time to investigate the root cause of the unexpected results and the policies and procedures in place to address such results.

In January 2007, the FDA issued statements that outlined steps that customers of our Montreal bioanalytical facilities would be required to take to resolve any outstanding issues. The FDA directed sponsors of approved and pending generic drug submissions (ANDA) containing study data produced in these facilities during the period between January 2000 to December 2004 to take one of three actions to address FDA concerns about the accuracy and validity of these bioanalytical studies: 1) repeat their bioanalytical studies; 2) re-analyze their original study samples at a different bioanalytical facility; or 3) independently audit original study results. In addition, the FDA wrote to sponsors of innovator submissions and requested that they advise the FDA of any submissions containing data from those facilities from the affected period. If our clients' studies fail to gain FDA clearance it could impact our ability to attract and retain work and have a material adverse effect on the financial results of MDS Pharma Services bioanalytical operations

The terms of MDS Pharma Services' contracts entitle clients to cancellation rights, which, if exercised, could adversely affect our business, financial condition, and results of operation.

A majority of the revenue earned by MDS Pharma Services' business are under contracts which typically run several months for drug discovery through Phase I clinical trials and as much as several years for Phase III/IV clinical trials. Terms of most contracts entered into by MDS Pharma Services entitle clients to cancellation rights that may be exercised by the client in the event of regulatory delays or if unexpected results are encountered at any stage of the development program. The cancellation of contracts could have a material adverse effect on MDS Pharma Services' business, financial condition and results of operation.

We could be subject to claims as a result of product failure in clinical trials testing.

During clinical trials testing, we will typically administer pharmaceutical products owned and developed by others to individuals acting as test subjects. The terms of the contracts we enter into with the sponsor of the product vary and do not prevent individuals to whom the products have been administered from filing claims against us even though we may be indemnified in these circumstances. Furthermore, the indemnity obligations established under these contracts are not secured and it is possible that the indemnifying party may not have the financial ability to meet its obligations to us in the case of an adverse event.

We could be subject to claims as a result of our administration of clinical trials.

In conducting the tests and other procedures that form a part of the clinical trials process, we may be subject to claims related to alleged negligence or misconduct pertaining to the services we perform. These risks may also include the medical malpractice of medical personnel operating Phase I clinical facilities. In addition, we could potentially be subject to claims for negligence or misconduct on the part of third-party investigators engaged by us on behalf of clients.

Certain of our products depend on the availability of the supply of key components.

A number of our products include materials for which there is a limited source of supply. There can be no assurance that we will be able to continue to acquire the necessary materials at an acceptable price. If we are unable to acquire the necessary materials at an acceptable price, it could have a material adverse effect on our business, financial condition and results of operation.

Labour disruptions within the companies that supply our isotopes could have a material adverse affect on our financial results.

We are dependent upon suppliers for our source of isotopes. The majority of our isotope suppliers employ unionized personnel. Any labour disruptions could have a material adverse effect on our business, financial condition, and results of operation.

We are dependent upon access to nuclear power reactors to install or remove cobalt and such access is dependent upon third parties.

We purchase Co⁵⁹ as a commodity. The processed Co⁵⁹ is inserted into nuclear reactors for approximately 18 to 60 months to convert it to Co⁶⁰. Access to these nuclear reactors to either install or remove cobalt is determined based on the routine maintenance schedule for the reactor facility. Any significant change in a maintenance schedule could have a material impact on the availability of Co⁶⁰ in any given year which could have an adverse effect on our business, financial condition, and results of operation.

An interruption in the supply of reactor-produced isotopes could have a material adverse effect on our financial results.

As noted earlier, to provide greater security for the future supply of molybdenum-99 and other reactor-produced radioisotopes commonly used in nuclear medicine, we contracted with AECL for the construction and operation of two special purpose reactors and a processing facility to produce such isotopes.

Completion of the MAPLE project is currently seven years behind schedule and to date AECL has been unable to resolve certain technical and regulatory issues to the satisfaction of the CNSC. At this time, we do not have sufficient reliable information from AECL to predict with any reasonable degree of accuracy if or when commercial production will commence from the MAPLE Facilities.

In the absence of the MAPLE Facilities, we depend upon the NRU reactor operated by AECL in Chalk River, Canada for the supply of a majority of our reactor-produced radioisotopes. The NRU reactor is 50 years old. In November and December 2007, the NRU reactor had an extended, unplanned shutdown related to a regulatory matter. There is no assurance that the NRU reactor will not experience other planned or unplanned shutdowns. Further prolonged planned or unplanned shutdowns would have an adverse effect on our business, financial condition, and results of operation which could be material.

Potential changes to the regulation of the export of medical isotopes could cause supply disruptions.

Certain purchased medical isotopes are produced in reactors and are by-products of the decay of the uranium fuel in the reactor. AECL obtains the majority of its uranium from the United States. The U.S. Department of Energy (DOE) strictly controls exports of highly-enriched uranium (HEU). Delays in obtaining HEU could cause supply disruption for certain isotopes. Currently the DOE must approve each shipment of HEU. There is political pressure by the US Government on medical isotope manufacturers to convert to low-enriched uranium (LEU). Any conversion to LEU, should such conversion become technologically, commercially and

economically viable, could require significant additional capital investment to convert both reactors and related processing facilities and could impact the profitability and potential viability of our isotope business.

Operating licenses related to handling and storage of radioactive materials could be subject to cancellation by the CNSC under certain circumstances.

All of our facilities that handle or store radioactive materials are government regulated and inspected. Failure to obtain future operating licenses could adversely affect our business, financial condition, or results of operation.

Our business, financial condition and results of operation would be harmed if our isotope processing facility suffered a business interruption or was shut down for any reason.

Our sole site for processing and delivery of reactor based isotopes in North America is located in Ottawa, Canada. Any event including, a labor dispute, a natural disaster, fire, power outage, security, regulatory, public health or other issue that resulted in a prolonged business disruption or shutdown of this facility would have a material adverse affect on our business, financial condition or results of operation.

Our operations are exposed to risk of material environmental liabilities.

Certain of the materials we handle can have a significant and pernicious impact on the environment. As a result, we are exposed to risk of costs associated with environmental clean-up, as well as exposure to claims from others who have suffered a loss as a result of an environmental spill.

Our business, financial condition and results of operation could be harmed by cyclical downturns affecting certain of the industries into which we sell our analytical instruments.

Some of the industries and markets into which we sell our products are cyclical. Industry downturns are often characterized by reduced product demand, excess manufacturing capacity and erosion of average selling prices and profits. Significant downturns in our customers' markets and in general economic conditions could result, and have resulted in the past, in a reduced demand for several of our products, adversely affecting our business, financial condition and results of operation.

A portion of our business is carried on through partnerships with third parties.

Essentially all sales of Sciex products are made through partnerships with Applied Biosystems and PerkinElmer. The relationships are governed by partnership agreements that define the rights and responsibilities of each party. While each partnership is for a fixed term, both agreements extend automatically in the absence of any notice to terminate the agreements. Sciex focuses primarily on the development and manufacturing of analytical instruments while our partners focus primarily on marketing, sales, and service. Failure by either partner to carry out its respective obligations could adversely affect Sciex's business, financial condition, or results of operation.

3.10.2 Legal Proceedings and Regulatory Actions

From time to time during the normal course of business, the Company becomes party to legal proceedings. At the present time, the Company is not a party to proceedings that alone or in aggregate represent claims that could, in the judgment of management, be material to the Company and its subsidiaries on a consolidated basis. In addition, during the year, the Company was not subject to: any penalties or sanctions imposed by a court relating to securities legislation or by a securities regulatory authority; any penalties or sanctions imposed by a court or regulatory body that would be considered important by a reasonable investor; or any settlement agreements relating to securities legislation or with a securities regulatory authority.

3.10.3 Interest of Management and Others in Material Transactions

No director or executive officer of MDS nor any associate or affiliate of any of the foregoing, and, to the knowledge of the directors and executive officers of MDS, no person or company that is the direct or indirect beneficial owner of, or who exercises control or direction over, more than 10 percent of our Common shares or any of such person or company's associates or affiliates, has had an interest in any material transaction entered into by the Company since November 1, 2002.

3.10.4 Transfer Agent and Registrar

The transfer agent of the Company is CIBC Mellon Trust Company, Toronto, Canada.

3.10.5 Material Contracts

The following are the only material contracts, other than contracts entered into in the ordinary course of business, which have been entered into by the Company within the most recently completed financial year, or were entered into before the most recently completed financial year and are still in effect, deemed to be material:

- (a) The Note Purchase Agreement governing our Senior Unsecured Notes issued on December 18, 2002. The Senior Unsecured Notes bear interest at rates between 5.15% and 6.19% and have various terms between five and twelve years, (See Section 2.4.1 – Capital Structure).
- (b) A C\$500 million, five-year committed, revolving credit facility provided on July 14, 2005, (see Section 2.4.1 – Capital Structure).
- (c) Interim and Long-term Supply Agreement between Atomic Energy Canada Limited and MDS (Canada) Inc., (see Section 3.3 – MDS Nordion: MAPLE Facilities).
- (d) Asset purchase agreement between MDS Inc. and Borealis Infrastructure Management Inc., dated October 4, 2006, (See Section 2.4.3 – Divestitures and Discontinuances).

- (e) Agreement and plan of merger by and among: MDS Inc. Monument Acquisition Corp., and Molecular Devices Corporation, dated January 28, 2007, (see Section 2.4.2 – Acquisitions, and Section 3.4 – MDS Analytical Technologies: Overview of Business).

The terms of our Senior Unsecured Notes and credit facility are typical for debt instruments of this nature (see 3.10.1 - Risk Factors).

3.10.6 Experts

The 2007 Financial Statements have been audited by Ernst & Young LLP, Box 251, 222 Bay Street, Toronto, Ontario, M5K 1J7. During fiscal 2007, MDS's Audit Committee obtained written confirmation from Ernst & Young LLP confirming that they are independent with respect to the Company within the meaning of the Rules of Professional Conduct of the Institute of Chartered Accountants of Ontario.

4. SELECTED CONSOLIDATED FINANCIAL INFORMATION

4.1 Summary Annual Information (Year to October 31)

(amounts in millions except per share amounts)	2007	2006 (revised ¹)	2005 (revised ¹)
Consolidated Statements of Income (US GAAP)			
Total revenues	\$1,210	\$1,060	\$982
Operating income (loss)	\$(108)	\$(56)	\$(76)
Income (loss) from continuing operations	\$(33)	\$22	\$(29)
Net income	\$773	\$120	\$(7)
Earnings per share – basic	\$5.87	\$0.83	\$(0.05)
Earnings per share – diluted	\$5.86	\$0.83	\$(0.05)

Consolidated Statements of Financial Position (US GAAP)

Total assets	\$3,018	\$2,343	\$2,238
Long-term debt	\$384	\$394	\$394
Total shareholders' equity	\$1,897	\$1,354	\$1,175
Weighted average shares outstanding	\$132	\$144	\$142
Long-term debt/shareholders' equity	15%	28%	34%
Current ratio (excludes assets for sale)	1.6	2.4	1.70

	2007	2006 (revised ¹)	2005 (revised ¹)
Consolidated Statements of Cash Flows			
(US GAAP)			
Cash from continuing operating activities	\$178	\$25	\$48
Capital assets purchased	\$71	\$51	\$102
Cash from discontinued operations, net	\$871	\$165	\$52
Net issue (repayment) of long-term debt	\$(18)	\$(7)	-

¹Figures for 2006 and 2005 have been revised to conform to the fiscal 2007 consolidated financial statement presentation.

4.2 Dividends

The declaration of dividends is at the discretion of the Board of Directors. Both the Company's credit facility and Senior Unsecured Notes contain provisions which could restrict the amount of any dividend payment. However, as noted below, the Company has discontinued the payment of dividends.

Prior to October 2004, dividends were declared payable in April and October. Effective for the October 2004 dividend, the Company adopted a policy of paying quarterly dividends. Pursuant to the policy, dividends, when declared, were paid in January, April, July and October. In the past three years, MDS has paid the following cash dividends:

<u>Fiscal Year</u>	<u>Aggregate Dividend Amount per Common Share</u>
2005	C\$0.1300
2006	C\$0.1300
2007	C\$0.0325

On October 5, 2006, the Company announced that it would discontinue paying dividends following completion of the sale of the diagnostics business. The final dividend was declared on December 12, 2006 and was paid January 8, 2007 to shareholders of record on December 20, 2006.

4.3 Capital Structure

MDS uses a combination of equity and long-term debt to finance its business. The Company has one class of Common shares authorized and outstanding. As at October 31, 2007, there were 122,578,331 Common shares outstanding.

The Common shares entitle the holder thereof to receive notice of, to attend, and to vote at all meetings of holders of Common shares. Each Common share entitles the holder thereof to one vote per share and to share rateably in the assets of the Company on liquidation or dissolution.

The Company's share capital has been restructured or converted several times from Common shares in 1973 to Class A Common and Class B Non-Voting in 1980 and back to Common shares in March of 2000. Under the terms of the 2000 conversion, each Class A share was converted into 1.05 Common shares and each Class B non-voting share was converted into 1.0 Common share.

The Company's shares have been split on a two-for-one basis four times, on the following dates: September 26, 1980, July 13, 1983; March 15, 1990; and, November 15, 1996. In addition, on September 14, 2000, the directors of the Company declared a one-for-one share dividend paid on October 10, 2000 to shareholders of record on September 26, 2000. This share dividend had the same effect as a two-for-one stock split.

MDS currently has a normal course issuer bid (NCIB) in place to purchase up to 4,506,236 Common shares that expires on July 2, 2008. As at October 31, 2007, no Common Shares had been purchased previous to the NCIB. During fiscal 2005, the Company repurchased 799,000 Common shares for cancellation at an average price of C\$16.67 under the terms of an NCIB in place in 2005. The Company repurchased no Common shares for cancellation under an NCIB in 2006 or 2007, but rather in the second quarter of 2007, the Company conducted a substantial issuer bid and repurchased approximately 22.8 million Common shares at a price of C\$21.90 per share on April 9, 2007.

The Company has issued Senior Unsecured Notes payable totalling \$311 million, has secured financing for the MAPLE facilities construction project in the form of a non-interest bearing government loan, and has various other forms of long-term credit, mostly associated with the purchase of specific assets. At October 31, 2007, the value of all of the Company's outstanding debt was \$384 million. In addition, the Company has available C\$500 million of undrawn committed term credit facilities.

5. MANAGEMENT'S DISCUSSION AND ANALYSIS

Please refer to the disclosure contained on pages 1 to 29 of the 2007 Annual Financial Review under the heading "Management's Discussion and Analysis" which is incorporated by reference into this AIF.

6. MARKET FOR SECURITIES

The outstanding Common shares are listed for trading on the Toronto Stock Exchange (symbol - MDS) and the New York Stock Exchange (symbol - MDZ). The following table sets forth the price ranges and volume of Common shares traded on the Toronto Stock Exchange for each month of fiscal 2007.

Month	Volume (Total Month)	High Price (C\$)	Low Price (\$C)
November 2006	10,955,720	\$21.40	\$19.31
December 2006	6,740,195	\$21.40	\$19.90
January 2007	18,191,492	\$21.40	\$19.86
February 2007	28,737,408	\$22.06	\$20.25

Month	Volume (Total Month)	High Price (C\$)	Low Price (\$C)
March 2007	20,971,038	\$22.15	\$21.55
April 2007	18,071,304	\$22.09	\$21.01
May 2007	17,937,284	\$22.10	\$20.70
June 2007	12,329,746	\$21.90	\$20.91
July 2007	8,790,345	\$21.90	\$20.14
August 2007	10,431,345	\$21.00	\$19.55
September 2007	4,920,415	\$21.85	\$20.12
October 2007	7,585,690	\$21.64	\$20.32

Other than the Common shares, no other class of securities of the Company is traded or quoted on any exchange or market.

7. DIRECTORS AND OFFICERS

7.1 Directors

Each director of the Company is elected to serve until the next Annual Meeting of the Company or until their successor is elected or appointed. The disclosure under the heading “Election of Directors” in the Company’s Management Proxy Circular dated January 7, 2008 contains information about each director of the Company and is incorporated herein by reference.

7.2 Executive Officers

The Company’s Executive Management team currently comprises the following individuals:

Executive Officer Name	Position with MDS	Province or State and Country of Residence
Andrew W. Boorn	President MDS Analytical Technologies	Ontario, Canada
Peter E. Brent	Senior Vice-President, Legal and Corporate Secretary	Ontario, Canada
Stephen P. DeFalco	President and Chief Executive Officer (CEO)	Ontario, Canada
Thomas E. Gernon	Executive Vice-President, Information Technology and Chief Information Officer (CIO)	Ontario, Canada
Kenneth L. Horton	Executive Vice-President, Corporate Development and General Counsel	Massachusetts, USA
Sharon M. Mathers	Senior Vice-President, Investor Relations and External Communications	Ontario, Canada

Executive Officer Name	Position with MDS	Province or State and Country of Residence
Douglas S. Prince	Executive Vice-President, Finance and Chief Financial Officer (CFO)	Ontario, Canada
James M. Reid	Executive Vice-President, Global Human Resources	Ontario, Canada
David Spaight	President MDS Pharma Services	Pennsylvania, USA
Steven M. West	President MDS Nordion	Ontario, Canada

Andrew W. Boorn, Peter E. Brent, Sharon M. Mathers, James M. Reid and Steven M. West have held their present positions or other senior positions with MDS Inc. or its subsidiaries during the past five years. The executive officers listed below have not held their present positions or other senior positions with MDS or its subsidiaries for the last five years and their previous occupations are as follows:

- a) Stephen DeFalco joined MDS in 2005 and was previously Chairman and CEO of US Genomics and prior to that role served as President of PerkinElmer Instruments and Senior Vice-President of PerkinElmer Inc.
- b) Douglas S. Prince joined MDS in 2007 and was previously Vice-President, Enterprise Risk Management at PerkinElmer Inc. He also served as Vice-President and CFO for the Life and Analytical Sciences business unit at PerkinElmer Inc.
- c) Thomas E. Gernon joined MDS in 2005, was previously Chief Operating Officer of D2Hawkeye Inc., a healthcare software development company and held CIO positions at both PerkinElmer Inc. and J.P. Morgan Invest.
- d) Kenneth L. Horton joined MDS in December 2005 and was previously Vice President, Acquisitions, Ventures and General Counsel for the Life and Analytical Sciences business unit at PerkinElmer, Inc. and previously an attorney at Ropes & Gray LLP.
- e) David Spaight joined MDS in April 2006 and was previously Senior Vice-President, Global Sales and Marketing at Fisher Scientific Products (Fisher). Prior to joining Fisher, Mr. Spaight held the role of Vice-President, Global Sales and Marketing for the Life and Analytical Sciences business unit at PerkinElmer Inc.

To the knowledge of MDS, the directors and executive officers of MDS, as a group, beneficially own, directly or indirectly, or exercise control or direction over an aggregate of 53,693 MDS Common shares representing 0.04% of MDS's issued and outstanding Common shares.

7.3 Additional Disclosure for Directors and Executive Officers

To the knowledge of MDS, no director or executive officer of MDS (a) is at the date hereof or has been, in the last ten years before the date hereof, a director, chief executive officer (CEO) or chief financial officer (CFO) of any company, including MDS that, while that person was acting in that capacity, (i) was the subject of a cease trade order, similar order or an order that denied the company or MDS access to any exemptions under securities legislation, for a period of more than 30 consecutive days, (ii) was subject to an order that was issued, after that person ceased to be a director, CEO or CFO and which resulted from an event that occurred while that person was acting in that capacity as a director, CEO or CFO, (b) is at the date hereof or has been in the ten years before the date hereof, a director or executive officer of a company, including MDS that, while that person was acting in that capacity or within a year of that person ceasing to act in that capacity became bankrupt, made a proposal under any bankruptcy or insolvency legislation or became subject to or instituted any proceedings, arrangement or compromise with creditors, or had a receiver, receiver or manager or trustee appointed to hold assets or (c) has within the last ten years become bankrupt, made a proposal under any legislation relating to bankruptcy or insolvency, or become subject to or instituted any proceedings, arrangements or compromise with creditors or had a receiver, receiver manager or trustee appointed to hold the assets of any director, or executive officer except for Mr. Robert Luba, a director of MDS who was an independent director of Safety-Kleen Corp., a New York Stock Exchange listed company, which filed for bankruptcy in 2000.

8. AUDIT COMMITTEE INFORMATION

8.1 Composition of the Audit Committee

The Audit Committee of MDS is composed of the following five members:

Robert W. Luba (Chair), William D. Anderson, James S. A. MacDonald, Kathleen M. O'Neill, and Richard H. McCoy. The responsibilities and duties of the Committee are set out in the Committee's charter, the text of which is set forth in Appendix I to this AIF.

The Board of Directors believes that the composition of the Audit Committee reflects a high level of financial literacy and expertise. Each member of the Audit Committee has been determined by the Board to be "independent" and "financially literate" as such terms are defined under Canadian and United States securities laws and the NYSE Corporate Governance Listing Standards. In addition, the Board has determined that each of Robert W. Luba, William D. Anderson and Kathleen M. O'Neill is an "Audit Committee Financial Expert" as such term is defined under United States securities laws. The Board has made these determinations based on the education and breadth and depth of experience of each member of the Committee. The following is a description of the education and experience of each member of the Committee that is relevant to the performance of his or her responsibilities as a member of the Audit Committee:

Mr. William D. Anderson, a Chartered Accountant, is a Corporate Director, having retired in 2005 after serving 14 years with BCE Inc. (a global communications company headquartered in Montreal, Canada). From 2001 to 2004, Mr. Anderson was President of BCE Ventures and from 1997 to 2000 was Chief Financial Officer of BCE Inc. Mr Anderson currently serves on the public boards of TransAlta Corporation and Gildan Activeware Inc. He serves on the audit committees of TransAlta Corporation and Gildan Activeware Inc.

Mr. Robert W. Luba, a Chartered Accountant, is President of Luba Financial Inc. (an investment company in Toronto, Canada). Prior to 1994, he was President and Chief Executive Officer of Royal Bank Investment Management Inc., President and Chief Financial Officer (CFO) of Crown Life Insurance Company and Senior Vice-President and CFO of John Labatt Limited. Mr. Luba currently serves on the public boards of AIM Trimark Investments and Softchoice Corporation. He also serves on the audit committee of Softchoice Corporation.

Mr. James S. A. MacDonald is Chairman and a Managing Partner of Enterprise Capital Management Inc. (an investment management company) and has been for the last five years. Mr. MacDonald currently serves on the public boards of Manitoba Telecom Services Inc. and Superior Plus Inc. He is also serves on the audit committee of Manitoba Telecom.

Mr. Richard H. McCoy is a Corporate Director. He was in the investment banking business for over 35 years. Prior to retiring in 2003, he was Vice-Chairman, Investment Banking at TD Securities Inc. (one of Canada's largest investment firms in Toronto, Canada). Prior to joining TD Securities Inc. in May of 1997, Mr. McCoy was Deputy Chairman of CIBC Wood Gundy Securities. Mr. McCoy currently serves on the public boards of ACE Aviation Holding Inc.; Aberdeen Asia-Pacific Income Investment Company Limited; Gerdau Amersteel Corp.; Jazz Air Income Fund; Pizza Pizza Royalty Income Fund; Rothmans Inc; and Uranium Participation

Corporation. He also serves on the audit committees of Rothmans Inc., Aberdeen Asia-Pacific Income Investment Company Limited and Uranium Participation Corporation.

Ms. Kathleen M. O’Neill is a Corporate Director and was an Executive Vice-President with BMO Bank of Montreal (a major Canadian chartered bank) until January 2005. Prior to joining BMO Bank of Montreal in 1994, Ms. O’Neill was a partner at PricewaterhouseCoopers. Ms. O’Neill is a Fellow of the Institute of Chartered Accountants (FCA) of Ontario. In 2005, Ms. O’Neill was accredited to the ICD/Rotman School of Management Directors Education Program. Ms. O’Neill is also a director of Canadian Tire Bank. Ms. O’Neill is Chair of St. Joseph’s Health Centre Foundation and a past-Chair of the Board of St. Joseph’s Health Centre in Toronto and is also active on several other non-profit boards. Ms. O’Neill currently serves on the public boards of Finning International Inc. and TSX Group Inc. She also serves on the audit committees of Finning International Inc. and TSX Group Inc.

8.2 Auditor Service Fees

The fees billed by MDS’s external auditors, Ernst & Young LLP, for all services performed by the auditors for the years ended October 31, 2007 and October 31, 2006 are set out below.

	2007 (C\$’000s)	2006 (C\$’000s)
Audit services	\$6,119	\$ 6,726
Audit-related services	634	255
Tax services	333	196
Total	<u>\$7,086</u>	<u>\$ 7,177</u>

Audit Services – an audit engagement is one in which Ernst & Young LLP, or a foreign affiliate, has been hired to render an audit opinion on a set of financial statements or related financial information. These engagements include the opinion issued on the consolidated financial statements of MDS, the opinions issued on subsidiaries of MDS as required by statute in certain jurisdictions, and opinions issued on the financial statements of subsidiaries or entities over which MDS exercises management discretion. The latter category includes audit opinions issued on Pension Plans established for the benefit of MDS employees.

Audit-Related Services – an audit-related engagement is one in which some sort of assurance is provided that is not an audit opinion or one which supports the ability of Ernst & Young LLP to render an audit opinion in an indirect manner. Such engagements include reviews of the interim financial statements, the reports of which are provided to the Audit Committee, accounting assistance and advice and translation services related solely to our filed financial reports. From time to time, Ernst & Young LLP may also be engaged to provide audit-related services in connection with acquisitions, including audits of transaction date balance sheets and similar services. In fiscal 2007, Ernst & Young LLP provided audit-related services in connection with the Company’s sale of its diagnostic business, its acquisition of Molecular Devices and its conversion to US GAAP.

Tax Fees – a tax engagement is one in which Ernst & Young LLP has been engaged to provide tax services, including assistance with tax compliance and tax advice and planning. Tax compliance assistance is generally provided to the foreign subsidiaries of MDS and to certain entities that are controlled by MDS but in which there are other minority interests. Tax compliance services include assistance with the preparation and filing of tax returns and assistance in dealing with tax audits. Tax advice and planning services are provided to the Company and many of its subsidiaries and relate to both income taxes and sales and use taxes.

8.3 Pre-Approval Policy for External Audit Services

The Audit Committee has adopted processes for the pre-approval of engagements for services of its external auditors.

The Audit Committee's policy requires pre-approval of all audit and non-audit services provided by the external auditor. The policy identifies three categories of external auditor services and the pre-approval procedures applicable to each category, as follows:

- (1) Audit and audit-related services – these are identified in the annual audit service plan presented by the external auditor and require annual approval. Changes to these fees are reported to the Audit Committee at least quarterly.
- (2) Pre-approved list of non-audit services – non-audit services which are reasonably likely to occur have been identified and receive general pre-approval of the Audit Committee, and as such, do not require specific pre-approvals. The term of any general pre-approval is 12 months from approval unless otherwise specified. The Audit Committee annually reviews and pre-approves the services on this list.
- (3) Other proposed services – all proposed services not categorized above are brought forward on a case-by-case basis and are subject to pre-approval by the Audit Committee.

All fees paid to the independent auditors for 2007 were approved in accordance with the pre-approval policy.

9. ADDITIONAL INFORMATION

Additional information about MDS is available on the Company's web site at www.mdsinc.com, on SEDAR (System for Electronic Document Analysis and Retrieval) at www.sedar.com, and on the US Securities and Exchange web site at www.sec.gov.

Additional information, including directors' and executive officers' remuneration and indebtedness, principal holders of the Company's securities and securities authorized for issuance under equity compensation plans is contained in the Management Proxy Circular dated as of January 7, 2008 prepared in connection with the Company's Annual Meeting of Shareholders to be held on March 6, 2008.

Additional financial information is provided in the 2007 Financial Statements and the 2007 MD&A, each included in the 2007 Annual Report Financial Review of MDS for its fiscal year ended October 31, 2007.

Copies of this AIF, as well as copies of the 2007 Annual Report Financial Review of MDS for the year ended October 31, 2007 and the Management Proxy Circular dated January 7, 2008 may be obtained from:

Peter Brent

SVP Legal & Corporate Secretary, MDS Inc.

Telephone: 416-213-4082

Fax: 416-213-4222

Email: peter.brent@mdsinc.com

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Mississauga, Ontario, L4W 4V9

Canada

APPENDIX I

MDS INC.

AUDIT COMMITTEE CHARTER

Purpose

The primary function of the audit committee (the “Audit Committee”) of the Board of Directors (the “Board”) of MDS Inc. (the “Corporation”) is to assist the Board in fulfilling its oversight responsibilities for the financial reporting process including responsibility for overseeing:

- the integrity of the Corporation’s financial statements and financial reporting process, including the system of internal control over financial reporting, the audit process and the processes for identifying, evaluating and managing the Corporation’s principal risks impacting financial reporting;
- compliance with legal and regulatory requirements, other than those otherwise assigned from time to time by the Board;
- financial oversight of Pension Plan management;
- the qualifications and independence of the independent auditor; and
- the Corporation’s internal audit function.

Consistent with these functions, the Audit Committee should encourage continuous improvement of, and should foster adherence to, the Corporation’s policies, procedures and practices.

Approval of Charter

This Charter and any future changes to this Charter require approval by the Board.

Structure and Composition

The Audit Committee shall consist of no fewer than three members from among the Board.

Each member of the Audit Committee shall: (i) be free from any relationship that, in the opinion of the Board, would reasonably be expected to interfere with the exercise of his or her independent judgment as a member of the Audit Committee; and (ii) meet the independence and financial literacy requirements of all applicable corporate, exchange and securities statutes, rules and regulations in Canada and the United States (the “Regulations”).

Each member of the Audit Committee shall be financially literate as determined by the Board in its business judgment and, at a minimum, have the ability to read and understand a set of financial statements that present a breadth and level of complexity of accounting issues that are generally comparable to the breadth and complexity of the issues that can reasonably be expected

to be raised by the Corporation's financial statements or shall become financially literate within a reasonable period of time following his or her appointment.

At least one member of the Audit Committee shall be an "audit committee financial expert" as such term is defined by the Regulations. The Board shall make determinations as to whether any particular member of the Audit Committee satisfies this requirement.

The members of the Audit Committee shall be appointed by the Board annually on the recommendation of the Nominating and Corporate Governance Committee or until successors are duly appointed.

The Board shall normally designate the Chair of the Audit Committee. In the event that a Board designation is not made, the members of the Audit Committee shall elect a Chair by majority vote of the full Audit Committee.

In the event that the Chair of the Audit Committee does not attend a meeting of the Audit Committee, the members of the Audit Committee shall elect a temporary Chair for such meeting by majority vote of the members in attendance at the meeting.

Once appointed, Audit Committee members shall cease to be a member of the Audit Committee only upon:

- (a) resignation from the Audit Committee or the Board,
- (b) death,
- (c) disability, as determined by an independent physician retained by the Board; or
- (d) not being re-appointed pursuant to the annual appointment process described above.

Members of the Audit Committee shall not simultaneously serve on the audit committees of more than three public companies, including the Corporation, unless the Board determines that such simultaneous service would not impair the ability of such member to effectively serve on the Audit Committee.

Meetings

The Audit Committee shall meet at least quarterly and more frequently as circumstances dictate.

A majority of Audit Committee members is required for meeting quorum.

The Audit Committee shall meet separately on a periodic basis with management, the Internal Auditor and the independent auditor in separate committee sessions.

The Chief Executive Officer, Chief Financial Officer, Vice President, Finance, Vice President, Internal Audit and Corporate Secretary of the Corporation and representatives of the independent auditor shall normally attend meetings of the Audit Committee. The Audit Committee may request any officer or employee of the Corporation or the Corporation's outside counsel or

independent auditor to attend a meeting of the Audit Committee or to meet or provide consultations to the Audit Committee or any member thereof. Others may also attend meetings as the Audit Committee may request.

Notice of all meetings of the Audit Committee shall be sent to those persons referred to in the preceding paragraph and to the internal auditors (or other persons responsible for the internal audit function), as well as to all Audit Committee members.

Chair

The Chair of the Committee shall have the duties and responsibilities set forth in Appendix "A".

Resolutions

Resolutions of the Audit Committee shall require approval by a simple majority of members voting on such resolution.

Responsibilities and Duties

(i) Minutes and Reporting to the Board

The Audit Committee shall prepare written minutes of all of its meetings. The Audit Committee shall make regular reports to the Board, but not less frequently than quarterly. In addition, after each meeting of the Audit Committee, the Chair of the Audit Committee or designate shall report to the Board on the significant matters addressed by the Audit Committee at such meeting and a copy of the minutes shall be made available to all members of the Board.

(ii) Selection, Evaluation and Oversight of Independent Auditor

With respect to the Corporation's independent auditor the Audit Committee shall:

- have the sole authority to recommend to the Board the appointment, retention or replacement of the independent auditor (subject, if applicable, to shareholder approval)
- be directly responsible for establishing the compensation of the independent auditor
- have the independent auditor report directly to the Audit Committee and otherwise be directly responsible for overseeing the work of the independent auditor
- have the authority to communicate directly with the independent auditor
- meet with the independent auditor prior to the annual audit to discuss the planning, scope and staffing of the audit and approve the selection of the coordinating partner having primary responsibility for the audit

- provide for the periodic rotation of the coordinating partner having primary responsibility for the audit and the audit partner responsible for reviewing the audit as required by law
- at least on an annual basis, evaluate the qualifications, performance and independence of the independent auditor and the senior audit partners having primary responsibility for the audit
- obtain and review a report from the independent auditor at least annually regarding: (i) the independent auditor's internal quality-control procedures, (ii) any material issues raised by the most recent internal quality-control review, or peer review, of the firm, or raised by any inquiry or investigation by governmental or professional authorities within the preceding five years respecting one or more independent audits carried out by the firm, (iii) any steps taken to deal with any issues, (iv) all relationships between the independent auditor and the Corporation, and (v) the independence of the independent auditor as required by the Regulations
- review and approve the Corporation's hiring policies regarding partners, employees and former partners and employees of the present and former independent auditor
- obtain confirmation from management that the Corporation has not hired employees or former employees of the independent auditor who have participated in any capacity in the audit of the Corporation for the immediately previous 12 month period
- pre-approve all auditing services and permitted non-audit services (including fees and terms thereof) to be performed for the Corporation or its subsidiaries by the independent auditor

(iii) Internal

Audit

With respect to the Corporation's lead of internal audit (the "Internal Auditor"), the Audit Committee shall:

- have the authority to approve the appointment of the Internal Auditor
- have the Internal Auditor report directly to the Audit Committee (although the Internal Auditor may report administratively to the CEO or the CFO)
- have the authority to communicate directly with the Internal Auditor
- meet with the Internal Auditor to discuss the planning, scope and staffing of the internal audit plan
- approve the internal audit mandate and plan
- obtain and review periodic reports from the Internal Auditor, at least annually
- establish and review the responsibilities, budget, compensation and staffing of the Corporation's internal audit function, through inquiry with the Corporation's independent auditor, management and the Corporation's internal auditing department

(iv) Financial Reporting of Quarterly Financial Results

With respect to the Corporation's reporting of unaudited quarterly financial results, the Audit Committee shall:

- prior to their public release and filing with securities regulatory agencies, review and discuss with management, the internal auditor and the independent auditor:
 - earnings press release
 - financial statements and notes thereto
 - management's discussion and analysis

The review of the Corporation's unaudited quarterly financial results shall include:

- any significant judgments (e.g. estimates and reserves) made in the preparation of financial statements
- any significant disagreements among management and the independent auditor in connection with the preparation of financial statements
- the extent to which changes or improvements in financial or accounting practices, as approved by the Audit Committee, have been implemented

- significant financial reporting issues and judgments made in connection with the preparation of the Corporation's financial statements, including any significant changes in the Corporation's selection or application of accounting principles, any major issues as to the adequacy of the Corporation's internal controls and any special steps adopted in light of material control deficiencies
- the Corporation's use of "pro forma" or "adjusted" non-GAAP information
- the Corporation's use of forward-looking financial guidance
- critical accounting policies and practices
- results of the independent auditor's review
- any written communications between the independent auditor and management (e.g. management letters, schedule of unadjusted differences)
- the effect of regulatory and accounting initiatives as well as off-balance sheet structures on the Corporation's financial statements
- management certifications of reports filed by the Corporation pursuant to the Regulations
- adequacy of internal controls over financial reporting
- any correspondence with, or published reports by, regulators or governmental agencies which raise material issues regarding the Corporation's financial statements or accounting policies
- approve the unaudited quarterly financial statements of the Corporation

(v) ***Financial Reporting of Year-End Financial Results***

With respect to the Corporation's annual audit, the Audit Committee shall:

- prior to their public release and filing with securities regulatory agencies, review and discuss with management, the internal auditors and the independent auditor the:
 - earnings press release
 - financial statements and notes thereto
 - management's discussion and analysis
 - results of the independent auditor's audit

The review of the Corporation's audited financial results shall include:

- all matters described above under "Financial Reporting of Quarterly Financial Results"

- results of the independent auditor's audit
- discussions with the independent auditor on the matters required to be discussed by Statement on Auditing Standards No. 61, including significant adjustments, management judgments and accounting estimates, significant new accounting policies, any difficulties encountered in the course of the audit work, any restrictions on the scope of activities or access to requested information, and any significant disagreements with management
- a report from the independent auditor describing (i) all critical accounting policies and practices to be used, (ii) all alternative treatments of financial information within generally accepted accounting principles that have been discussed with management, ramifications of the use of such alternative disclosures and treatments, and the treatment preferred by the independent auditor and (iii) other material communications between the independent auditor and management, such as the annual management letter or schedule of unadjusted differences
- recommend to the Board whether the audited consolidated financial statements of the Corporation should be approved by the Board

(vi) *Financial Oversight of Pension Plan Management*

With respect to the Corporation's management of Pension Plans, the Audit Committee shall fulfill duties related to financial oversight of pension plan management including funding, asset management, and reporting.

The review of the Corporation's Pension Plan's shall include:

- External Auditor reports and financial statements of the plans, including compliance with pension reporting regulations
- Actuarial valuations and contribution policies
- Plan solvency and compliance with pension legislation
- Review of the investment fund performance strategy

(vii) *Annual Proxy Statement and Regulatory Filings*

The Audit Committee shall:

- consider the effectiveness of the procedures that are in place for the review of the Corporation's public disclosure of financial information extracted or derived from the Corporation's financial statements, other than management's discussion and analysis and annual and interim earnings press releases, and shall periodically assess the adequacy of those procedures

- issue any reports required of the Audit Committee to be included in the Corporation's annual proxy statement
- prior to their public release or filing with securities regulatory agencies, review and recommend to the Board the approval of the following documents:
 - Annual Information Form
 - Annual Report on Form 40-F
 - prospectuses
- review financial information and earnings guidance provided by the Corporation to analysts and rating agencies or which the Corporation or any of its officers or employees intends to publicly disclose by way of press release (other than press releases referred to under "Financial Reporting of Quarterly Financial Results" and under "Financial Reporting of Year-End Financial Results") or otherwise (which review may be done generally (i.e., discussion of the types of information to be provided or disclosed and type of presentations to be made); the Audit Committee need not discuss in advance each instance in which the Corporation may provide or disclose earnings guidance)

(viii) Related Party Transactions and Off-Balance Sheet Structure

The Audit Committee shall:

- review all proposed related-party transactions including those between the Corporation and its officers or directors and, if deemed appropriate, recommend approval of any particular transaction to the Board
- review all material off-balance sheet structures which the Corporation is a party to

(ix) Internal Controls, Risk Management and Legal Matters

The Audit Committee shall:

- consider the effectiveness of the Corporation's internal controls over financial reporting and related information technology security and control including the process to communicate such controls and roles and responsibilities
- discuss with management the Corporation's major financial risk exposures and the steps management has taken to monitor and control such exposures, including the Corporation's risk assessment and risk management policies including the use of derivative financial instruments. Areas to be considered in this respect include:
 - insurance coverage
 - foreign currency exposure
 - interest rate exposure

- review with management at least annually reports demonstrating compliance with risk assessment and with risk management policies
- review with management, and if necessary, the Corporation's counsel, any legal matter which could reasonably be expected to have a material impact on the Corporation's financial statements or accounting policies
- review the yearly report prepared by management, and attested to by the Corporation's independent auditor, assessing the effectiveness of the Corporation's internal control over financial reporting and stating management's responsibility for establishing and maintaining adequate internal control over financial reporting prior to its inclusion in the Corporation's annual filings under applicable securities laws
- review with the chief executive officer, chief financial officer, Internal Auditor and independent auditor, periodically, the following:
 - 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 Corporation's ability to record, process, summarize and report financial information; and
 - any fraud, whether or not material, that involves management or other employees who have a significant role in the Corporation's internal control over financial reporting
- review and approve the Corporation's disclosure policy

(x) *Capital Structure, Investment and Cash Management Policies, Disclosure Policy*

The Audit Committee shall:

- review and approve any changes to the Corporation's capital structure
- review and approve the Corporation's treasury management policies

(xi) *"Whistle Blower" and Related Procedures*

The Audit Committee shall establish procedures for the receipt, retention and treatment of complaints received by the Corporation regarding accounting, internal accounting controls or auditing matters and for the confidential and/or anonymous submission by employees of the Corporation of concerns regarding questionable accounting or auditing matters, which procedures shall include the requirement to advise the Audit Committee of all such complaints received involving a questionable accounting or auditing matter or fraud.

(xii) Review of Charter and Self Assessment

The Audit Committee shall:

- review and reassess annually the adequacy of this Charter
- review annually the Audit Committee's own performance

(xiii) Other Activities

The Audit Committee shall carry out such other activities consistent with this Charter, the Corporation's by-laws and governing law, that the Audit Committee or the Board deems necessary or appropriate.

Resources and Authority

The Audit Committee shall have the authority to retain independent legal, accounting or other advisors, including consulting with the national office of the independent auditor, as it determines necessary to carry out its duties. The Corporation shall provide for appropriate funding, as determined by the Audit Committee, for payment of compensation to the independent auditor for the purpose of rendering or issuing an audit report or performing other audit, review or attest services and to any advisors employed by the Audit Committee and for ordinary administrative expenses of the Audit Committee.

The Audit Committee shall have the authority to conduct any investigation necessary and appropriate to fulfilling its duties and in connection therewith, to inspect all books and records of the Corporation and its subsidiaries and to discuss such books and records and any matters relating to the financial position, risk management and internal controls of the Corporation and its subsidiaries with the officers of the Corporation and with the independent auditor.

Limitations on Committee's Duties

It is recognized that members of the Audit Committee are not full-time employees of the Corporation and do not represent themselves to be accountants or auditors by profession. Each member of the Audit Committee shall be entitled to rely on (i) the integrity of those persons and organizations within and outside the Corporation from whom such member receives information, and (ii) the accuracy of the financial and other information provided to the Audit Committee by such persons or organizations absent actual knowledge to the contrary.

While the Audit Committee has the responsibilities and power set forth in this Charter, it is not the duty of the Audit Committee to plan or conduct audits or to determine that the Corporation's financial statements and disclosures are complete and accurate and are in accordance with generally accepted accounting principles and applicable rules and regulations. These are the responsibilities of either management and/or the independent auditor.

In discharging its duties, each member of the Committee shall be obliged only to exercise the care, diligence and skill that a reasonably prudent person would exercise in comparable

circumstances. Nothing in this Charter, including designating any member of the Committee as an “audit committee financial expert” is intended, or should be determined to impose on any member of the Committee a standard of care or diligence that is in any way more onerous or extensive than the standard to which all members of the Board are subject.

The essence of the Committee’s responsibilities is to monitor and review the activities described in this Charter to gain reasonable assurance (but not to ensure) that such activities are being conducted properly and effectively by the Corporation.

APPENDIX "A"

POSITION DESCRIPTION
CHAIR OF THE AUDIT COMMITTEE

In addition to the duties and responsibilities set out in the Board of Directors Charter and the Charter of the Audit Committee, the chair (the "Chair") of the Audit Committee (the "Committee") of MDS Inc. (the "Company") has the duties and responsibilities described below. The Committee Chair will:

1. Provide overall leadership to enhance the effectiveness of the Committee, including:
 - a. Recommend and oversee the appropriate structure, composition, membership and activities delegated to the Committee;
 - b. Chair all meetings of the Committee and manage agenda items so appropriate consideration can be given to agenda items;
 - c. Encourage Committee members to ask questions and express viewpoints during meetings;
 - d. Schedule and set the agenda for Committee meetings with input from other Committee members, the Chair of the Board of Directors and management as appropriate;
 - e. Facilitate the timely, accurate and proper flow of information to and from the Committee;
 - f. Arrange for management, internal personnel, external advisors and others to attend and present at Committee meetings as appropriate;
 - g. Arrange sufficient time during Committee meetings to fully discuss agenda items; and

- h. Carry out the responsibilities and duties of the Committee, as outlined in its Charter and review the Charter and duties and responsibilities with Committee members on a regular basis.
2. Foster ethical and responsible decision-making by the Committee and its individual members.
3. Provide for in-camera sessions at all scheduled meetings of the Committee.
4. Following each meeting of the Committee, report to the Board of Directors on the activities, findings and any recommendations of the Committee.
5. Carry out such other duties as may reasonably be requested by the Board of Directors.

APPENDIX II

DEFINITIONS

Acronyms:

AECL	Atomic Energy of Canada Limited is a nuclear technology and services company providing services to utilities worldwide . AELC delivers a range of nuclear services including R&D support, construction management, design and engineering to specialized technology, waste management and decommissioning in support of CANDU reactor products.
CNSC	The Canadian Nuclear Safety Commission is an independent federal government agency that regulates the use of nuclear energy and material to protect health, safety, security and the environment and to respect Canada's international commitments on the peaceful use of nuclear energy.
CRC	A Clinical Research Centre is a unit that manages patient studies from partnered sites within a defined investigator or patient-provider location. For example, a hospital having access to a group of patients having particular conditions on which trials are being conducted may serve as a CRC.
CRO	A Contract Research Organization is a company that conducts research on behalf of a pharmaceutical or biotechnology company.
FDA	Food and Drug Administration – The US regulatory agency charged with maintaining the safety of food, drugs, and cosmetics.
FDG	Fluorodeoxyglucose (F^{18}), a short-lived isotope of fluorine used predominantly in PET scans.
GCP and GLP	Good Clinical Practices and Good Laboratory Practices are standards for the conduct of clinical trials (including laboratory studies), the data from which are expected to be submitted to a regulatory agency such as the FDA. In the case of GLP these practices are defined by regulation. GCP have arisen from general accepted clinical practices within the industry.
HEU	Highly enriched uranium is uranium that contains the isotope uranium 235 in a concentration of 20% or more. Naturally occurring uranium has a uranium ²³⁵ content of about 0.7%.

LC/MS	A form of analytical instrument that combines liquid chromatography with mass spectrometry
LEU	Low enriched uranium is uranium that contains the isotope uranium ²³⁵ in a concentration 20% or less.
MALDI	A form of mass spectrometer that uses matrix-assisted laser desorption/ionization technology to give a more detailed measure of the molecular mass of a sample.
NCE	A New Chemical Entity is a chemical compound being studied for possible use as a drug. Compounds are generally referred to as NCEs until a NDA is filed.
NDA	A New Drug Application is submitted to the FDA reporting the results of clinical trials and must be approved by the FDA before marketing can begin.
PET	Positron Emission Tomography – a diagnostic imaging technology that uses positron emission to measure in detail the functioning of distinct areas of the human brain while the patient is comfortable, conscious and alert.
TOF	A form of mass spectrometry that uses differences in the transit times of molecules through a known distance to determine their molecular weight.

Technical Terms:

Assay	Analysis of biological fluids or structure to determine how much or how little drug has been absorbed into the fluid or structure.
Bioanalytical	Methods for determining the concentration of drugs in biological samples such as blood.
Bioequivalence	The study of different formulations of the same drug to determine if the metabolic effects are equivalent.
Biomarker	A distinctive biochemical or physiological indicator of a biological process or event.
Biopharmaceuticals	Pharmaceutical products (drugs) developed using biotechnology instead of chemical synthesis.
Biotechnology	The scientific manipulation of living organisms, especially at the molecular genetic level, to produce useful products.

Clinical Trials	Broadly, the regulated process by which new drugs proceed after discovery through to acceptance for marketing to patients. The term most correctly refers to the period during which new compounds are tested in human subjects and encompasses the following broad phases:
Phase I	Segment of clinical trials research allocated to assessing the safety, tolerance, and pharmacokinetics of a NCE generally using otherwise healthy study subjects.
Phase II	Segment of clinical trials research allocated to assessing the safety and efficacy of a NCE in selected disease states using patients having the condition.
Phase III	Segment of clinical trials research allocated to assessing the safety and efficacy of a NCE often in comparison with standard therapies, conducted in an expanded, multi-centre manner using patients having the condition.
Phase IV	Follow-on clinical studies completed after the FDA has approved the NCE for marketing.
Cobalt-60	A radioactive isotope of cobalt containing one additional neutron (electrically neutral particle) compared to cobalt in its natural state.
Cyclotron	A form of particle accelerator that can be used to produce radioisotopes.
Decay	A spontaneous radioactive process by which the number of radioactive atoms in a material decreases over time resulting in the release of a defined amount of radiant energy.
E. coli	A member of the family of microorganisms called coliforms. Many strains of E. coli live peacefully in the gut; however, one strain (E. coli 0157:H7) has been identified as the cause of a specific form of gastroenteritis characterized by abdominal cramps and bloody diarrhea, leading to kidney failure and sometimes death.
Efficacy	Capacity for producing a desired result or effect.
Electron (or E) Beam	A type of particle accelerator that creates a stream of high-energy electrons.
Gamma Radiation	Very high-energy electromagnetic radiation that is released from the decay of radioactive sources.

Genome	The entire genetic information present in a particular organism.
Genomics	The study of the organization, structure and function of the genome
Half-life	The time required for radioisotopes to decay to one-half the level of radioactivity originally present.
Ionization	The process by which neutral atoms become electrically charged by the loss of one or more electrons (electrically negative particles).
Investigator	The individual from a clinic site who is ultimately in charge of a study, typically a physician.
Irradiation	The process of exposing product to gamma radiation, or X-rays, or electrons under controlled conditions.
Isotope	A form of an element having the same number of protons (electrically positive particles) but a different number of neutrons from its ordinary state. Most elements exist in more than one isotopic form and most isotopes are stable (unchanging). Isotopes are typically identified by an element name followed by a number. (e.g., Molybdenum-99)
Liquid Chromatography	A separation technique in which the sample is injected into a liquid stream pumped at high pressure through a column packed with materials which absorb the components of the sample to varying extents, such that over the length of the column the components of the sample become separated and are detected sequentially by the mass spectrometer.
Mass Spectrometry	The science that measures the masses and relative concentrations of atoms and molecules to determine the make-up of the substance.
Molybdenum-99	The most common isotope used for medical purposes. It is processed into technetium-99m for these purposes.
Particle Accelerator	A machine that increases the kinetic energy of electrons or protons by accelerating them through electric fields.
Pharmacology	The study of drugs and their origins, nature, properties, and effects on living organisms.
Pre-clinical Studies	Designates those studies generally completed prior to human clinical trials.

Proteomics	The study of protein location, interaction, structure, and function that aims to identify and characterize the proteins present in normal versus diseased states in biological samples.
Radioisotopes	An isotope that is unstable and returns to a stable state through the release of energy in a process called decay. MDS processes and distributes radioisotopes for use in medical applications and for sterilization processing.
Radiopharmaceuticals	A specially designed pharmaceutical having as part of its ingredients a minute amount of a radioisotope. After injection or ingestion, the radiopharmaceutical is designed to collect in specific organs or types of cells such as tumour cells.
Synthesis	The process of creating a molecule through chemical reaction.
Target	The cells, tissues, or structures that a drug is intended to interact with as part of its pharmacological effect.
Toxicology (also called Safety Pharmacology)	Toxicology in the biomedical area is primarily concerned with the prediction of adverse effects in humans resulting from exposure to drugs as well as the demonstration of safety or hazard associated with their use.